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100011216

March 5, 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: Draft Fourth Quarter (November 29, 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 November 2018, which constitutes the Fourth quarter of quarterly sampling to be conducted under this work assignment.

Samples were collected from 14 of the 19 site monitoring wells, as shown on Figure 1 and summarized in Table 1. MW1-2004 and MW2-2004 were not sampled because they were dry. MW-102 was not sampled due to its initial non-detect result and because MW-103 provides bounding of the tetrachloroethene (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 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 November 28, 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 occurring at the time. However, water levels in the vicinity of MW-101 historically increased, flooding the screen. Therefore, the HydraSleeve at MW-101 has historically been set to collect water from the top of the screened interval, which was approximately ten feet below the water table. Consistent with the August 2018 data, the November 2018 water table at MW-101 was approximately 13 feet below the elevation observed in May 2018, which was actually below the top of screen elevation for the first time. As such, MW-101 was sampled at the water table. The associated field forms are included in Attachment 1.

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The HydraSleeves were pulled and samples collected on November 29, 2018. Field water quality parameters (pH, temperature, conductivity, oxidation-reduction potential [ORP], and dissolved oxygen [DO]) were measured at each sample location using a 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 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). Chloroform was detected in the trip blank but was not detected in the associated samples; qualification was not required. Acetone, bromomethane, and chloromethane were detected in the trip blank at concentrations <5x the concentration of the blank (10x in the case on acetone). Contamination were qualified as non-detect (U TB-I) at the reported concentration for results reported at concentrations greater than the reporting limits (RL) or the RL for results reported at concentrations less than the RL. 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 November 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 November 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 (Freda Well, New Well, Honey Well, 1100 North Well, WC1, WC3 and Bountiful 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 Weber Basin Water Conservancy District (WBWCD), City of North Salt Lake (NSL), and City of Woods Cross municipal supply wells were verified in October 2017 (and were first reported in the Q2 report in response to an EPA comment) and are, therefore, also applicable to this Q4, November 2018, report. Pumping rates and the most recent PCE concentrations for all municipal wells are presented in Table 3. All wells are operating within the historical ranges previously reported.

As stated in the Q2 report, 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.

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, November 29, 2018
Table 2 – Five Points PCE Concentrations Over Time
Table 3 – Municipal Wells PCE Data

Figures:

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

Attachments:

Attachment 1 – Field Forms
Attachment 2 – ALS Analytical Data Package and Electronic Data Deliverable for November 29, 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
November 29, 2018

Sample ID	Sample Depth (ft bgs)	Analyte	Result[1] (µg/L)
MW-101	162	Tetrachloroethene	**23** D
		Trichloroethene	0.2 J
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-101[2]	162	Tetrachloroethene	**21** D
		Trichloroethene	0.2 J
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-103	122	Tetrachloroethene	0.19 J
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-104	120	Tetrachloroethene	3.4
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-105	147	Tetrachloroethene	1.1
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-106I	145	Tetrachloroethene	0.45 J
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-106D	195	Tetrachloroethene	1.8
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-107I	145	Tetrachloroethene	0.16 J
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-107D	200	Tetrachloroethene	1.20
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-108I	149	Tetrachloroethene	0.65
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-108D	214	Tetrachloroethene	3.0
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-109I	169	Tetrachloroethene	0.57
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW-109D	230	Tetrachloroethene	0.4 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
MW-110D	301	Tetrachloroethene	0.39 J
		Trichloroethene	<0.50 U
		cis-1,2-Dichloroethene	<0.50 U
		Vinyl chloride	<0.50 U
MW1-2004	Dry	Tetrachloroethene	NA
		Trichloroethene	NA
		cis-1,2-Dichloroethene	NA
		Vinyl chloride	NA
MW2-2004	Dry	Tetrachloroethene	NA
		Trichloroethene	NA
		cis-1,2-Dichloroethene	NA
		Vinyl chloride	NA
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
J - Estimated value based on results of the data validation

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	08/29/18	11/29/18
Location	**Sample depth (ft bgs) [1]**	**PCE µg/L[2]**																			
MW-101	162 (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**	**23 D**	**21 D**
MW-101	170	**14**																			
MW-101	180	**7.1**																			
MW-102	123	<0.5																			
MW-103	122 (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	<0.50 U	0.19 J
MW-104	120 (119-120)		**19**			**26**		**14**	**18**		**14**	**21**	**18**	**17**	**14**	**12**	**10**	**5.0**	**8.4**	**5.3**	3.4
MW-105	147 (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	2.1	1.1
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	1.8	0.45 J
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	2.3	1.8
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	0.26	0.16 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	0.29 J	1.20
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	0.48 J	0.65
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	3.0	3.0
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	1.5	0.57
MW-109D	230 (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	0.36 J	0.4 J
MW-110I	208 (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	<0.50 U	<0.50 U
MW-110D	301 (298-301)								2.2		2.2	2.6	2	0.78	1.2	1.5	0.53 B	0.67	0.43 J	0.56	0.39 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	Dry	Dry
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	Dry	Dry
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.

Table 3
Municipal Wells PCE Data

Municipality	Sample ID	Pumping Rates (gpm)	Sample Date	Analyte	Result (µg/L)
Weber Basin Water Conservancy District	Bountiful Well	2,250	9/20/2017	Tetrachloroethene	ND
	Mills Park Well	1,000	NA	Tetrachloroethene	NS
North Salt Lake	New Well [1]	1,000	12/28/2018	Tetrachloroethene	ND
	1100 North Well	1,400	12/18/2018	Tetrachloroethene	ND
	Honey Well	1,000	9/10/2018	Tetrachloroethene	1.0
	Freda Well [2]	500	9/10/2018	Tetrachloroethene	2.1
Woods Cross	WC1 [3]	500	12/19/2012	Tetrachloroethene	1.1
	WC2 [4]	280	NA	Tetrachloroethene	NS
	WC3	1,000	5/1/2018	Tetrachloroethene	0.6
	WC4 [5]	1,300	11/27/2018	Tetrachloroethene	1.2
	WC5	1,000	5/1/2018	Tetrachloroethene	ND

Notes:

Bold values indicate PCE concentrations exceed 5 µg/L

The most recent analytical results are presented in the table.

[1] fluctuates within 50 gpm of this number

[2] used for secondary water only

[3] no longer in use

[4] no longer in use

[5] capacity of 1,700 gpm

µg/L - Micrograms per liter

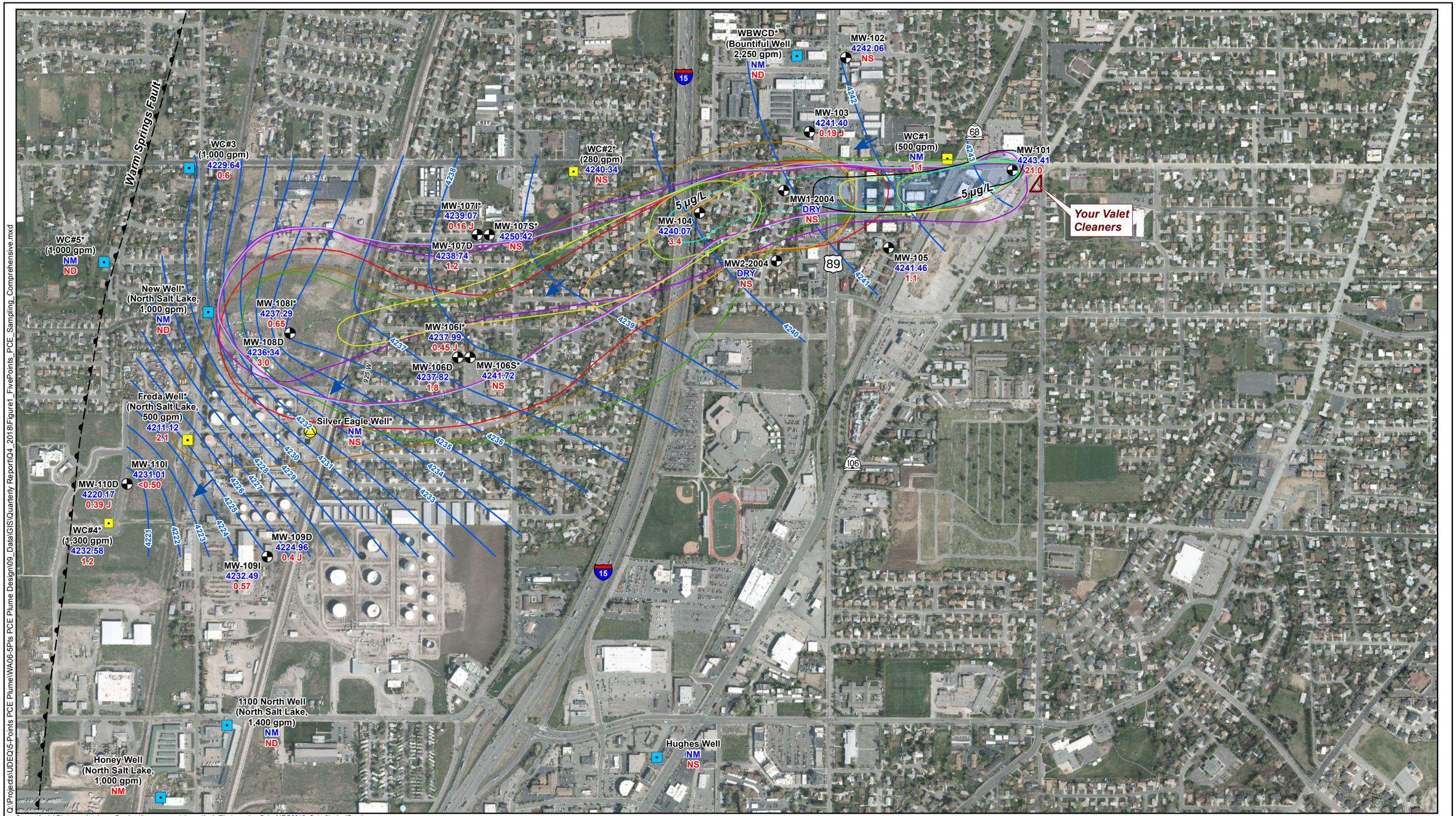
gpm - gallons per minute

NA - Not applicable

ND - Below laboratory detection limit

NS - Not sampled

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\Q4_2018\Figure1_FivePoints_PCE_Sampling_Comprehensive.mxd

MW-108D
4247.34
1.8

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
(ft above mean sea level) (November 27, 2018)
* - not used in contouring

Groundwater Flow Direction (Approximate)

PCE Concentrations (November 29, 2018)
Based on HydraSleeve Results

5 µg/L

Approx. PCE Contour Nov, 2018

Approx. PCE Contour Aug, 2018
Dashed where inferred

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

N

0 400 800 1,200 Feet

Scale 1:9,600 1 inch = 800 feet

Comprehensive Site Map Showing PCE Plume (August 2012 to November 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

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Attachment 1

Field Forms

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	11/27/18	Dry	114.04	3' Below DTW or at 85 ft if Screen is Flooded	—	—	—	FD	Well dry
MW 2-2004	Yes	90-116	11/27/18	Dry	116.38	3' Below DTW or at 93 ft if Screen is Flooded	—	—	—	NA	Well dry
MW-101	Yes	155-185	11/27/18	158.12	194.55	3' Below DTW or at 158 ft if Screen is Flooded	162	11/27/18	~~1352~~ 1302	NA	@1302
MW-102	No	115-135	11/27/18	121.84	142.96						No sample collected
MW-103	Yes	105-125	11/27/18	118.57	131.52	3' Below DTW or at 108 ft if Screen is Flooded	122	11/27/18	1315	NA	
MW 104	Yes	115-135	11/27/18	99.40	142.81	120	120	11/27/18	1140	NA	
MW 105	Yes	136-156	11/27/18	143.23	167.28	3' Below DTW or at 139 ft if Screen is Flooded	147	11/27/18	~~1302~~	MS/MSD	@1245
MW 106s	No	60-70	11/27/18	63.46	72.32						
MW 106i	Yes	138-148	11/27/18	67.17	149.92	145	145	11/27/18	905	NA	Added medium weight
MW 106d	Yes	188-198	11/27/18	67.35	200.49	195	195	11/27/18	920	NA	Top weight added
MW 107s	No	60-70	11/27/18	56.95	71.81						
MW 107i	Yes	138-148	11/27/18	67.82	149.49	145	145	11/27/18	820	NA	~~2nd weight~~ Needs weight
MW 107d	Yes	193-203	11/27/18	68.21	225.22	200	200	11/27/18	840	NA	weight added
MW-108I	Yes	140-150	11/27/18	~~47.82~~	~~149.82~~	149	149	11/27/18	950	NA	47.17 + 154.13 weight added
MW-108D	Yes	204-214	11/27/18	48.13	216.78	214	214	11/27/18	1000	NA	weight added
MW-109I	Yes	160-170	11/27/18	51.90	174.62	169	169	11/27/18	1020	NA	
MW-109D	Yes	210-220	11/27/18	59.46	223.71	230	230	11/27/18	1035	NA	
MW-110I	Yes	198-208	11/27/18	~~39.45~~		208	208	11/27/18	1100	NA	38.45 weight added
MW-110D	Yes	292-302	11/27/18	49.30	+300'	301	301	11/27/18	1110	NA	weight added
Freda 193-196	No	Multiple									Measure distance from old measuring point
Freda 218-221	No	Multiple	11/27/18	64.2	NM						
Fréda 333-336	No	Multiple									
New Well	No										
WC-2	No	Multiple	11/26/18	82'	NM						
WC-3	No	220-393	11/26/18	42	NM						
WC-4	No	260-380	11/26/18	35	NM						

noon

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: Lyndsey Anderson & Aaron Phipps

Page 1 of 1

NS = Not Sampled

NM = Not Measured

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5-POINTS GROUNDWATER SAMPLING FORM

Monitoring Well	QA/ QC	Sample Date	Sample Time	pH	Temp	Cond	ORP	DO	Comments
MW 1-2004	NA	NOT	SAMPLED	- Well	DRY				
MW 2-2004	NA	NOT	SAMPLED	- Well	DRY				
MW-101	FD	11/29/18	1240	7.12	9.01	1.131	381	5.89	
MW-103	NA	11/29/18	1150	6.93	10.89	1.013	14.1	6.70	Slightly turbid
MW 104	NA	11/29/18	1135	6.52	11.75	1.167	-76.6	7.63	
MW 105	MS/MSD	11/29/18	1205	7.00	9.23	0.689	210.3	7.57	
MW 106i	NA	11/29/18	920	7.58	10.14	0.577	87.9	3.32	Turbid, hydrocarbon odor
MW 106d	NA	11/29/18	935	6.74	10.10	0.893	68.1	7.50	
MW 107i	NA	11/29/18	835	6.50	11.23	0.788	143.0	5.82	turbid
MW 107d	NA	11/29/18	850	6.54	12.26	1.072	135.5	4.89	
MW-108I	NA	11/29/18	950	6.71	9.24	1.047	34.7	2.89	Turbid
MW-108D	NA	11/29/18	1005	6.69	9.95	1.002	53.2	5.09	
MW-109I	NA	11/29/18	1035	7.04	11.01	0.915	-71.6	4.95	
MW-109D	NA	11/29/18	1050	7.83	9.02	0.935	-18.5	6.33	
MW-110I	NA	11/29/18	1105	7.74	9.14	0.564	-1.5	6.70	
MW-110D	NA	11/29/18	1115	6.75	6.53	0.041	-37.5	5.13	

Comments/Notes

LOCK #: 3210

Sampling Personal: Lynclsey Anderson / Aaron Phipps

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NS = Not Sampled

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PREMIER SAFETY

Certificate of Compliance and Calibration

Certificate Number 11/21/2018 - 6427

Order#	02011279-1	***Make/Model***	YSI/556-02 4M
Customer#	0021330	***Asset #***	1130056
Customer Name	AECOM/URS I&E	***Serial Number***	11F100672

pH Sensor Installed and Calibrated			☑
Set Point	7.00	10.00	4.00
Lot Number	8052185	8020574	80122103
Final Span	7.01	9.99	4.01

DO Sensor Installed and Calibrated	☑	ORP Installed?	☑
Temperature:		ORP Cal Value:	229
Set Point	99.6	ORP Lot#:	8062066
Final Span	99.6	Final Span	229.1

Conductivity Sensor Installed and Calibrated		☑
Set Point	1.413	
Lot Number	8062065	
Final Span	1.411	
Turbidity Sensor Installed and Calibrated		☐
Set Point		
Lot Number		
Final Span		

Notes

Location	DALLAS, TX	***Asset Released In Tolerance***	☑
Technician	TC	***All Tests Passed***	☑
Date	11/21/2018		
Time	10:06		
SOP#			

Quality Control: Tom Colli **Date:** 11-21-18

Please Note: All tests performed with NIST Traceable Calibration Solutions at ambient room temperature, humidity, and pressure at the location listed above. Time in transit or any change in temperature, pressure, humidity, or elevation may result in changes to the calibration values listed. Performance of a bump test is recommended prior to each use; refer to owners manual for bump testing and calibration procedures. Use of this test sheet constitutes proof that the testing environment was within manufacturers' limitation and the instrument conforms to manufacturers' specification. For a copy of the calibration standard certificate of analysis or MSDS, contact us at 800-332-0435.

AECOM

WORKER SIGN ON

I participated in the development and understand the content of this Task Hazard Assessment.

NAME (Please Print)	TIME	SIGNATURE	Task Hazard Assessment Follow-Up/Review Initials/Time	Initials/Time	Initials/Time
Lyndsey Anderson	8:00				
Aaron Phipps	800				

Instructions:
Identify basic steps of the task and associated hazards. Calculate the initial risk rating. Identify control measure to eliminate or reduce the hazard's risk and calculate the residual risk rating. If the risk rating (after controls are implemented) cannot be reduced to 4 or lower, additional approvals are needed before the activity can begin.

Employees shall monitor the activities for compliance with this document. Workers should **STOP WORK** on a task if conditions change from the planned and agreed approach to the work.

This document should be updated to reflect new conditions or changes in task methods.

VISITOR SIGN ON

I have read and understand the content of this Task Hazard Assessment.

Emergency Meeting / Assembly Area

Hampton Inn

Emergency Contact #

911

Method of Communication

cell

Risk Rating Matrix

Probability	Severity: 5 - Catastrophic	4 – Critical	3 – Major	2 – Moderate	1 - Minor
5 – Frequent	25	20	15	10	5
4 – Probable	20	16	12	8	4
3 – Occasional	15	12	9	6	3
2 – Remote	10	8	6	4	2
1 - Improbable	5	4	3	2	1

Risk Rating (Probability x Severity)	Risk Acceptance Authority
1 to 4 (Low)	Risk is tolerable, manage at local level
5 to 9 (Medium)	Risk requires approval by Operations Lead/Supervisor & SH&E Manager
10 to 25 (High)	Risk requires the approval of the Operations Manager & SH&E Director

Severity – Potential Consequences

	People	Property Damage	Environmental Impact	Public Image/Reputation
Catastrophic	Fatality, Multiple Major Incidents	>$1M USD, Structural collapse	Offsite impact requiring remediation	Government intervention
Critical	Permanent impairment, Long term injury/illness	>$250K to $1M USD	Onsite impact requiring remediation	Media intervention
Major	Lost/Restricted Work	> $10K to $250K USD	Release at/above reportable limit	Owner intervention
Moderate	Medical Treatment	> $1K to $10K USD	Release below reportable limit	Community or local attention
Minor	First Aid	<=$1K USD	Small chemical release contained onsite	Individual complaint

Probability

Frequent	Expected to occur during task/activity	9/10
Probable	Likely to occur during task/activity	1/10
Occasional	May occur during the task/activity	1/100
Remote	Unlikely to occur during task/activity	1/1,000
Improbable	Highly unlikely to occur, but possible during task/activity	1/10,000

AECOM

Americas

Task Hazard Assessment

S3AM-209-FM6

Date: 11/29/2018	Project Name / Location: 5-Point Plume
Permit / Job Number:	Project Number: 60546131
Description of Task: GW Sampling	

Do you have a pre-job hazard assessment (JHA) specific to this task in your hands?

- (●) Yes – review the steps, hazards, and precautions. Attach and reference JHA in the form below. Add any additional steps, hazards, and precautions to this form otherwise unidentified on JHA.
- ( ) No – list all steps, hazards, and precautions associated with the task in the form below.

Basic Task Steps (explain in order how the task will be carried out)	Hazards (identify all hazards & potential hazards of each step)	Risk (before)	Control Measures / Precautions (describe how that hazard will be controlled)	Risk (after)	Revised? (yes – record time)
Open Wells	Traffic	4	PPE and safety cones	2	
Fill Bottles	Perseratives	3	PPE	2	
Lifting Coolers	Improper lifting	3	Use proper lifting techniques	2	
			Highest Risk Index		

The Task Hazard Assessment is to be completed at the worksite by the individual(s) who is intended to conduct the task immediately prior to initiating the associated task. Number and attach additional pages if necessary.

Worker/Visitor acknowledgement and review of this content on back of this document. Originator to also sign Worker acknowledgement section.

Originator Lyndsey Anderson (Print Name) — Sign

Supervisor LYNDSEY Anderson (Print Name) — Signature

Risk Matrix on Reverse

THIS FORM IS TO BE KEPT ON JOB SITE.

AECOM

WORKER SIGN ON

I participated in the development and understand the content of this Task Hazard Assessment.

NAME (Please Print)	TIME	SIGNATURE	Task Hazard Assessment Follow-Up/Review Initials/Time	Initials/Time	Initials/Time
Lyndsey Anderson	8000				
Aaron Phipps	800				

Instructions:
Identify basic steps of the task and associated hazards. Calculate the initial risk rating. Identify control measure to eliminate or reduce the hazard's risk and calculate the residual risk rating. If the risk rating (after controls are implemented) cannot be reduced to 4 or lower, additional approvals are needed before the activity can begin.

Employees shall monitor the activities for compliance with this document. Workers should **STOP WORK** on a task if conditions change from the planned and agreed approach to the work.

This document should be updated to reflect new conditions or changes in task methods.

VISITOR SIGN ON

I have read and understand the content of this Task Hazard Assessment.

Emergency Meeting / Assembly Area

Hampton Inn

Emergency Contact #

911

Method of Communication

cell

Risk Rating Matrix

Probability	Severity: 5 - Catastrophic	4 – Critical	3 – Major	2 – Moderate	1 - Minor
5 – Frequent	25	20	15	10	5
4 – Probable	20	16	12	8	4
3 – Occasional	15	12	9	6	3
2 – Remote	10	8	6	4	2
1 - Improbable	5	4	3	2	1

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1 to 4 (Low)	Risk is tolerable, manage at local level
5 to 9 (Medium)	Risk requires approval by Operations Lead/Supervisor & SH&E Manager
10 to 25 (High)	Risk requires the approval of the Operations Manager & SH&E Director

Severity – Potential Consequences

	People	Property Damage	Environmental Impact	Public Image/Reputation
Catastrophic	Fatality, Multiple Major Incidents	>$1M USD, Structural collapse	Offsite impact requiring remediation	Government intervention
Critical	Permanent impairment, Long term injury/illness	>$250K to $1M USD	Onsite impact requiring remediation	Media intervention
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Minor	First Aid	</=$1K USD	Small chemical release contained onsite	Individual complaint

Probability

Frequent	Expected to occur during task/activity	9/10
Probable	Likely to occur during task/activity	1/10
Occasional	May occur during the task/activity	1/100
Remote	Unlikely to occur during task/activity	1/1,000
Improbable	Highly unlikely to occur, but possible during task/activity	1/10,000

AECOM

Americas

Task Hazard Assessment

S3AM-209-FM6

Date: 11/27 /2018	Project Name / Location: 5-Point Plume
Permit / Job Number:	Project Number: 60546131
Description of Task: GW Sampling	

Do you have a pre-job hazard assessment (JHA) specific to this task in your hands?

- (●) Yes – review the steps, hazards, and precautions. Attach and reference JHA in the form below. Add any additional steps, hazards, and precautions to this form otherwise unidentified on JHA.
- ( ) No – list all steps, hazards, and precautions associated with the task in the form below.

Basic Task Steps (explain in order how the task will be carried out)	Hazards (identify all hazards & potential hazards of each step)	Risk (before)	Control Measures / Precautions (describe how that hazard will be controlled)	Risk (after)	Revised? (yes – record time)
Open Wells	Traffic	4	PPE and safety cones	2	
Fill Bottles	Perseratives	3	PPE	2	
Lifting Coolers	Improper lifting	3	Use proper lifting techniques	2	
			Highest Risk Index		

The Task Hazard Assessment is to be completed at the worksite by the individual(s) who is intended to conduct the task immediately prior to initiating the associated task. Number and attach additional pages if necessary.

Worker/Visitor acknowledgement and review of this content on back of this document. Originator to also sign Worker acknowledgement section.

Originator Lyndsey Anderson (Print Name) — Sign

Supervisor Lyndsey Anderson (Print Name) — Signature

Risk Matrix on Reverse

THIS FORM IS TO BE KEPT ON JOB SITE.

ALS Environmental
Field Chain-of-Custody Record

CoC #:

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

Project Name & No.: S-points PEE 60546131 task 4

ALS Quote No:

Report to: Tammi Messersmith

Phone: 801.904.4000

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

e-mail: tammi.messersmith@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	VOCs (SOM 01.2)	MS/MSD							Preservation Code	Sample Matrix Code	Remarks
SP-MW110D-301	S-Points	301	11/29/18 1115	3		X										
SP-MW104-120		120	11/29/18 1135	3		X										
SP-MW103-122		122	11/29/18 1150	3		X										
SP-MW105-147		147	11/29/18 1205	9		X	X									Triple volume for MS/MSD
SP-MW101-162		162	11/29/18 1240	3		X										
SP-MW101-162-Y		162	11/29/18 1250	3		X										

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
	11/29/18		[signature]	11/29/18	1402
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

White - Laboratory Copy *Yellow - Client Copy*

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 task 4
	ALS Quote No:
	Report to: tammi Messersmith
Phone: 801.904.4000	Report to e-mail: tammi.messersmith@aecom.com
e-mail: tammi.messersmith@aecom.com	Bill to: AECOM

Field Sample Number	Site ID	Depth	Date/Time	No. of Containers	Sample for Matrix QC	Analyses Requested: VOCs (SOM 01.2)								Preservation Code	Sample Matrix Code	Remarks
TB-112918	LAB Prepared			2		X										
5P-MW107I-145	5-Points	145'	11/29/18 835	3		X										
5P-MW107D-200		200	11/29/18 850	3		X										
5P-MW106I-145		145	11/29/18 920	3		X										
5P-MW106D-195		195	11/29/18 935	3		X										
5P-MW108I-149		149	11/29/18 950	3		X										
5P-MW108D-214		214	11/29/18 1005	3		X										
5P-MW109I-169		169	11/29/18 1035	3		X										
5P-MW109D-230		230	11/29/18 1050	3		X										
5P-MW110I-208		208	11/29/18 1105	3		X										

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

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]	11/29/18		[signature]	112918	1402

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

White - Laboratory Copy *Yellow - Client Copy*

AECOM

Attachment 2

ALS Analytical Data Package and Electronic Data Deliverable
for November 29, 2018
(provided electronically on attached CD)

SDG COVER PAGE

Lab Name: ALS Environmental (SLC) Contract: NA

Lab Code: ALS Case No.: 5POINTS SOW No.: SOM02.4 SDG No.: TV1130

MA No.(s):

EPA Sample No.	Lab Sample ID	VOA Trace	Analysis Method				
5P-MW101-162	1833368017	X					
5P-MW101-162-Y	1833368018	X					
5P-MW103-122	1833368013	X					
5P-MW104-120	1833368012	X					
5P-MW105-147	1833368014	X					
5P-MW105-147MS	1833368015	X					
5P-MW105-147MSD	1833368016	X					
5P-MW106D195	1833368005	X					
5P-MW106I-145	1833368004	X					
5P-MW107D-200	1833368003	X					
5P-MW107I-145	1833368002	X					
5P-MW108D-214	1833368007	X					
5P-MW108I-149	1833368006	X					
5P-MW109D-230	1833368009	X					
5P-MW109I-169	1833368008	X					
5P-MW110D-301	1833368011	X					
5P-MW110I-208	1833368010	X					
TB-112918	1833368001	X					

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the SDG Narrative. Release of the data contained in this hardcopy data package and in the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: /S/ Roxanne Olson Name: Roxanne Olson

Date: 12/13/2018 13:48 Title: Project Manager

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

Sample Delivery Group (SDG)
Cover Sheet

SDG Number: TV1130

Laboratory Name: ALS Laboratory Group (SLC)

Laboratory Code: ALS

Contract No.: 97756

Case No.: 5POINTS

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-MW101-162	7) 5P-MW106I-145	13) 5P-MW109I-169	19)
2) 5P-MW101-162-Y	8) 5P-MW107D-200	14) 5P-MW110D-301	20)
3) 5P-MW103-122	9) 5P-MW107I-145	15) 5P-MW110I-208	21)
4) 5P-MW104-120	10) 5P-MW108D-214	16) TB-112918	22)
5) 5P-MW105-147	11) 5P-MW108I-149	17)	23)
6) 5P-MW106D195	12) 5P-MW109D-230	18)	24)

5P-MW101-162

First Sample in SDG

TB-112918

Last Sample in SDG

11/29/18

First Sample Receipt Date

11/29/18

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: 11/29/2018 2:57:33 PM

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

EPA Sample Receipt

Client: AECOM **Contract:** 97756 **Case:** 5POINTS **SDG:** TV1130 **MOD:** None

Due to Client: Thu, Dec 20, 2018 **TAT:** 21 **Date Reported:** Not Reported **Status:** CLOSED

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

Work Order	Received	PR	Fractions
1833368	11/29/18 2:02 PM	No	Volatiles Trace

Sample Information

Lab ID	Client ID	Type	Matrix	VT
1833368001	TB-112918	TRIPBK	Water	X
1833368002	5P-MW107I-145	SAM	Water	X
1833368003	5P-MW107D-200	SAM	Water	X
1833368004	5P-MW106I-145	SAM	Water	X
1833368005	5P-MW106D 195	SAM	Water	X
1833368006	5P-MW108I-149	SAM	Water	X
1833368007	5P-MW108D-214	SAM	Water	X
1833368008	5P-MW109I-169	SAM	Water	X
1833368009	5P-MW109D-230	SAM	Water	X
1833368010	5P-MW110I-208	SAM	Water	X
1833368011	5P-MW110D-301	SAM	Water	X
1833368012	5P-MW104-120	SAM	Water	X
1833368013	5P-MW103-122	SAM	Water	X
1833368014	5P-MW105-147	SAM	Water	X
1833368015	5P-MW105-147MS	MS	Water	X
1833368016	5P-MW105-147MSD	MSD	Water	X
1833368017	5P-MW101-162	SAM	Water	X
1833368018	5P-MW101-162-Y	SAM	Water	X

Field Samples: 16 **MS:** 1 **MSD:** 1 **MD:** 0 **PE:** 0

Report Parameters = SDG:TV1130 Case:<NULL> Region:<NULL>
Mod:<NULL> Workorder:<NULL> BeginDate:<NULL> EndDate:<NULL>
OpenSummary:No SortBy:Case

W 1833368

Field Chain-of-Custody Record

CASE 5 POINTS
SDG TV1130

CoC #:

Page 1 of 2

1833368

Client Name & Address:	Project Name & No.:
AECOM 756 E. Winchester St #400 SLC, UT 84107	5-points PCE 60546131 task 4
	ALS Quote No:
	Report to: Tammi Messersmith
Phone: 801.904.4000	Report to e-mail: tammi.messersmith@aecom.com
e-mail: tammi.messersmith@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	VOCs (SOM 01.2)								Preservation Code	Sample Matrix Code	Remarks
TB-112918	LAB Prepared			2		X										
5P-MW107I-145	5-Points	145'	11/29/18 835	3		X										
5P-MW107D-200	↓	200	11/29/18 850	3		X										
5P-MW106I-145		145	11/29/18 920	3		X										
5P-MW106D-195		195	11/29/18 935	3		X										
5P-MW108I-149		149	11/29/18 950	3		X										
5P-MW108D-214		214	11/29/18 1005	3		X										
5P-MW109I-169		169	11/29/18 1035	3		X										
5P-MW109D-230		230	11/29/18 1050	3		X										
5P-MW110I-208	↓	208	11/29/18 1105	3		X										

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]	11/29/18		[signature]	112918	1402
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

White - Laboratory Copy *Yellow - Client Copy*

ALSCoC 4.25.17 4/25/2017

H0000

ALS Environmental
Field Chain-of-Custody Record

CASE S-POINTS
SDG TV1130

CoC #:

Client Name & Address:	Project Name & No.:
AECOM 756 E Winchester st #400 SLC, UT 84107	S-points PEE CCOS 46131 TASK 4
	ALS Quote No:
	Report to: Tammi Messersmith
Phone: 801-904-4000	Report to e-mail: Tammi.messersmith@aecom.com
e-mail: tammi.messersmith@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: VOCs (SOM 01.2)	Analyses Requested: MS/MSD	Preservation Code	Sample Matrix Code	Remarks
SP-MW110D-301	S-Points	301	11/29/18 1115	3		X				
SP-MW104-120		120	11/29/18 1135	3		X				
SP-MW103-122		122	11/29/18 1150	3		X				
SP-MW105-147		147	11/29/18 1205	9		X	X			Triple volume for MS/MSD
SP-MW101-162		162	11/29/18 1240	3		X				
SP-MW101-162-Y		162	11/29/18 1250	3		X				

11/29/18

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
	11/29/18			11/29/18	1402
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

White - Laboratory Copy *Yellow - Client Copy*

000025

SAMPLE LOG-IN SHEET
FORM DC-1

Lab Name ALS Environmental	Page 1 of 1
Received By (Print Name) GAYLEEN COATES	Log-In Date 11/29/2018
Received By (Signature) Gayleen Coates	
Case Number 5POINTS / Sample Delivery Group No. TV 1130	Mod. Ref. No. n/a

Remarks:

1. Custody Seal (s) — Present/Absent* — Intact/Broken*
2. Custody Seal Nos. — n/a / 1
3. Traffic Report/ Chain-of Custody Records or Packing Lists — Present/Absent*
4. Airbill — Airbill/Sticker Present/Absent*
5. Airbill No. — n/a / 1
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 — 3C
10. Does information on TR/COCs and sample tags agree? — Yes/No*
11. Date Received at Laboratory — 11/29/2018
12. Time Received — 1402

	EPA Sample #	Assigned Lab #		Remarks: Condition of Sample Shipment, etc.
1	TB-112918	1833368	001	TRIP Water
2	5P-MW107I-145		002	
3	5P-MW107D-200		003	
4	5P-MW106I-145		004	
5	5P-MW106D-195		005	
6	5P-MW108I-149		006*	
7	5P-MW108D-214		007	
8	5P-MW109I-169		008	
9	5P-MW109D-230		009	
10	5P-MW110I-208		010	
11	5P-MW110D-301		011	
12	5P-MW104-120		012	
13	5P-MW103-122		013	
14	5P-MW105-147		014,015,016	MS/MSD
15	5P-MW101-162		017	
16	5P-MW101-162-Y		018	
17				
18				
19				
20				
21				
22				

gc 11/29/2018

Sample Transfer	
Fraction TRIP	Fraction gc
Area # Stringer	Area # 11/29/2018
By gc	By
On 11/29/2018	On

* Contact SMO and attach record of resolution

Reviewed By	Roxanne Olson	Logbook No. Not Applicable
Date	11/29/18	Logbook Page No. Not Applicable

SOM02.4

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	TV1130
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	1	1	✓	
2	Traffic Report/Chain of Custody Record(s)	2	5	✓	
3	Sample Log-In Sheet (DC-1)	6	6	✓	
4	CSF Inventory Sheet (DC-2)	7	10A	✓	
5	SDG Narrative	11	14	✓	
Organic Analysis					
Trace Volatiles					
	Quality Control Summary				
6	Deuterated Monitoring Compound Recovery (Form 2A-OR and Form 2B-OR)	15	16	✓	
7	Matrix Spike/Matrix Spike Duplicate Recovery (Form 3A-OR) (if requested by the EPA Region)	17	17	✓	
8	Method Blank Summary (Form 4-OR)	18	20	✓	
9	GC/MS Instrument Performance Check (Form 5-OR)	21	25	✓	
10	Internal Standard Area and Retention Summary (Form 8A-OR)	26	28	✓	
	Sample Data	29	177	✓	
11	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)	N/A	N/A	✓	
12	Tentatively Identified Compounds (Form 1B-OR)			✓	
13	Raw Data for Each Sample:			✓	
	Reconstructed total ion chromatograms (RICs) for each sample	12/7/2018	12/7/2018	✓	
	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)	178	250	✓	
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	251	260	✓	
19	Blank Data	261	288	✓	
20	Matrix Spike/Matrix Spike Duplicate Data Form 3A-OR) (if requested by the EPA Region)	289	298	✓	
21	Original Prep and Analysis forms (inc. screening records if applicable)	299	375	✓	

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	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)	12/17/2015	12/17/2015	✓	
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)			✓	

FORM DC-2

ORGANICS COMPLETE SDG FILE (CSF) INVENTORY SHEET

		PAGE NOs FROM	PAGE NOs TO	CHECK LAB	CHECK REGION
	Sample Data	N/A	N/A	✓	
43	TAL Results - Organic Analysis Data Sheet (Form 1A-OR)			✓	
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)	12/17/2015 JO	12/17/2015 JO	✓	
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	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)	5/2/2018	5/2/2018	✓	
Aroclors					
	Quality Control Summary				
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	N/A	N/A	✓	
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)	12/17/2018	12/17/2018	✓	
Additional					
98	EPA Shipping/Receiving Documents				
	Airbill (no. of Shipments 0)			✓	
	Sample Tags	376	376	✓	
	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)	377	384	✓	
101	PE/PT Instruction Forms			✓	
102	Other Records (describe or List)			✓	

Communication logs

N/A

103 Comments:

N/A

Completed by:

CLP Lab [signature] (Signature)

Desiree Hill/Doc Control (Print Name/Title) 12/17/2018 (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
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SDG Administrative Narrative

Contract: 97756

Case: 5POINTS

SDG: TV1130

WO No(s): 18333608

Cooler # and Temperatures of each (upon receipt)

Cooler Number	N/A	Arrival temperature was	3	°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

12/17/2018 DH

Communications:

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

Comments: N/A

Signature: _____ Date: 12/17/2018
Document Control Officer

SDG Narrative
Trace Volatiles

Contract: EPA97756
Laboratory: ALS Environmental
Modification Reference Number: N/A

Case: 5POINTS
SDG: TV1130

EPA No.	ALS Sample	pH	Dilution	EPA No.	ALS Sample	pH	Dilution
5P-MW101-162	1833368017	1	1:1	5P-MW106I-145	1833368004	1	1:1
5P-MW101-162DL	1833368017DL	1	1:1	5P-MW107D-200	1833368003	1	1:1
5P-MW101-162-Y	1833368018	1	1:1	5P-MW107I-145	1833368002	1	1:1
5P-MW101-162-YDL	1833368018DL	1	1:1	5P-MW108D-214	1833368007	1	1:1
5P-MW103-122	1833368013	1	1:1	5P-MW108I-149	1833368006	1	1:1
5P-MW104-120	1833368012	1	1:1	5P-MW109D-230	1833368009	1	1:1
5P-MW105-147	1833368014	1	1:1	5P-MW109I-169	1833368008	1	1:1
5P-MW105-147MS	1833368015	1	1:1	5P-MW110D-301	1833368011	1	1:1
5P-MW105-147MSD	1833368016	1	1:1	5P-MW110I-208	1833368010	1	1:1
5P-MW106D195	1833368005	1	1:1	TB-112918	1833368001	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-E 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.).

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 and the secondary 157 ion was used in the quantitation of 1,2-Dibromo-3-chloropropane for 5975-E. 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	Analyte	Initial Scan	Final Scan

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: MS/MSD analysis was performed for sample 5P-MW105-147 (1833368014). Trichloroethene and Benzene were outside RPD recovery limits for the MSD.

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-MW107I-145 Analyte: Acetone

VSTD005TF RRF = $\{\frac{(Ax)(Cis)}{(Ais)(Cx)}\}$ e.g. $\{\frac{(325818)(5.0)}{(1176330)(50.0)}\} = 0.028$

Average RRF = $\{\frac{\sum_{i=1}^{n} Xi}{n}\}$ e.g. $\{\frac{(0.031)+(0.038)+(0.028)+(0.029)+(0.028)}{5}\} = 0.031$

Concentration:

Water = $\{\frac{(Ax)(Iis)(DF)}{(Ais)(ARF)(Vo)}\}$ e.g. $\{\frac{(158155)(125)(1)}{(1090259)(0.031)(25)}\} = 23$ 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

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-MW101-162	104	104	78	101	103	108	99	99	98
5P-MW101-162DL	108	108	79	93	104	106	102	100	100
5P-MW101-162-Y	105	116	80	99	105	107	101	99	98
5P-MW101-162-YDL	110	108	79	99	105	107	100	99	99
5P-MW103-122	108	122	80	104	107	112	99	98	98
5P-MW104-120	106	114	79	97	104	107	103	101	101
5P-MW105-147	109	117	77	85	102	104	101	101	100
5P-MW106D195	100	97	80	96	93	107	97	95	99
5P-MW106I-145	100	100	81	85	92	103	98	95	100
5P-MW107D-200	100	97	81	97	94	109	97	93	99
5P-MW107I-145	98	96	80	101	93	109	95	96	98
5P-MW108D-214	101	97	78	90	94	102	100	95	101
5P-MW108I-149	100	98	80	94	94	104	98	96	100
5P-MW109D-230	103	101	81	88	93	100	97	93	101
5P-MW109I-169	98	97	79	71	91	95	100	94	101
5P-MW110D-301	112	112	80	108	108	112	102	102	96
5P-MW110I-208	110	115	81	99	105	108	102	98	99
TB-112918	105	114	78	100	103	109	99	99	98
5P-MW105-147MS	110	117	105	62	103	105	101	99	98
5P-MW105-147MSD	105	113	99	71	101	103	99	98	99
VBLKT1	78	87	73	100	94	112	94	96	96
VBLKT2	83	98	73	98	102	104	99	99	99
VBLKT3	105	102	85	98	101	101	102	100	101
VHBLKT1	103	110	80	96	102	106	101	99	100

	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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

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-MW101-162	89	95	96	101					0
5P-MW101-162DL	87	97	98	103					0
5P-MW101-162-Y	88	96	99	104					0
5P-MW101-162-YDL	85	96	98	104					0
5P-MW103-122	86	95	98	106					0
5P-MW104-120	88	96	101	106					0
5P-MW105-147	88	95	96	103					0
5P-MW106D195	82	87	84	109					0
5P-MW106I-145	81	82	85	108					0
5P-MW107D-200	85	90	88	108					0
5P-MW107I-145	85	93	90	112					0
5P-MW108D-214	79	82	84	105					0
5P-MW108I-149	79	84	83	111					0
5P-MW109D-230	75	76	80	107					0
5P-MW109I-169	71	72	77	108					0
5P-MW110D-301	88	93	102	103					0
5P-MW110I-208	89	95	102	104					0
TB-112918	84	97	97	104					0
5P-MW105-147MS	88	83	99	107					0
5P-MW105-147MSD	89	91	98	109					0
VBLKT1	86	93	90	110					0
VBLKT2	90	95	99	103					0
VBLKT3	87	96	98	102					0
VHBLKT1	86	94	100	102					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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Matrix: WATER

EPA Sample No. (Matrix Spike/Matrix Spike Duplicate): 5P-MW105-147

Instrument ID: 5975-E 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	5.4	109	61-145
Trichloroethene	5.0	0.0	5.7	114	71-120
Benzene	5.0	0.0	5.9	118	76-127
Toluene	5.0	0.0	6.0	120	76-125
Chlorobenzene	5.0	0.0	5.8	116	75-130

ANALYTE	SPIKE ADDED	MSD CONCENTRATION	MSD %R #	RPD #	QC LIMITS	
					RPD	%R
1,1-Dichloroethene	5.0	4.7	94	14	0-14	61-145
Trichloroethene	5.0	4.9	98	15 *	0-14	71-120
Benzene	5.0	5.1	103	13 *	0-11	76-127
Toluene	5.0	5.3	106	12	0-13	76-125
Chlorobenzene	5.0	5.1	102	12	0-13	75-130

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

RPD: 2 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

FORM 4-OR
METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKT2

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method Trace VOA Level: TRACE

Matrix: WATER Lab Sample ID: 631007

Instrument ID: 5975-E Lab File ID: EC08BLK

Extraction Type: PT Date Extracted:

GC Column (1): RTX-VMS ID: 0.25 (mm) Date Analyzed: 12/06/2018

GC Column (2): ID: (mm) Time Analyzed: 10:33

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
5P-MW110I-208	1833368010	EC09A010	12/06/2018
5P-MW110D-301	1833368011	EC10A011	12/06/2018
5P-MW104-120	1833368012	EC11A012	12/06/2018
5P-MW103-122	1833368013	EC12A013	12/06/2018
5P-MW105-147	1833368014	EC13A014	12/06/2018
5P-MW105-147MS	1833368015	EC14A015	12/06/2018
5P-MW105-147MSD	1833368016	EC15A016	12/06/2018
5P-MW101-162DL	1833368017DL	EC16A017	12/06/2018
5P-MW101-162-YDL	1833368018DL	EC17A018	12/06/2018
5P-MW101-162	1833368017	EC18A017	12/06/2018
5P-MW101-162-Y	1833368018	EC19A018	12/06/2018

FORM 4-OR
METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKT3

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method Trace VOA Level: TRACE

Matrix: WATER Lab Sample ID: 631611

Instrument ID: 5975-E Lab File ID: EC29BLK

Extraction Type: PT Date Extracted:

GC Column (1): RTX-VMS ID: 0.25 (mm) Date Analyzed: 12/07/2018

GC Column (2): ID: (mm) Time Analyzed: 10:00

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
TB-112918	1833368001	EC35E001	12/07/2018
VHBLKT1	631008	EC36HBLK	12/07/2018

FORM 4-OR
METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631006
Instrument ID: 5975-F
Lab File ID: FB77BLK
Extraction Type: PT
Date Extracted:
GC Column (1): RTX-VMS ID: 0.25 (mm)
Date Analyzed: 12/06/2018
GC Column (2): ID: (mm)
Time Analyzed: 10:41
Heated Purge: (Y/N) Y Cleanup (Y/N):
Cleanup Types:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE/TIME ANALYZED
5P-MW107I-145	1833368002	FB78A002	12/06/2018
5P-MW107D-200	1833368003	FB78A003	12/06/2018
5P-MW106I-145	1833368004	FB79A004	12/06/2018
5P-MW106D195	1833368005	FB80A005	12/06/2018
5P-MW108I-149	1833368006	FB81A006	12/06/2018
5P-MW108D-214	1833368007	FB82A007	12/06/2018
5P-MW109I-169	1833368008	FB83A008	12/06/2018
5P-MW109D-230	1833368009	FB84A009	12/06/2018

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBET

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Lab File ID: EB82BFB

Instrument ID: 5975-E BFB/DFTPP BFB

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

Injection Date: 12/04/2018 Injection Time: 12:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.5
75	30.0 - 80.0% of mass 95	49.9
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.5 (0.7)
174	50.0 - 120% of mass 95	73.9
175	5.0 - 9.0% of mass 174	6.1 (8.2)
176	95.0 - 101% of mass 174	70.3 (95.2)
177	5.0 - 9.0% of mass 176	4.7 (6.6)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005ET	VSTD005ET	EB83S05	12/04/2018	12:52
VSTD001ET	VSTD001ET	EB84S01	12/04/2018	13:27
VSTD0.5ET	VSTD0.5ET	EB85S005	12/04/2018	13:54
VSTD010ET	VSTD010ET	EB86S10	12/04/2018	14:22
VSTD020ET	VSTD020ET	EB87S20	12/04/2018	14:50
VICVET	VICVET	EB89V05	12/04/2018	15:45

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBT2

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Lab File ID: EC07S05

Instrument ID: 5975-E BFB/DFTPP BFB

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

Injection Date: 12/06/2018 Injection Time: 09:55

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	27.0
75	30.0 - 80.0% of mass 95	51.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.0 (0.0)
174	50.0 - 120% of mass 95	73.8
175	5.0 - 9.0% of mass 174	4.9 (6.6)
176	95.0 - 101% of mass 174	71.9 (97.5)
177	5.0 - 9.0% of mass 176	4.1 (5.7)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005T3	VSTD005T3	EC07S05	12/06/2018	09:55
VBLKT2	631007	EC08BLK	12/06/2018	10:33
5P-MW110I-208	1833368010	EC09A010	12/06/2018	11:07
5P-MW110D-301	1833368011	EC10A011	12/06/2018	11:35
5P-MW104-120	1833368012	EC11A012	12/06/2018	12:03
5P-MW103-122	1833368013	EC12A013	12/06/2018	12:31
5P-MW105-147	1833368014	EC13A014	12/06/2018	12:58
5P-MW105-147MS	1833368015	EC14A015	12/06/2018	13:26
5P-MW105-147MSD	1833368016	EC15A016	12/06/2018	13:54
5P-MW101-162DL	1833368017DL	EC16A017	12/06/2018	14:21
5P-MW101-162-YDL	1833368018DL	EC17A018	12/06/2018	14:55
5P-MW101-162	1833368017	EC18A017	12/06/2018	15:23
5P-MW101-162-Y	1833368018	EC19A018	12/06/2018	15:50
VSTD005T4	VSTD005T4	EC21F05	12/06/2018	16:46

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBT3

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Lab File ID: EC28S05

Instrument ID: 5975-E BFB/DFTPP BFB

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

Injection Date: 12/07/2018 Injection Time: 09:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	28.2
75	30.0 - 80.0% of mass 95	51.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.8 (1.1)
174	50.0 - 120% of mass 95	73.5
175	5.0 - 9.0% of mass 174	5.2 (7.0)
176	95.0 - 101% of mass 174	71.9 (97.8)
177	5.0 - 9.0% of mass 176	4.9 (6.8)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005T5	VSTD005T5	EC28S05	12/07/2018	09:27
VBLKT3	631611	EC29BLK	12/07/2018	10:00
TB-112918	1833368001	EC35E001	12/07/2018	12:48
VHBLKT1	631008	EC36HBLK	12/07/2018	13:15
VSTD005T6	VSTD005T6	EC38F05	12/07/2018	14:10

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBTF

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Lab File ID: FB62BFB

Instrument ID: 5975-F BFB/DFTPP BFB

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

Injection Date: 11/30/2018 Injection Time: 08:38

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	45.7
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	1.5 (1.8)
174	50.0 - 120% of mass 95	85.2
175	5.0 - 9.0% of mass 174	6.1 (7.2)
176	95.0 - 101% of mass 174	83.6 (98.1)
177	5.0 - 9.0% of mass 176	5.0 (5.9)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD0.5TF	VSTD0.5TF	FB63S005	11/30/2018	09:09
VSTD001TF	VSTD001TF	FB64S01	11/30/2018	09:37
VSTD005TF	VSTD005TF	FB65S05	11/30/2018	10:05
VSTD010TF	VSTD010TF	FB66S10	11/30/2018	10:33
VSTD020TF	VSTD020TF	FB67S20	11/30/2018	11:01
VICVTF	VICVTF	FB69V05	11/30/2018	11:56

FORM 5-OR
GC/MS INSTRUMENT PERFORMANCE CHECK

EPA SAMPLE NO.

BFBT1

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Lab File ID: FB74BFB

Instrument ID: 5975-F BFB/DFTPP BFB

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

Injection Date: 12/06/2018 Injection Time: 07:23

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.3
75	30.0 - 80.0% of mass 95	47.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	1.4 (1.5)
174	50.0 - 120% of mass 95	90.2
175	5.0 - 9.0% of mass 174	4.6 (5.1)
176	95.0 - 101% of mass 174	87.8 (97.3)
177	5.0 - 9.0% of mass 176	6.2 (7.1)

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTD005T1	VSTD005T1	FB76S05	12/06/2018	10:06
VBLKT1	631006	FB77BLK	12/06/2018	10:41
5P-MW107I-145	1833368002	FB78A002	12/06/2018	11:18
5P-MW107D-200	1833368003	FB78A003	12/06/2018	11:45
5P-MW106I-145	1833368004	FB79A004	12/06/2018	12:13
5P-MW106D195	1833368005	FB80A005	12/06/2018	12:41
5P-MW108I-149	1833368006	FB81A006	12/06/2018	13:09
5P-MW108D-214	1833368007	FB82A007	12/06/2018	13:37
5P-MW109I-169	1833368008	FB83A008	12/06/2018	14:04
5P-MW109D-230	1833368009	FB84A009	12/06/2018	14:32
VSTD005T2	VSTD005T2	FB87F05	12/06/2018	15:26

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

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

EPA Sample No.: VSTD005T3 Lab File ID (Standard): EC07S05

Instrument ID: 5975-E Init. Calib Date(s): 12/04/2018 12/04/2018

GC Column: RTX-VMS ID: 0.25 (mm) Date Analyzed: 12/06/2018

Heated Purge: (Y/N) Y Time Analyzed: 09:55

	IS1 (CBZ) AREA	RT	IS2 (DFB) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	722653	10.55	879694	7.32	257446	12.98
UPPER LIMIT	1445306	10.72	1759388	7.49	514892	13.15
LOWER LIMIT	361327	10.38	439847	7.15	128723	12.81
EPA SAMPLE NO.						
VBLKT2	690262	10.55	798066	7.31	231155	12.98
5P-MW110I-208	623321	10.55	710074	7.32	205020	12.98
5P-MW110D-301	464578	10.55	523172	7.31	155157	12.98
5P-MW104-120	655345	10.55	760834	7.31	216931	12.98
5P-MW103-122	621390	10.55	692543	7.32	202781	12.98
5P-MW105-147	676195	10.55	780441	7.31	226784	12.98
5P-MW105-147MS	590519	10.55	681423	7.31	195169	12.98
5P-MW105-147MSD	653647	10.55	752867	7.31	213402	12.98
5P-MW101-162DL	687152	10.55	791493	7.32	228227	12.98
5P-MW101-162-YDL	689338	10.55	782752	7.31	223839	12.98
5P-MW101-162	702810	10.55	795311	7.32	235146	12.97
5P-MW101-162-Y	683953	10.55	781446	7.32	227155	12.98

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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

EPA Sample No.: VSTD005T5 Lab File ID (Standard): EC28S05

Instrument ID: 5975-E Init. Calib Date(s): 12/04/2018 12/04/2018

GC Column: RTX-VMS ID: 0.25 (mm) Date Analyzed: 12/07/2018

Heated Purge: (Y/N) Y Time Analyzed: 09:27

	IS1 (CBZ) AREA	RT	IS2 (DFB) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	677808	10.55	863330	7.32	242353	12.98
UPPER LIMIT	1355616	10.72	1726660	7.49	484706	13.15
LOWER LIMIT	338904	10.38	431665	7.15	121177	12.81
EPA SAMPLE NO.						
VBLKT3	712611	10.55	843671	7.31	231787	12.98
TB-112918	688520	10.55	779778	7.32	231972	12.98
VHBLKT1	681574	10.55	790420	7.32	227003	12.98

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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

EPA Sample No.: VSTD005T1 Lab File ID (Standard): FB76S05

Instrument ID: 5975-F Init. Calib Date(s): 11/30/2018 11/30/2018

GC Column: RTX-VMS ID: 0.25 (mm) Date Analyzed: 12/06/2018

Heated Purge: (Y/N) Y Time Analyzed: 10:06

	IS1 (CBZ) AREA	RT	IS2 (DFB) AREA	RT	IS3 (DCB) AREA	RT
12 HOUR STD	1095169	10.40	1275432	7.16	440068	12.81
UPPER LIMIT	2190338	10.57	2550864	7.33	880136	12.98
LOWER LIMIT	547585	10.23	637716	6.99	220034	12.64
EPA SAMPLE NO.						
VBLKT1	1015859	10.40	1035580	7.17	349120	12.81
5P-MW107I-145	1061123	10.40	1090259	7.17	361553	12.81
5P-MW107D-200	999420	10.40	1044508	7.17	337819	12.81
5P-MW106I-145	1004160	10.40	1055579	7.17	339772	12.81
5P-MW106D195	1024684	10.40	1072711	7.17	340634	12.81
5P-MW108I-149	985375	10.40	1041968	7.17	323390	12.81
5P-MW108D-214	985882	10.40	1040914	7.16	334895	12.81
5P-MW109I-169	963522	10.40	1045724	7.17	326763	12.81
5P-MW109D-230	945523	10.40	998100	7.17	312125	12.81

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-MW101-162

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC18A017
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.57	
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	4.6	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	0.20	J
108-87-2	Methylcyclohexane	0.50	U

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

EPA SAMPLE NO.
5P-MW101-162

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC18A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	26.	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-MW101-162

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS
Case No.: 5POINTS
MA No.:
SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC18A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		Unknown 1-Hexanol, 2-ethyl-	13.32	0.82	J
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		

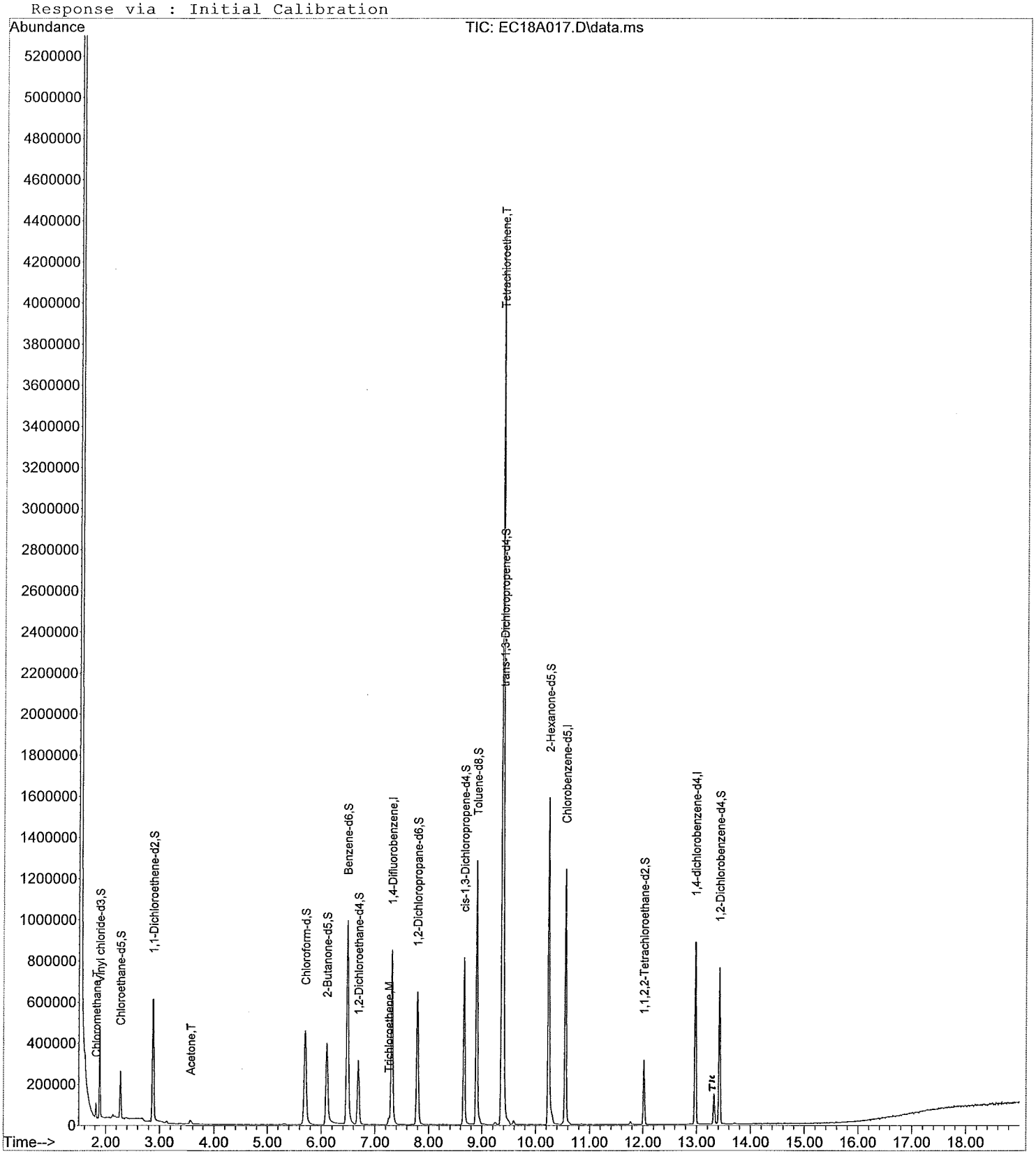
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC18A017.D Vial: 13
Acq Time : 12/06/2018 15:23 Operator: SLS
Sample : 1833368017 5P-MW101-162 Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 11:59:31 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC18A017.D Vial: 13
Acq Time : 12/06/2018 15:23 Operator: SLS
Sample : 1833368017 5P-MW101-162 Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 11:59:31 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	795311	5.00 ug/L	88.86
28) Chlorobenzene-d5	10.55	117	702810	5.00 ug/L	97.63
60) 1,4-dichlorobenzene-d4	12.97	152	235146	5.00 ug/L	91.70
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	323241	5.19 ug/L	103.79%
8) Chloroethane-d5	2.28	69	177859	5.22 ug/L	104.49%
11) 1,1-Dichloroethene-d2	2.88	63	456180	3.91 ug/L	78.24%
22) 2-Butanone-d5	6.10	46	747589	50.53 ug/L	101.05%
25) Chloroform-d	5.71	84	513655	5.14 ug/L	102.89%
27) 1,2-Dichloroethane-d4	6.69	65	267420	5.39 ug/L	107.80%
33) Benzene-d6	6.48	84	1067437	4.95 ug/L	99.02%
37) 1,2-Dichloropropane-d6	7.79	67	316814	4.96 ug/L	99.23%
40) cis-1,3-Dichloropropene-d4	8.66	79	450192	4.58 ug/L	91.62%
42) trans-1,3-Dichloropropene-	9.39	79	266114	4.43 ug/L	88.62%
47) Toluene-d8	8.90	98	883447	4.92 ug/L	98.34%
50) 2-Hexanone-d5	10.24	63	528913	47.53 ug/L	95.06%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	155797	4.79 ug/L	95.82%
65) 1,2-Dichlorobenzene-d4	13.42	152	191283	5.05 ug/L	101.02%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	50471	0.5665 ug/L	98
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	3.56	43	33068	4.6274 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	7.26	130	12510	0.2045 ug/L	92
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

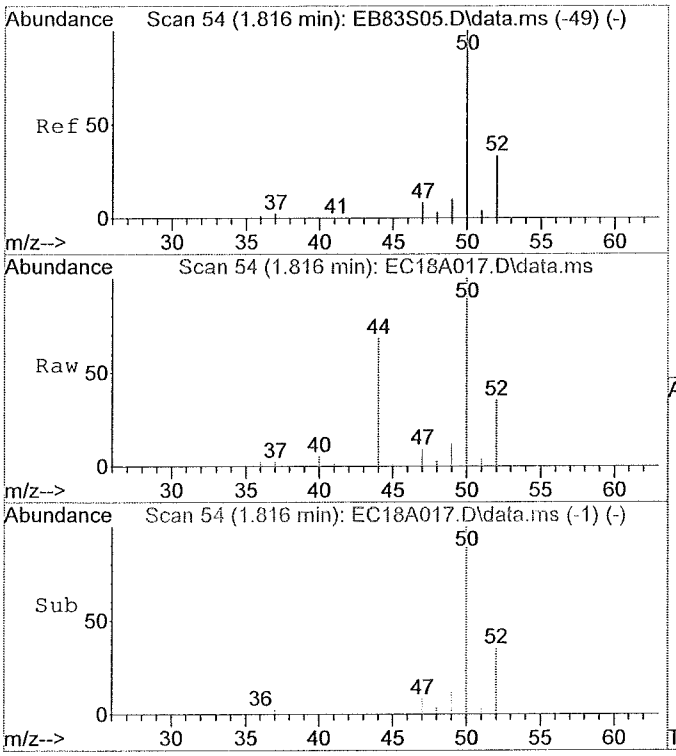
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC18A017.D Vial: 13
Acq Time : 12/06/2018 15:23 Operator: SLS
Sample : 1833368017 5P-MW101-162 Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 11:59:31 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.37	164	1056885	26.1761 ug/L	99
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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

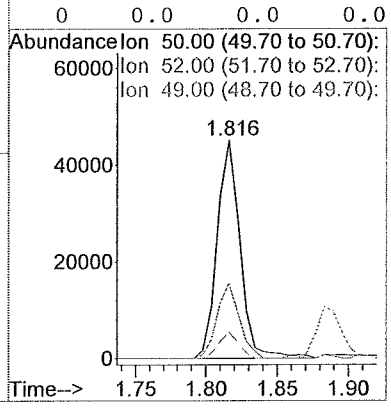
(#) = qualifier out of range (m) = manual integration

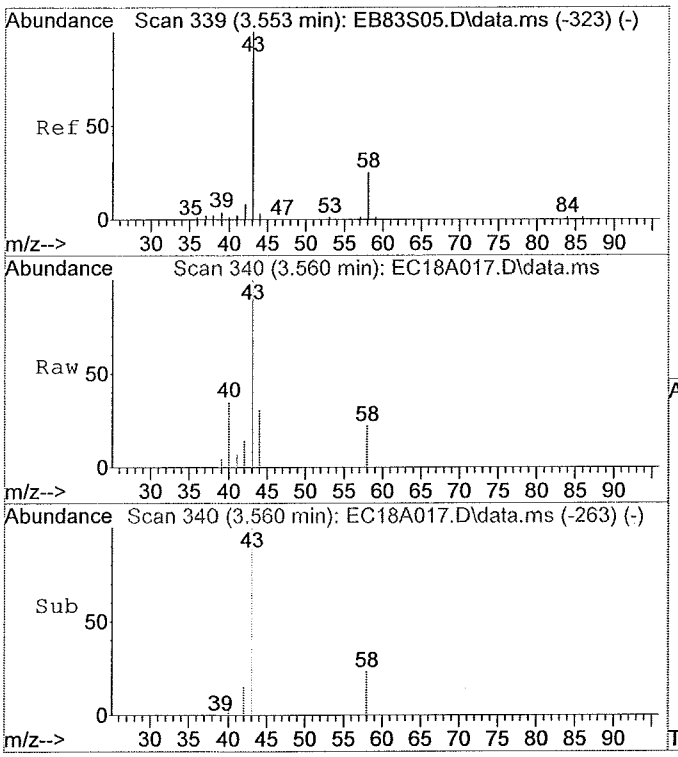


#3
Chloromethane
Concen: 0.57 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC18A017.D
Acq: 12/06/2018 15:23

Tgt Ion:50 Resp: 50471

Ion	Ratio	Lower	Upper
50	100		
52	33.6	12.5	52.5
49	10.6	0.0	30.2
0	0.0	0.0	0.0

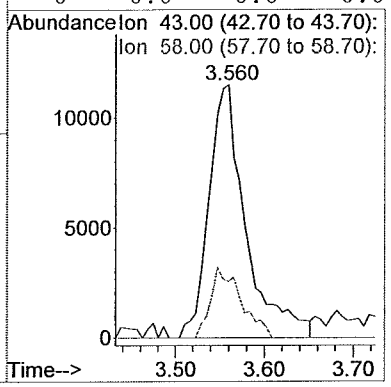


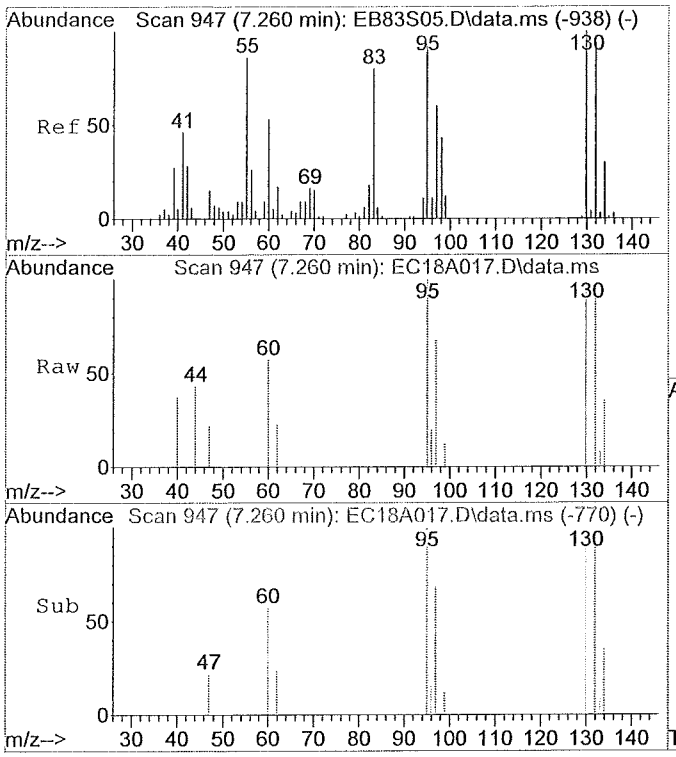


#13
Acetone
Concen: 4.63 ug/L
RT: 3.56 min Scan# 340
Delta R.T. 0.01 min
Lab File: EC18A017.D
Acq: 12/06/2018 15:23

Tgt Ion:43 Resp: 33068

Ion	Ratio	Lower	Upper
43	100		
58	23.2	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

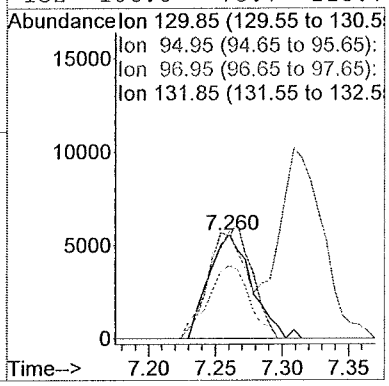


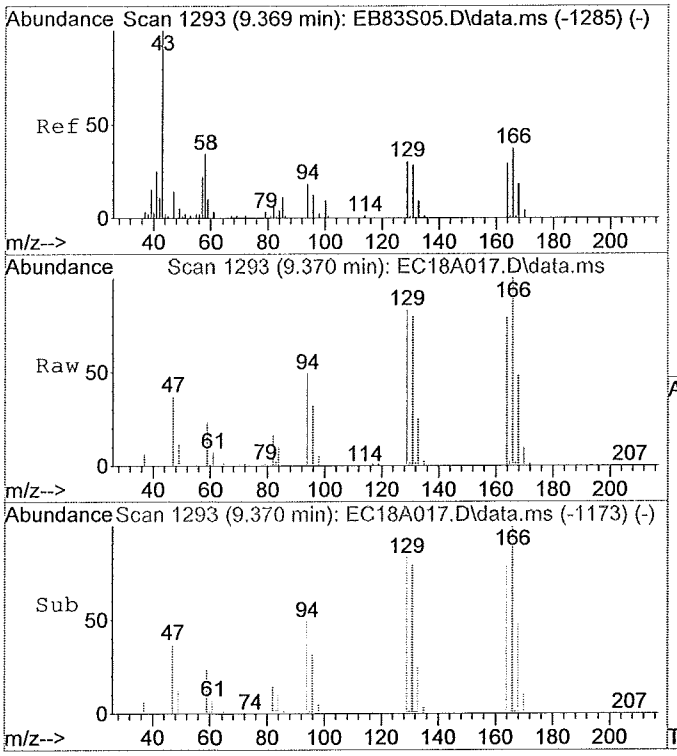


#34
Trichloroethene
Concen: 0.20 ug/L
RT: 7.26 min Scan# 947
Delta R.T. 0.00 min
Lab File: EC18A017.D
Acq: 12/06/2018 15:23

Tgt Ion:129.85 Resp: 12510

Ion	Ratio	Lower	Upper
130	100		
95	89.8	76.9	116.9
97	66.8	42.0	82.0
132	106.0	75.7	115.7

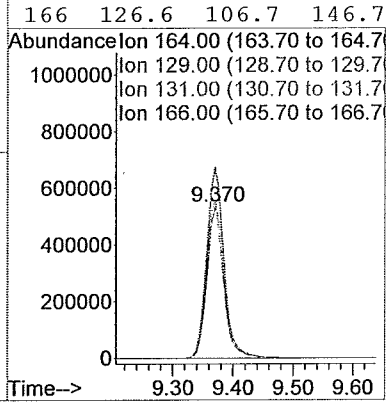




#48
Tetrachloroethene
Concen: 26.18 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC18A017.D
Acq: 12/06/2018 15:23

Tgt Ion:164 Resp: 1056885

Ion	Ratio	Lower	Upper
164	100		
129	104.2	82.4	122.4
131	100.1	78.7	118.7
166	126.6	106.7	146.7



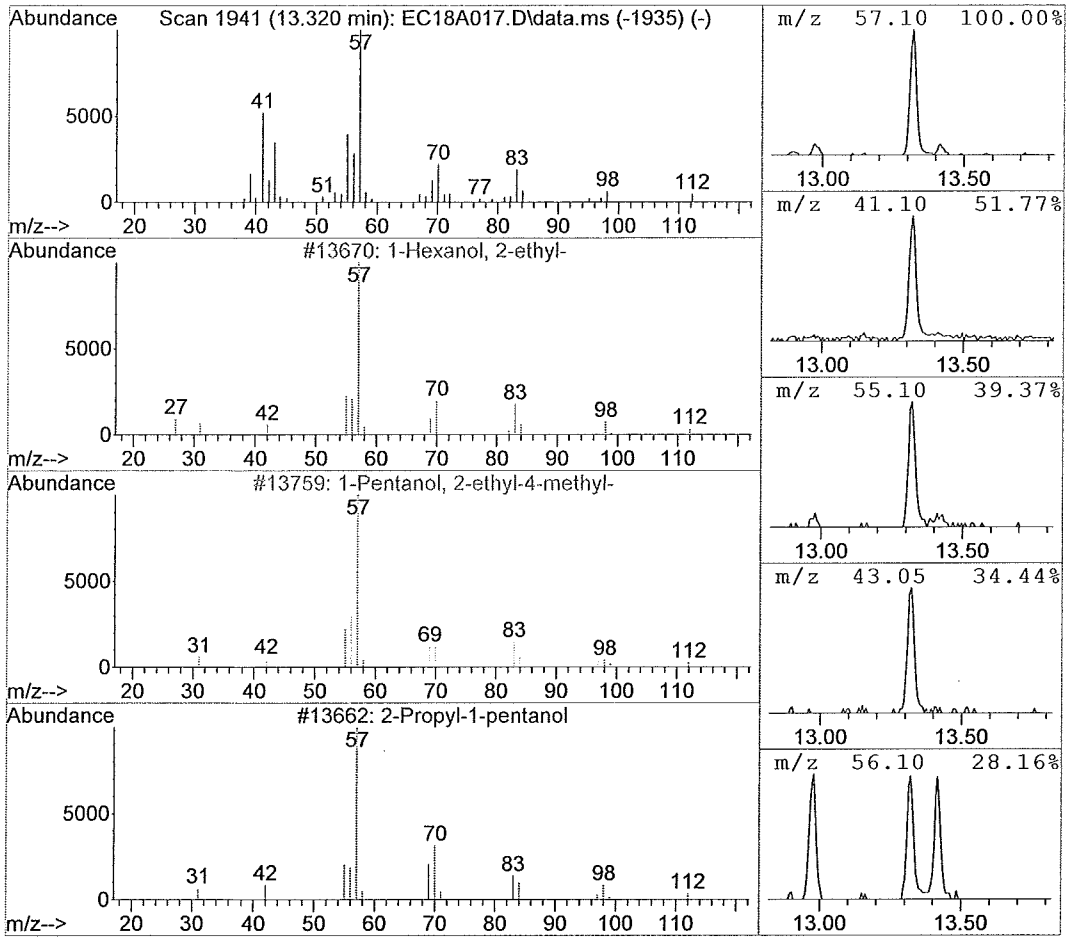
Library Search Compound Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC18A017.D Vial: 13
Acq Time : 12/06/2018 15:23 Operator: SLS
Sample : 1833368017 5P-MW101-162 Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
13.32	0.82 ug/L	240954	1,4-dichlorobenzene-d4	1476234

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	13670	000104-76-7	72.00
2	1-Pentanol, 2-ethyl-4-methyl-	13759	000106-67-2	64.00
3	2-Propyl-1-pentanol	13662	058175-57-8	53.00
4	3-Octene, (E)-	6639	014919-01-8	49.00
5	1-Hexene, 4-methyl-	3326	003769-23-1	47.00



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

EPA SAMPLE NO.
5P-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	0.58	JD
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	16.	JD
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25.	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U
108-87-2	Methylcyclohexane	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
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	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-Pentanone	25.	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23.	D
591-78-6	2-Hexanone	25.	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS
Case No.: 5POINTS
MA No.:
SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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: 5.0
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		

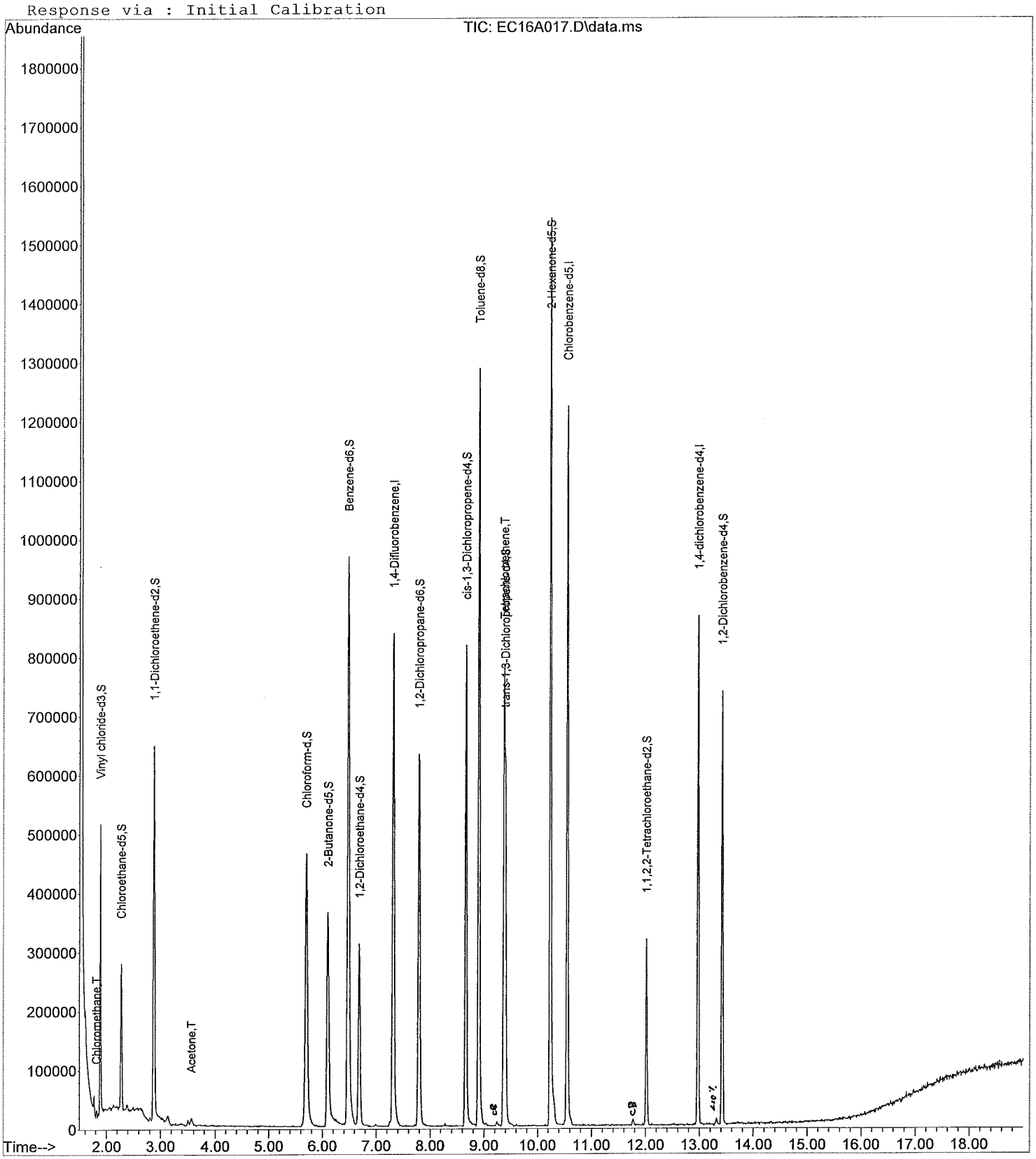
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC16A017.D Vial: 11
Acq Time : 12/06/2018 14:21 Operator: SLS
Sample : 1833368017DL 5P-MW101-162DL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:09:53 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC16A017.D Vial: 11
Acq Time : 12/06/2018 14:21 Operator: SLS
Sample : 1833368017DL 5P-MW101-162DL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:09:53 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	791493	5.00 ug/L	88.43
28) Chlorobenzene-d5	10.55	117	687152	5.00 ug/L	95.46
60) 1,4-dichlorobenzene-d4	12.98	152	228227	5.00 ug/L	89.00
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	333244	5.38 ug/L	107.52%
8) Chloroethane-d5	2.27	69	182174	5.38 ug/L	107.54%
11) 1,1-Dichloroethene-d2	2.88	63	458991	3.96 ug/L	79.10%
22) 2-Butanone-d5	6.10	46	687968	46.72 ug/L	93.44%
25) Chloroform-d	5.70	84	517341	5.21 ug/L	104.13%
27) 1,2-Dichloroethane-d4	6.69	65	262133	5.31 ug/L	106.18%
33) Benzene-d6	6.48	84	1070679	5.08 ug/L	101.59%
37) 1,2-Dichloropropane-d6	7.79	67	311090	4.98 ug/L	99.66%
40) cis-1,3-Dichloropropene-d4	8.66	79	448322	4.67 ug/L	93.32%
42) trans-1,3-Dichloropropene-	9.39	79	256007	4.36 ug/L	87.19%
47) Toluene-d8	8.90	98	881488	5.02 ug/L	100.36%
50) 2-Hexanone-d5	10.24	63	525160	48.27 ug/L	96.54%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	156405	4.92 ug/L	98.38%
65) 1,2-Dichlorobenzene-d4	13.42	152	188752	5.14 ug/L	102.71%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.81	50	10312	0.1163 ug/L	97
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	3.55	43	22057	3.1015 ug/L	94
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

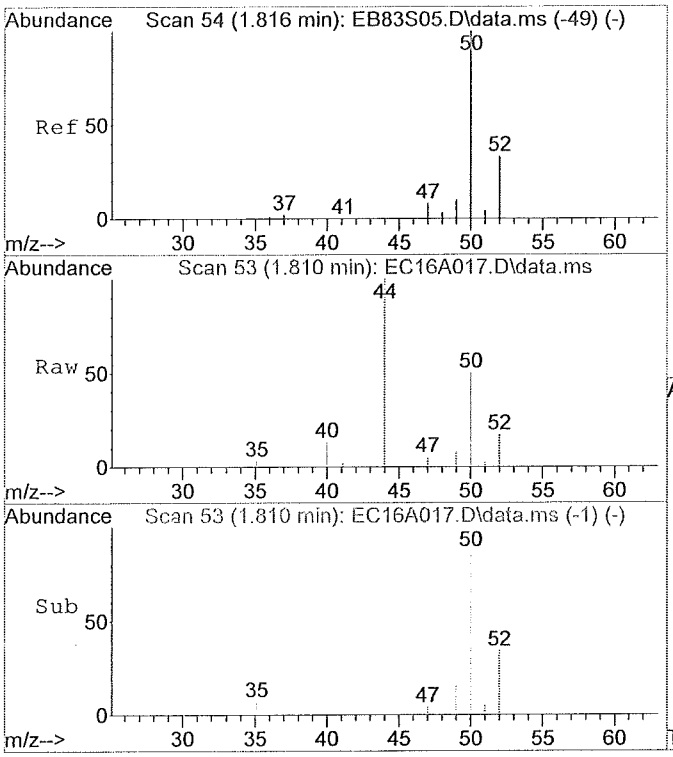
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC16A017.D Vial: 11
Acq Time : 12/06/2018 14:21 Operator: SLS
Sample : 1833368017DL 5P-MW101-162DL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:09:53 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	181197	4.5900 ug/L	99
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	157		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

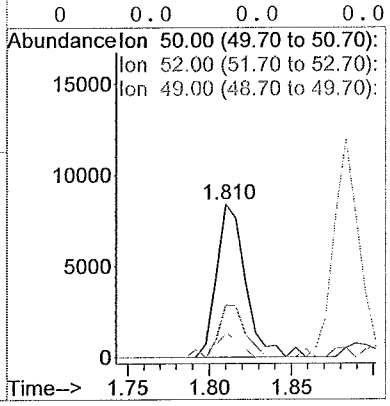
(#) = qualifier out of range (m) = manual integration

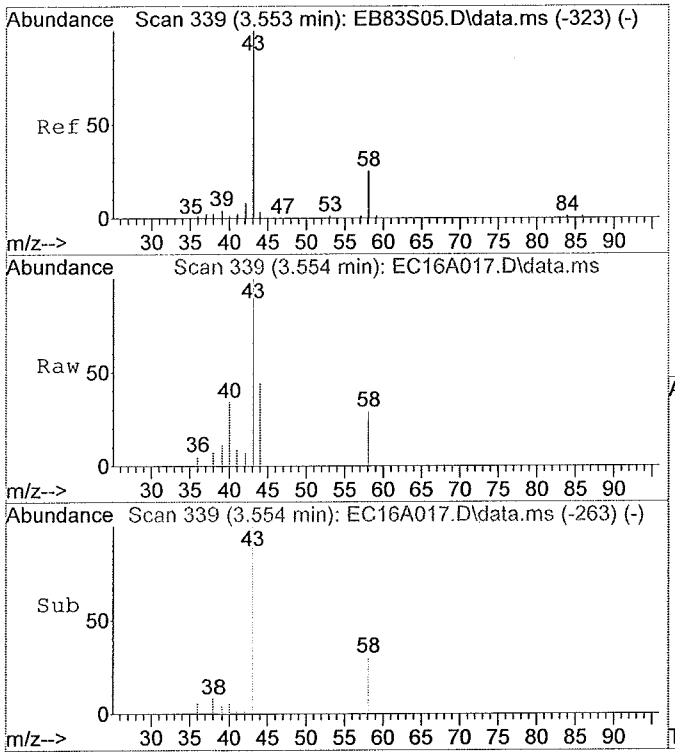


#3
Chloromethane
Concen: 0.12 ug/L
RT: 1.81 min Scan# 53
Delta R.T. -0.01 min
Lab File: EC16A017.D
Acq: 12/06/2018 14:21

Tgt Ion:50 Resp: 10312

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.5	52.5
49	11.9	0.0	30.2
0	0.0	0.0	0.0

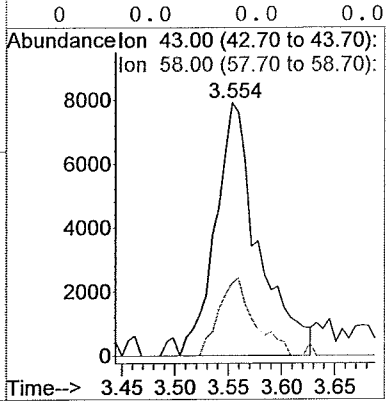


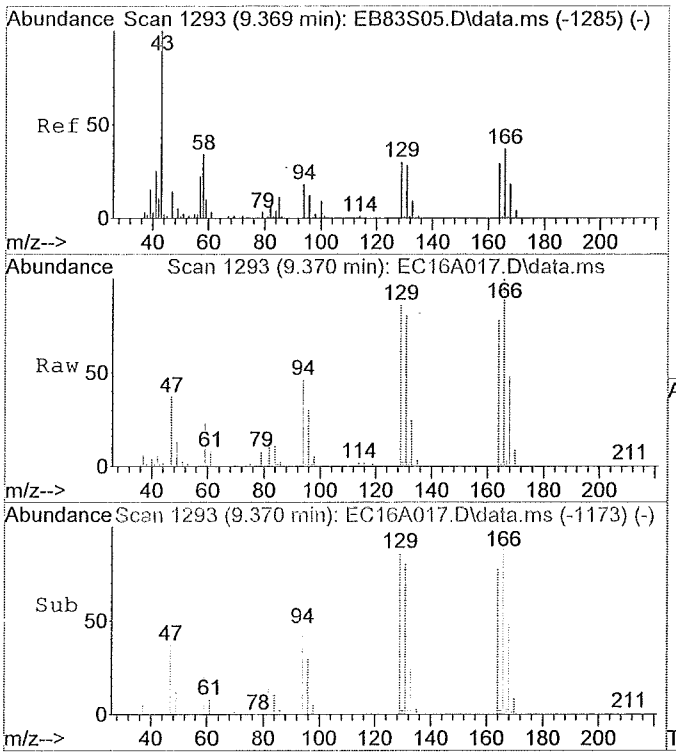


#13
Acetone
Concen: 3.10 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC16A017.D
Acq: 12/06/2018 14:21

Tgt Ion:43 Resp: 22057

Ion	Ratio	Lower	Upper
43	100		
58	25.4	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

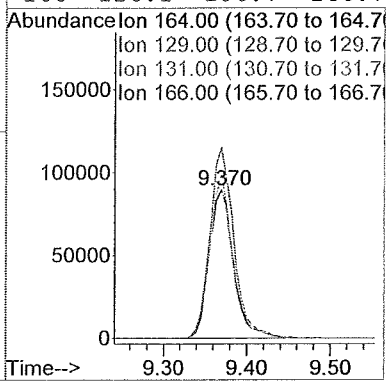




#48
Tetrachloroethene
Concen: 4.59 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC16A017.D
Acq: 12/06/2018 14:21

Tgt Ion:164 Resp: 181197

Ion	Ratio	Lower	Upper
164	100		
129	106.0	82.4	122.4
131	98.5	78.7	118.7
166	126.1	106.7	146.7



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

EPA SAMPLE NO.
5P-MW101-162-Y

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC19A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.24	J
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	6.4	
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	0.20	J
108-87-2	Methylcyclohexane	0.50	U

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

EPA SAMPLE NO.
5P-MW101-162-Y

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC19A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	25.	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-MW101-162-Y

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC19A018
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
Extract Concentrated:(Y/N) Date Analyzed: 12/06/2018
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		Unknown 1-Hexanol, 2-ethyl-	13.32	0.52	J
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		

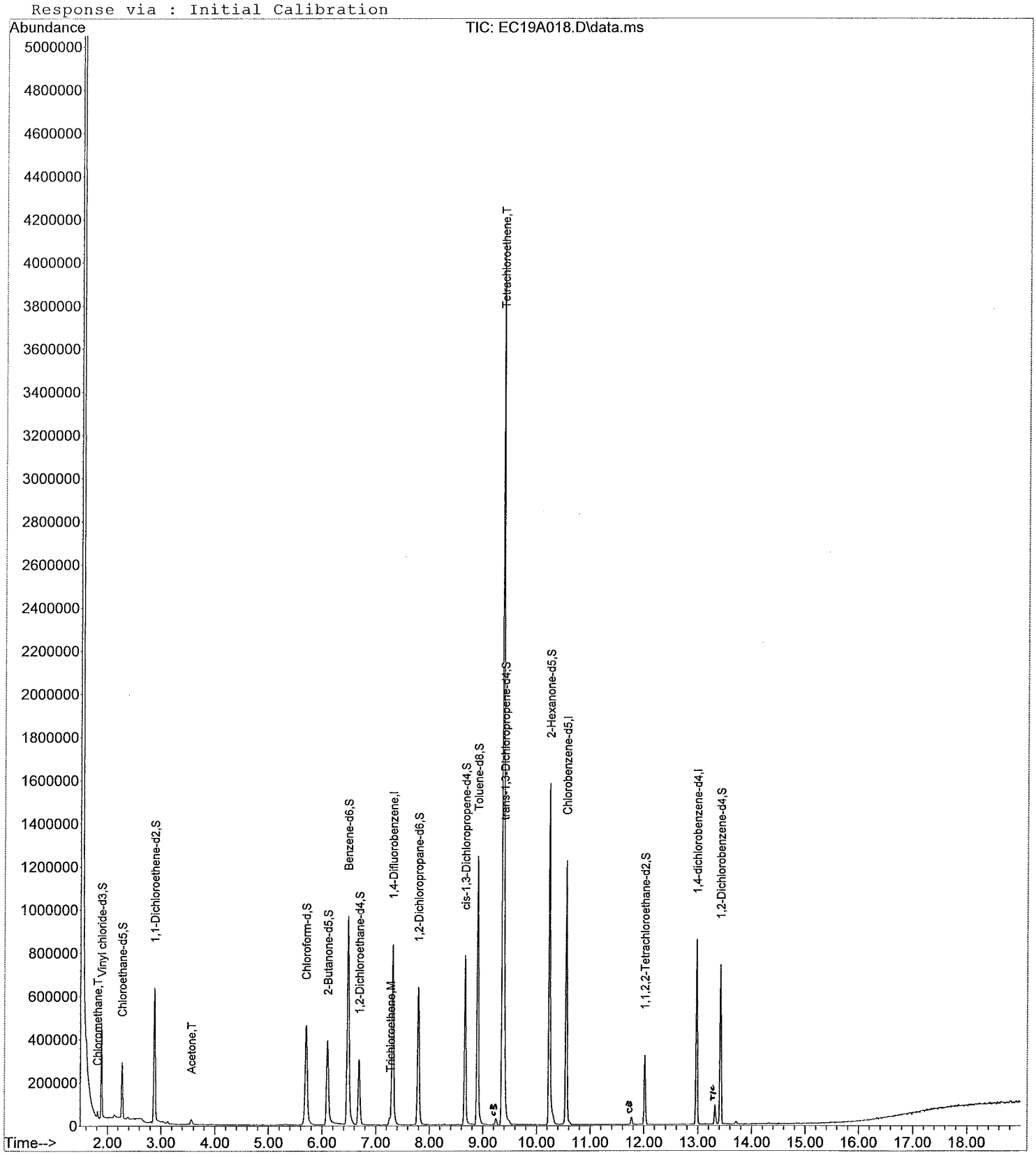
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC19A018.D Vial: 14
Acq Time : 12/06/2018 15:50 Operator: SLS
Sample : 1833368018 5P-MW101-162-Y Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 12:00:17 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC19A018.D Vial: 14
Acq Time : 12/06/2018 15:50 Operator: SLS
Sample : 1833368018 5P-MW101-162-Y Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 12:00:17 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	781446	5.00 ug/L	87.31
28) Chlorobenzene-d5	10.55	117	683953	5.00 ug/L	95.01
60) 1,4-dichlorobenzene-d4	12.98	152	227155	5.00 ug/L	88.58
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	320135	5.23 ug/L	104.62%
8) Chloroethane-d5	2.27	69	193302	5.78 ug/L	115.57%
11) 1,1-Dichloroethene-d2	2.88	63	457092	3.99 ug/L	79.79%
22) 2-Butanone-d5	6.10	46	719733	49.51 ug/L	99.01%
25) Chloroform-d	5.70	84	517416	5.27 ug/L	105.49%
27) 1,2-Dichloroethane-d4	6.69	65	260356	5.34 ug/L	106.82%
33) Benzene-d6	6.48	84	1061619	5.06 ug/L	101.20%
37) 1,2-Dichloropropane-d6	7.79	67	308856	4.97 ug/L	99.41%
40) cis-1,3-Dichloropropene-d4	8.66	79	436165	4.56 ug/L	91.21%
42) trans-1,3-Dichloropropene-	9.40	79	257937	4.41 ug/L	88.26%
47) Toluene-d8	8.90	98	860001	4.92 ug/L	98.37%
50) 2-Hexanone-d5	10.24	63	522272	48.23 ug/L	96.45%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	156554	4.95 ug/L	98.94%
65) 1,2-Dichlorobenzene-d4	13.42	152	189630	5.18 ug/L	103.67%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	21440	0.2449 ug/L	99
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	3.55	43	45192	6.4362 ug/L	96
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	7.27	130	12069	0.2027 ug/L	94
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

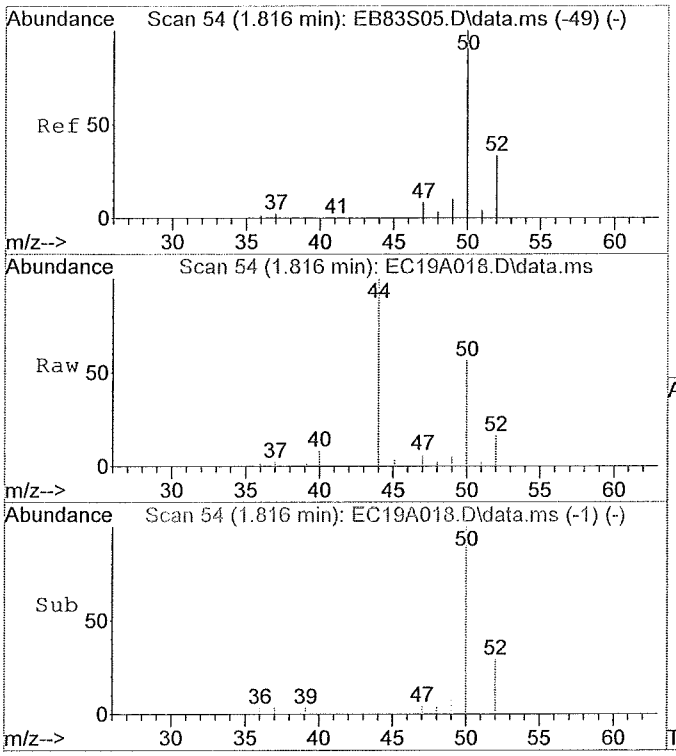
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC19A018.D Vial: 14
Acq Time : 12/06/2018 15:50 Operator: SLS
Sample : 1833368018 5P-MW101-162-Y Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 10 12:00:17 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	985833	25.0895 ug/L	99
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	157		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

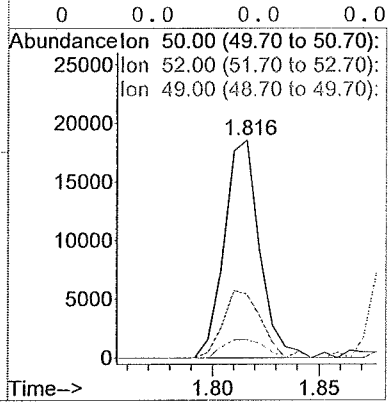
(#) = qualifier out of range (m) = manual integration

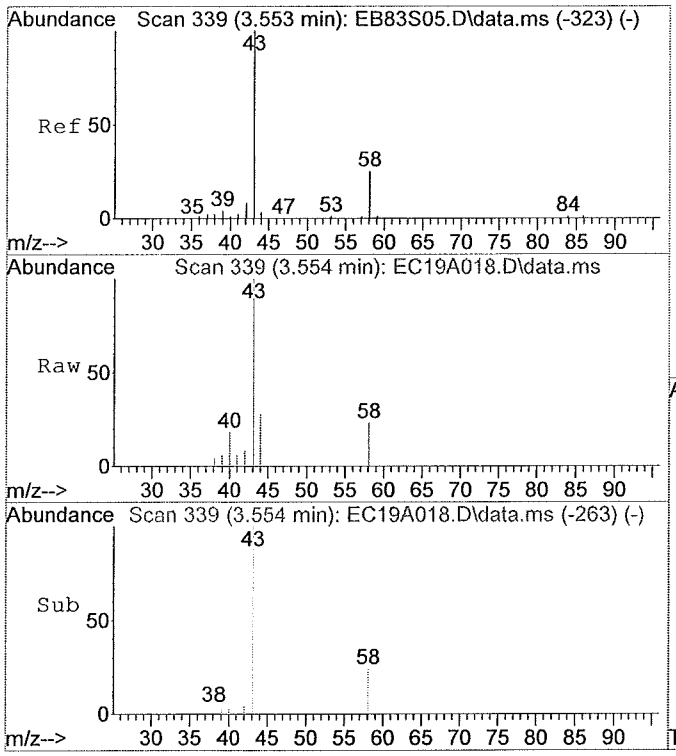


#3
Chloromethane
Concen: 0.24 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC19A018.D
Acq: 12/06/2018 15:50

Tgt Ion:50 Resp: 21440

Ion	Ratio	Lower	Upper
50	100		
52	33.3	12.5	52.5
49	9.7	0.0	30.2
0	0.0	0.0	0.0

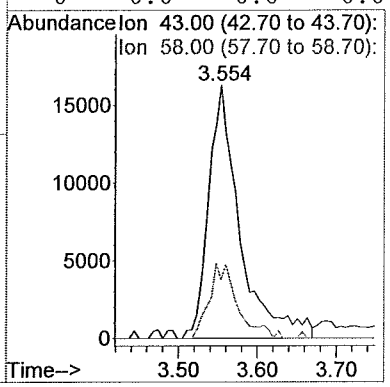


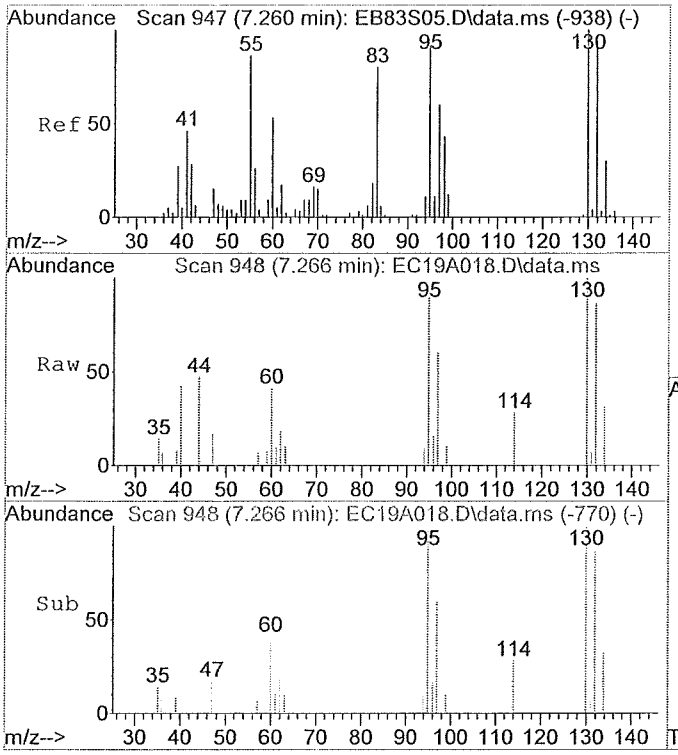


#13
Acetone
Concen: 6.44 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC19A018.D
Acq: 12/06/2018 15:50

Tgt Ion:43 Resp: 45192

Ion	Ratio	Lower	Upper
43	100		
58	26.7	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

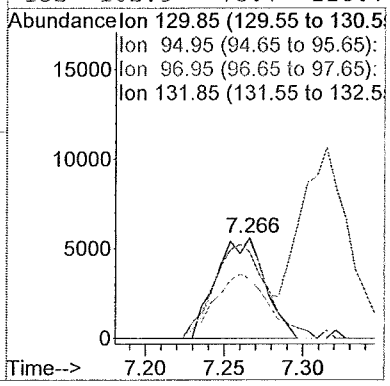


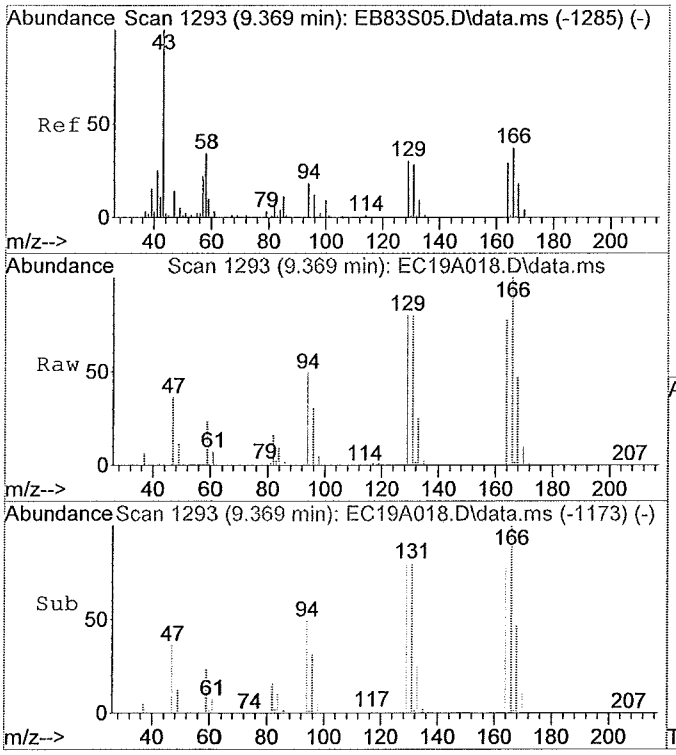


#34
Trichloroethene
Concen: 0.20 ug/L
RT: 7.27 min Scan# 948
Delta R.T. 0.01 min
Lab File: EC19A018.D
Acq: 12/06/2018 15:50

Tgt Ion:129.85 Resp: 12069

Ion	Ratio	Lower	Upper
130	100		
95	100.7	76.9	116.9
97	68.6	42.0	82.0
132	102.9	75.7	115.7

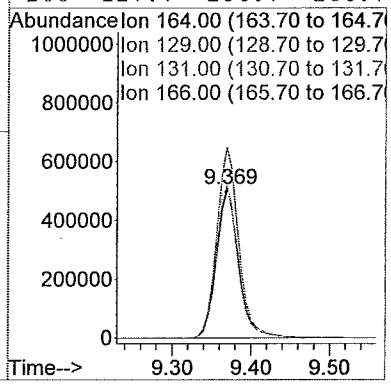




#48
Tetrachloroethene
Concen: 25.09 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC19A018.D
Acq: 12/06/2018 15:50

Tgt Ion:164 Resp: 985833

Ion	Ratio	Lower	Upper
164	100		
129	103.9	82.4	122.4
131	99.9	78.7	118.7
166	127.7	106.7	146.7



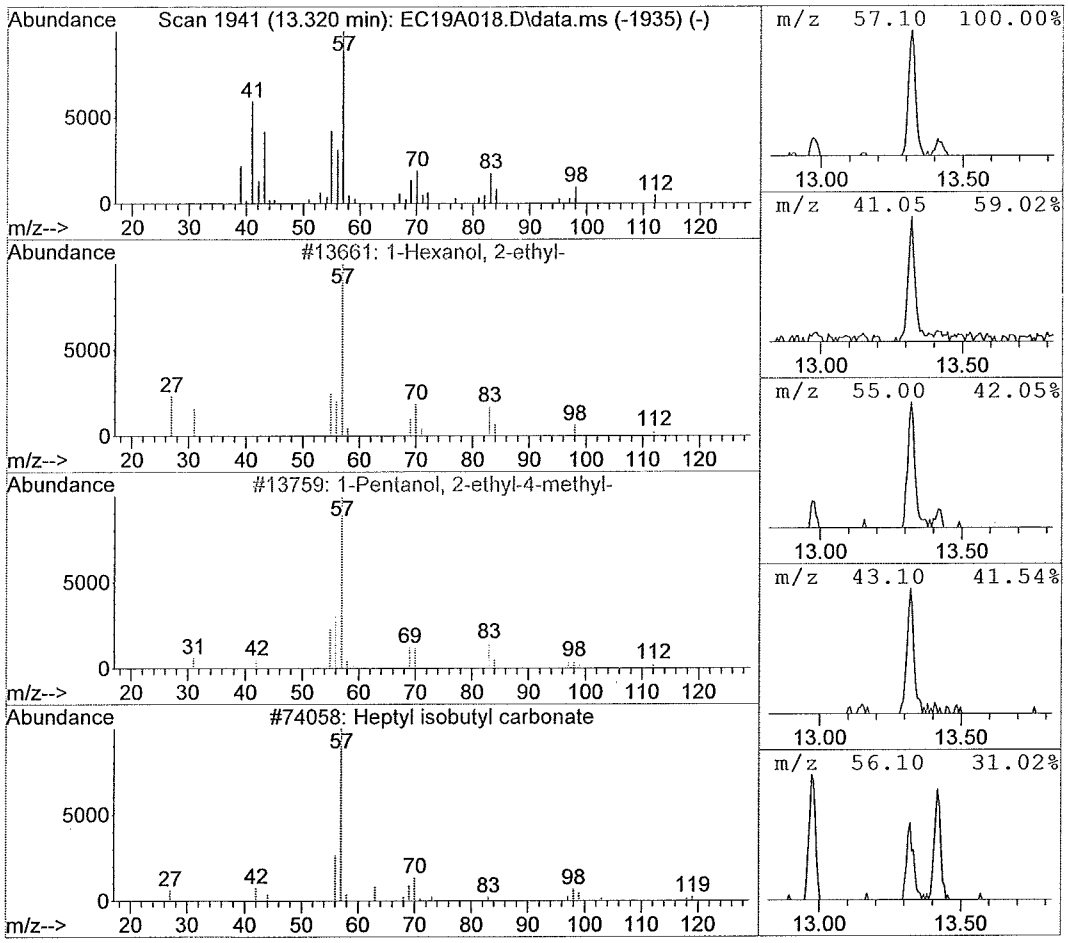
Library Search Compound Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC19A018.D Vial: 14
Acq Time : 12/06/2018 15:50 Operator: SLS
Sample : 1833368018 5P-MW101-162-Y Inst : 5975-E
Misc : 1833368 B Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
13.32	0.52 ug/L	151797	1,4-dichlorobenzene-d4	1451445

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	1-Hexanol, 2-ethyl-	13661	000104-76-7	78.00
2	1-Pentanol, 2-ethyl-4-methyl-	13759	000106-67-2	72.00
3	Heptyl isobutyl carbonate	74058	959068-08-7	53.00
4	Heptane, 3-ethyl-2-methyl-	19217	014676-29-0	53.00
5	1-Hexene, 5,5-dimethyl-	6716	007116-86-1	52.00



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

EPA SAMPLE NO.
5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC17A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25.	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25.	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U
108-87-2	Methylcyclohexane	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC17A018
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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: 5.0
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	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-Pentanone	25.	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	21.	D
591-78-6	2-Hexanone	25.	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC17A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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: 5.0
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		

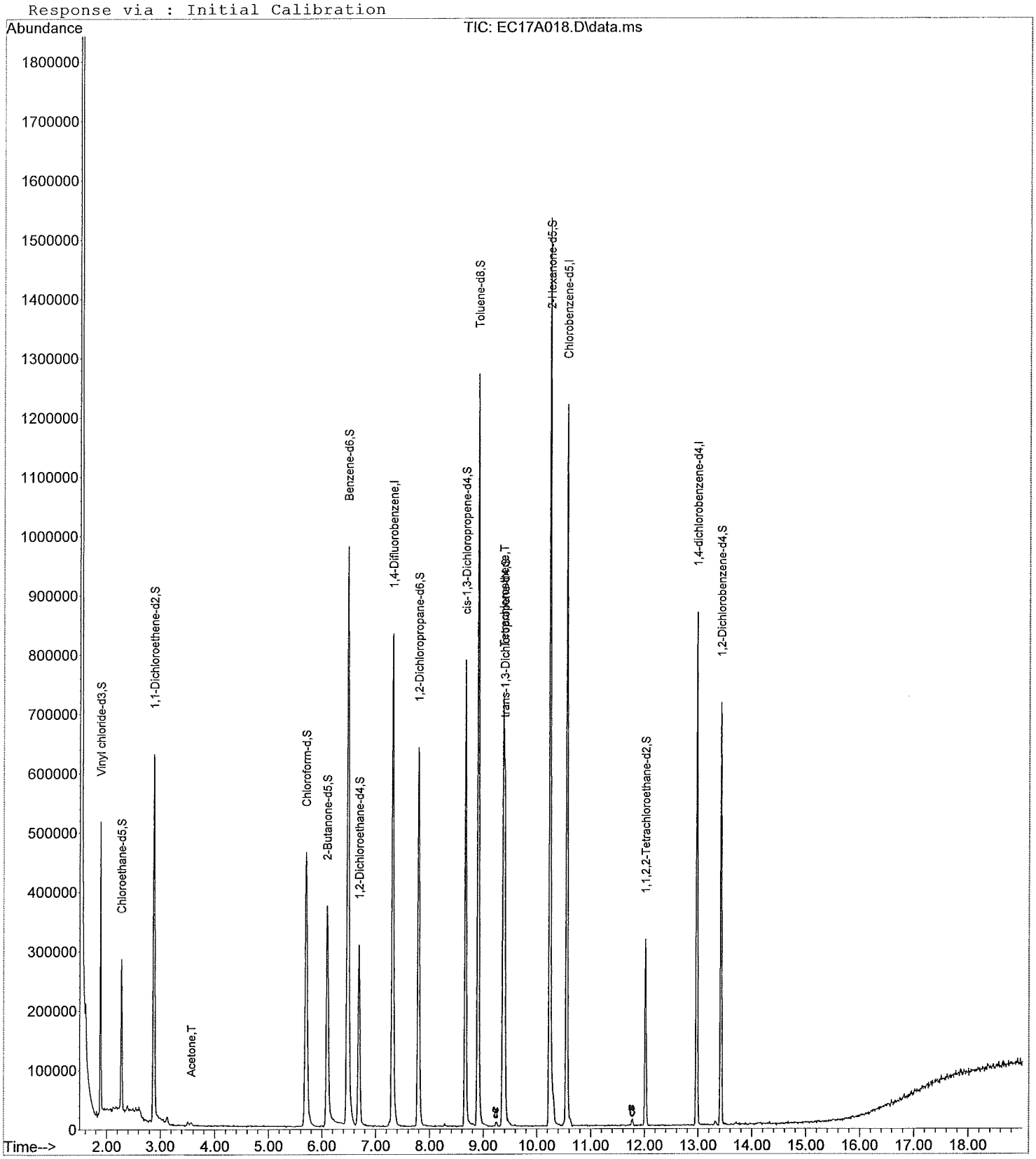
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC17A018.D Vial: 12
Acq Time : 12/06/2018 14:55 Operator: SLS
Sample : 1833368018DL 5P-MW101-162-YDL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:10:50 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC17A018.D Vial: 12
Acq Time : 12/06/2018 14:55 Operator: SLS
Sample : 1833368018DL 5P-MW101-162-YDL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:10:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	782752	5.00 ug/L	87.46
28) Chlorobenzene-d5	10.55	117	689338	5.00 ug/L	95.76
60) 1,4-dichlorobenzene-d4	12.98	152	223839	5.00 ug/L	87.29
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	338673	5.52 ug/L	110.49%
8) Chloroethane-d5	2.27	69	181264	5.41 ug/L	108.19%
11) 1,1-Dichloroethene-d2	2.88	63	453194	3.95 ug/L	78.97%
22) 2-Butanone-d5	6.10	46	719567	49.41 ug/L	98.83%
25) Chloroform-d	5.70	84	516674	5.26 ug/L	105.16%
27) 1,2-Dichloroethane-d4	6.69	65	261155	5.35 ug/L	106.97%
33) Benzene-d6	6.48	84	1058077	5.00 ug/L	100.07%
37) 1,2-Dichloropropane-d6	7.79	67	309477	4.94 ug/L	98.83%
40) cis-1,3-Dichloropropene-d4	8.66	79	439902	4.56 ug/L	91.28%
42) trans-1,3-Dichloropropene-	9.39	79	251538	4.27 ug/L	85.40%
47) Toluene-d8	8.90	98	873061	4.95 ug/L	99.09%
50) 2-Hexanone-d5	10.24	63	524198	48.03 ug/L	96.05%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	156156	4.90 ug/L	97.92%
65) 1,2-Dichlorobenzene-d4	13.42	152	188300	5.22 ug/L	104.47%
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	3.56	43	9238	1.3135 ug/L	87
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

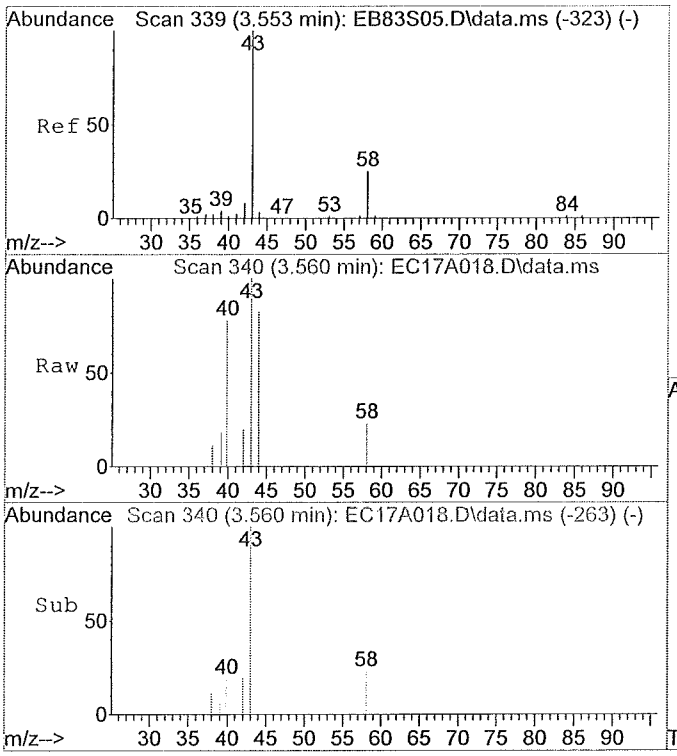
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC17A018.D Vial: 12
Acq Time : 12/06/2018 14:55 Operator: SLS
Sample : 1833368018DL 5P-MW101-162-YDL (5) Inst : 5975-E
Misc : 1833368 A 1:5 DILUTION Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:10:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.37	164	168638	4.2583 ug/L	99
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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

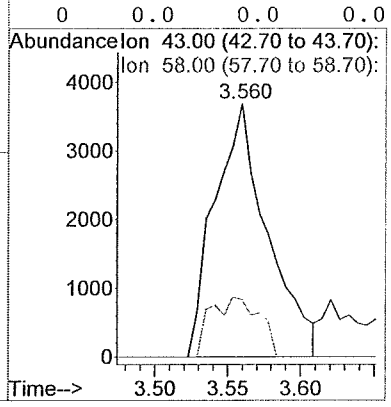
(#) = qualifier out of range (m) = manual integration

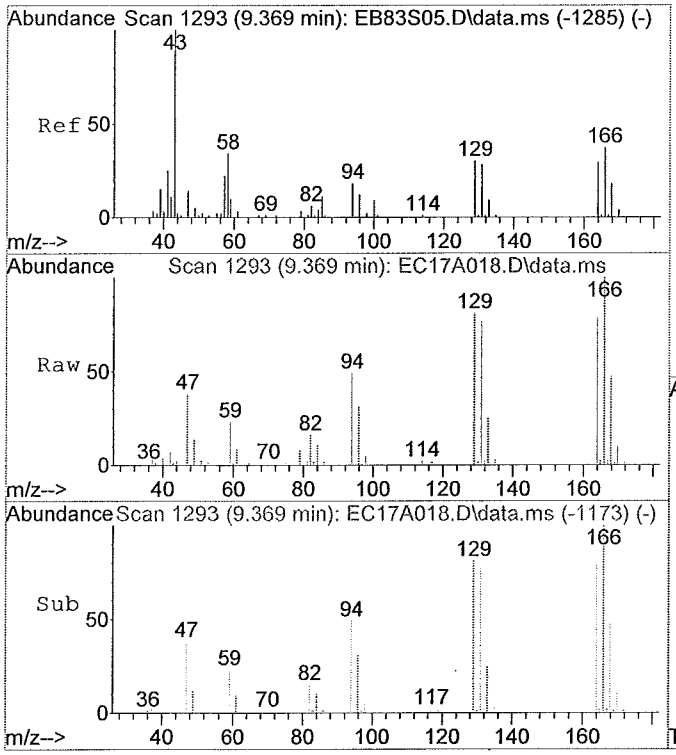


#13
Acetone
Concen: 1.31 ug/L
RT: 3.56 min Scan# 340
Delta R.T. 0.01 min
Lab File: EC17A018.D
Acq: 12/06/2018 14:55

Tgt Ion:43 Resp: 9238

Ion	Ratio	Lower	Upper
43	100		
58	21.9	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

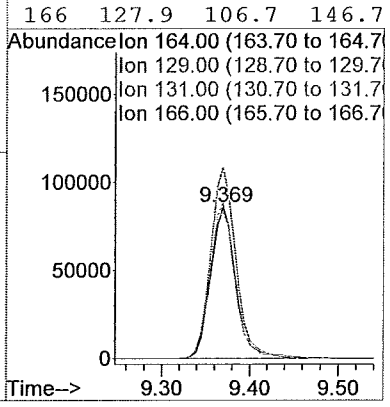




#48
Tetrachloroethene
Concen: 4.26 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC17A018.D
Acq: 12/06/2018 14:55

Tgt Ion:164 Resp: 168638

Ion	Ratio	Lower	Upper
164	100		
129	103.0	82.4	122.4
131	100.4	78.7	118.7
166	127.9	106.7	146.7



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

EPA SAMPLE NO.
5P-MW103-122

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC12A013
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.39	J
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	12.	
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-MW103-122

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC12A013
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.19	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-MW103-122

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC12A013
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

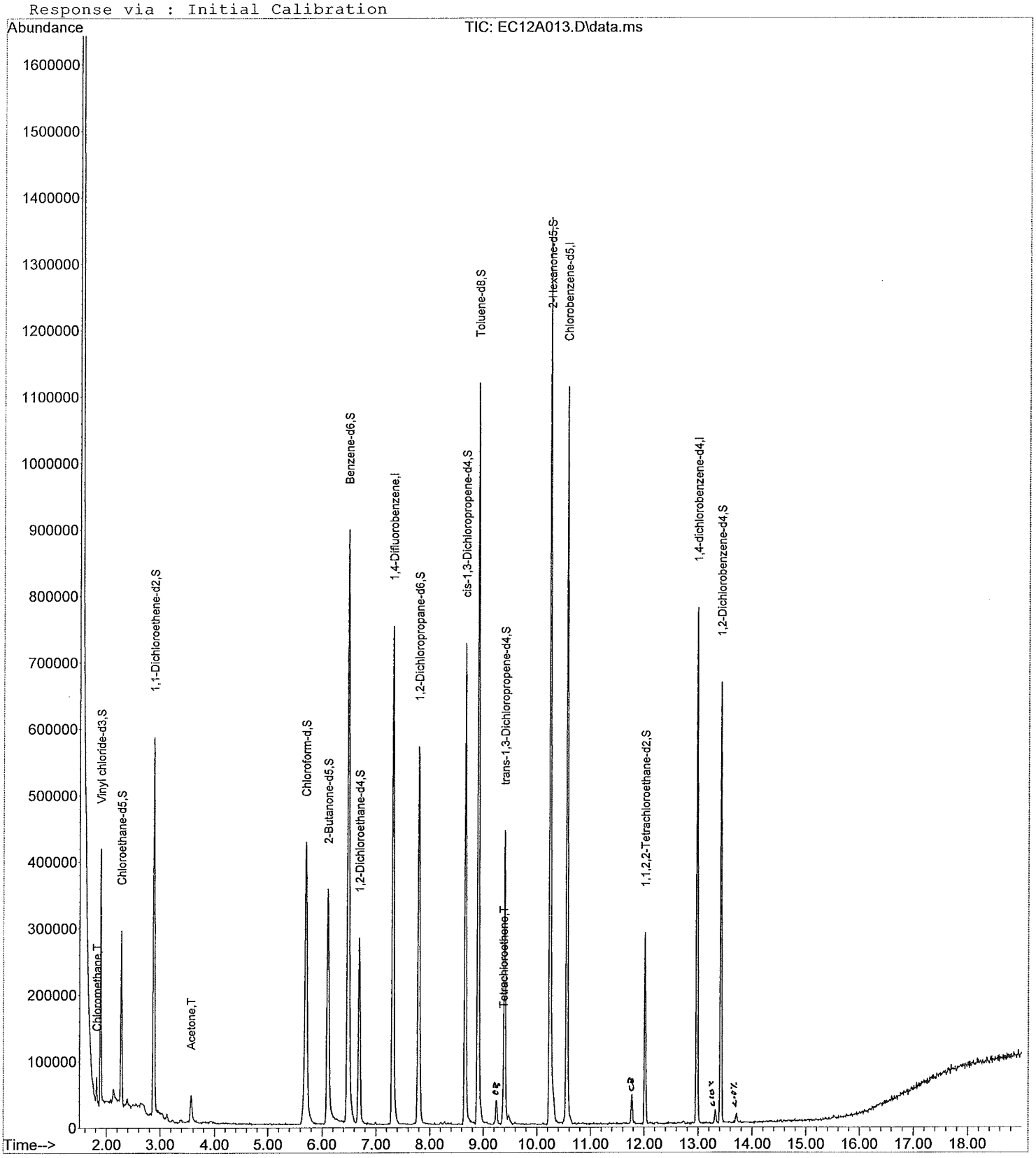
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC12A013.D Vial: 7
Acq Time : 12/06/2018 12:31 Operator: SLS
Sample : 1833368013 5P-MW103-122 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:58:16 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC12A013.D Vial: 7
Acq Time : 12/06/2018 12:31 Operator: SLS
Sample : 1833368013 5P-MW103-122 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:58:16 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	692543	5.00 ug/L	77.38
28) Chlorobenzene-d5	10.55	117	621390	5.00 ug/L	86.32
60) 1,4-dichlorobenzene-d4	12.98	152	202781	5.00 ug/L	79.08
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	292483	5.39 ug/L	107.85%
8) Chloroethane-d5	2.27	69	181237	6.11 ug/L	122.27%
11) 1,1-Dichloroethene-d2	2.88	63	406167	4.00 ug/L	80.00%
22) 2-Butanone-d5	6.10	46	669381	51.95 ug/L	103.91%
25) Chloroform-d	5.70	84	465365	5.35 ug/L	107.05%
27) 1,2-Dichloroethane-d4	6.69	65	242420	5.61 ug/L	112.23%
33) Benzene-d6	6.48	84	946760	4.97 ug/L	99.34%
37) 1,2-Dichloropropane-d6	7.79	67	277392	4.91 ug/L	98.27%
40) cis-1,3-Dichloropropene-d4	8.66	79	408704	4.70 ug/L	94.07%
42) trans-1,3-Dichloropropene-	9.39	79	229300	4.32 ug/L	86.36%
47) Toluene-d8	8.90	98	779244	4.91 ug/L	98.11%
50) 2-Hexanone-d5	10.24	63	465717	47.33 ug/L	94.67%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	141433	4.92 ug/L	98.38%
65) 1,2-Dichlorobenzene-d4	13.42	152	173552	5.31 ug/L	106.29%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	30526	0.3935 ug/L	97
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	3.55	43	77106	12.3911 ug/L	93
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

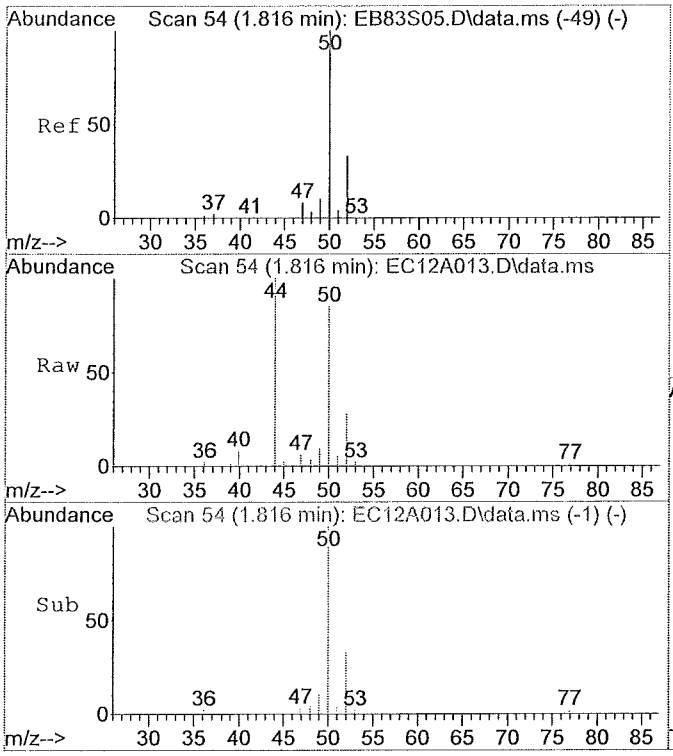
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC12A013.D Vial: 7
Acq Time : 12/06/2018 12:31 Operator: SLS
Sample : 1833368013 5P-MW103-122 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:58:16 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	6860	0.1922 ug/L	98
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	157		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

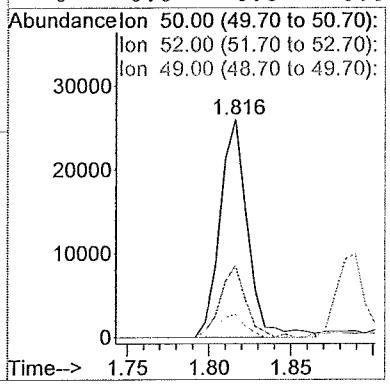
(#) = qualifier out of range (m) = manual integration

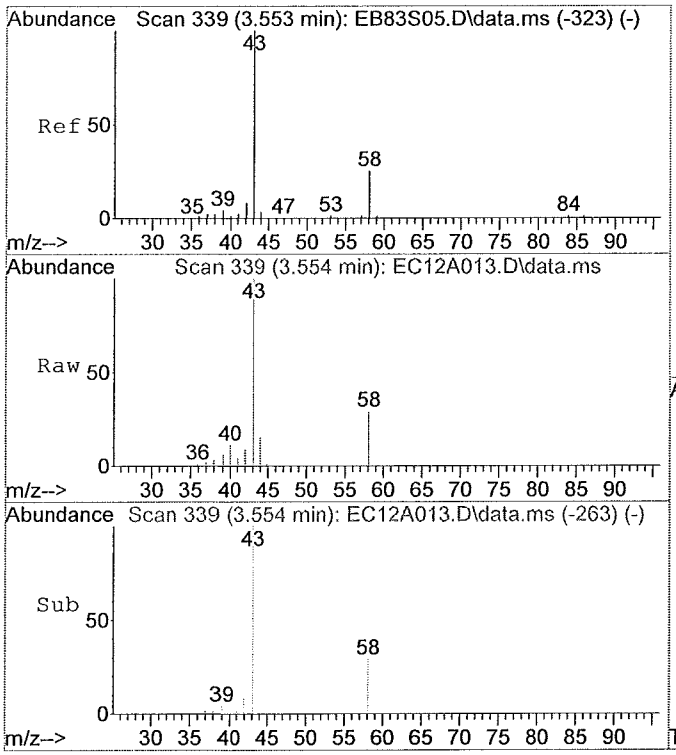


#3
Chloromethane
Concen: 0.39 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC12A013.D
Acq: 12/06/2018 12:31

Tgt Ion:50 Resp: 30526

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.5	52.5
49	9.7	0.0	30.2
0	0.0	0.0	0.0

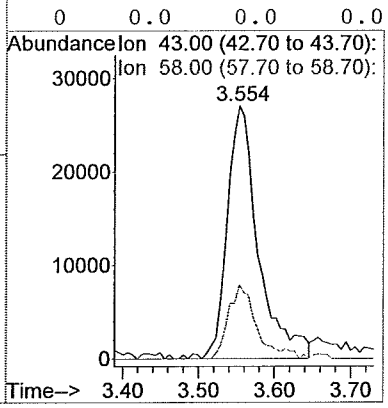


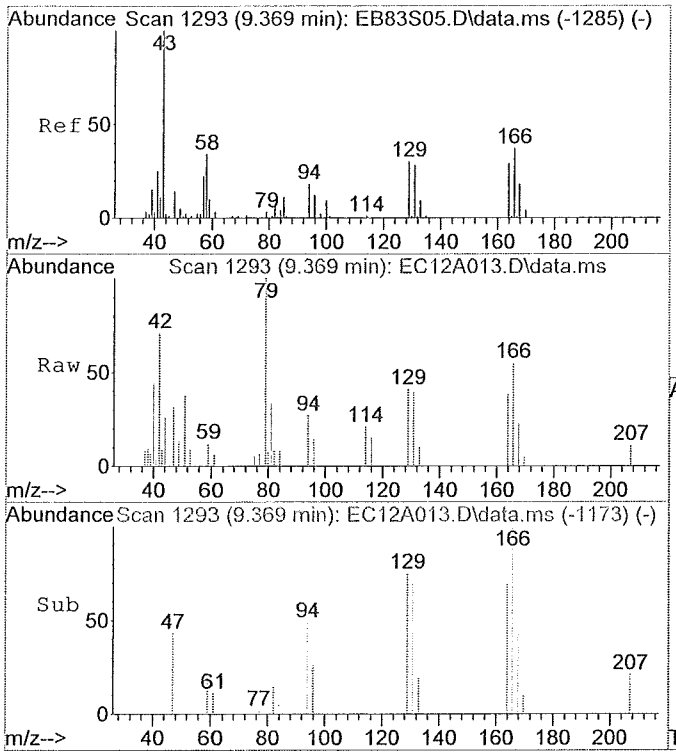


#13
Acetone
Concen: 12.39 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC12A013.D
Acq: 12/06/2018 12:31

Tgt Ion:43 Resp: 77106

Ion	Ratio	Lower	Upper
43	100		
58	25.1	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

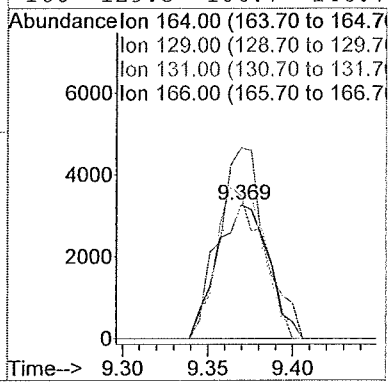




#48
Tetrachloroethene
Concen: 0.19 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC12A013.D
Acq: 12/06/2018 12:31

Tgt Ion:164 Resp: 6860

Ion	Ratio	Lower	Upper
164	100		
129	104.3	82.4	122.4
131	98.4	78.7	118.7
166	129.5	106.7	146.7



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

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.47	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.13	J
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	6.6	
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-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	3.4	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

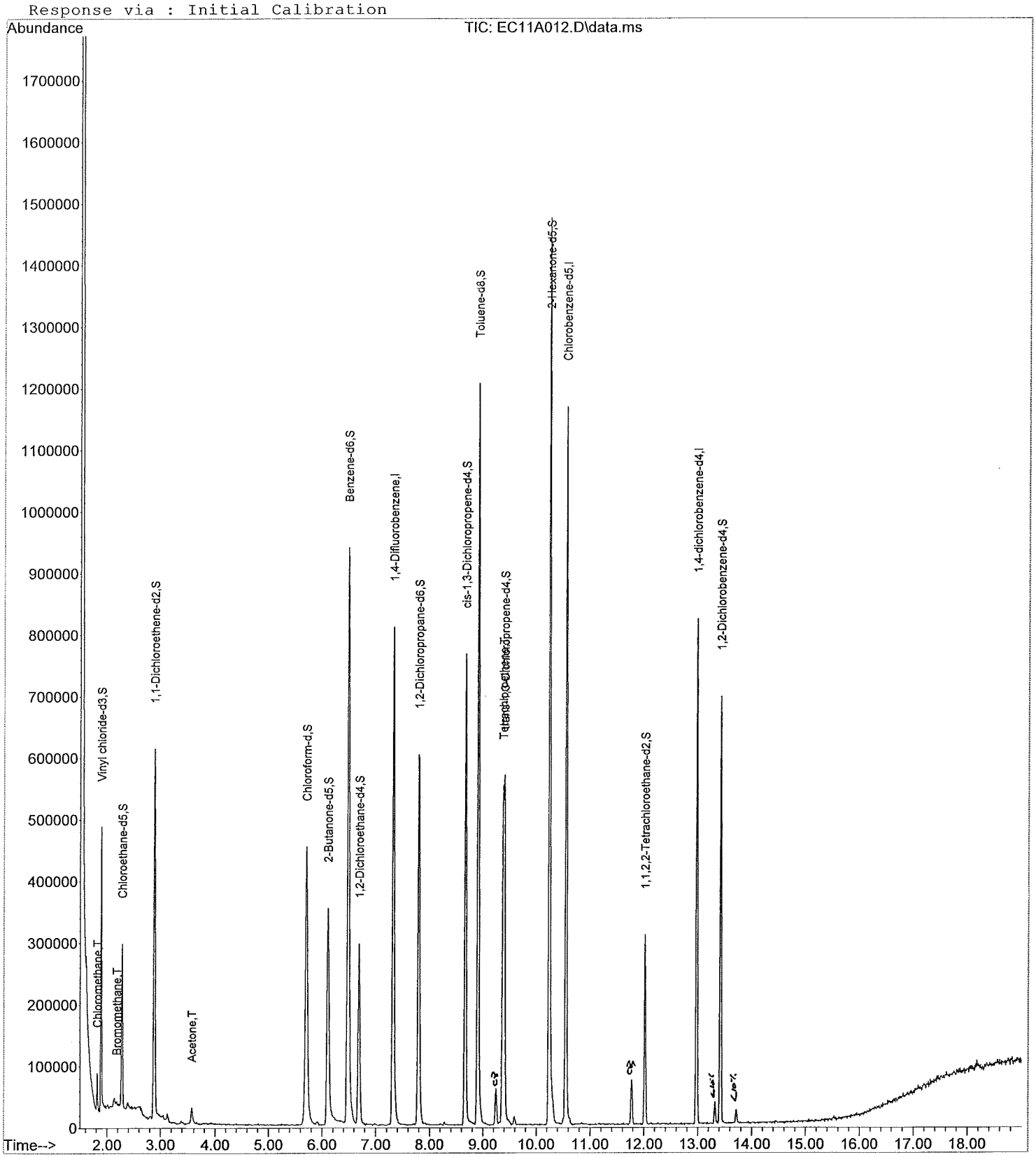
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC11A012.D Vial: 6
Acq Time : 12/06/2018 12:03 Operator: SLS
Sample : 1833368012 5P-MW104-120 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:57:29 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC11A012.D Vial: 6
Acq Time : 12/06/2018 12:03 Operator: SLS
Sample : 1833368012 5P-MW104-120 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:57:29 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	760834	5.00 ug/L	85.01
28) Chlorobenzene-d5	10.55	117	655345	5.00 ug/L	91.04
60) 1,4-dichlorobenzene-d4	12.98	152	216931	5.00 ug/L	84.60
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	316862	5.32 ug/L	106.35%
8) Chloroethane-d5	2.28	69	185945	5.71 ug/L	114.19%
11) 1,1-Dichloroethene-d2	2.88	63	439869	3.94 ug/L	78.86%
22) 2-Butanone-d5	6.10	46	688262	48.62 ug/L	97.25%
25) Chloroform-d	5.71	84	496545	5.20 ug/L	103.97%
27) 1,2-Dichloroethane-d4	6.69	65	255030	5.37 ug/L	107.47%
33) Benzene-d6	6.48	84	1037172	5.16 ug/L	103.18%
37) 1,2-Dichloropropane-d6	7.79	67	301228	5.06 ug/L	101.18%
40) cis-1,3-Dichloropropene-d4	8.66	79	430490	4.70 ug/L	93.96%
42) trans-1,3-Dichloropropene-	9.40	79	245875	4.39 ug/L	87.81%
47) Toluene-d8	8.90	98	844618	5.04 ug/L	100.83%
50) 2-Hexanone-d5	10.24	63	497780	47.97 ug/L	95.94%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	153260	5.05 ug/L	101.08%
65) 1,2-Dichlorobenzene-d4	13.42	152	184795	5.29 ug/L	105.79%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	40429	0.4744 ug/L	98
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	2.18	94	2382	0.1329 ug/L	81
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	3.56	43	45059	6.5912 ug/L	99
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

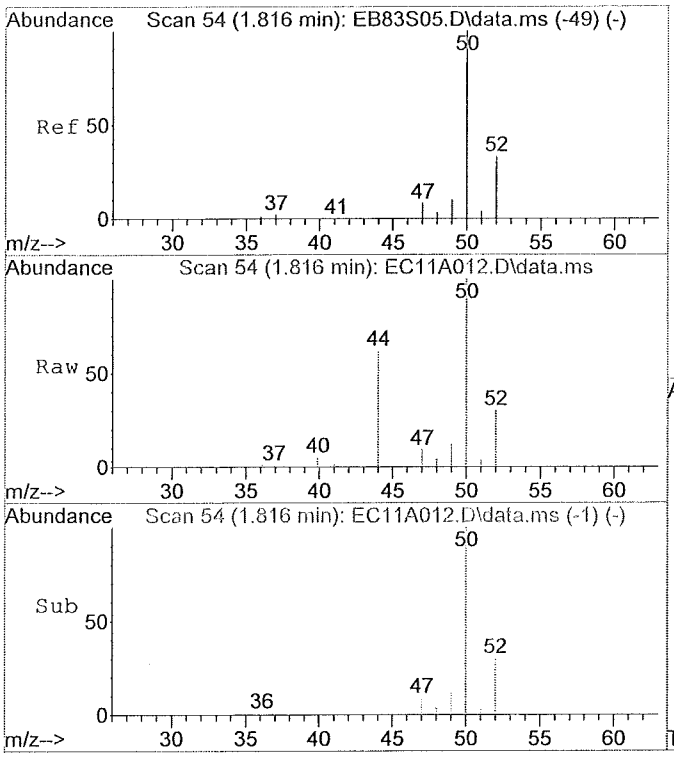
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC11A012.D Vial: 6
Acq Time : 12/06/2018 12:03 Operator: SLS
Sample : 1833368012 5P-MW104-120 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:57:29 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.37	164	128670	3.4176 ug/L	99
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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

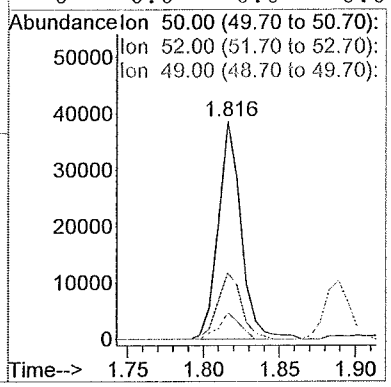
(#) = qualifier out of range (m) = manual integration

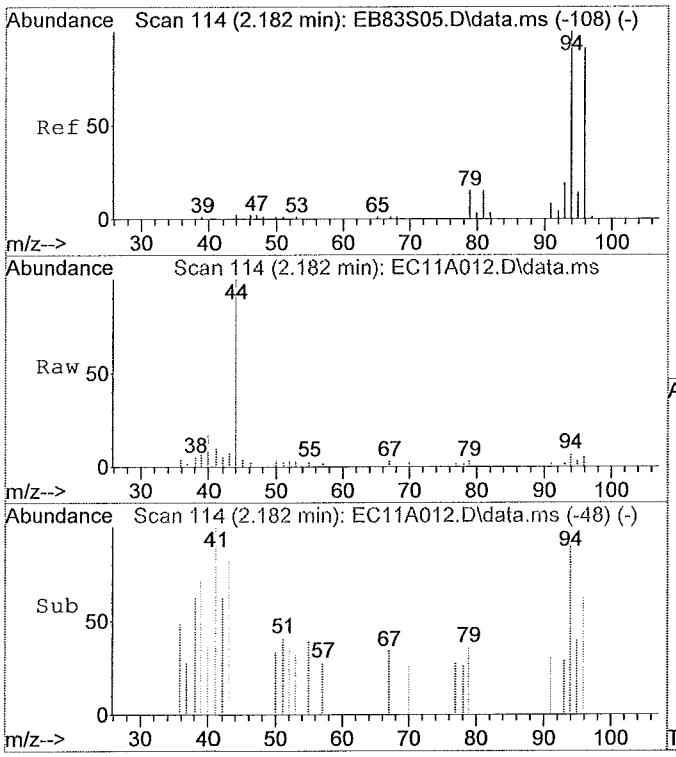


#3
Chloromethane
Concen: 0.47 ug/L
RT: 1.82 min Scan# 54
Delta R.T. -0.00 min
Lab File: EC11A012.D
Acq: 12/06/2018 12:03

Tgt Ion:50 Resp: 40429

Ion	Ratio	Lower	Upper
50	100		
52	31.6	12.5	52.5
49	11.1	0.0	30.2
0	0.0	0.0	0.0

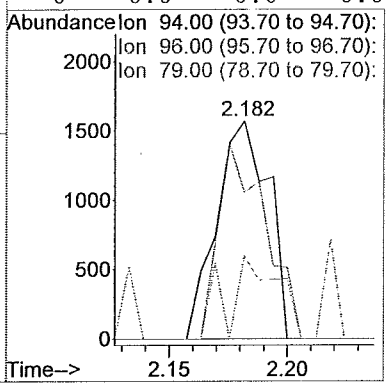


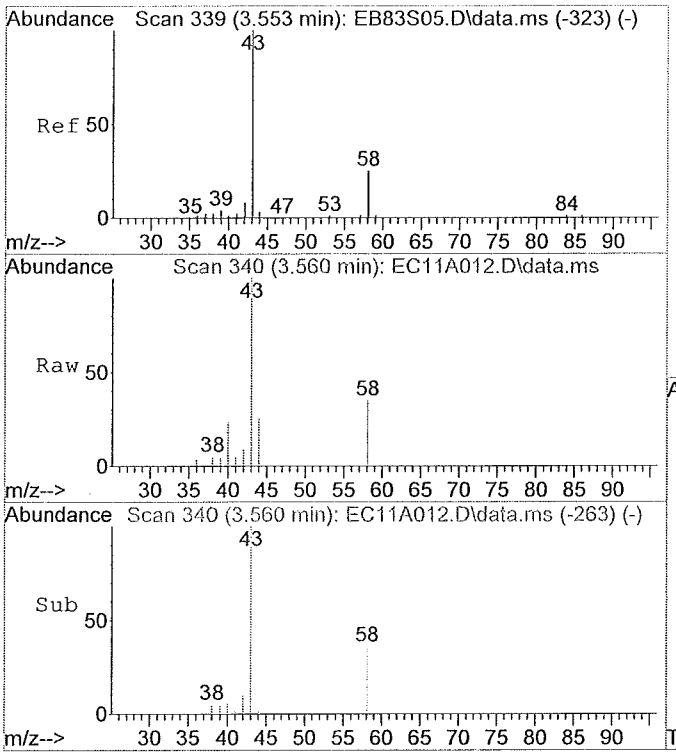


#6
Bromomethane
Concen: 0.13 ug/L
RT: 2.18 min Scan# 114
Delta R.T. -0.00 min
Lab File: EC11A012.D
Acq: 12/06/2018 12:03

Tgt Ion:94 Resp: 2382

Ion	Ratio	Lower	Upper
94	100		
96	81.7	75.5	115.5
79	37.3	0.0	37.4
0	0.0	0.0	0.0

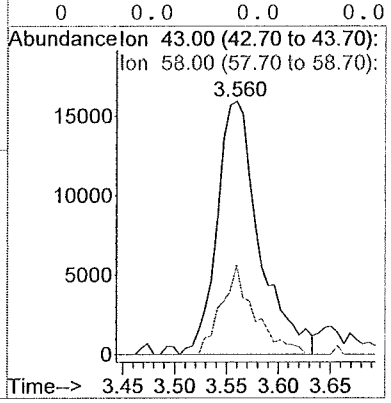


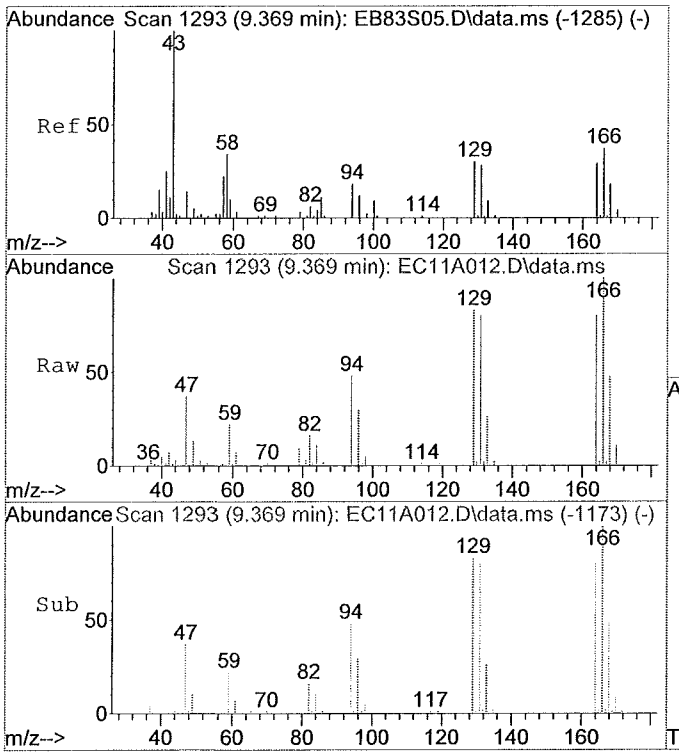


#13
Acetone
Concen: 6.59 ug/L
RT: 3.56 min Scan# 340
Delta R.T. 0.01 min
Lab File: EC11A012.D
Acq: 12/06/2018 12:03

Tgt Ion:43 Resp: 45059

Ion	Ratio	Lower	Upper
43	100		
58	27.9	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

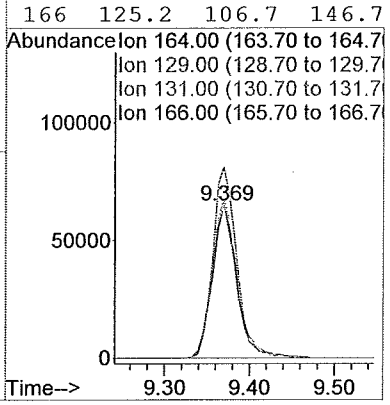




#48
Tetrachloroethene
Concen: 3.42 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. -0.00 min
Lab File: EC11A012.D
Acq: 12/06/2018 12:03

Tgt Ion:164 Resp: 128670

Ion	Ratio	Lower	Upper
164	100		
129	102.6	82.4	122.4
131	99.0	78.7	118.7
166	125.2	106.7	146.7



Library Search Compound Report

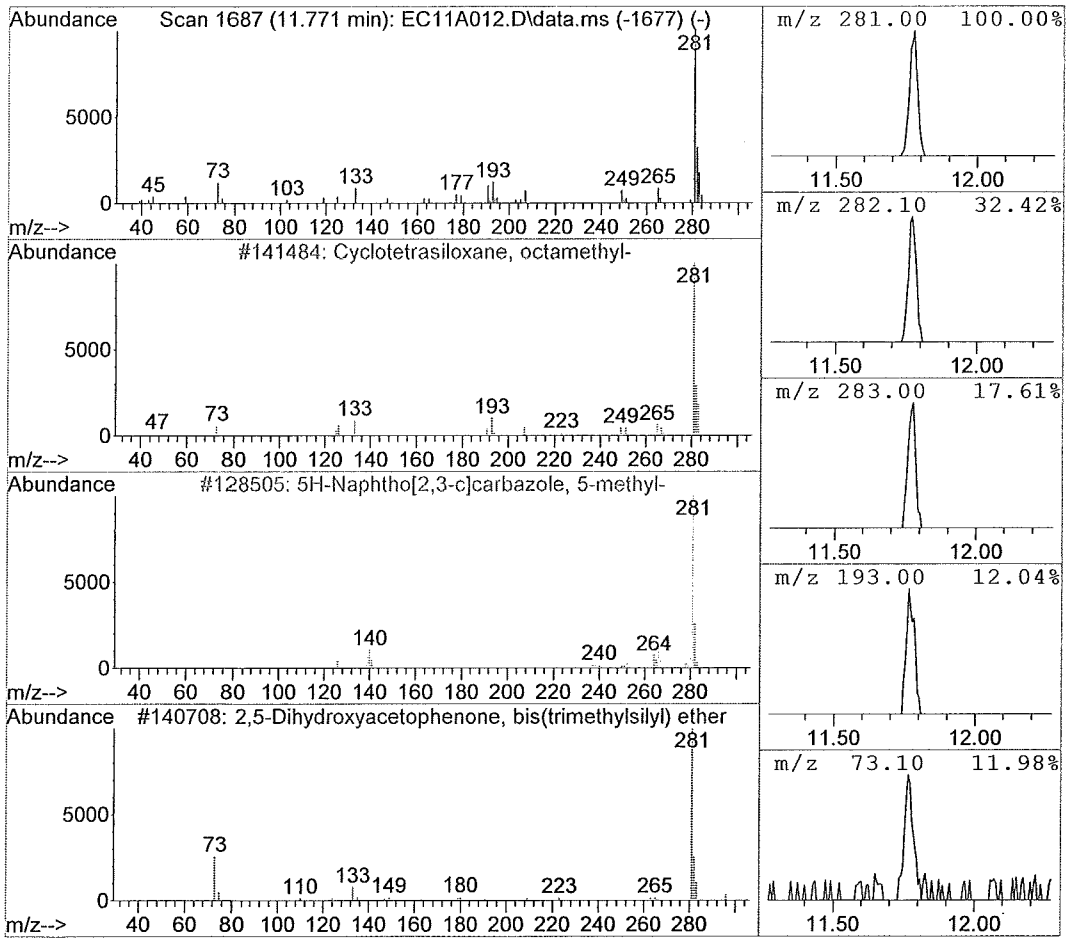
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC11A012.D Vial: 6
Acq Time : 12/06/2018 12:03 Operator: SLS
Sample : 1833368012 5P-MW104-120 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
11.77	0.57 ug/L	157781	1,4-dichlorobenzene-d4	1387957

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	141484	000556-67-2	86.00
2	5H-Naphtho[2,3-c]carbazole, 5-methy	128505	100025-44-3	58.00
3	2,5-Dihydroxyacetophenone, bis(trim	140708	1000352-83-7	50.00
4	2',6'-Dihydroxyacetophenone, bis(tr	140709	1000352-81-3	45.00
5	2',4'-Dihydroxyacetophenone, bis(tr	140710	1000352-82-1	45.00

CB



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

EPA SAMPLE NO.
5P-MW105-147

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368014
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC13A014
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.57	
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	22.	
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-MW105-147

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC13A014
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	1.1	
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-MW105-147

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC13A014
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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	534-22-5	Furan, 2-methyl-	4.77	1.6	JN
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		

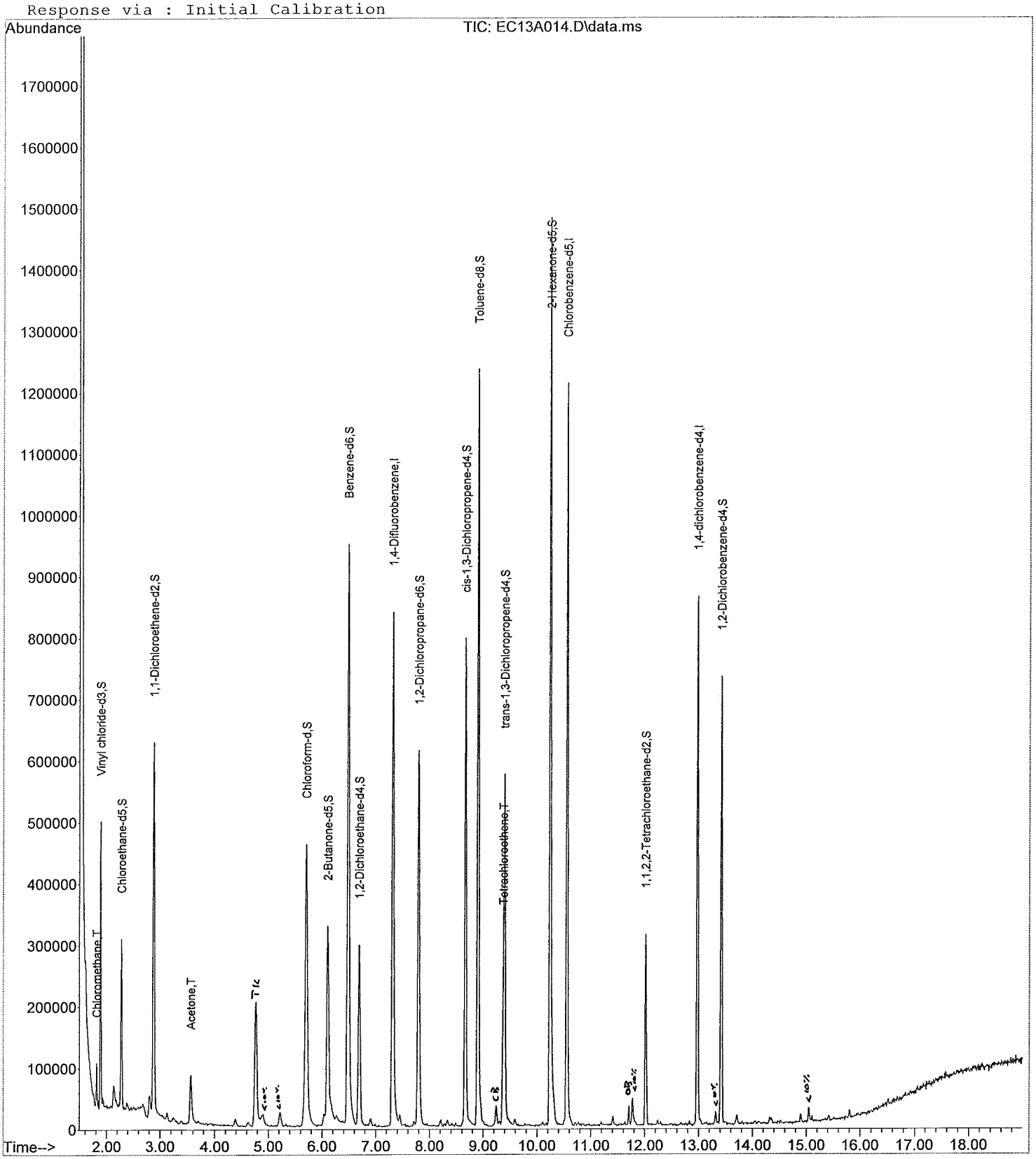
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC13A014.D Vial: 8
Acq Time : 12/06/2018 12:58 Operator: SLS
Sample : 1833368014 5P-MW105-147 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:04:08 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC13A014.D Vial: 8
Acq Time : 12/06/2018 12:58 Operator: SLS
Sample : 1833368014 5P-MW105-147 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:04:08 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	780441	5.00 ug/L	87.20
28) Chlorobenzene-d5	10.55	117	676195	5.00 ug/L	93.94
60) 1,4-dichlorobenzene-d4	12.98	152	226784	5.00 ug/L	88.44
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	332274	5.44 ug/L	108.72%
8) Chloroethane-d5	2.28	69	196194	5.87 ug/L	117.45%
11) 1,1-Dichloroethene-d2	2.88	63	442040	3.86 ug/L	77.26%
22) 2-Butanone-d5	6.10	46	613499	42.25 ug/L	84.51%
25) Chloroform-d	5.71	84	499254	5.10 ug/L	101.91%
27) 1,2-Dichloroethane-d4	6.69	65	253554	5.21 ug/L	104.16%
33) Benzene-d6	6.48	84	1052159	5.07 ug/L	101.45%
37) 1,2-Dichloropropane-d6	7.79	67	309776	5.04 ug/L	100.85%
40) cis-1,3-Dichloropropene-d4	8.66	79	442541	4.68 ug/L	93.61%
42) trans-1,3-Dichloropropene-	9.39	79	254812	4.41 ug/L	88.19%
47) Toluene-d8	8.90	98	866245	5.01 ug/L	100.23%
50) 2-Hexanone-d5	10.24	63	510277	47.66 ug/L	95.32%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	150115	4.80 ug/L	95.96%
65) 1,2-Dichlorobenzene-d4	13.42	152	188927	5.17 ug/L	103.46%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	49522	0.5665 ug/L	99
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	3.56	43	153889	21.9451 ug/L	96
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

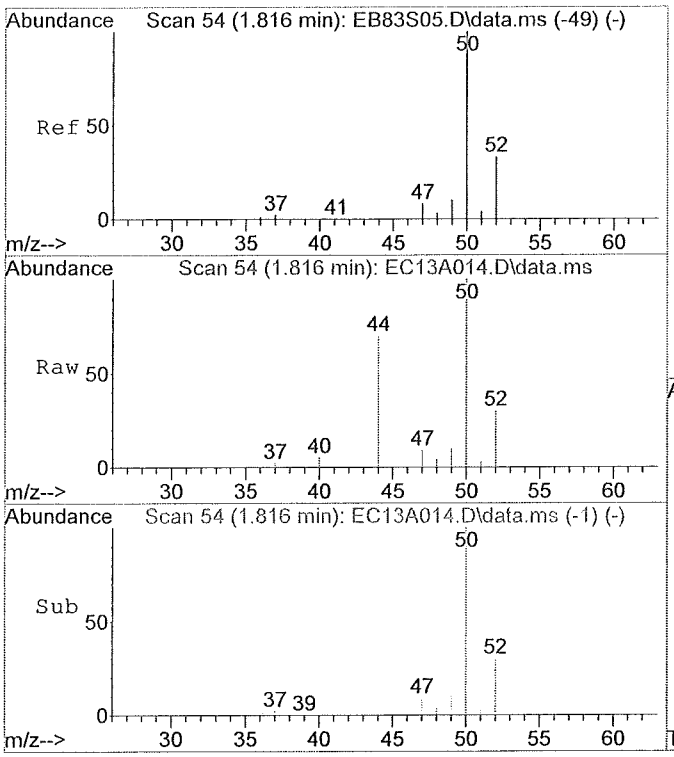
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC13A014.D Vial: 8
Acq Time : 12/06/2018 12:58 Operator: SLS
Sample : 1833368014 5P-MW105-147 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:04:08 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.37	164	44006	1.1328 ug/L	96
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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

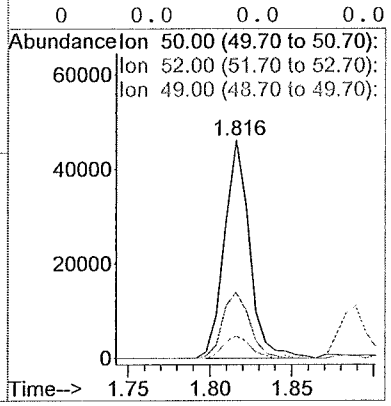
(#) = qualifier out of range (m) = manual integration

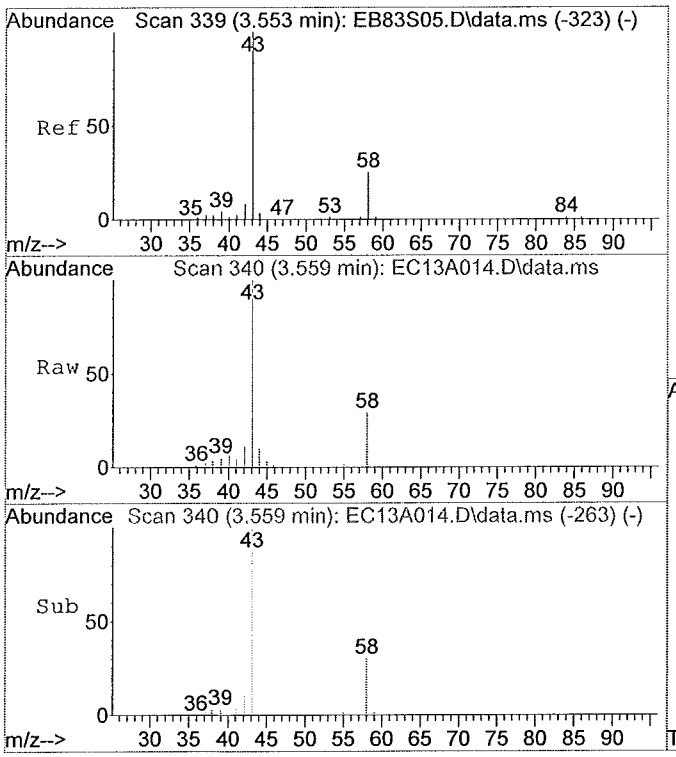


#3
Chloromethane
Concen: 0.57 ug/L
RT: 1.82 min Scan# 54
Delta R.T. -0.00 min
Lab File: EC13A014.D
Acq: 12/06/2018 12:58

Tgt Ion:50 Resp: 49522

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.5	52.5
49	11.1	0.0	30.2
0	0.0	0.0	0.0

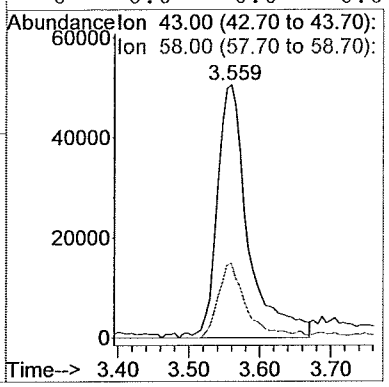


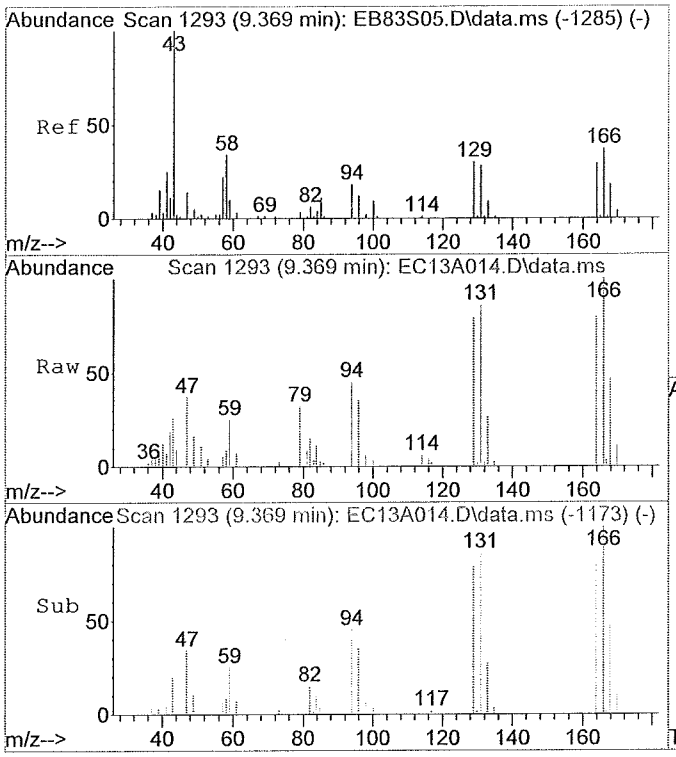


#13
Acetone
Concen: 21.95 ug/L
RT: 3.56 min Scan# 340
Delta R.T. 0.01 min
Lab File: EC13A014.D
Acq: 12/06/2018 12:58

Tgt Ion:43 Resp: 153889

Ion	Ratio	Lower	Upper
43	100		
58	26.3	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

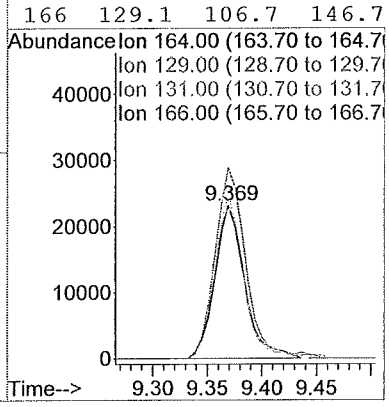




#48
Tetrachloroethene
Concen: 1.13 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. -0.00 min
Lab File: EC13A014.D
Acq: 12/06/2018 12:58

Tgt Ion:164 Resp: 44006

Ion	Ratio	Lower	Upper
164	100		
129	104.5	82.4	122.4
131	105.6	78.7	118.7
166	129.1	106.7	146.7



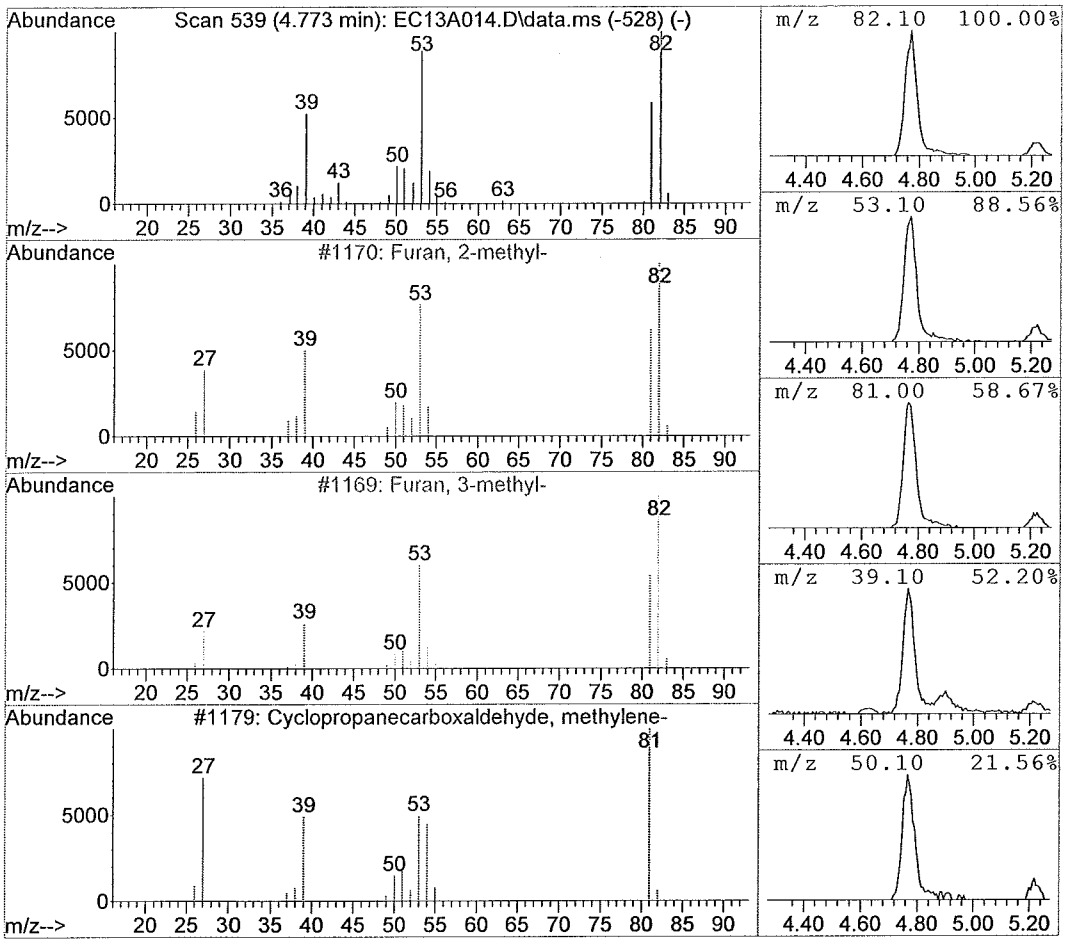
Library Search Compound Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC13A014.D Vial: 8
Acq Time : 12/06/2018 12:58 Operator: SLS
Sample : 1833368014 5P-MW105-147 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
4.77	1.56 ug/L	611136	1,4-Difluorobenzene	1961602

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Furan, 2-methyl-	1170	000534-22-5	94.00
2	Furan, 3-methyl-	1169	000930-27-8	86.00
3	Cyclopropanecarboxaldehyde, methyle	1179	142423-24-3	42.00
4	1-Butyne, 3-methyl-	445	000598-23-2	42.00
5	Pent-2-ynal	1163	055136-52-2	40.00



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

EPA SAMPLE NO.
5P-MW106D195

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB80A005
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.79	
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	7.9	
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-MW106D195

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB80A005
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	1.8	
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-MW106D195

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB80A005
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

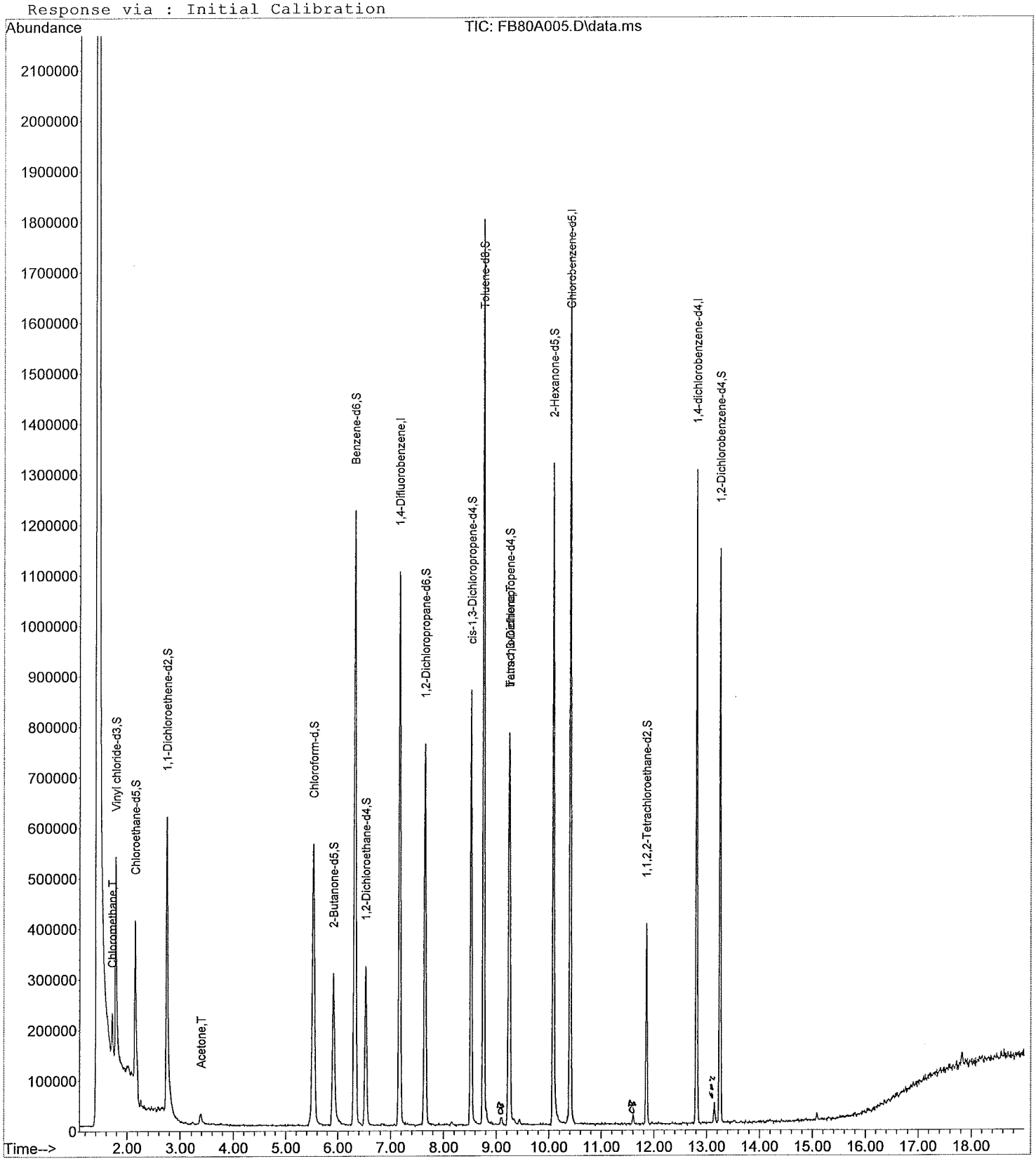
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB80A005.D Vial: 7
Acq Time : 12/06/2018 12:41 Operator: SLS
Sample : 1833368005 5P-MW106D195 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:24:27 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB80A005.D Vial: 7
Acq Time : 12/06/2018 12:41 Operator: SLS
Sample : 1833368005 5P-MW106D195 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:24:27 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1072711	5.00 ug/L	91.19
28) Chlorobenzene-d5	10.40	117	1024684	5.00 ug/L	103.20
60) 1,4-dichlorobenzene-d4	12.81	152	340634	5.00 ug/L	73.74
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	429433	5.00 ug/L	99.93%
8) Chloroethane-d5	2.15	69	327899	4.83 ug/L	96.66%
11) 1,1-Dichloroethene-d2	2.75	63	571789	4.02 ug/L	80.33%
22) 2-Butanone-d5	5.92	46	588329	47.83 ug/L	95.67%
25) Chloroform-d	5.53	84	689383	4.64 ug/L	92.79%
27) 1,2-Dichloroethane-d4	6.52	65	278440	5.33 ug/L	106.57%
33) Benzene-d6	6.32	84	1416789	4.86 ug/L	97.20%
37) 1,2-Dichloropropane-d6	7.65	67	352728	4.73 ug/L	94.61%
40) cis-1,3-Dichloropropene-d4	8.52	79	507787	4.73 ug/L	94.65%
42) trans-1,3-Dichloropropene-	9.25	79	278355	4.10 ug/L	82.01%
47) Toluene-d8	8.76	98	1270348	4.96 ug/L	99.27%
50) 2-Hexanone-d5	10.08	63	393201	43.64 ug/L	87.28%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	191045	4.22 ug/L	84.39%
65) 1,2-Dichlorobenzene-d4	13.25	152	310807	5.46 ug/L	109.16%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.71	50	69950	0.7912 ug/L	99
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	52308	7.8978 ug/L	83
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

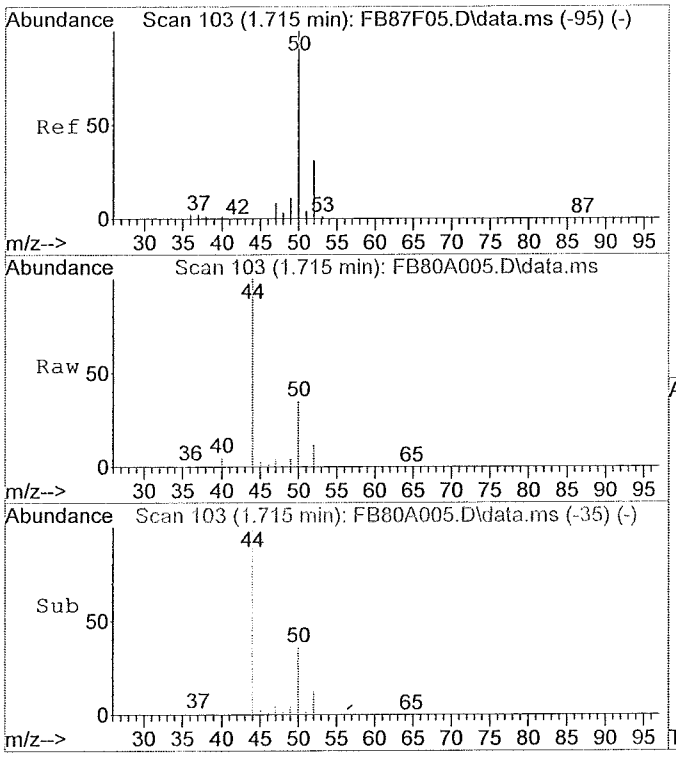
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB80A005.D Vial: 7
Acq Time : 12/06/2018 12:41 Operator: SLS
Sample : 1833368005 5P-MW106D195 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:24:27 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	123055	1.8124 ug/L	97
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	

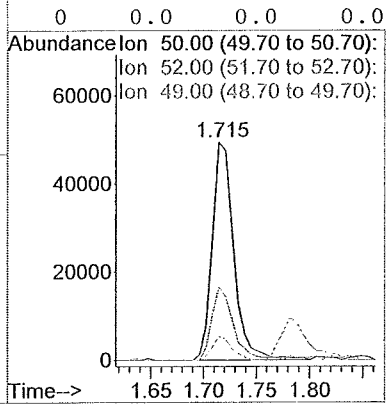
(#) = qualifier out of range (m) = manual integration

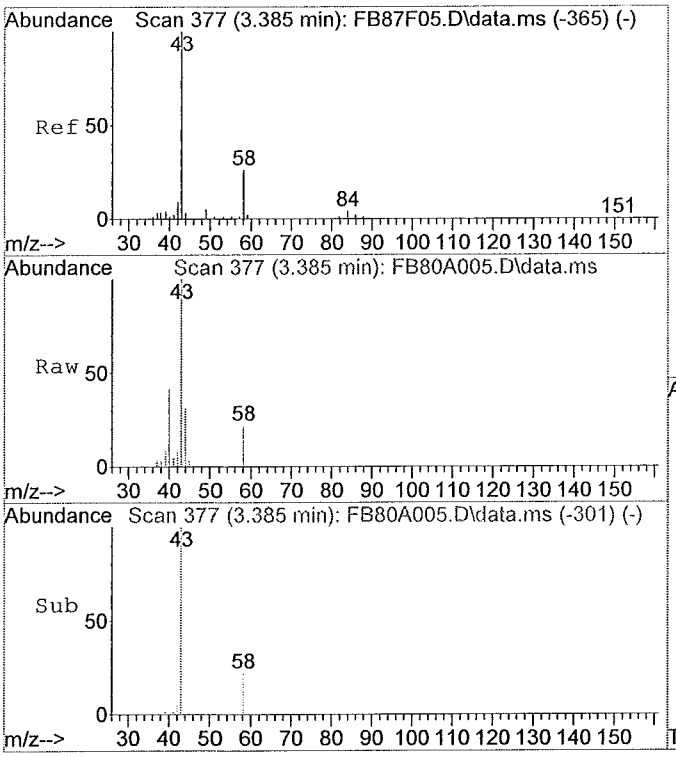


#3
Chloromethane
Concen: 0.79 ug/L
RT: 1.71 min Scan# 103
Delta R.T. -0.01 min
Lab File: FB80A005.D
Acq: 12/06/2018 12:41

Tgt Ion:50 Resp: 69950

Ion	Ratio	Lower	Upper
50	100		
52	33.3	13.6	53.6
49	9.9	0.0	30.4
0	0.0	0.0	0.0

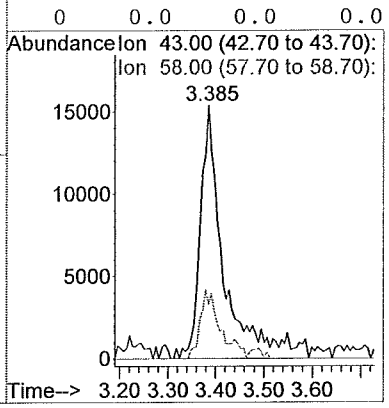


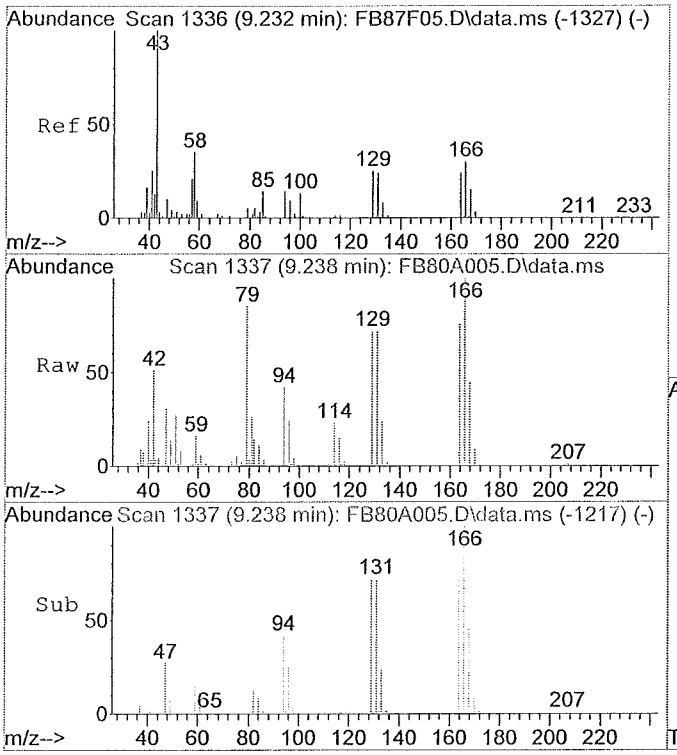


#13
Acetone
Concen: 7.90 ug/L
RT: 3.39 min Scan# 377
Delta R.T. -0.00 min
Lab File: FB80A005.D
Acq: 12/06/2018 12:41

Tgt Ion:43 Resp: 52308

Ion	Ratio	Lower	Upper
43	100		
58	25.3	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

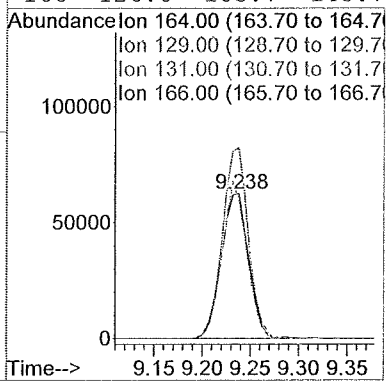




#48
Tetrachloroethene
Concen: 1.81 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FB80A005.D
Acq: 12/06/2018 12:41

Tgt Ion:164 Resp: 123055

Ion	Ratio	Lower	Upper
164	100		
129	98.8	75.9	115.9
131	97.9	72.1	112.1
166	126.0	105.7	145.7



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

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.56	
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	6.4	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.45	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-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

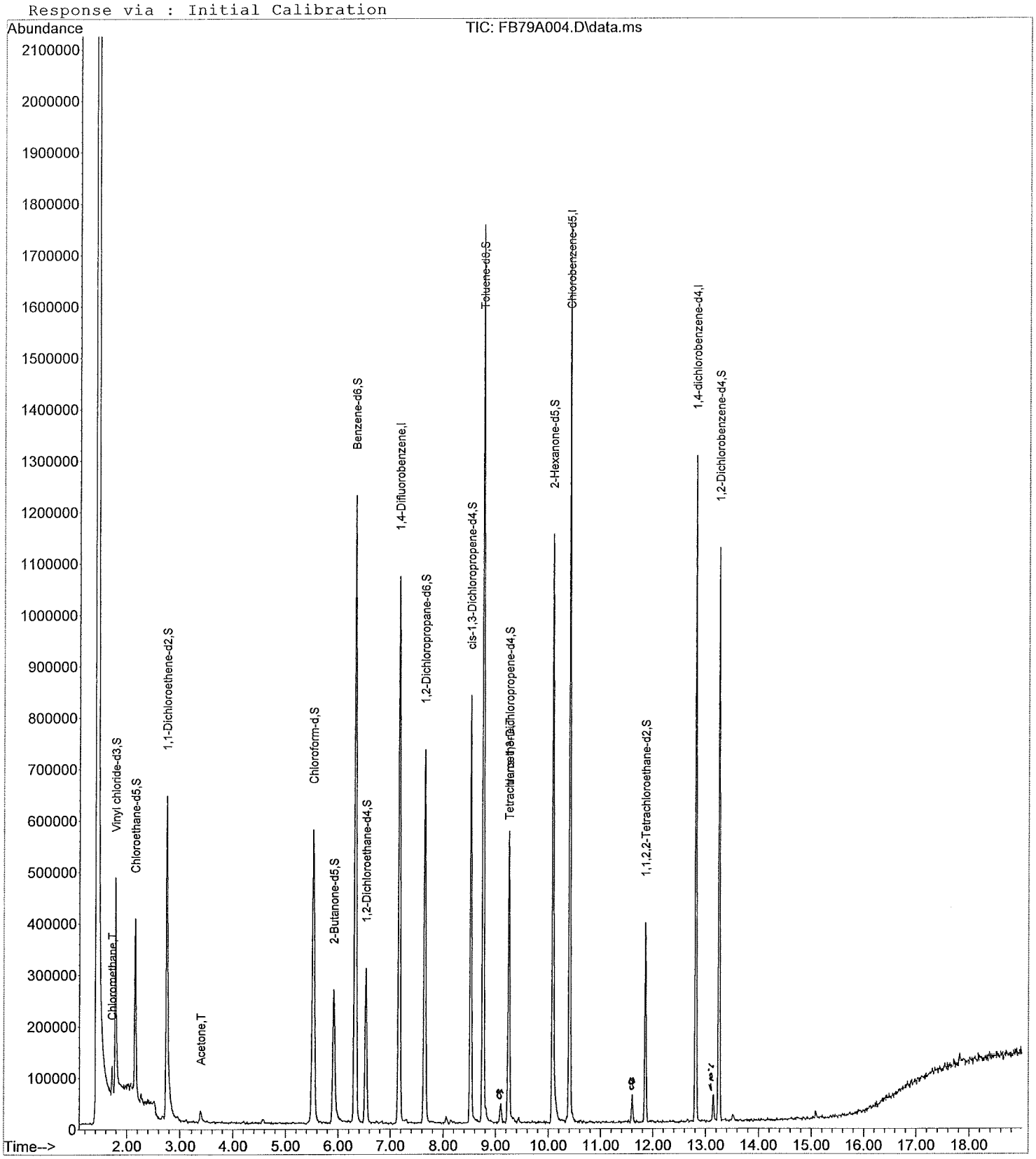
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB79A004.D Vial: 6
Acq Time : 12/06/2018 12:13 Operator: SLS
Sample : 1833368004 5P-MW106I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:47 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB79A004.D Vial: 6
Acq Time : 12/06/2018 12:13 Operator: SLS
Sample : 1833368004 5P-MW106I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:47 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1055579	5.00 ug/L	89.73
28) Chlorobenzene-d5	10.40	117	1004160	5.00 ug/L	101.13
60) 1,4-dichlorobenzene-d4	12.81	152	339772	5.00 ug/L	73.56
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	423097	5.00 ug/L	100.06%
8) Chloroethane-d5	2.15	69	333191	4.99 ug/L	99.82%
11) 1,1-Dichloroethene-d2	2.75	63	569442	4.07 ug/L	81.30%
22) 2-Butanone-d5	5.92	46	514420	42.50 ug/L	85.01%
25) Chloroform-d	5.53	84	675085	4.62 ug/L	92.34%
27) 1,2-Dichloroethane-d4	6.53	65	265740	5.17 ug/L	103.36%
33) Benzene-d6	6.32	84	1395435	4.88 ug/L	97.69%
37) 1,2-Dichloropropane-d6	7.65	67	347097	4.75 ug/L	95.01%
40) cis-1,3-Dichloropropene-d4	8.52	79	496292	4.72 ug/L	94.40%
42) trans-1,3-Dichloropropene-	9.25	79	270863	4.07 ug/L	81.43%
47) Toluene-d8	8.76	98	1250349	4.99 ug/L	99.71%
50) 2-Hexanone-d5	10.09	63	364011	41.23 ug/L	82.45%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	188246	4.24 ug/L	84.85%
65) 1,2-Dichlorobenzene-d4	13.25	152	307903	5.42 ug/L	108.42%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	48704	0.5598 ug/L	98
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	41817	6.4163 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	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

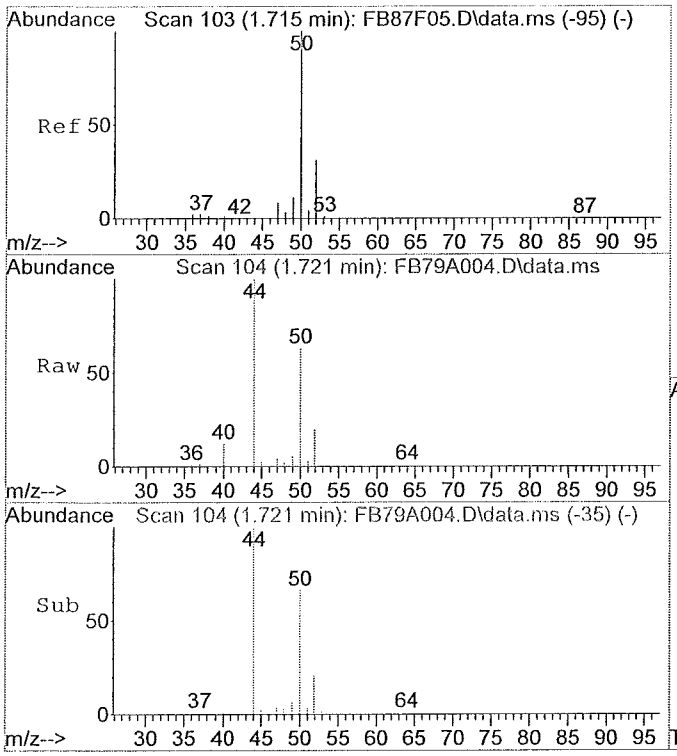
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB79A004.D Vial: 6
Acq Time : 12/06/2018 12:13 Operator: SLS
Sample : 1833368004 5P-MW106I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:47 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	29652	0.4457 ug/L	94
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	

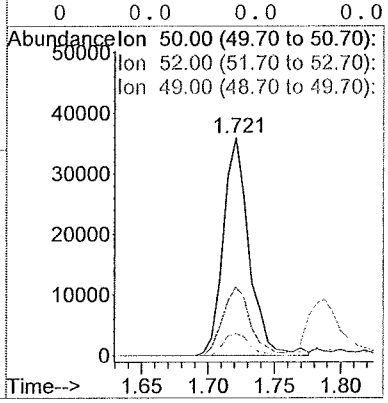
(#) = qualifier out of range (m) = manual integration

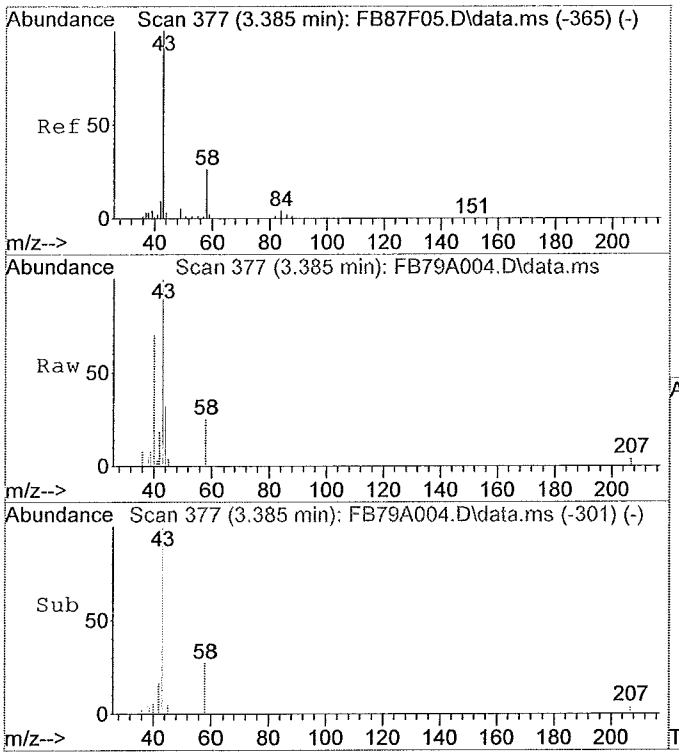


#3
Chloromethane
Concen: 0.56 ug/L
RT: 1.72 min Scan# 104
Delta R.T. -0.00 min
Lab File: FB79A004.D
Acq: 12/06/2018 12:13

Tgt Ion:50 Resp: 48704

Ion	Ratio	Lower	Upper
50	100		
52	35.0	13.6	53.6
49	10.1	0.0	30.4
0	0.0	0.0	0.0

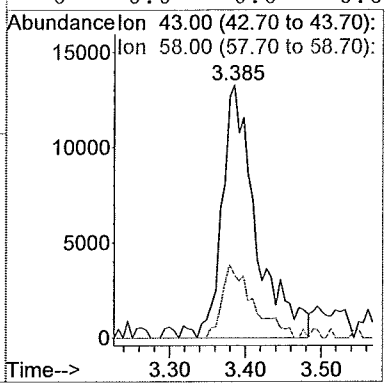


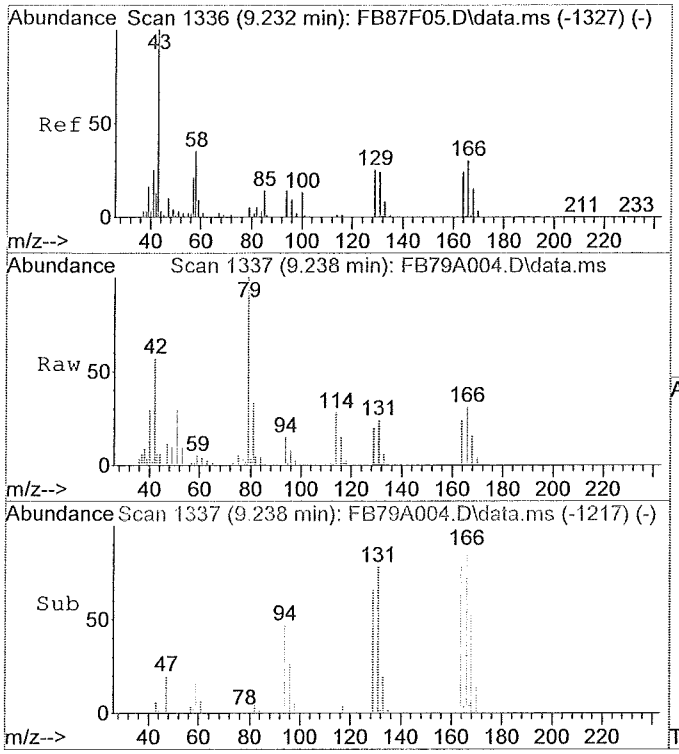


#13
Acetone
Concen: 6.42 ug/L
RT: 3.39 min Scan# 377
Delta R.T. -0.00 min
Lab File: FB79A004.D
Acq: 12/06/2018 12:13

Tgt Ion:43 Resp: 41817

Ion	Ratio	Lower	Upper
43	100		
58	26.7	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

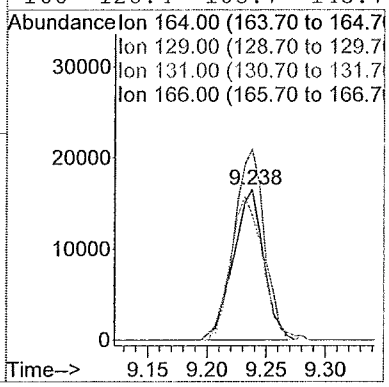




#48
Tetrachloroethene
Concen: 0.45 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FB79A004.D
Acq: 12/06/2018 12:13

Tgt Ion:164 Resp: 29652

Ion	Ratio	Lower	Upper
164	100		
129	101.1	75.9	115.9
131	101.8	72.1	112.1
166	128.4	105.7	145.7



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

EPA SAMPLE NO.
5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A003
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.94	
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	4.8	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.
5P-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A003
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A003
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

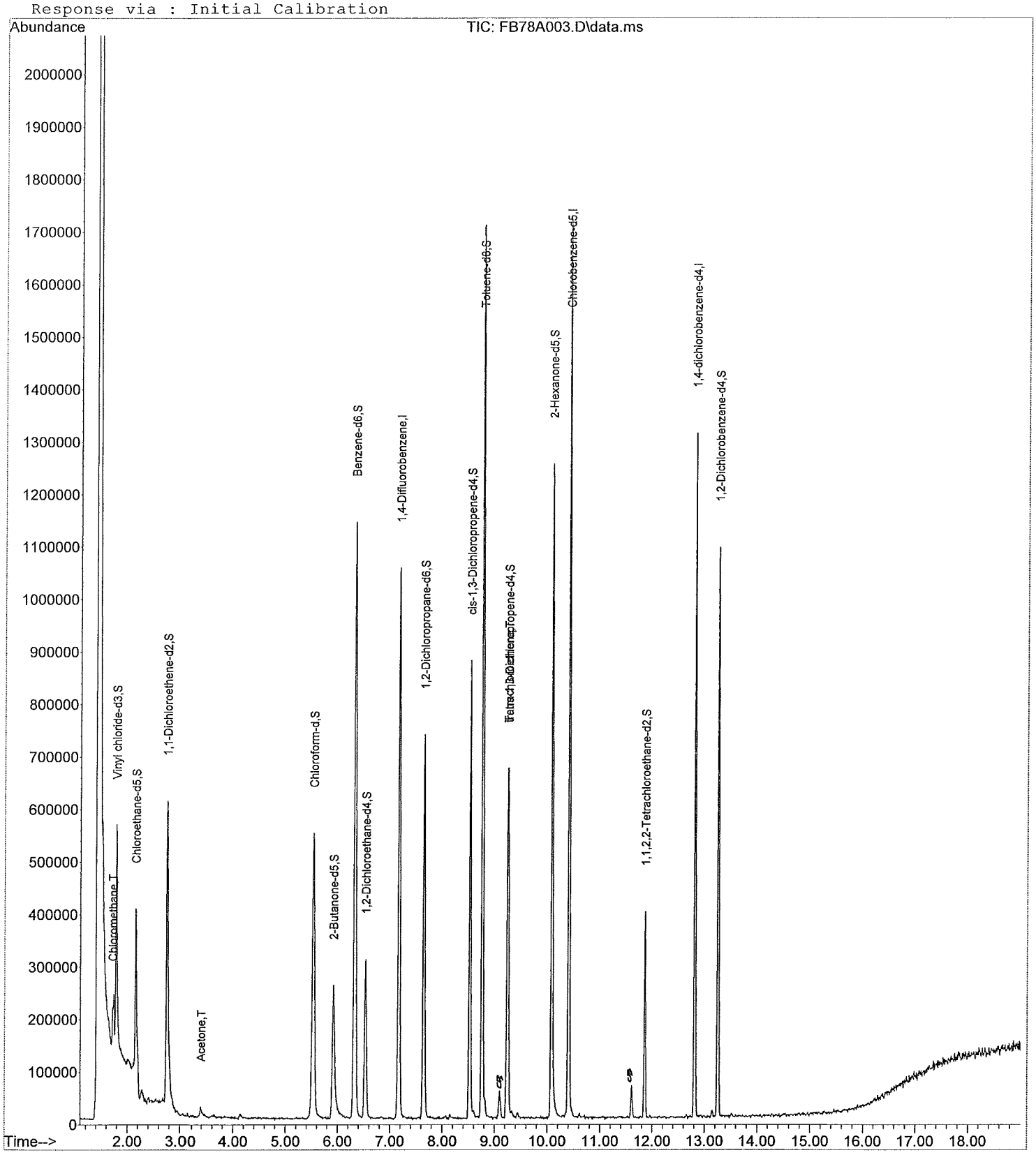
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A003.D Vial: 5
Acq Time : 12/06/2018 11:45 Operator: SLS
Sample : 1833368003 5P-MW107D-200 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:06 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A003.D Vial: 5
Acq Time : 12/06/2018 11:45 Operator: SLS
Sample : 1833368003 5P-MW107D-200 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:06 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1044508	5.00 ug/L	88.79
28) Chlorobenzene-d5	10.40	117	999420	5.00 ug/L	100.65
60) 1,4-dichlorobenzene-d4	12.81	152	337819	5.00 ug/L	73.13
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	419127	5.01 ug/L	100.17%
8) Chloroethane-d5	2.16	69	320400	4.85 ug/L	97.00%
11) 1,1-Dichloroethene-d2	2.75	63	564484	4.07 ug/L	81.45%
22) 2-Butanone-d5	5.92	46	579867	48.42 ug/L	96.84%
25) Chloroform-d	5.53	84	681638	4.71 ug/L	94.22%
27) 1,2-Dichloroethane-d4	6.53	65	277360	5.45 ug/L	109.02%
33) Benzene-d6	6.32	84	1379748	4.85 ug/L	97.05%
37) 1,2-Dichloropropane-d6	7.65	67	339040	4.66 ug/L	93.24%
40) cis-1,3-Dichloropropene-d4	8.52	79	499431	4.77 ug/L	95.45%
42) trans-1,3-Dichloropropene-	9.26	79	282490	4.27 ug/L	85.33%
47) Toluene-d8	8.76	98	1240197	4.97 ug/L	99.37%
50) 2-Hexanone-d5	10.08	63	394055	44.84 ug/L	89.68%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	194697	4.41 ug/L	88.18%
65) 1,2-Dichlorobenzene-d4	13.25	152	305956	5.42 ug/L	108.35%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	81065	0.9417 ug/L	96
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	30696	4.7598 ug/L	98
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

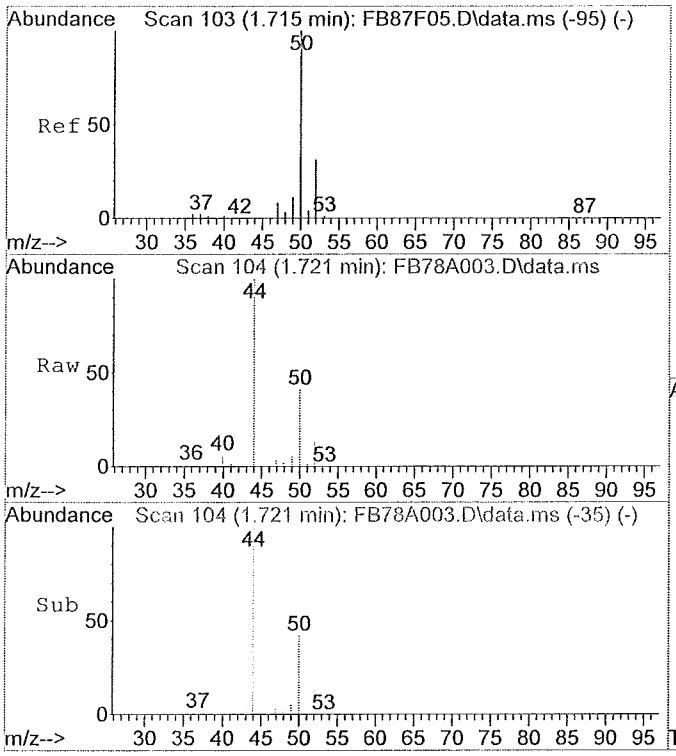
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A003.D Vial: 5
Acq Time : 12/06/2018 11:45 Operator: SLS
Sample : 1833368003 5P-MW107D-200 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:23:06 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.24	164	79596	1.2020 ug/L	94
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	

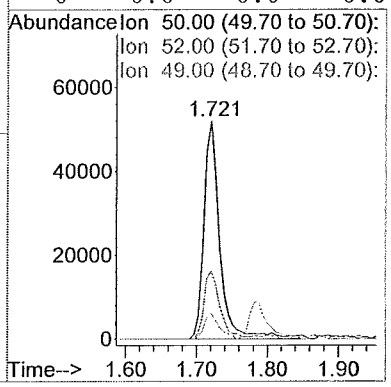
(#) = qualifier out of range (m) = manual integration

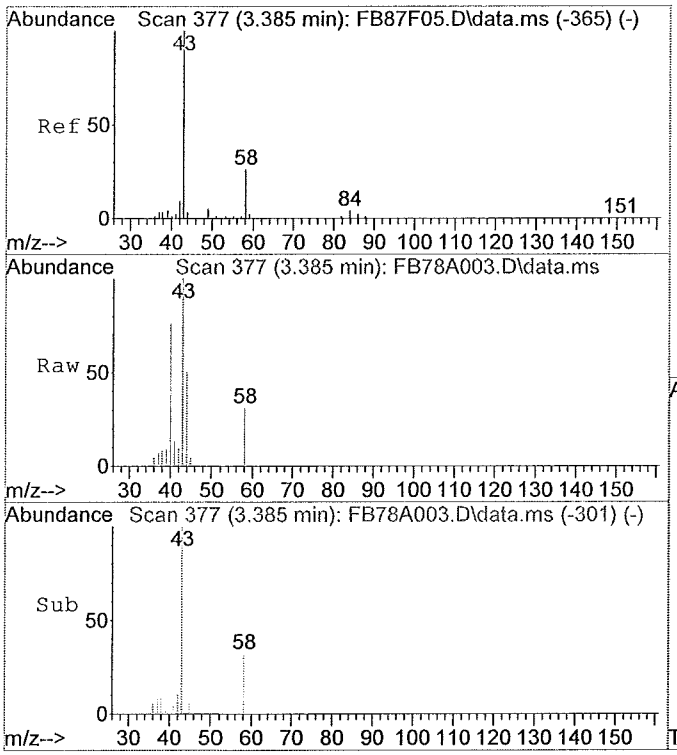


#3
Chloromethane
Concen: 0.94 ug/L
RT: 1.72 min Scan# 104
Delta R.T. -0.00 min
Lab File: FB78A003.D
Acq: 12/06/2018 11:45

Tgt Ion:50 Resp: 81065

Ion	Ratio	Lower	Upper
50	100		
52	31.2	13.6	53.6
49	11.2	0.0	30.4
0	0.0	0.0	0.0

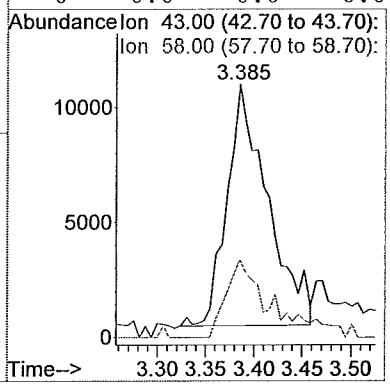


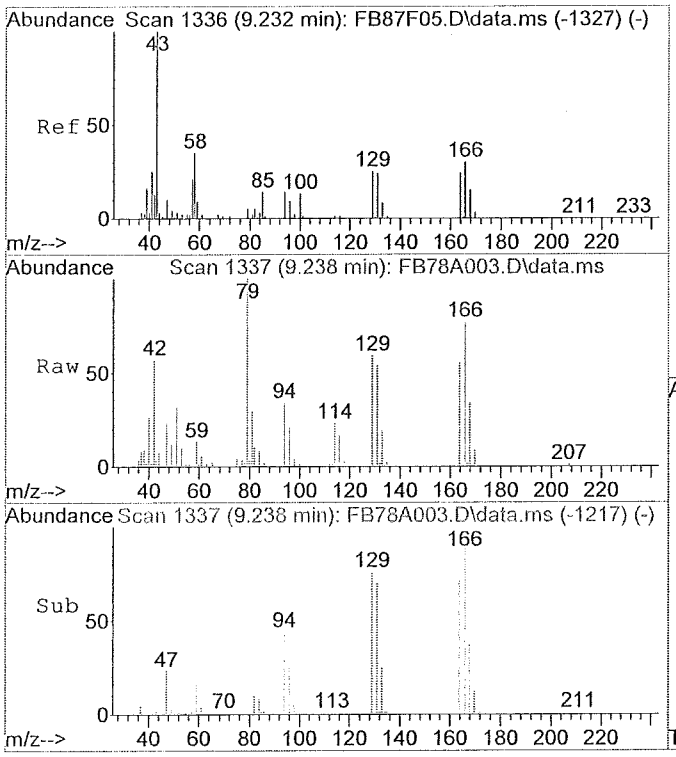


#13
Acetone
Concen: 4.76 ug/L
RT: 3.39 min Scan# 377
Delta R.T. -0.00 min
Lab File: FB78A003.D
Acq: 12/06/2018 11:45

Tgt Ion:43 Resp: 30696

Ion	Ratio	Lower	Upper
43	100		
58	36.3	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

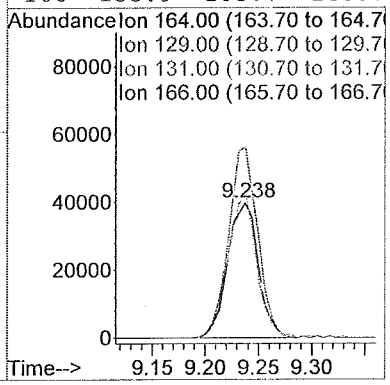




#48
Tetrachloroethene
Concen: 1.20 ug/L
RT: 9.24 min Scan# 1337
Delta R.T. -0.00 min
Lab File: FB78A003.D
Acq: 12/06/2018 11:45

Tgt Ion:164 Resp: 79596

Ion	Ratio	Lower	Upper
164	100		
129	100.4	75.9	115.9
131	98.7	72.1	112.1
166	133.9	105.7	145.7



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

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A002
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.96	
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	23.	
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368002
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB78A002
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.16	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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A002
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

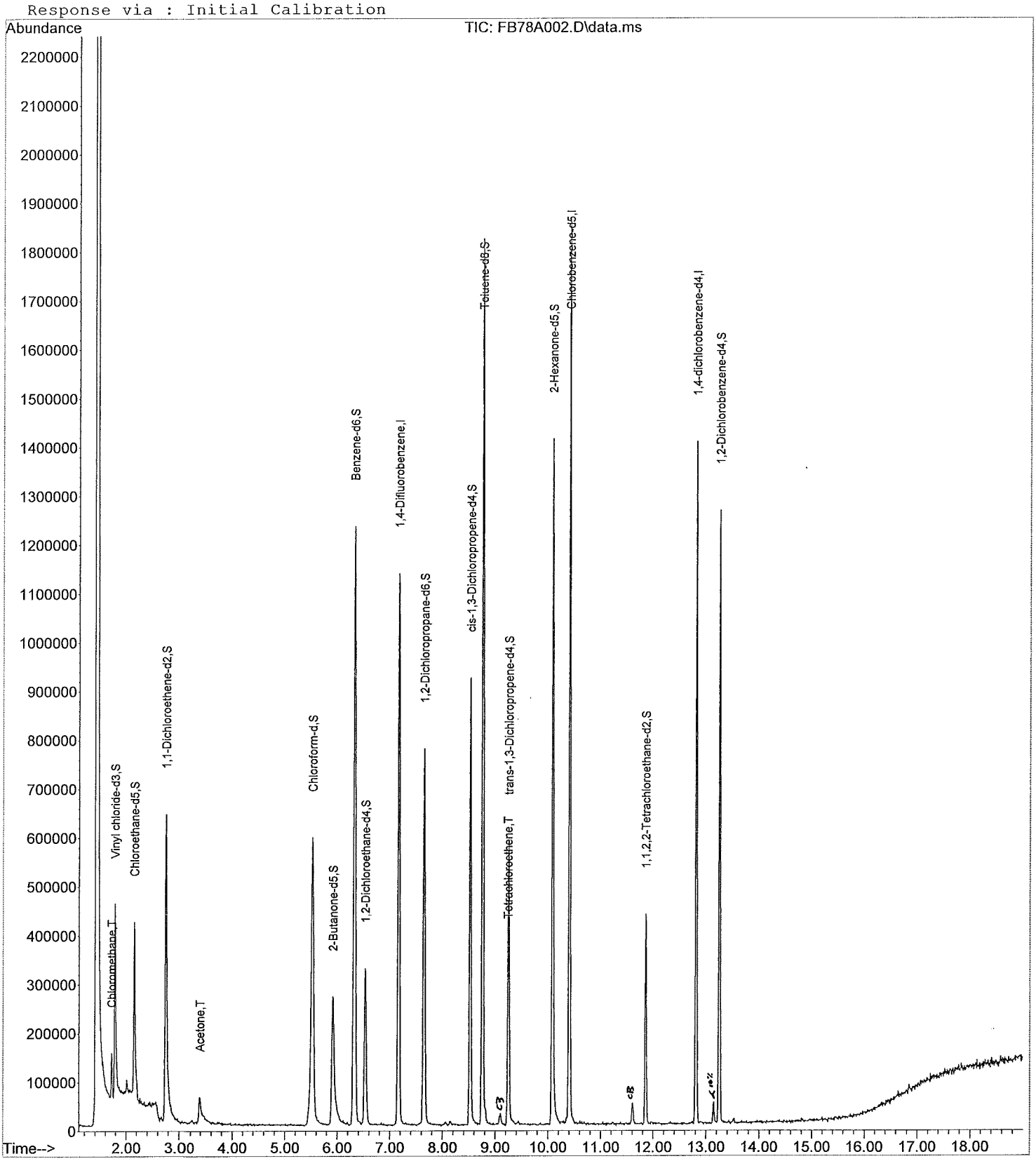
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A002.D Vial: 4
Acq Time : 12/06/2018 11:18 Operator: SLS
Sample : 1833368002 5P-MW107I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:22:01 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A002.D Vial: 4
Acq Time : 12/06/2018 11:18 Operator: SLS
Sample : 1833368002 5P-MW107I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:22:01 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1090259	5.00 ug/L	92.68
28) Chlorobenzene-d5	10.40	117	1061123	5.00 ug/L	106.87
60) 1,4-dichlorobenzene-d4	12.81	152	361553	5.00 ug/L	78.27
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	426232	4.88 ug/L	97.59%
8) Chloroethane-d5	2.15	69	330761	4.80 ug/L	95.94%
11) 1,1-Dichloroethene-d2	2.75	63	575423	3.98 ug/L	79.54%
22) 2-Butanone-d5	5.92	46	632393	50.59 ug/L	101.18%
25) Chloroform-d	5.53	84	702702	4.65 ug/L	93.06%
27) 1,2-Dichloroethane-d4	6.52	65	288818	5.44 ug/L	108.76%
33) Benzene-d6	6.32	84	1427449	4.73 ug/L	94.57%
37) 1,2-Dichloropropane-d6	7.65	67	372150	4.82 ug/L	96.39%
40) cis-1,3-Dichloropropene-d4	8.52	79	539106	4.85 ug/L	97.04%
42) trans-1,3-Dichloropropene-	9.25	79	299907	4.27 ug/L	85.32%
47) Toluene-d8	8.76	98	1293838	4.88 ug/L	97.64%
50) 2-Hexanone-d5	10.08	63	434632	46.58 ug/L	93.16%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	211829	4.52 ug/L	90.36%
65) 1,2-Dichlorobenzene-d4	13.25	152	337097	5.58 ug/L	111.55%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	86296	0.9604 ug/L	96
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	158155	23.4950 ug/L	79
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

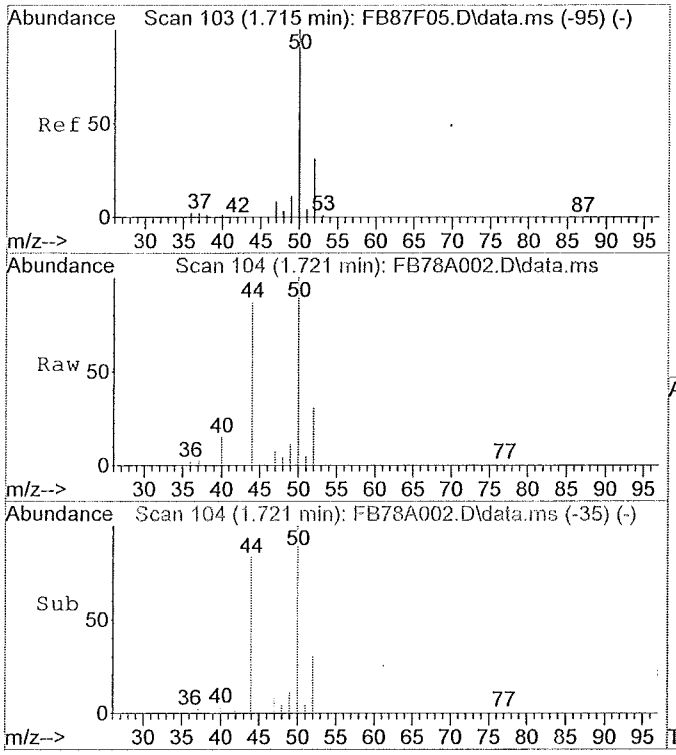
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB78A002.D Vial: 4
Acq Time : 12/06/2018 11:18 Operator: SLS
Sample : 1833368002 5P-MW107I-145 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:22:01 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.23	164	11021	0.1567 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	

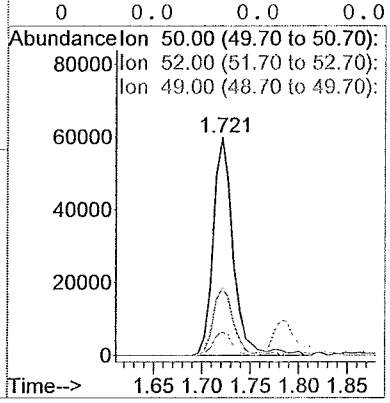
(#) = qualifier out of range (m) = manual integration

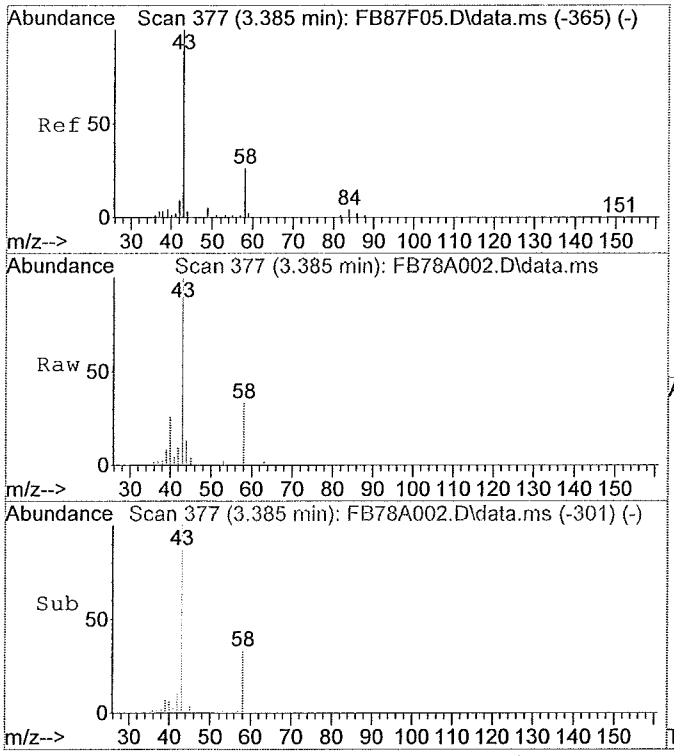


#3
Chloromethane
Concen: 0.96 ug/L
RT: 1.72 min Scan# 104
Delta R.T. 0.00 min
Lab File: FB78A002.D
Acq: 12/06/2018 11:18

Tgt Ion:50 Resp: 86296

Ion	Ratio	Lower	Upper
50	100		
52	31.1	13.6	53.6
49	10.0	0.0	30.4
0	0.0	0.0	0.0

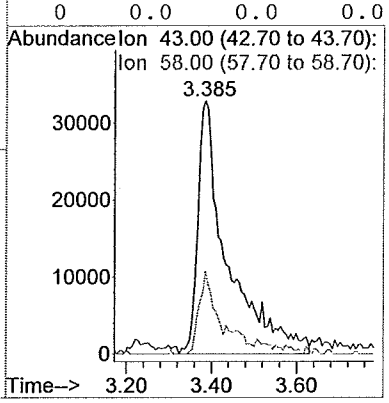


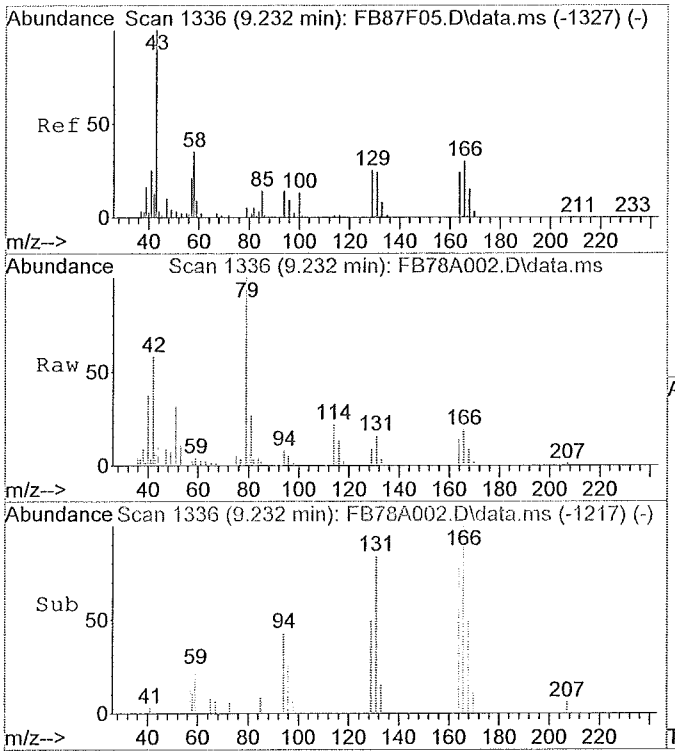


#13
Acetone
Concen: 23.50 ug/L
RT: 3.39 min Scan# 377
Delta R.T. 0.00 min
Lab File: FB78A002.D
Acq: 12/06/2018 11:18

Tgt Ion:43 Resp: 158155

Ion	Ratio	Lower	Upper
43	100		
58	23.4	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

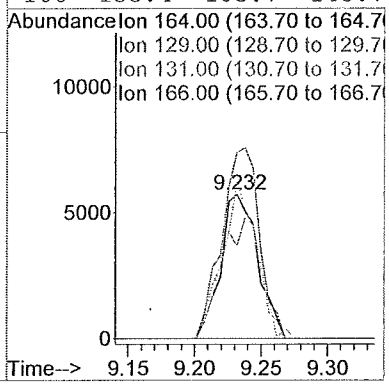




#48
Tetrachloroethene
Concen: 0.16 ug/L
RT: 9.23 min Scan# 1336
Delta R.T. -0.01 min
Lab File: FB78A002.D
Acq: 12/06/2018 11:18

Tgt Ion:164 Resp: 11021

Ion	Ratio	Lower	Upper
164	100		
129	91.7	75.9	115.9
131	99.0	72.1	112.1
166	135.4	105.7	145.7



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

EPA SAMPLE NO.
5P-MW108D-214

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB82A007
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.47	J
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	43.	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB82A007
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	3.0	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB82A007
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

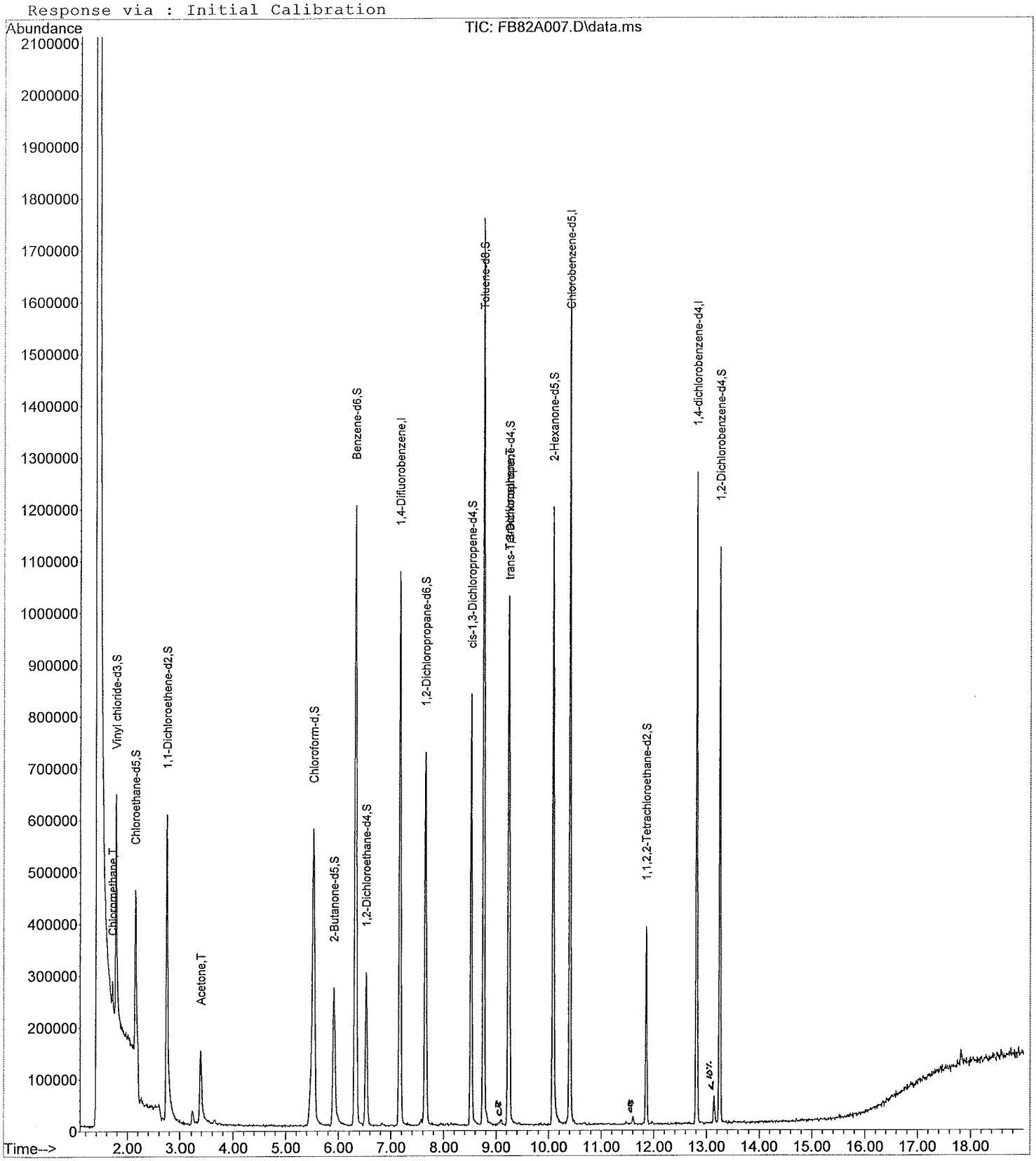
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB82A007.D Vial: 9
Acq Time : 12/06/2018 13:37 Operator: SLS
Sample : 1833368007 5P-MW108D-214 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:26:06 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB82A007.D Vial: 9
Acq Time : 12/06/2018 13:37 Operator: SLS
Sample : 1833368007 5P-MW108D-214 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:26:06 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.16	114	1040914	5.00 ug/L	88.49
28) Chlorobenzene-d5	10.40	117	985882	5.00 ug/L	99.29
60) 1,4-dichlorobenzene-d4	12.81	152	334895	5.00 ug/L	72.50
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	419860	5.03 ug/L	100.69%
8) Chloroethane-d5	2.15	69	319853	4.86 ug/L	97.17%
11) 1,1-Dichloroethene-d2	2.75	63	541625	3.92 ug/L	78.42%
22) 2-Butanone-d5	5.92	46	534917	44.82 ug/L	89.64%
25) Chloroform-d	5.52	84	678592	4.71 ug/L	94.12%
27) 1,2-Dichloroethane-d4	6.52	65	257497	5.08 ug/L	101.56%
33) Benzene-d6	6.32	84	1405602	5.01 ug/L	100.23%
37) 1,2-Dichloropropane-d6	7.65	67	341393	4.76 ug/L	95.18%
40) cis-1,3-Dichloropropene-d4	8.52	79	465458	4.51 ug/L	90.18%
42) trans-1,3-Dichloropropene-	9.25	79	259287	3.97 ug/L	79.39%
47) Toluene-d8	8.76	98	1244759	5.06 ug/L	101.10%
50) 2-Hexanone-d5	10.08	63	353652	40.80 ug/L	81.59%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	183439	4.21 ug/L	84.22%
65) 1,2-Dichlorobenzene-d4	13.25	152	294653	5.26 ug/L	105.26%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.71	50	40262	0.4693 ug/L	97
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	279235	43.4488 ug/L	88
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

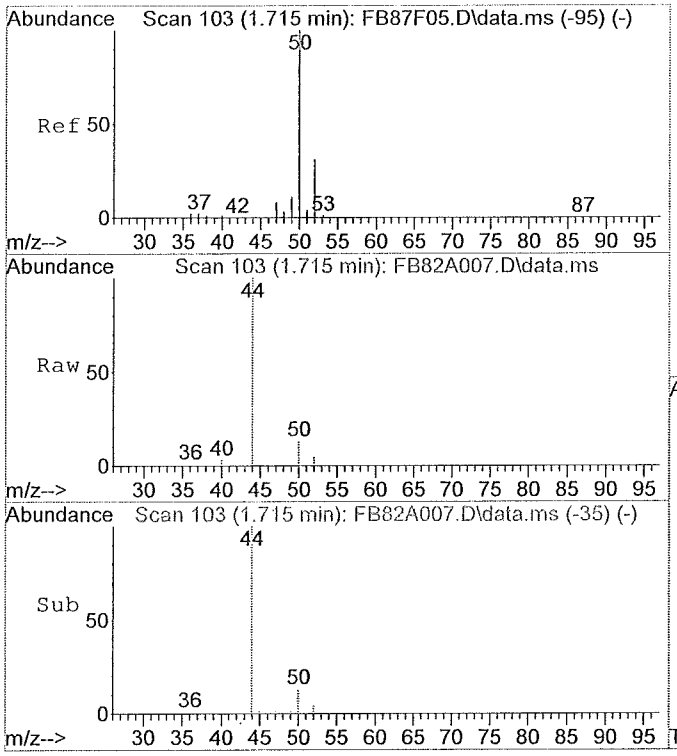
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB82A007.D Vial: 9
Acq Time : 12/06/2018 13:37 Operator: SLS
Sample : 1833368007 5P-MW108D-214 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:26:06 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.23	164	193545	2.9628 ug/L	98
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	

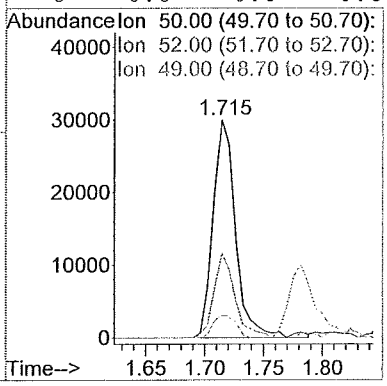
(#) = qualifier out of range (m) = manual integration

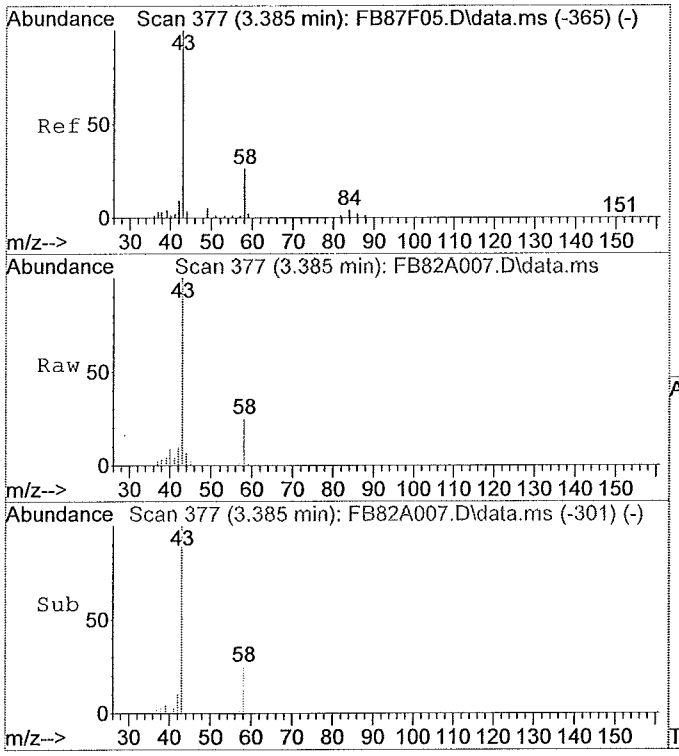


#3
Chloromethane
Concen: 0.47 ug/L
RT: 1.71 min Scan# 103
Delta R.T. -0.01 min
Lab File: FB82A007.D
Acq: 12/06/2018 13:37

Tgt Ion:50 Resp: 40262

Ion	Ratio	Lower	Upper
50	100		
52	35.7	13.6	53.6
49	10.1	0.0	30.4
0	0.0	0.0	0.0

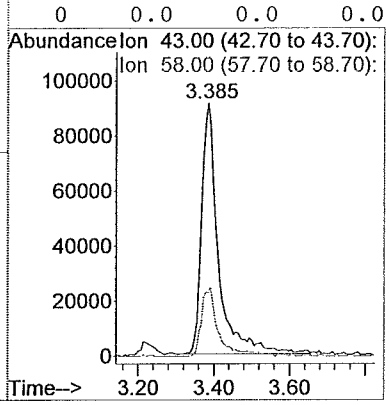


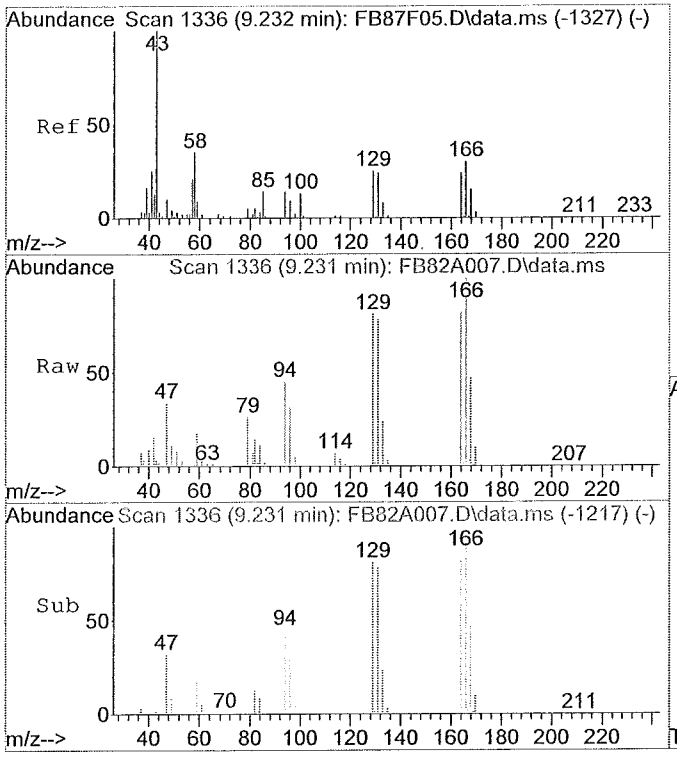


#13
Acetone
Concen: 43.45 ug/L
RT: 3.39 min Scan# 377
Delta R.T. -0.00 min
Lab File: FB82A007.D
Acq: 12/06/2018 13:37

Tgt Ion:43 Resp: 279235

Ion	Ratio	Lower	Upper
43	100		
58	28.2	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

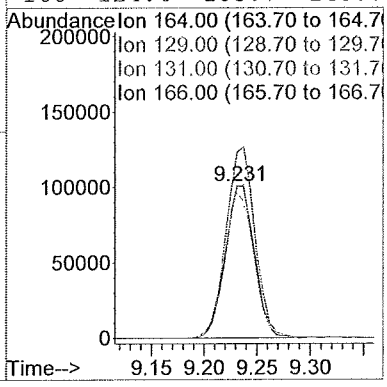




#48
Tetrachloroethene
Concen: 2.96 ug/L
RT: 9.23 min Scan# 1336
Delta R.T. -0.01 min
Lab File: FB82A007.D
Acq: 12/06/2018 13:37

Tgt Ion:164 Resp: 193545

Ion	Ratio	Lower	Upper
164	100		
129	100.1	75.9	115.9
131	93.3	72.1	112.1
166	124.6	105.7	145.7



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

EPA SAMPLE NO.
5P-MW108I-149

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB81A006
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.26	J
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	35.	
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-MW108I-149

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB81A006
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.65	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB81A006
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

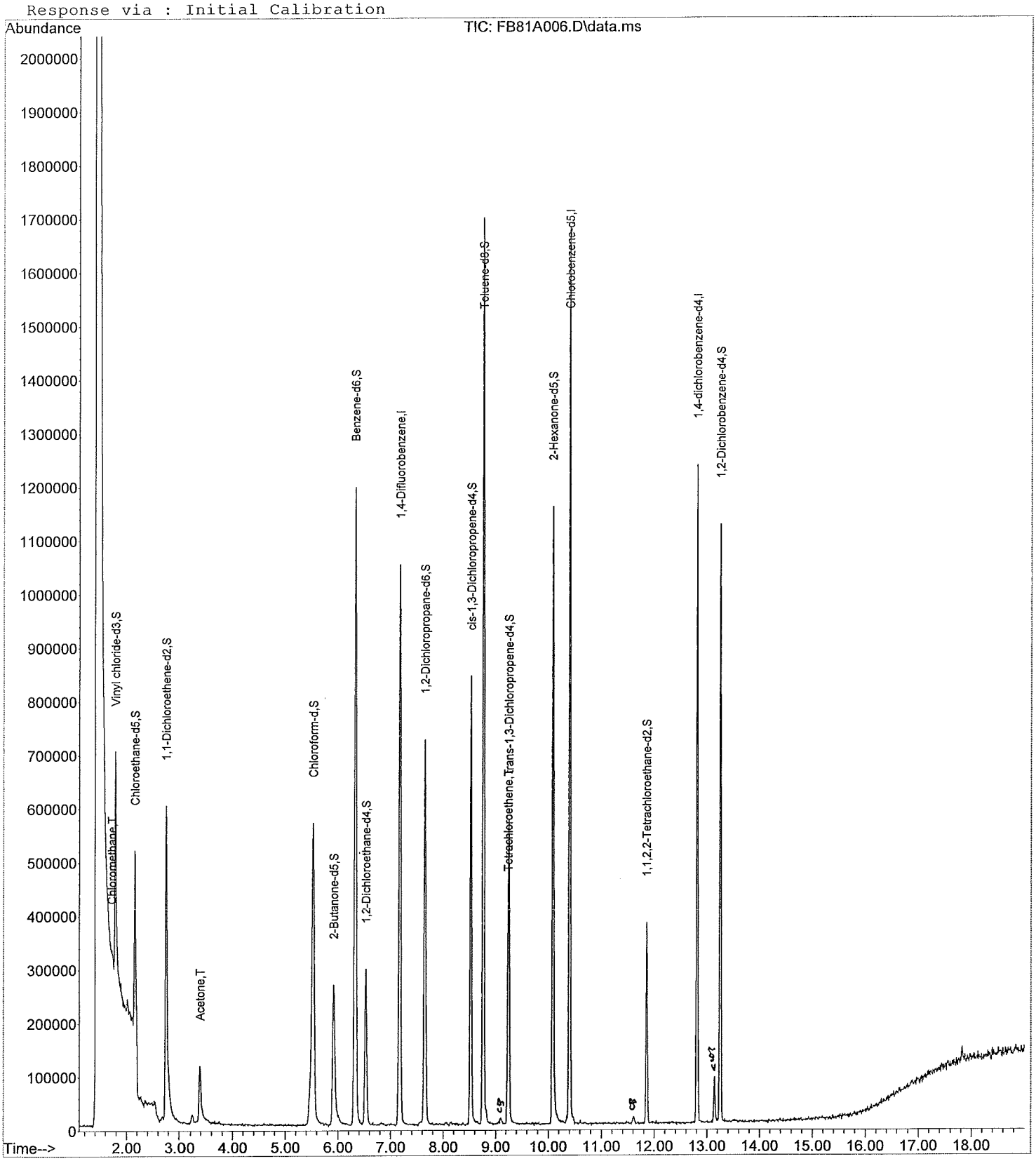
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB81A006.D Vial: 8
Acq Time : 12/06/2018 13:09 Operator: SLS
Sample : 1833368006 5P-MW108I-149 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:25:13 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB81A006.D Vial: 8
Acq Time : 12/06/2018 13:09 Operator: SLS
Sample : 1833368006 5P-MW108I-149 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:25:13 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1041968	5.00 ug/L	88.58
28) Chlorobenzene-d5	10.40	117	985375	5.00 ug/L	99.24
60) 1,4-dichlorobenzene-d4	12.81	152	323390	5.00 ug/L	70.01
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	419005	5.02 ug/L	100.38%
8) Chloroethane-d5	2.15	69	322476	4.89 ug/L	97.87%
11) 1,1-Dichloroethene-d2	2.75	63	554783	4.01 ug/L	80.25%
22) 2-Butanone-d5	5.92	46	562029	47.04 ug/L	94.09%
25) Chloroform-d	5.52	84	675671	4.68 ug/L	93.62%
27) 1,2-Dichloroethane-d4	6.52	65	262761	5.18 ug/L	103.53%
33) Benzene-d6	6.32	84	1376815	4.91 ug/L	98.23%
37) 1,2-Dichloropropane-d6	7.65	67	344425	4.80 ug/L	96.07%
40) cis-1,3-Dichloropropene-d4	8.52	79	474334	4.60 ug/L	91.95%
42) trans-1,3-Dichloropropene-	9.26	79	257857	3.95 ug/L	79.00%
47) Toluene-d8	8.76	98	1229060	4.99 ug/L	99.88%
50) 2-Hexanone-d5	10.08	63	365859	42.23 ug/L	84.45%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	181420	4.17 ug/L	83.33%
65) 1,2-Dichlorobenzene-d4	13.25	152	300370	5.56 ug/L	111.12%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	22175	0.2582 ug/L	98
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	224109	34.8359 ug/L	83
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

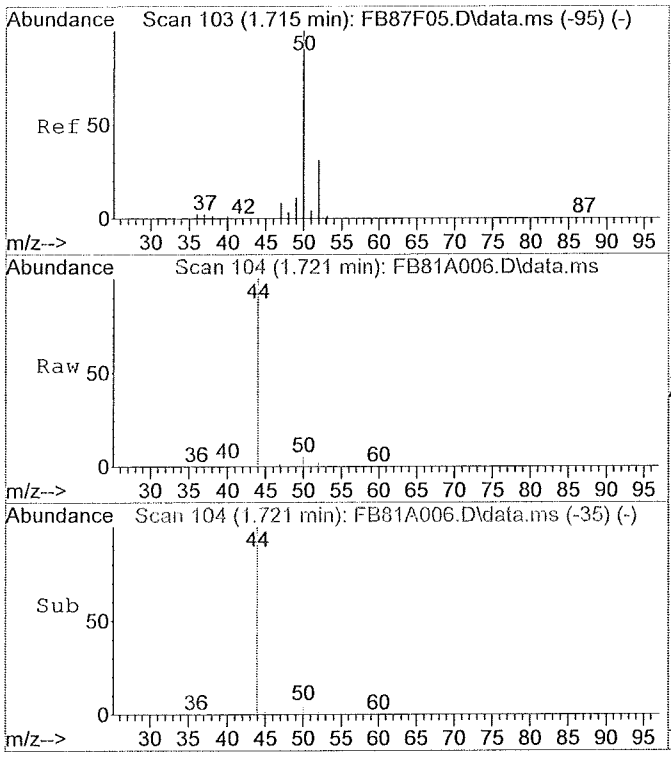
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB81A006.D Vial: 8
Acq Time : 12/06/2018 13:09 Operator: SLS
Sample : 1833368006 5P-MW108I-149 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:25:13 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.23	164	42287	0.6477 ug/L	98
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	

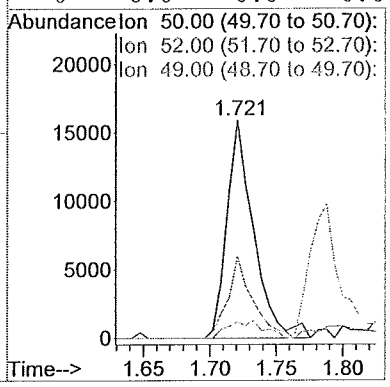
(#) = qualifier out of range (m) = manual integration

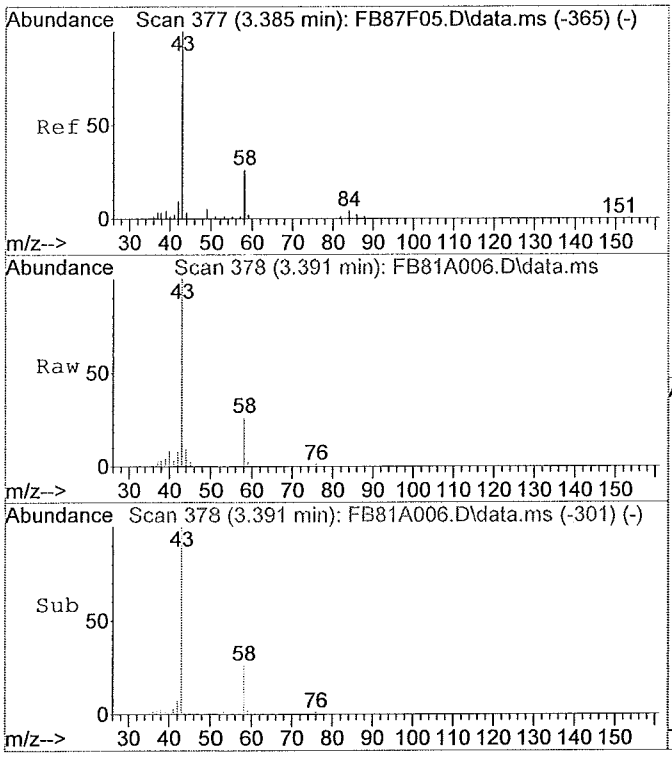


#3
Chloromethane
Concen: 0.26 ug/L
RT: 1.72 min Scan# 104
Delta R.T. -0.00 min
Lab File: FB81A006.D
Acq: 12/06/2018 13:09

Tgt Ion:50 Resp: 22175

Ion	Ratio	Lower	Upper
50	100		
52	35.1	13.6	53.6
49	10.8	0.0	30.4
0	0.0	0.0	0.0

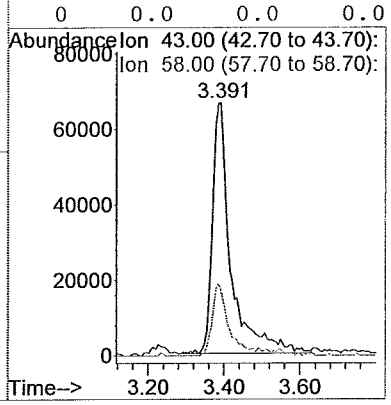


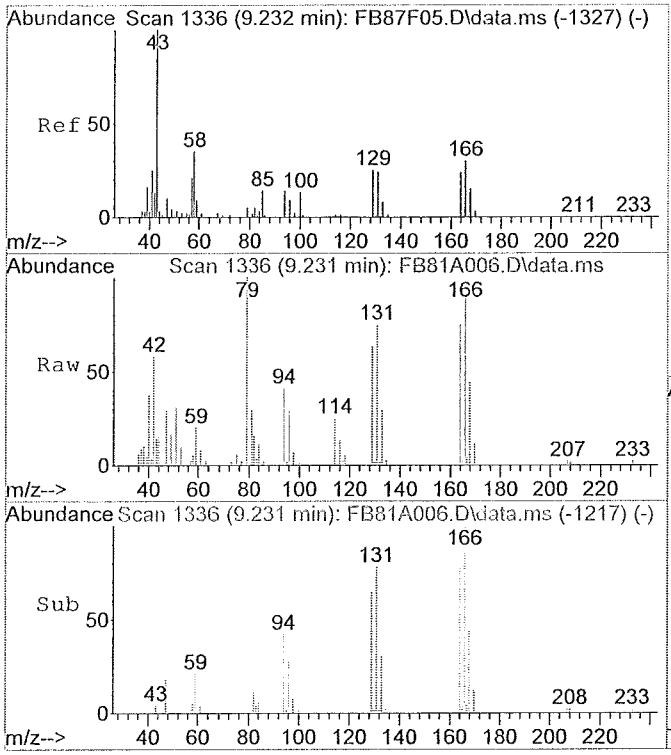


#13
Acetone
Concen: 34.84 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.01 min
Lab File: FB81A006.D
Acq: 12/06/2018 13:09

Tgt Ion:43 Resp: 224109

Ion	Ratio	Lower	Upper
43	100		
58	25.7	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

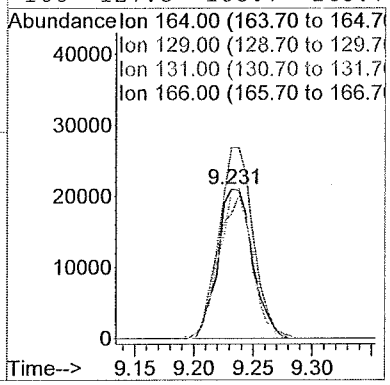




#48
Tetrachloroethene
Concen: 0.65 ug/L
RT: 9.23 min Scan# 1336
Delta R.T. -0.01 min
Lab File: FB81A006.D
Acq: 12/06/2018 13:09

Tgt Ion:164 Resp: 42287

Ion	Ratio	Lower	Upper
164	100		
129	95.6	75.9	115.9
131	95.0	72.1	112.1
166	127.5	105.7	145.7



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

EPA SAMPLE NO.
5P-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB84A009
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.44	J
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	4.8	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.
5P-MW109D-230

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB84A009
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.40	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-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB84A009
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

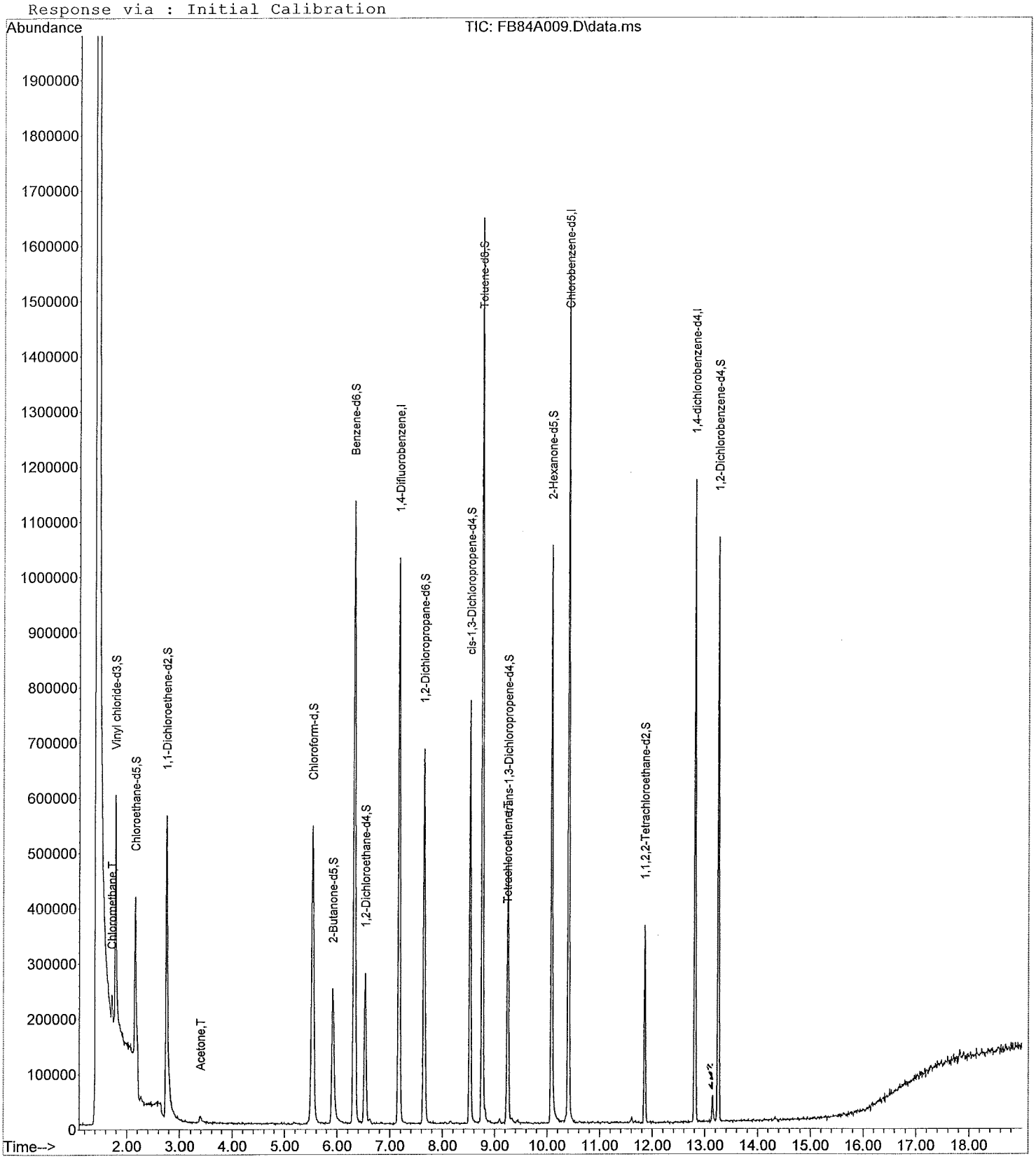
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB84A009.D Vial: 11
Acq Time : 12/06/2018 14:32 Operator: SLS
Sample : 1833368009 5P-MW109D-230 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:28:10 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB84A009.D Vial: 11
Acq Time : 12/06/2018 14:32 Operator: SLS
Sample : 1833368009 5P-MW109D-230 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:28:10 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	998100	5.00 ug/L	84.85
28) Chlorobenzene-d5	10.40	117	945523	5.00 ug/L	95.22
60) 1,4-dichlorobenzene-d4	12.81	152	312125	5.00 ug/L	67.57
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	411140	5.14 ug/L	102.83%
8) Chloroethane-d5	2.15	69	318636	5.05 ug/L	100.95%
11) 1,1-Dichloroethene-d2	2.75	63	534954	4.04 ug/L	80.78%
22) 2-Butanone-d5	5.92	46	504226	44.06 ug/L	88.12%
25) Chloroform-d	5.53	84	643799	4.66 ug/L	93.13%
27) 1,2-Dichloroethane-d4	6.53	65	242622	4.99 ug/L	99.80%
33) Benzene-d6	6.32	84	1301898	4.84 ug/L	96.80%
37) 1,2-Dichloropropane-d6	7.65	67	318673	4.63 ug/L	92.63%
40) cis-1,3-Dichloropropene-d4	8.52	79	431770	4.36 ug/L	87.22%
42) trans-1,3-Dichloropropene-	9.25	79	235715	3.76 ug/L	75.26%
47) Toluene-d8	8.76	98	1186978	5.03 ug/L	100.52%
50) 2-Hexanone-d5	10.08	63	317818	38.23 ug/L	76.45%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	166518	3.99 ug/L	79.71%
65) 1,2-Dichlorobenzene-d4	13.25	152	279678	5.36 ug/L	107.20%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	35970	0.4373 ug/L	95
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	29510	4.7887 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	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

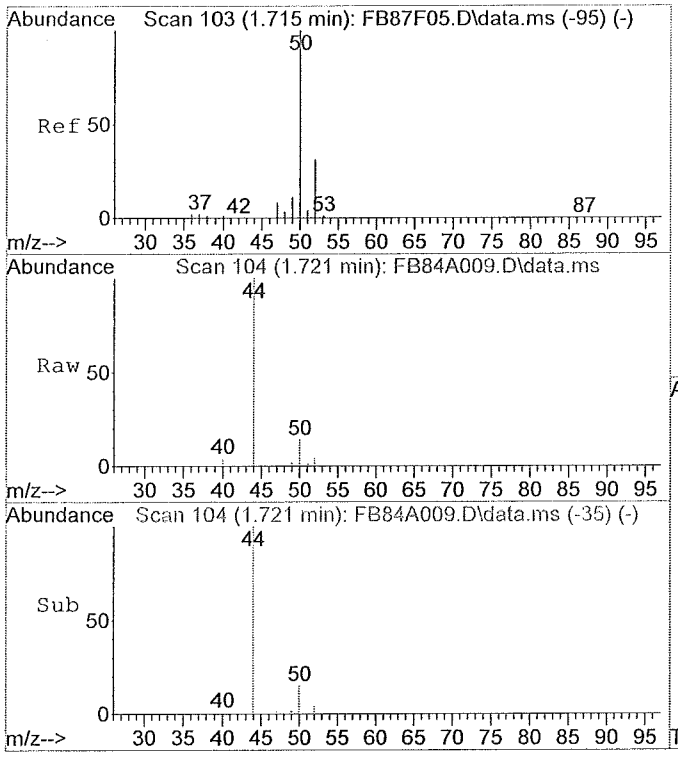
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB84A009.D Vial: 11
Acq Time : 12/06/2018 14:32 Operator: SLS
Sample : 1833368009 5P-MW109D-230 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:28:10 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.23	164	25363	0.4048 ug/L	96
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	

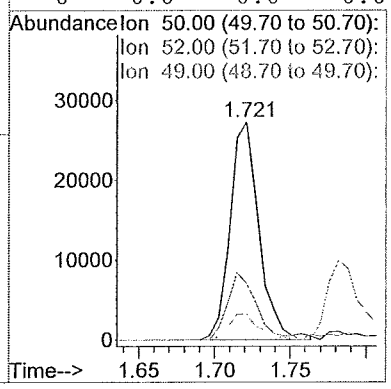
(#) = qualifier out of range (m) = manual integration

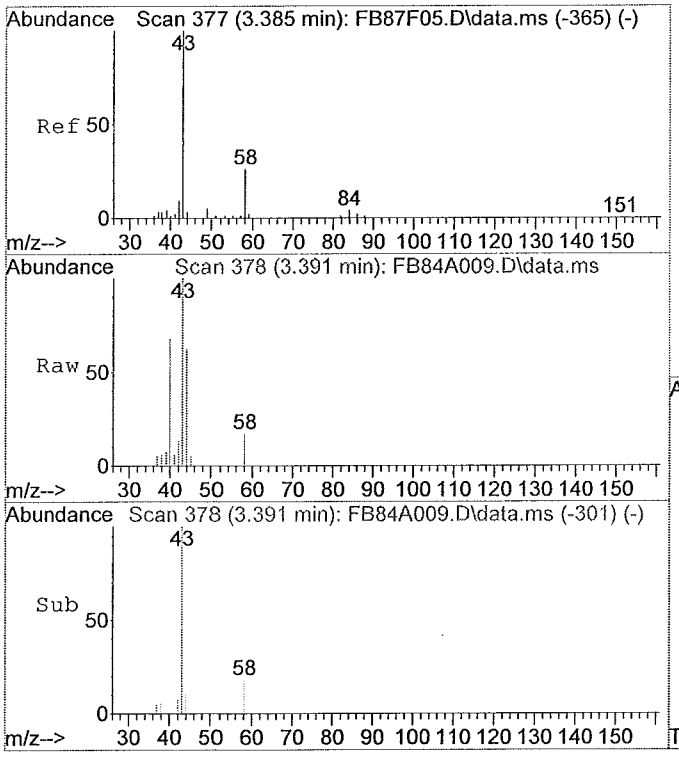


#3
Chloromethane
Concen: 0.44 ug/L
RT: 1.72 min Scan# 104
Delta R.T. 0.00 min
Lab File: FB84A009.D
Acq: 12/06/2018 14:32

Tgt Ion:50 Resp: 35970

Ion	Ratio	Lower	Upper
50	100		
52	30.4	13.6	53.6
49	11.5	0.0	30.4
0	0.0	0.0	0.0

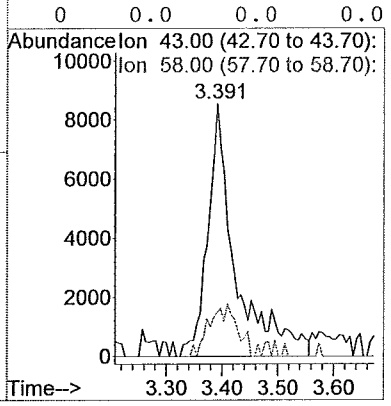


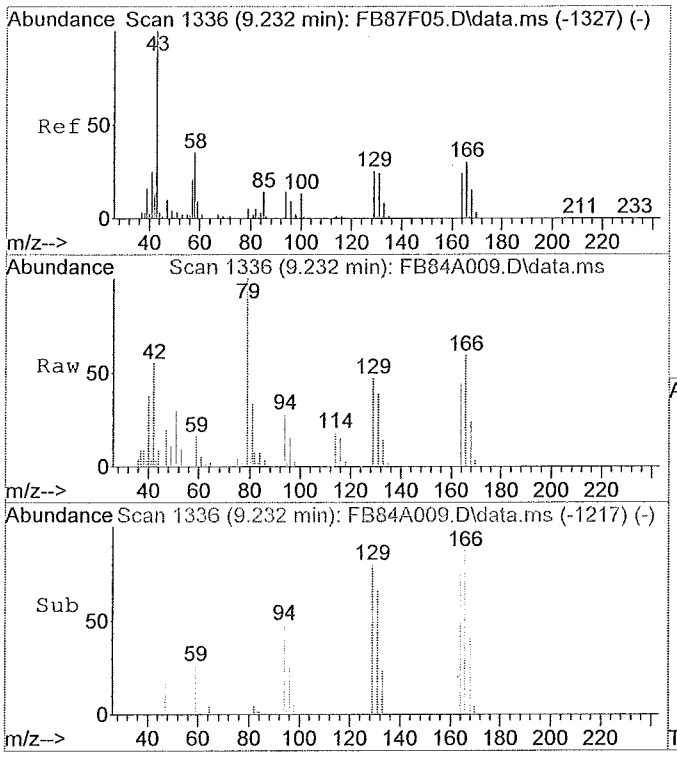


#13
Acetone
Concen: 4.79 ug/L
RT: 3.39 min Scan# 378
Delta R.T. 0.01 min
Lab File: FB84A009.D
Acq: 12/06/2018 14:32

Tgt Ion:43 Resp: 29510

Ion	Ratio	Lower	Upper
43	100		
58	21.3	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

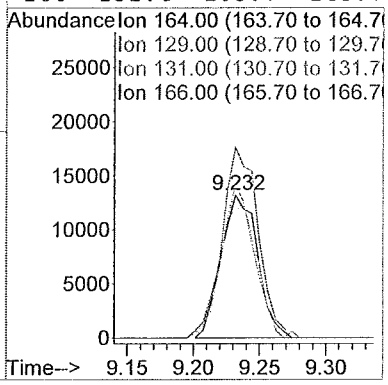




#48
Tetrachloroethene
Concen: 0.40 ug/L
RT: 9.23 min Scan# 1336
Delta R.T. -0.01 min
Lab File: FB84A009.D
Acq: 12/06/2018 14:32

Tgt Ion:164 Resp: 25363

Ion	Ratio	Lower	Upper
164	100		
129	97.8	75.9	115.9
131	96.0	72.1	112.1
166	131.4	105.7	145.7



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

EPA SAMPLE NO.
5P-MW109I-169

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB83A008
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.63	
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	14.	
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB83A008
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.57	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB83A008
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

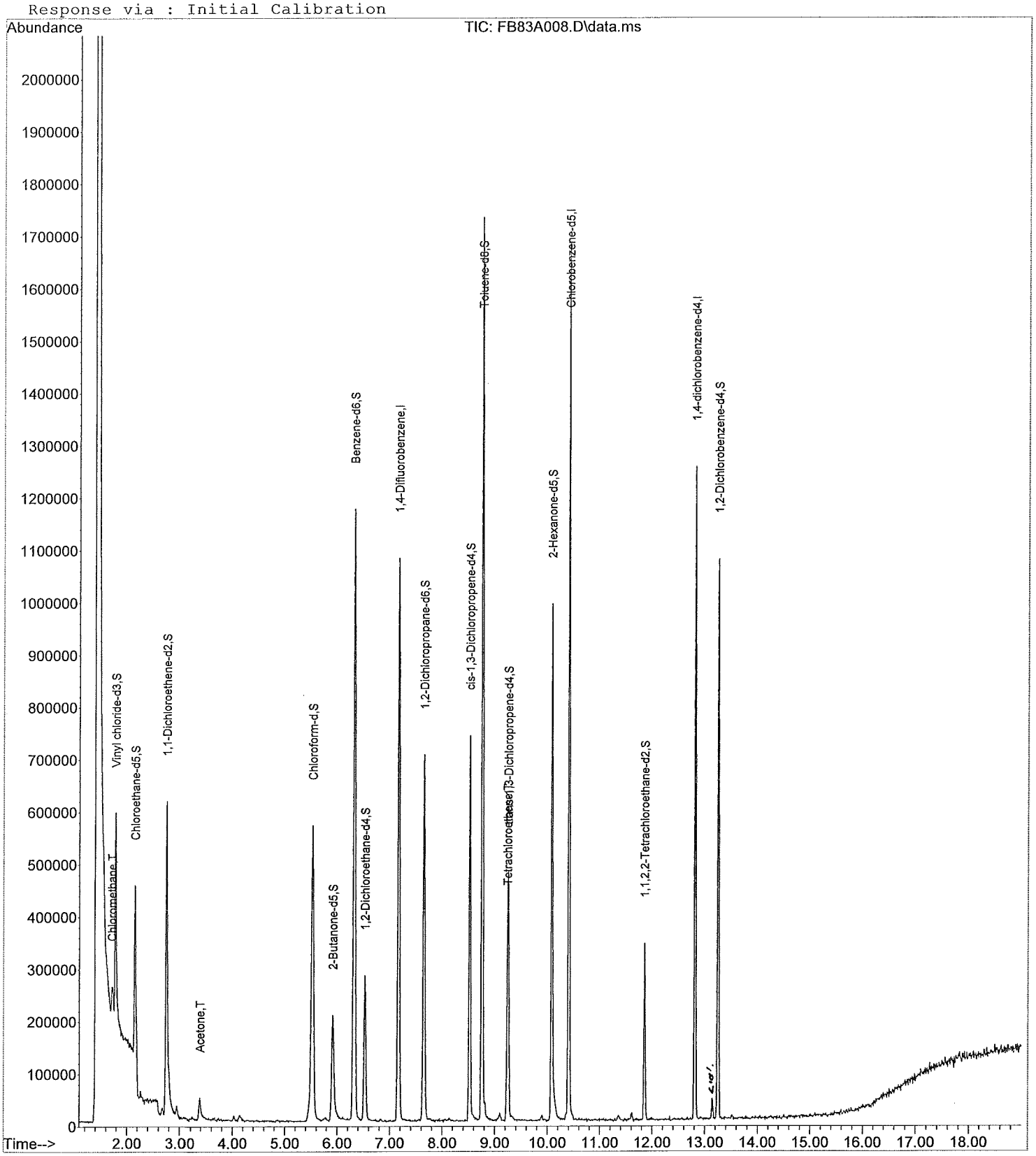
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB83A008.D Vial: 10
Acq Time : 12/06/2018 14:04 Operator: SLS
Sample : 1833368008 5P-MW109I-169 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:27:11 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB83A008.D Vial: 10
Acq Time : 12/06/2018 14:04 Operator: SLS
Sample : 1833368008 5P-MW109I-169 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:27:11 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1045724	5.00 ug/L	88.90
28) Chlorobenzene-d5	10.40	117	963522	5.00 ug/L	97.04
60) 1,4-dichlorobenzene-d4	12.81	152	326763	5.00 ug/L	70.74
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	411172	4.91 ug/L	98.15%
8) Chloroethane-d5	2.15	69	322148	4.87 ug/L	97.42%
11) 1,1-Dichloroethene-d2	2.75	63	551036	3.97 ug/L	79.42%
22) 2-Butanone-d5	5.92	46	422807	35.26 ug/L	70.53%
25) Chloroform-d	5.53	84	662423	4.57 ug/L	91.46%
27) 1,2-Dichloroethane-d4	6.52	65	242038	4.75 ug/L	95.02%
33) Benzene-d6	6.32	84	1364080	4.98 ug/L	99.52%
37) 1,2-Dichloropropane-d6	7.65	67	328623	4.69 ug/L	93.74%
40) cis-1,3-Dichloropropene-d4	8.52	79	426914	4.23 ug/L	84.63%
42) trans-1,3-Dichloropropene-	9.25	79	227716	3.57 ug/L	71.35%
47) Toluene-d8	8.76	98	1211355	5.03 ug/L	100.67%
50) 2-Hexanone-d5	10.08	63	305587	36.07 ug/L	72.14%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	163901	3.85 ug/L	76.99%
65) 1,2-Dichlorobenzene-d4	13.25	152	294192	5.39 ug/L	107.71%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.72	50	54715	0.6348 ug/L	97
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	88331	13.6810 ug/L	75
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

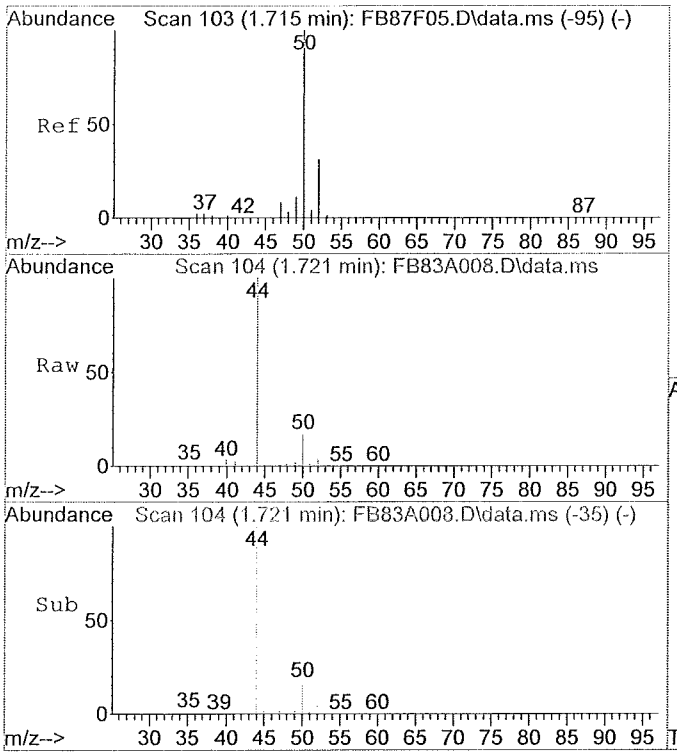
Data File : Q:\F-5975-F\2018\DAT...F\06DEC18F\FB83A008.D Vial: 10
Acq Time : 12/06/2018 14:04 Operator: SLS
Sample : 1833368008 5P-MW109I-169 Inst : 5975-F
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:27:11 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.23	164	36195	0.5669 ug/L	95
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	

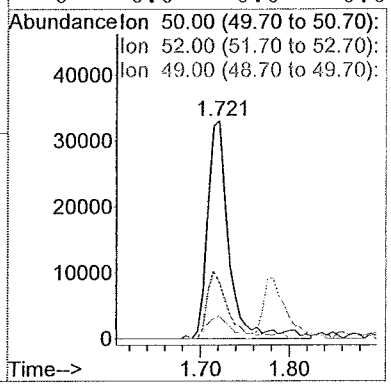
(#) = qualifier out of range (m) = manual integration

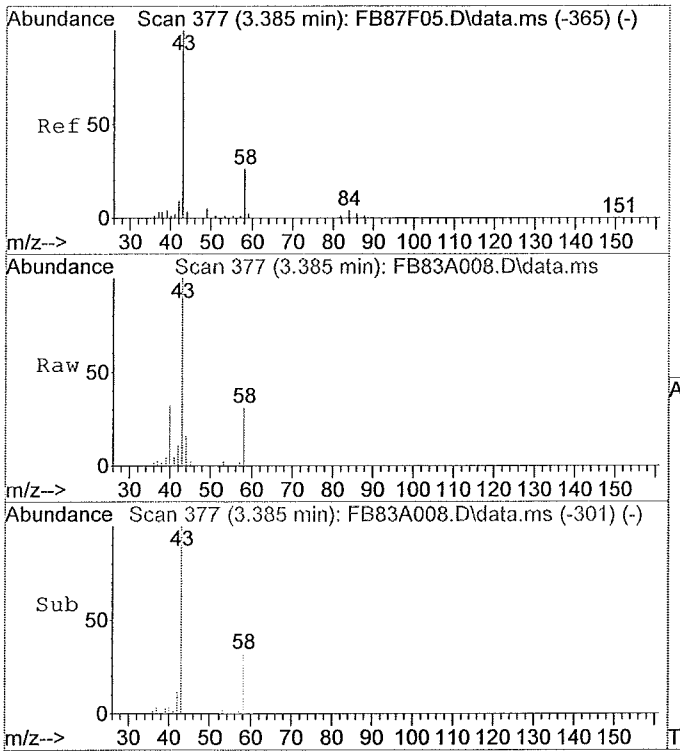


#3
Chloromethane
Concen: 0.63 ug/L
RT: 1.72 min Scan# 104
Delta R.T. 0.00 min
Lab File: FB83A008.D
Acq: 12/06/2018 14:04

Tgt Ion:50 Resp: 54715

Ion	Ratio	Lower	Upper
50	100		
52	31.6	13.6	53.6
49	10.8	0.0	30.4
0	0.0	0.0	0.0

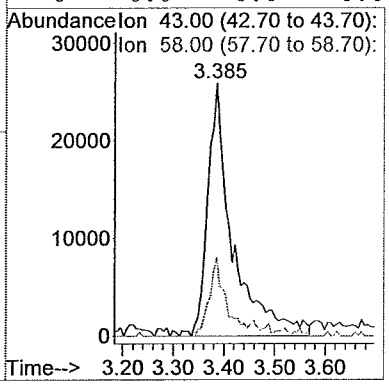


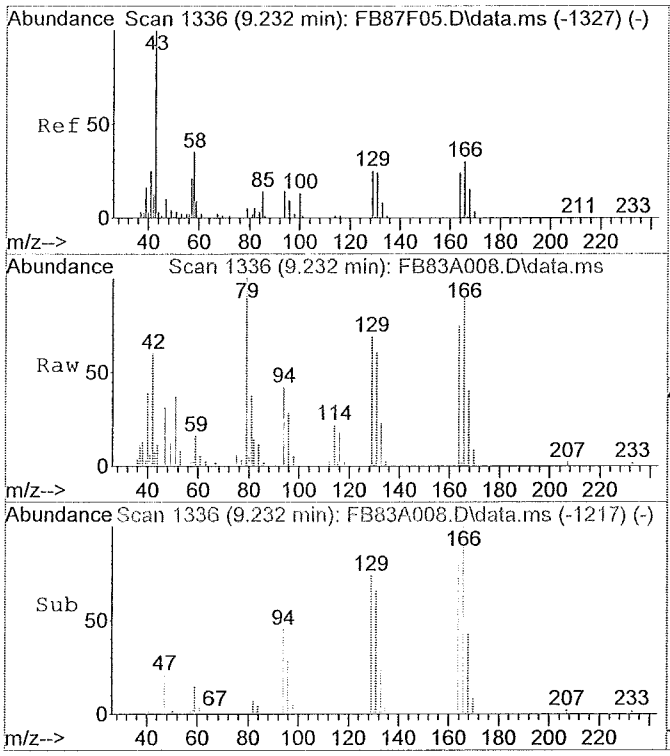


#13
Acetone
Concen: 13.68 ug/L
RT: 3.39 min Scan# 377
Delta R.T. 0.00 min
Lab File: FB83A008.D
Acq: 12/06/2018 14:04

Tgt Ion:43 Resp: 88331

Ion	Ratio	Lower	Upper
43	100		
58	20.7	15.4	55.4
0	0.0	0.0	0.0
0	0.0	0.0	0.0

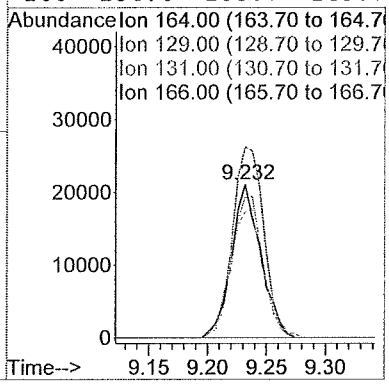




#48
Tetrachloroethene
Concen: 0.57 ug/L
RT: 9.23 min Scan# 1336
Delta R.T. -0.01 min
Lab File: FB83A008.D
Acq: 12/06/2018 14:04

Tgt Ion:164 Resp: 36195

Ion	Ratio	Lower	Upper
164	100		
129	99.2	75.9	115.9
131	93.8	72.1	112.1
166	134.6	105.7	145.7



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

EPA SAMPLE NO.
5P-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.37	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.10	J
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	11.	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.39	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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

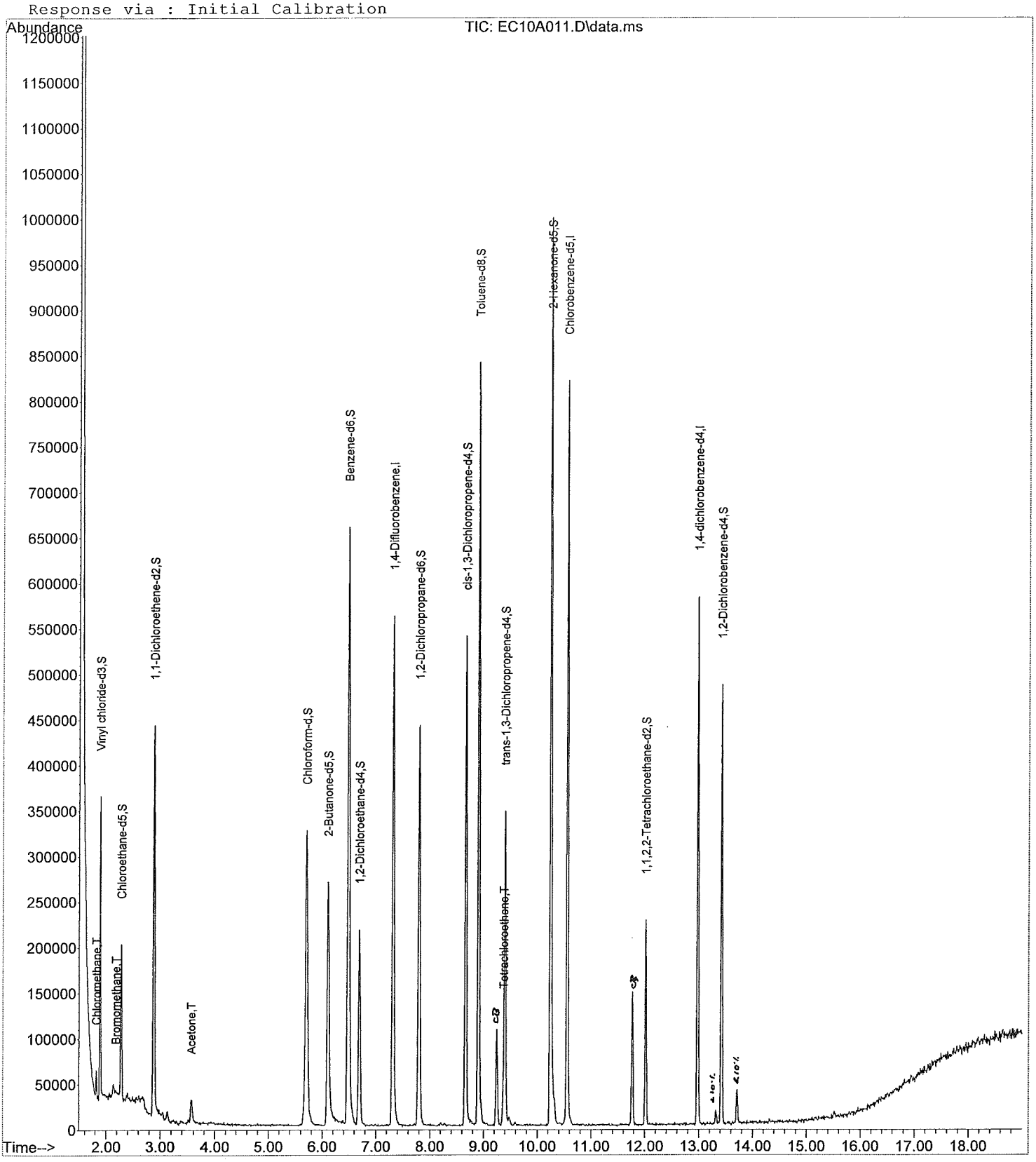
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC10A011.D Vial: 5
Acq Time : 12/06/2018 11:35 Operator: SLS
Sample : 1833368011 5P-MW110D-301 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:56:21 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC10A011.D Vial: 5
Acq Time : 12/06/2018 11:35 Operator: SLS
Sample : 1833368011 5P-MW110D-301 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:56:21 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	523172	5.00 ug/L	58.45
28) Chlorobenzene-d5	10.55	117	464578	5.00 ug/L	64.54
60) 1,4-dichlorobenzene-d4	12.98	152	155157	5.00 ug/L	60.51
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	229449	5.60 ug/L	112.00%
8) Chloroethane-d5	2.28	69	125313	5.60 ug/L	111.91%
11) 1,1-Dichloroethene-d2	2.88	63	307374	4.01 ug/L	80.14%
22) 2-Butanone-d5	6.10	46	525336	53.97 ug/L	107.95%
25) Chloroform-d	5.71	84	353588	5.38 ug/L	107.67%
27) 1,2-Dichloroethane-d4	6.69	65	183273	5.62 ug/L	112.31%
33) Benzene-d6	6.48	84	726913	5.10 ug/L	102.01%
37) 1,2-Dichloropropane-d6	7.80	67	215142	5.10 ug/L	101.94%
40) cis-1,3-Dichloropropene-d4	8.66	79	304382	4.69 ug/L	93.71%
42) trans-1,3-Dichloropropene-	9.40	79	174290	4.39 ug/L	87.80%
47) Toluene-d8	8.90	98	570997	4.81 ug/L	96.16%
50) 2-Hexanone-d5	10.24	63	340439	46.28 ug/L	92.56%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	109914	5.11 ug/L	102.26%
65) 1,2-Dichlorobenzene-d4	13.42	152	128802	5.15 ug/L	103.09%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	21472	0.3664 ug/L	96
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	2.19	94	1272	0.1032 ug/L #	71
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	3.55	43	50087	10.6549 ug/L	95
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

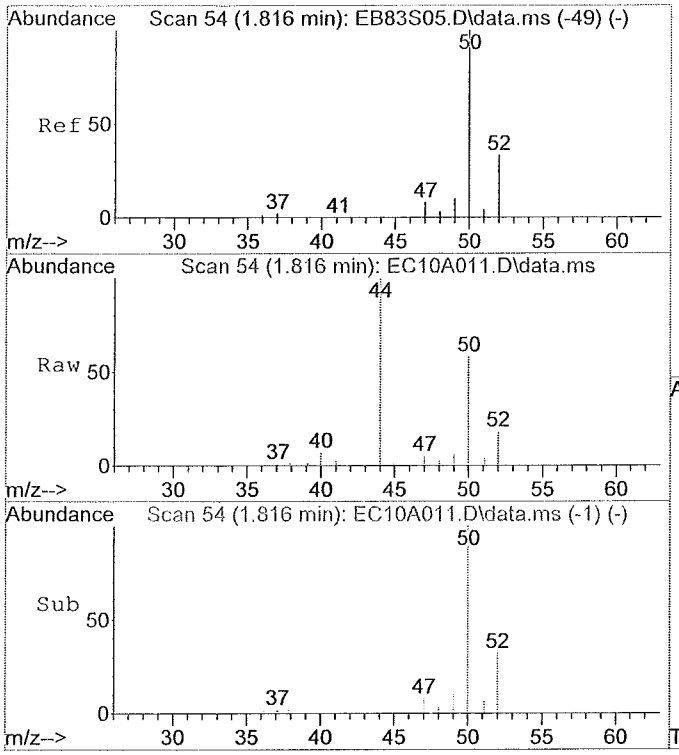
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC10A011.D Vial: 5
Acq Time : 12/06/2018 11:35 Operator: SLS
Sample : 1833368011 5P-MW110D-301 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:56:21 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48) Tetrachloroethene	9.37	164	10345	0.3876 ug/L	94
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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

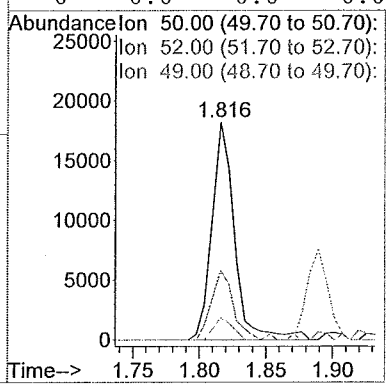
(#) = qualifier out of range (m) = manual integration

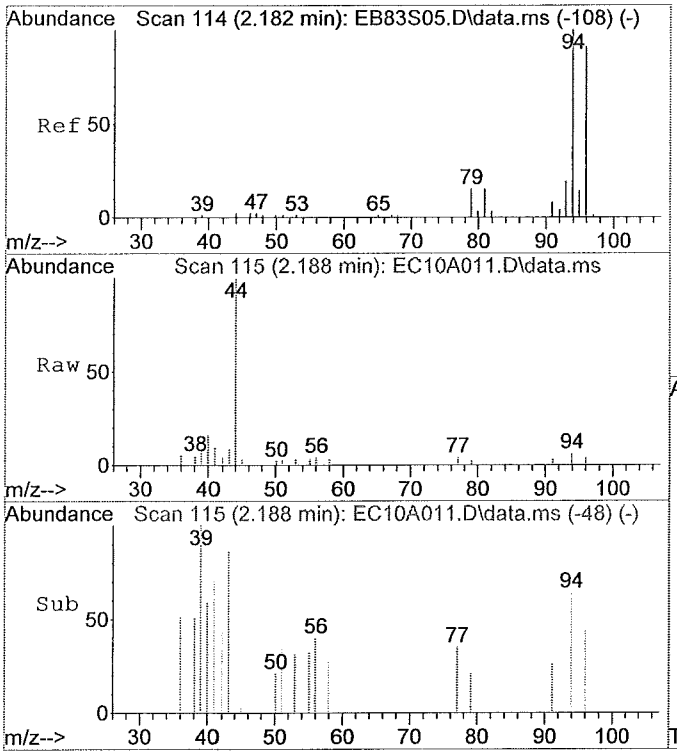


#3
Chloromethane
Concen: 0.37 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC10A011.D
Acq: 12/06/2018 11:35

Tgt Ion:50 Resp: 21472

Ion	Ratio	Lower	Upper
50	100		
52	30.7	12.5	52.5
49	8.3	0.0	30.2
0	0.0	0.0	0.0

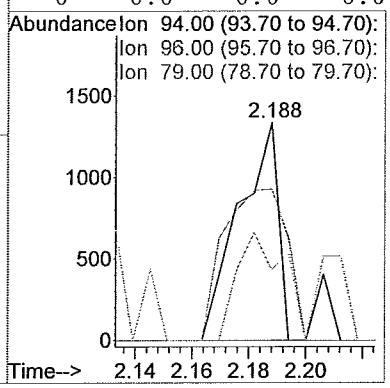


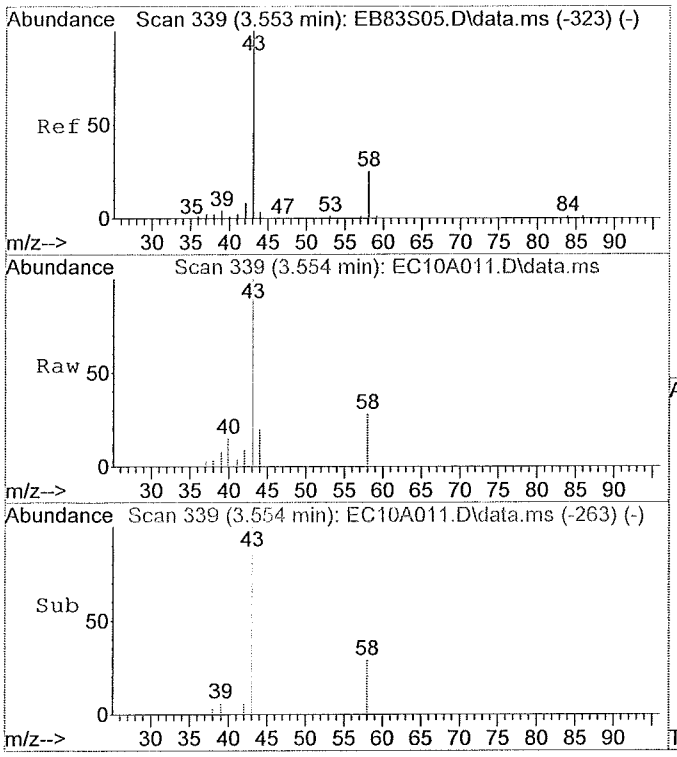


#6
Bromomethane
Concen: 0.10 ug/L
RT: 2.19 min Scan# 115
Delta R.T. 0.01 min
Lab File: EC10A011.D
Acq: 12/06/2018 11:35

Tgt Ion:94 Resp: 1272

Ion	Ratio	Lower	Upper
94	100		
96	112.2	75.5	115.5
79	59.0	0.0	37.4#
0	0.0	0.0	0.0

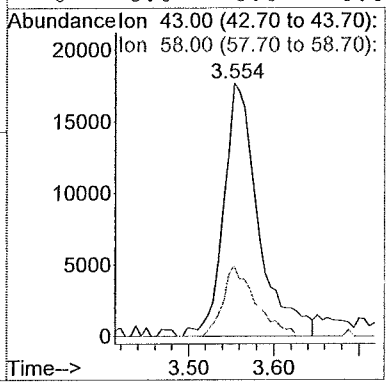


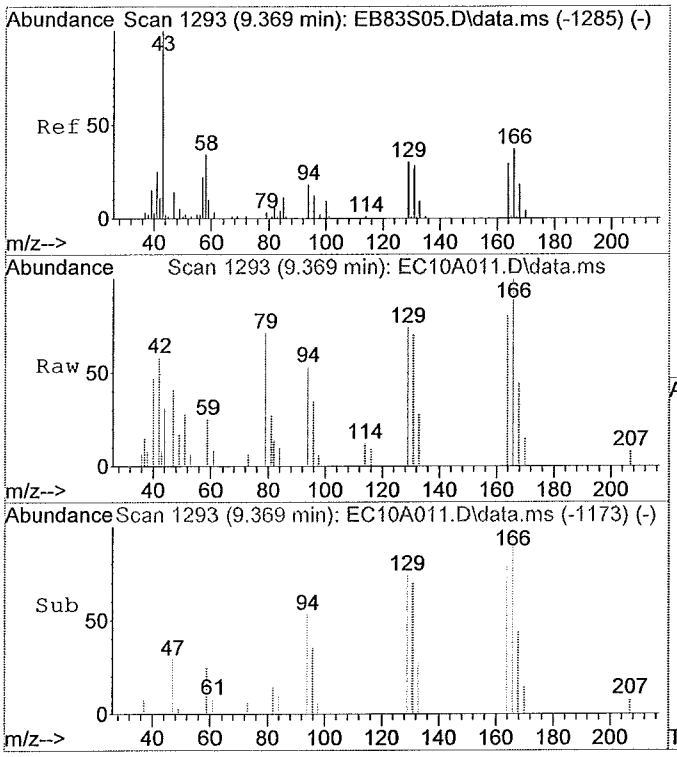


#13
Acetone
Concen: 10.65 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC10A011.D
Acq: 12/06/2018 11:35

Tgt Ion:43 Resp: 50087

Ion	Ratio	Lower	Upper
43	100		
58	26.1	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0

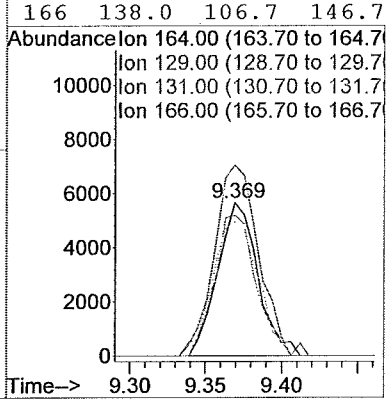




#48
Tetrachloroethene
Concen: 0.39 ug/L
RT: 9.37 min Scan# 1293
Delta R.T. 0.00 min
Lab File: EC10A011.D
Acq: 12/06/2018 11:35

Tgt Ion:164 Resp: 10345

Ion	Ratio	Lower	Upper
164	100		
129	97.7	82.4	122.4
131	97.4	78.7	118.7
166	138.0	106.7	146.7



Library Search Compound Report

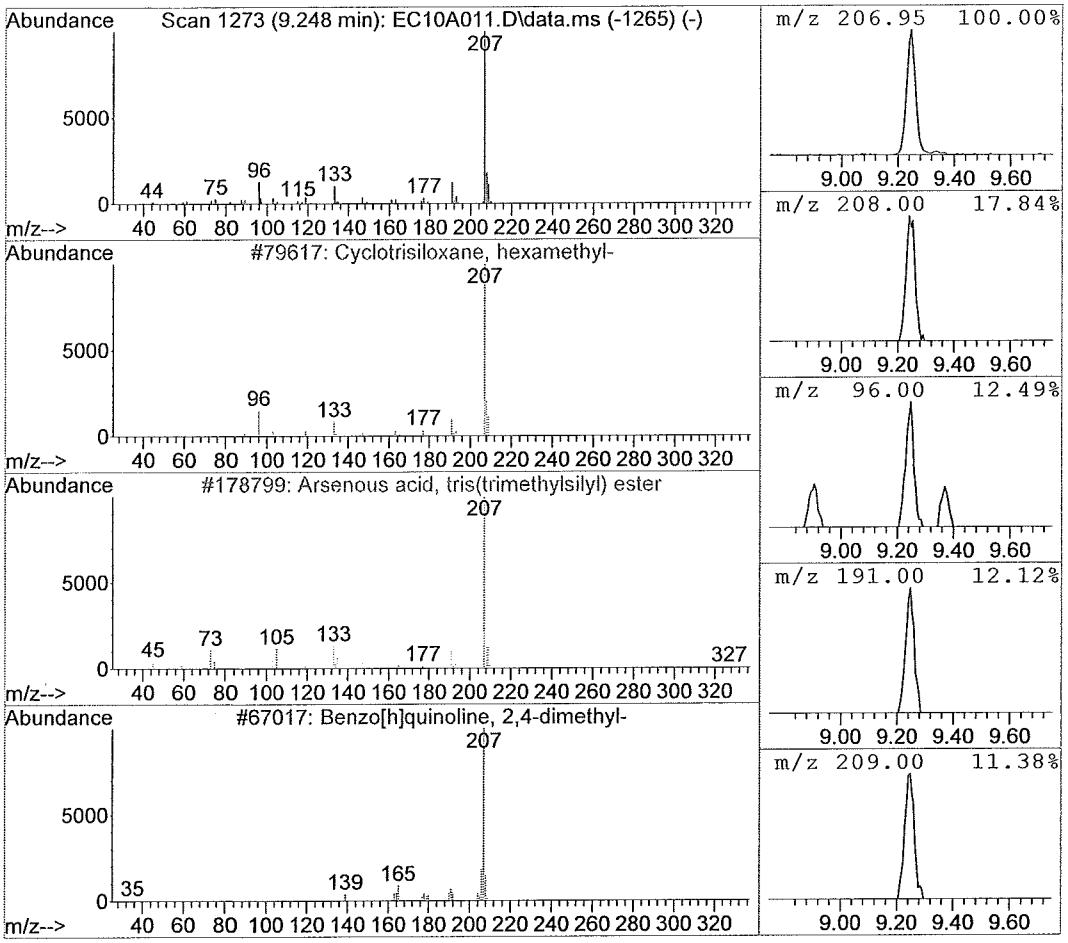
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC10A011.D Vial: 5
Acq Time : 12/06/2018 11:35 Operator: SLS
Sample : 1833368011 5P-MW110D-301 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
9.25	0.77 ug/L	225859	Chlorobenzene-d5	1465746

OB

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	79617	000541-05-9	91.00
2	Arsenous acid, tris(trimethylsilyl)	178799	055429-29-3	38.00
3	Benzo[h]quinoline, 2,4-dimethyl-	67017	000605-67-4	36.00
4	Cyclopentene-1-carboxylic acid, 4-[	171148	1000159-40-6	36.00
5	1H-Indole, 1-methyl-2-phenyl-	67010	003558-24-5	33.00



Library Search Compound Report

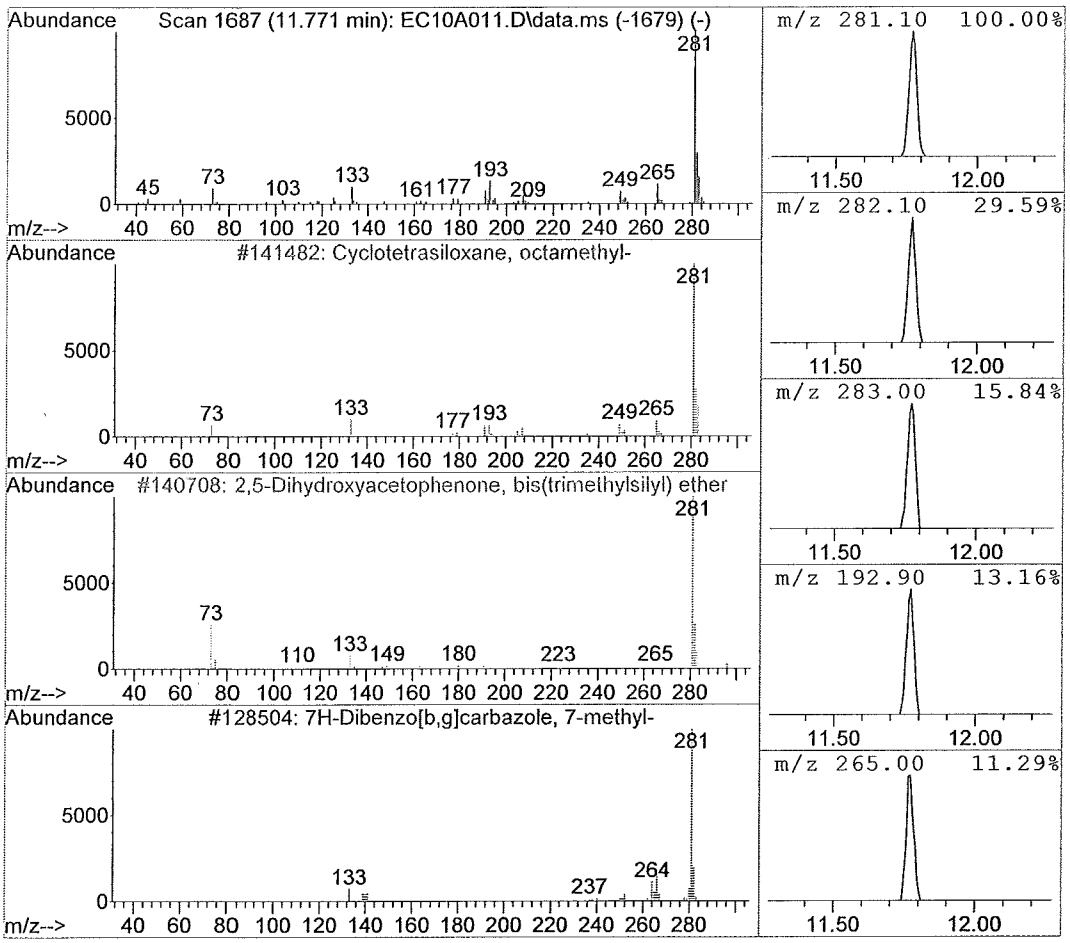
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC10A011.D Vial: 5
Acq Time : 12/06/2018 11:35 Operator: SLS
Sample : 1833368011 5P-MW110D-301 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
11.77	1.40 ug/L	278378	1,4-dichlorobenzene-d4	995471

CB

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	141482	000556-67-2	91.00
2	2,5-Dihydroxyacetophenone, bis(trim	140708	1000352-83-7	64.00
3	7H-Dibenzo[b,g]carbazole, 7-methyl-	128504	003557-49-1	64.00
4	Furazano[3,4-b][1,2,4]-triazolo[4,3	127991	311783-53-6	50.00
5	4H-1,2,4-Triazole-3-thiol, 4-allyl-	128309	031803-13-1	49.00



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

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC09A010
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.61	
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.19	J
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	17.	
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC09A010
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC09A010
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

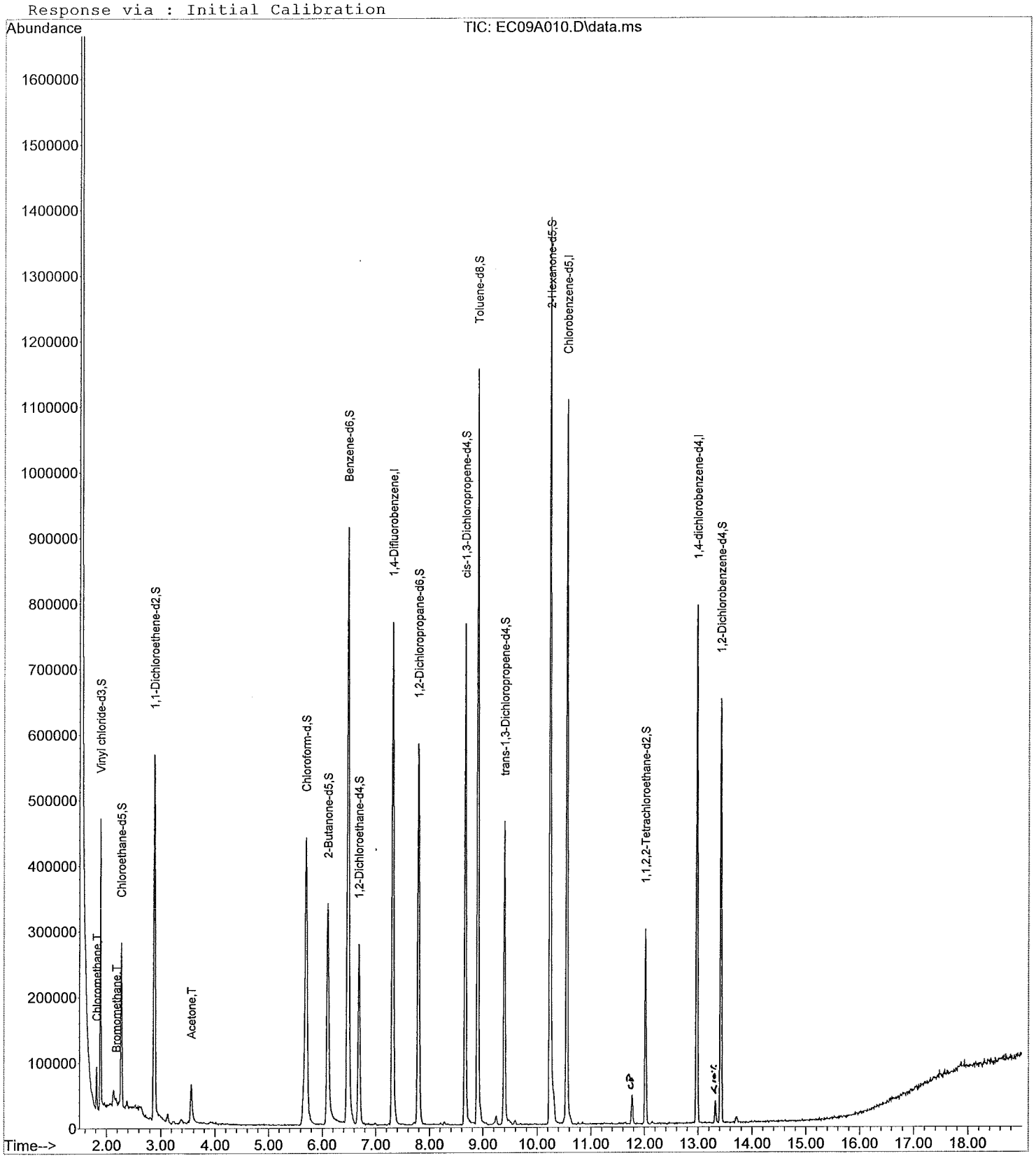
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC09A010.D Vial: 4
Acq Time : 12/06/2018 11:07 Operator: SLS
Sample : 1833368010 5P-MW110I-208 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:55:38 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC09A010.D Vial: 4
Acq Time : 12/06/2018 11:07 Operator: SLS
Sample : 1833368010 5P-MW110I-208 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:55:38 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	710074	5.00 ug/L	79.34
28) Chlorobenzene-d5	10.55	117	623321	5.00 ug/L	86.59
60) 1,4-dichlorobenzene-d4	12.98	152	205020	5.00 ug/L	79.95
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	306472	5.51 ug/L	110.22%
8) Chloroethane-d5	2.27	69	174530	5.74 ug/L	114.84%
11) 1,1-Dichloroethene-d2	2.88	63	419212	4.03 ug/L	80.53%
22) 2-Butanone-d5	6.10	46	655464	49.62 ug/L	99.24%
25) Chloroform-d	5.70	84	466130	5.23 ug/L	104.58%
27) 1,2-Dichloroethane-d4	6.68	65	240303	5.42 ug/L	108.50%
33) Benzene-d6	6.48	84	978220	5.12 ug/L	102.32%
37) 1,2-Dichloropropane-d6	7.79	67	277986	4.91 ug/L	98.17%
40) cis-1,3-Dichloropropene-d4	8.66	79	421625	4.84 ug/L	96.75%
42) trans-1,3-Dichloropropene-	9.39	79	238230	4.47 ug/L	89.45%
47) Toluene-d8	8.90	98	785963	4.93 ug/L	98.65%
50) 2-Hexanone-d5	10.24	63	466374	47.25 ug/L	94.51%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	146683	5.09 ug/L	101.72%
65) 1,2-Dichlorobenzene-d4	13.42	152	171874	5.21 ug/L	104.11%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	48231	0.6064 ug/L	98
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	2.18	94	3196	0.1911 ug/L #	89
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	3.55	43	107979	16.9241 ug/L	96
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

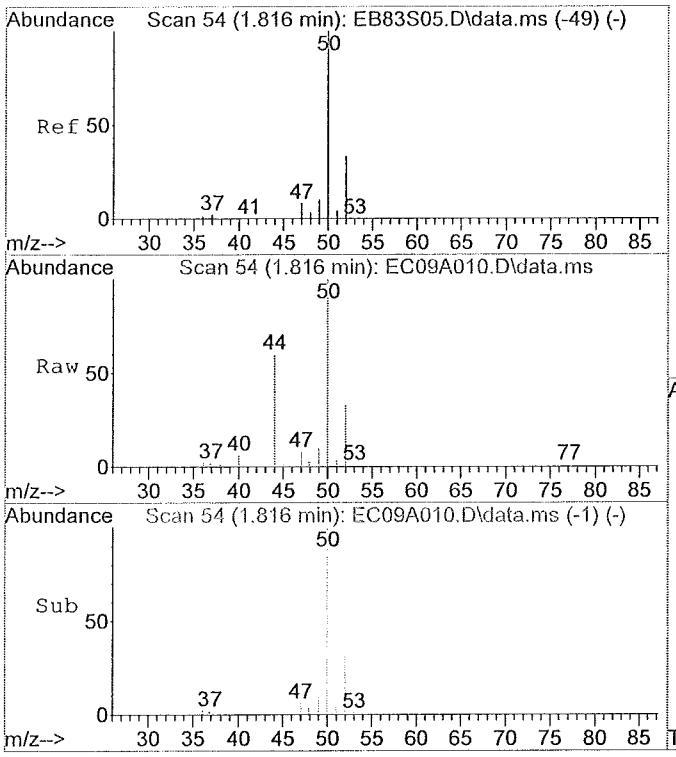
Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC09A010.D Vial: 4
Acq Time : 12/06/2018 11:07 Operator: SLS
Sample : 1833368010 5P-MW110I-208 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:55:38 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.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	157		Not Detected	
67) 1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68) 1,2,3-Trichlorobenzene	0.00	180		Not Detected	

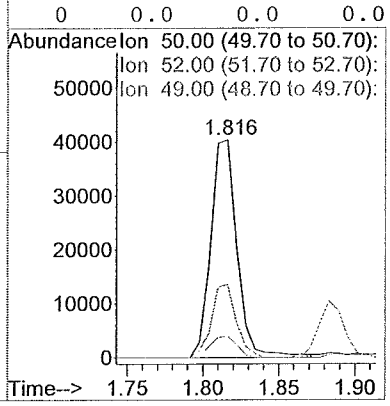
(#) = qualifier out of range (m) = manual integration

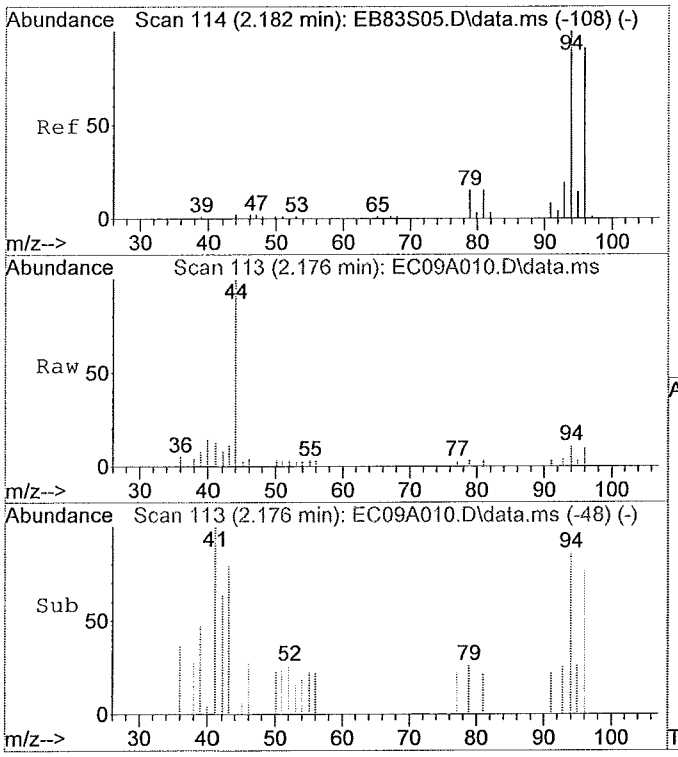


#3
Chloromethane
Concen: 0.61 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC09A010.D
Acq: 12/06/2018 11:07

Tgt Ion:50 Resp: 48231

Ion	Ratio	Lower	Upper
50	100		
52	31.7	12.5	52.5
49	9.4	0.0	30.2
0	0.0	0.0	0.0

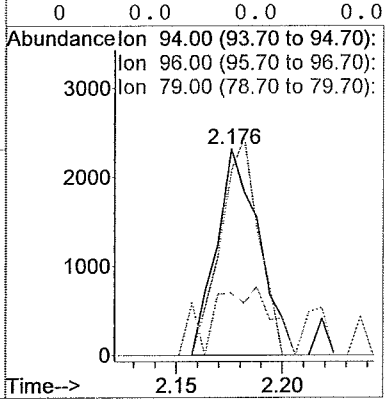


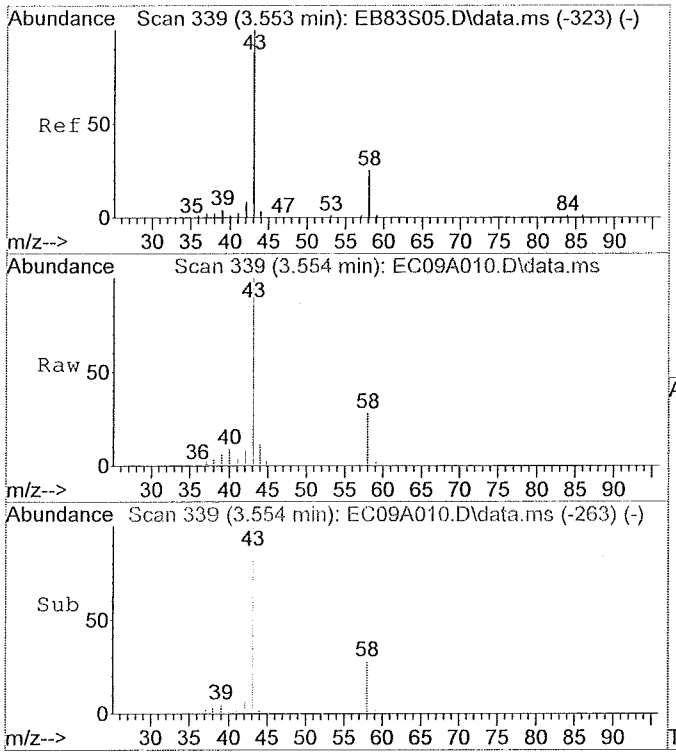


#6
Bromomethane
Concen: 0.19 ug/L
RT: 2.18 min Scan# 113
Delta R.T. -0.01 min
Lab File: EC09A010.D
Acq: 12/06/2018 11:07

Tgt Ion:94 Resp: 3196

Ion	Ratio	Lower	Upper
94	100		
96	95.8	75.5	115.5
79	47.5	0.0	37.4#
0	0.0	0.0	0.0

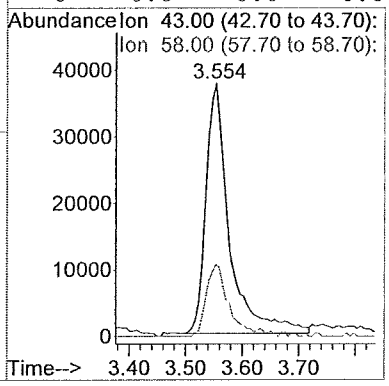




#13
Acetone
Concen: 16.92 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC09A010.D
Acq: 12/06/2018 11:07

Tgt Ion:43 Resp: 107979

Ion	Ratio	Lower	Upper
43	100		
58	26.6	8.6	48.6
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.
TB-112918

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC35E001
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/07/2018
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	2.1	
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.31	J
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	19.	
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-112918

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC35E001
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/07/2018
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-112918

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS
Case No.: 5POINTS
MA No.:
SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC35E001
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS
ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/07/2018
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		

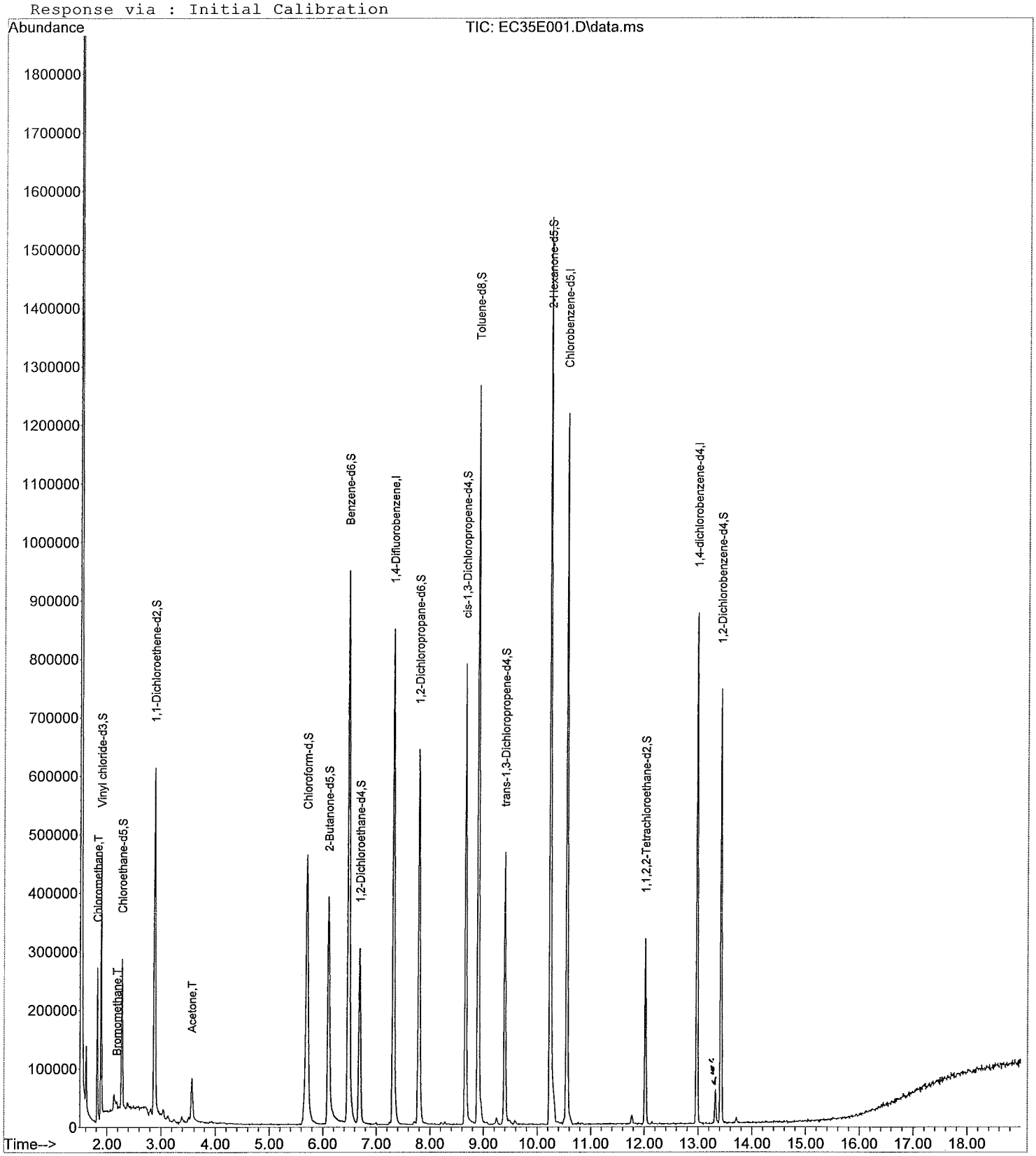
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC35E001.D Vial: 26
Acq Time : 12/07/2018 12:48 Operator: CQC
Sample : 1833368001 TB-112918 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:30:11 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC35E001.D Vial: 26
Acq Time : 12/07/2018 12:48 Operator: CQC
Sample : 1833368001 TB-112918 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:30:11 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	779778	5.00 ug/L	87.13
28) Chlorobenzene-d5	10.55	117	688520	5.00 ug/L	95.65
60) 1,4-dichlorobenzene-d4	12.98	152	231972	5.00 ug/L	90.46
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	320014	5.24 ug/L	104.80%
8) Chloroethane-d5	2.28	69	189898	5.69 ug/L	113.78%
11) 1,1-Dichloroethene-d2	2.88	63	447434	3.91 ug/L	78.27%
22) 2-Butanone-d5	6.10	46	727214	50.13 ug/L	100.26%
25) Chloroform-d	5.71	84	503842	5.15 ug/L	102.94%
27) 1,2-Dichloroethane-d4	6.69	65	264896	5.45 ug/L	108.91%
33) Benzene-d6	6.48	84	1043320	4.94 ug/L	98.79%
37) 1,2-Dichloropropane-d6	7.80	67	310769	4.97 ug/L	99.36%
40) cis-1,3-Dichloropropene-d4	8.66	79	438538	4.56 ug/L	91.10%
42) trans-1,3-Dichloropropene-	9.39	79	245661	4.18 ug/L	83.50%
47) Toluene-d8	8.90	98	863609	4.91 ug/L	98.13%
50) 2-Hexanone-d5	10.24	63	530329	48.65 ug/L	97.29%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	154709	4.86 ug/L	97.12%
65) 1,2-Dichlorobenzene-d4	13.42	152	193650	5.18 ug/L	103.67%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	179265	2.0524 ug/L	99
4) Vinyl chloride	0.00	62		Not Detected	
6) Bromomethane	2.18	94	5653	0.3078 ug/L	91
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	3.55	43	134588	19.2090 ug/L	95
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

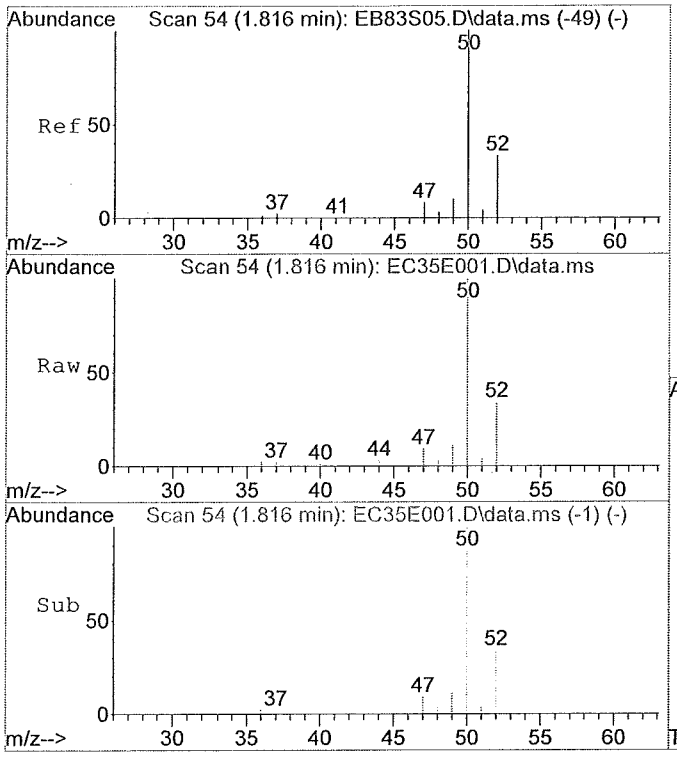
Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC35E001.D Vial: 26
Acq Time : 12/07/2018 12:48 Operator: CQC
Sample : 1833368001 TB-112918 Inst : 5975-E
Misc : 1833368 A Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:30:11 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.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	157		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

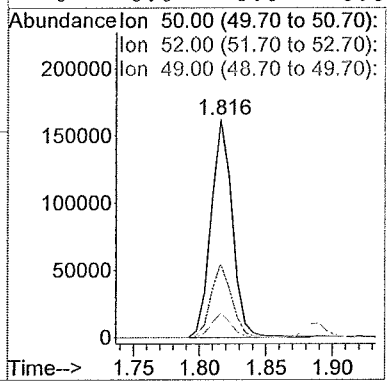
(#) = qualifier out of range (m) = manual integration

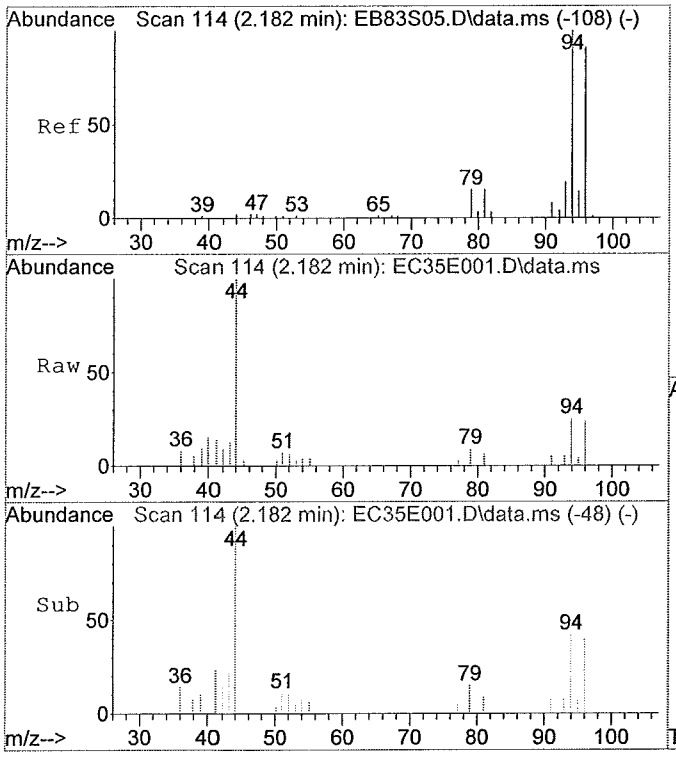


#3
Chloromethane
Concen: 2.05 ug/L
RT: 1.82 min Scan# 54
Delta R.T. 0.00 min
Lab File: EC35E001.D
Acq: 12/07/2018 12:48

Tgt Ion:50 Resp: 179265

Ion	Ratio	Lower	Upper
50	100		
52	33.5	12.5	52.5
49	10.3	0.0	30.2
0	0.0	0.0	0.0

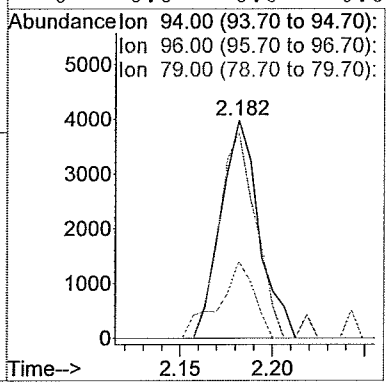


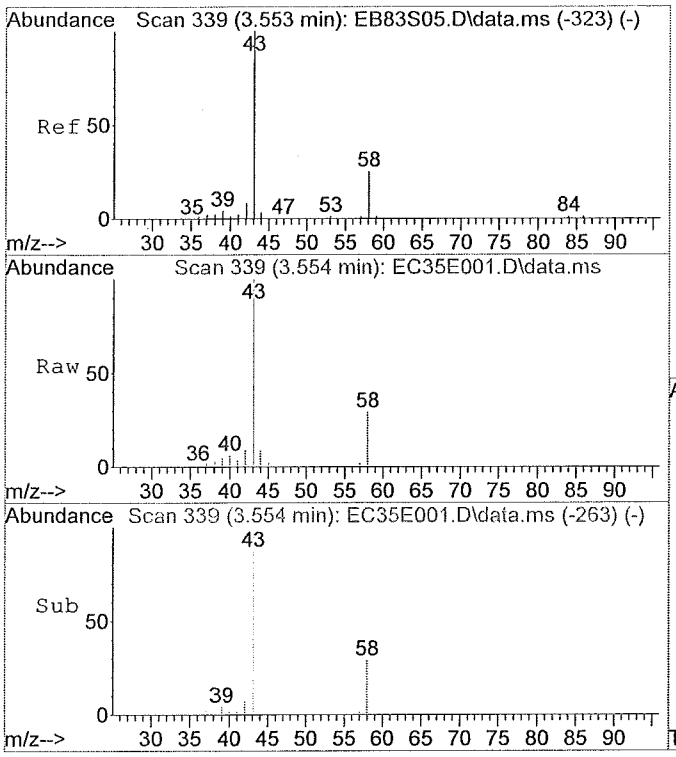


#6
Bromomethane
Concen: 0.31 ug/L
RT: 2.18 min Scan# 114
Delta R.T. 0.00 min
Lab File: EC35E001.D
Acq: 12/07/2018 12:48

Tgt Ion:94 Resp: 5653

Ion	Ratio	Lower	Upper
94	100		
96	91.2	75.5	115.5
79	32.7	0.0	37.4
0	0.0	0.0	0.0

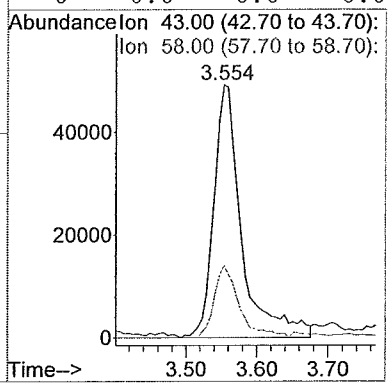




#13
Acetone
Concen: 19.21 ug/L
RT: 3.55 min Scan# 339
Delta R.T. 0.00 min
Lab File: EC35E001.D
Acq: 12/07/2018 12:48

Tgt Ion:43 Resp: 134588

Ion	Ratio	Lower	Upper
43	100		
58	25.7	8.6	48.6
0	0.0	0.0	0.0
0	0.0	0.0	0.0



FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Calibration Date(s): 12/04/2018 12/04/2018

GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 12:52 14:50

Length: 30 (m)

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

LAB FILE ID: EB85S005 RRF 0.5 = EB85S005 RRF 1 = EB84S01
RRF 5 = EB83S05 RRF 10 = EB86S10 RRF 20 = EB87S20

ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
Dichlorodifluoromethane	0.271	0.306	0.260	0.253	0.241	0.266	9.3
Chloromethane	0.598	0.631	0.549	0.519	0.502	0.560	9.6
Vinyl chloride	0.433	0.450	0.394	0.371	0.353	0.400	10.1
Bromomethane	0.125	0.140	0.116	0.110	0.097	0.118	13.6
Chloroethane	0.182	0.201	0.177	0.176	0.164	0.180	7.5
Trichlorofluoromethane	0.321	0.411	0.370	0.364	0.357	0.364	8.8
1,1-Dichloroethene	0.278	0.308	0.289	0.289	0.280	0.289	4.1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.320	0.348	0.300	0.297	0.282	0.309	8.2
Acetone	0.040	0.050	0.044	0.050	0.040	0.045	11.8
Carbon disulfide	0.986	1.037	0.966	0.936	0.916	0.968	4.8
Methyl acetate	0.140	0.156	0.144	0.157	0.135	0.146	6.7
Methylene chloride	0.357	0.357	0.302	0.303	0.285	0.321	10.5
trans-1,2-Dichloroethene	0.339	0.349	0.322	0.320	0.309	0.328	4.9
Methyl tert-butyl ether	0.611	0.678	0.647	0.670	0.650	0.651	4.0
1,1-Dichloroethane	0.679	0.697	0.647	0.650	0.625	0.659	4.3
cis-1,2-Dichloroethene	0.332	0.344	0.326	0.325	0.320	0.329	2.8
2-Butanone	0.076	0.086	0.089	0.100	0.088	0.088	9.6
Bromochloromethane	0.148	0.158	0.153	0.153	0.144	0.151	3.7
Chloroform	0.577	0.601	0.566	0.559	0.527	0.566	4.8
1,1,1-Trichloroethane	0.554	0.610	0.589	0.584	0.558	0.579	4.0
Cyclohexane	0.653	0.702	0.767	0.821	0.824	0.753	10.0
Carbon tetrachloride	0.557	0.563	0.569	0.582	0.558	0.566	1.8
Benzene	1.484	1.562	1.525	1.573	1.511	1.531	2.4
1,2-Dichloroethane	0.382	0.425	0.377	0.385	0.361	0.386	6.1
Trichloroethene	0.412	0.434	0.442	0.452	0.436	0.435	3.4
Methylcyclohexane	0.449	0.493	0.574	0.625	0.639	0.556	14.8
1,2-Dichloropropane	0.392	0.428	0.410	0.426	0.400	0.411	3.9
Bromodichloromethane	0.482	0.499	0.479	0.489	0.480	0.486	1.7
cis-1,3-Dichloropropene	0.492	0.534	0.551	0.593	0.586	0.551	7.5
4-Methyl-2-Pentanone	0.212	0.239	0.271	0.296	0.282	0.260	13.1
Toluene	1.266	1.379	1.463	1.546	1.506	1.432	7.8
trans-1,3-Dichloropropene	0.403	0.435	0.468	0.492	0.477	0.455	7.8
1,1,2-Trichloroethane	0.230	0.246	0.242	0.244	0.236	0.240	2.8
Tetrachloroethene	0.282	0.300	0.289	0.291	0.275	0.287	3.2

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Calibration Date(s): 12/04/2018 12/04/2018

GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 12:52 14:50

Length: 30 (m)

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

LAB FILE ID: EB85S005 RRF 0.5 = EB85S005 RRF 1 = EB84S01
RRF 5 = EB83S05 RRF 10 = EB86S10 RRF 20 = EB87S20

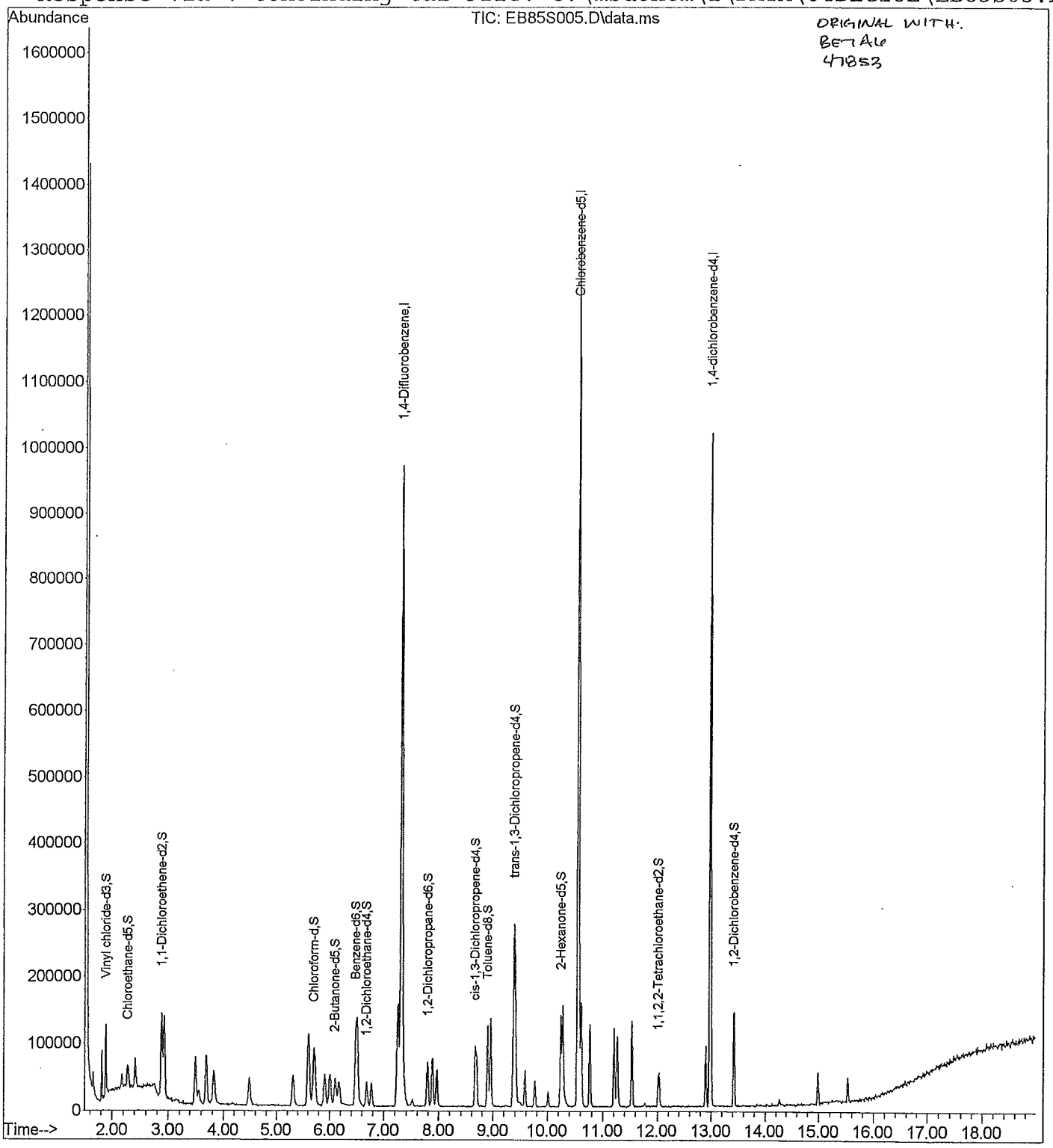
ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
2-Hexanone	0.158	0.191	0.206	0.221	0.212	0.198	12.5
Dibromochloromethane	0.299	0.319	0.311	0.318	0.306	0.311	2.7
1,2-Dibromoethane	0.198	0.225	0.211	0.220	0.211	0.213	5.0
Chlorobenzene	0.928	0.973	0.955	0.961	0.929	0.949	2.1
Ethylbenzene	1.297	1.466	1.483	1.551	1.509	1.461	6.7
o-Xylene	0.418	0.464	0.511	0.538	0.525	0.491	10.1
m,p-Xylene	0.462	0.514	0.561	0.594	0.579	0.542	10.0
Styrene	0.614	0.726	0.829	0.896	0.888	0.790	15.2
Bromoform	0.366	0.450	0.422	0.445	0.423	0.421	7.9
Isopropylbenzene	1.090	1.182	1.350	1.397	1.329	1.270	10.1
1,1,2,2-Tetrachloroethane	0.226	0.233	0.222	0.220	0.207	0.221	4.3
1,3-Dichlorobenzene	1.445	1.552	1.432	1.466	1.411	1.461	3.8
1,4-Dichlorobenzene	1.496	1.669	1.557	1.566	1.475	1.552	4.9
1,2-Dichlorobenzene	1.186	1.314	1.243	1.218	1.136	1.220	5.5
1,2-Dibromo-3-chloropropane	0.071	0.101	0.088	0.086	0.080	0.085	13.1
1,2,4-Trichlorobenzene	0.516	0.580	0.509	0.463	0.459	0.505	9.8
1,2,3-Trichlorobenzene	0.433	0.446	0.395	0.348	0.369	0.398	10.4
Vinyl chloride-d3	0.418	0.457	0.313	0.393	0.377	0.392	13.6
Chloroethane-d5	0.218	0.243	0.188	0.216	0.205	0.214	9.3
1,1-Dichloroethene-d2	0.713	0.758	0.711	0.754	0.730	0.733	3.0
2-Butanone-d5	0.083	0.103	0.087	0.102	0.090	0.093	9.6
Chloroform-d	0.627	0.682	0.612	0.625	0.593	0.628	5.3
1,2-Dichloroethane-d4	0.314	0.350	0.295	0.309	0.291	0.312	7.4
Benzene-d6	1.435	1.568	1.512	1.599	1.555	1.534	4.1
1,2-Dichloropropane-d6	0.444	0.468	0.444	0.464	0.451	0.454	2.5
Toluene-d8	1.117	1.233	1.291	1.385	1.366	1.278	8.5
trans-1,3-Dichloropropene-d4	0.377	0.428	0.430	0.452	0.449	0.427	7.0
2-Hexanone-d5	0.059	0.077	0.079	0.091	0.090	0.079	16.5
1,1,2,2-Tetrachloroethane-d2	0.222	0.255	0.230	0.233	0.217	0.231	6.3
1,2-Dichlorobenzene-d4	0.824	0.873	0.799	0.789	0.742	0.805	6.0

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB85S005.D Vial: 4
Acq Time : 12/04/2018 13:54 Operator: CQC
Sample : VSTD0.5ET VSTD0.5ET 0.5 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:14:05 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal File: C:\msdchem\1\DATA\04DEC18E\EB83S05.D



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB85S005.D Vial: 4
Acq Time : 12/04/2018 13:54 Operator: CQC
Sample : VSTD0.5ET VSTD0.5ET 0.5 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:14:05 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	894757	5.0000 ug/L	99.97
28) Chlorobenzene-d5	10.55	117	746511	5.0000 ug/L	103.70
60) 1,4-dichlorobenzene-d4	12.98	152	259063	5.0000 ug/L	101.03
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	37404	0.6674 ug/L	13.35%#
8) Chloroethane-d5	2.27	69	19542	0.5807 ug/L	11.61%#
11) 1,1-Dichloroethene-d2	2.88	63	63839	0.5017 ug/L	10.03%#
22) 2-Butanone-d5	6.10	46	74624	4.8112 ug/L	9.62%#
25) Chloroform-d	5.71	84	56060	0.5116 ug/L	10.23%#
27) 1,2-Dichloroethane-d4	6.69	65	28130	0.5325 ug/L	10.65%#
33) Benzene-d6	6.48	84	107100	0.4744 ug/L	9.49%#
37) 1,2-Dichloropropane-d6	7.79	67	33152	0.5005 ug/L	10.01%#
40) cis-1,3-Dichloropropene-d4	8.66	79	47688	0.4708 ug/L	9.42%
42) trans-1,3-Dichloropropene-	9.39	79	28156	0.4385 ug/L	8.77%#
47) Toluene-d8	8.90	98	83387	0.4327 ug/L	8.65%#
50) 2-Hexanone-d5	10.24	63	43914	3.7421 ug/L	7.48%#
59) 1,1,2,2-Tetrachloroethane-	12.02	84	16549	0.4821 ug/L	9.64%#
65) 1,2-Dichlorobenzene-d4	13.42	152	21338	0.5155 ug/L	10.31%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.66	85	24267	0.5212 ug/L #	96
3) Chloromethane	1.82	50	53548	0.5453 ug/L	98
4) Vinyl chloride	1.89	62	38709	0.5488 ug/L	98
6) Bromomethane	2.18	94	11213	0.5419 ug/L	92
7) Chloroethane	2.30	64	16305	0.5162 ug/L	91
9) Trichlorofluoromethane	2.41	101	28731	0.4340 ug/L	94
10) 1,1-Dichloroethene	2.89	96	24875	0.4805 ug/L	94
12) 1,1,2-Trichloro-1,2,2-trif	2.93	101	28619	0.5323 ug/L	97
13) Acetone	3.56	43	35735	4.5022 ug/L	98
14) Carbon disulfide	2.93	76	88235	0.5106 ug/L	85
15) Methyl acetate	3.71	43	12510	0.4859 ug/L	95
16) Methylene chloride	3.50	84	31907	0.5906 ug/L	98
17) trans-1,2-Dichloroethene	3.69	96	30362	0.5263 ug/L	95
18) Methyl tert-butyl ether	3.83	73	54645	0.4720 ug/L	90
19) 1,1-Dichloroethane	4.49	63	60749	0.5245 ug/L	98
20) cis-1,2-Dichloroethene	5.32	96	29671	0.5092 ug/L	97
21) 2-Butanone	6.17	43	67934	4.2815 ug/L	97
23) Bromochloromethane	5.60	128	13232	0.4834 ug/L	93
24) Chloroform	5.72	83	51615	0.5093 ug/L	97
26) 1,2-Dichloroethane	6.77	62	34195	0.5070 ug/L	99

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB85S005.D Vial: 4
Acq Time : 12/04/2018 13:54 Operator: CQC
Sample : VSTD0.5ET VSTD0.5ET 0.5 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:14:05 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 1,1,1-Trichloroethane	6.00	97	41380	0.4706 ug/L	96
30) Cyclohexane	5.61	56	48727	0.4253 ug/L	99
31) Carbon tetrachloride	5.91	117	41593	0.4897 ug/L	99
32) Benzene	6.51	78	110753	0.4863 ug/L #	98
34) Trichloroethene	7.25	130	30767	0.4666 ug/L	97
35) Methylcyclohexane	7.25	83	33534	0.3914 ug/L	96
36) 1,2-Dichloropropane	7.89	63	29255	0.4783 ug/L	94
38) Bromodichloromethane	7.96	83	35961	0.5029 ug/L	97
39) cis-1,3-Dichloropropene	8.69	75	36692	0.4458 ug/L	94
41) trans-1,3-Dichloropropene	9.42	75	30115	0.4309 ug/L	97
43) 1,1,2-Trichloroethane	9.58	97	17133	0.4744 ug/L	96
44) Dibromochloromethane	9.77	129	22322	0.4807 ug/L	99
45) 4-Methyl-2-pentanone	9.39	43	158177	3.9060 ug/L	98
46) Toluene	8.95	91	94511	0.4326 ug/L	98
48) Tetrachloroethene	9.37	164	21056	0.4877 ug/L	98
49) 2-Hexanone	10.28	43	118202	3.8459 ug/L	96
51) 1,2-Dibromoethane	10.01	107	14748	0.4671 ug/L #	96
52) Chlorobenzene	10.57	112	69243	0.4855 ug/L	89
53) Ethylbenzene	10.61	91	96797	0.4373 ug/L	98
54) m,p-Xylene	10.76	106	34478	0.4118 ug/L	98
55) o-Xylene	11.21	106	31200	0.4087 ug/L	97
56) Styrene	11.26	104	45817	0.3704 ug/L	98
57) Isopropylbenzene	11.53	105	81379	0.4037 ug/L	98
58) 1,1,2,2-Tetrachloroethane	12.03	83	16846	0.5092 ug/L	98
61) Bromoform	11.28	173	9479	0.4331 ug/L #	90
62) 1,3-Dichlorobenzene	12.90	146	37426	0.5045 ug/L	97
63) 1,4-Dichlorobenzene	12.99	146	38755	0.4805 ug/L #	64
64) 1,2-Dichlorobenzene	13.43	146	30725	0.4769 ug/L	99
66) 1,2-Dibromo-3-chloropropan	14.27	157	1827	0.3987 ug/L #	70
67) 1,2,4-Trichlorobenzene	14.98	180	13373	0.5070 ug/L	99
68) 1,2,3-Trichlorobenzene	15.53	180	11221	0.5482 ug/L	97

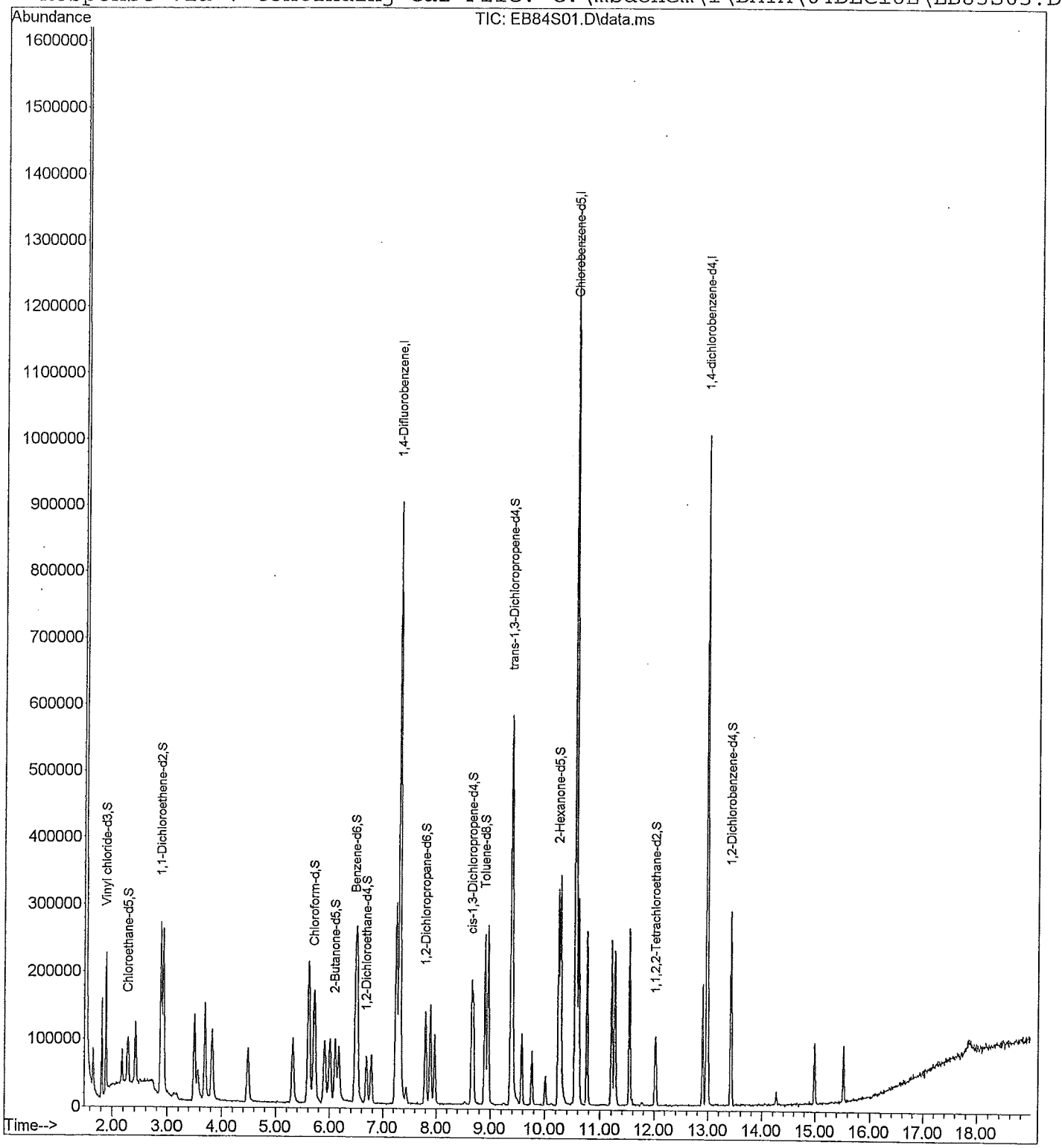
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB84S01.D Vial: 3
Acq Time : 12/04/2018 13:27 Operator: CQC
Sample : VSTD001ET VSTD001ET 1.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:46:10 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal File: C:\msdchem\1\DATA\04DEC18E\EB83S05.D



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB84S01.D Vial: 3
Acq Time : 12/04/2018 13:27 Operator: CQC
Sample : VSTD001ET VSTD001ET 1.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:46:10 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	835526	5.0000 ug/L	93.35
28) Chlorobenzene-d5	10.55	117	703707	5.0000 ug/L	97.76
60) 1,4-dichlorobenzene-d4	12.98	152	237996	5.0000 ug/L	92.81
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	76381	1.4595 ug/L	29.19%#
8) Chloroethane-d5	2.27	69	40547	1.2902 ug/L	25.80%#
11) 1,1-Dichloroethene-d2	2.88	63	126634	1.0657 ug/L	21.31%#
22) 2-Butanone-d5	6.10	46	172528	11.9118 ug/L	23.82%#
25) Chloroform-d	5.70	84	113973	1.1137 ug/L	22.27%#
27) 1,2-Dichloroethane-d4	6.68	65	58447	1.1849 ug/L	23.70%#
33) Benzene-d6	6.48	84	220680	1.0370 ug/L	20.74%#
37) 1,2-Dichloropropane-d6	7.79	67	65868	1.0549 ug/L	21.10%#
40) cis-1,3-Dichloropropene-d4	8.66	79	96942	1.0154 ug/L	20.31%
42) trans-1,3-Dichloropropene-	9.39	79	60262	0.9955 ug/L	19.91%#
47) Toluene-d8	8.90	98	173495	0.9551 ug/L	19.10%#
50) 2-Hexanone-d5	10.24	63	108609	9.8180 ug/L	19.64%#
59) 1,1,2,2-Tetrachloroethane-	12.02	84	35865	1.1083 ug/L	22.17%#
65) 1,2-Dichlorobenzene-d4	13.42	152	41551	1.0928 ug/L	21.86%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.66	85	51094	1.1751 ug/L #	97
3) Chloromethane	1.82	50	105479	1.1503 ug/L	100
4) Vinyl chloride	1.89	62	75163	1.1411 ug/L	97
6) Bromomethane	2.18	94	23414	1.2118 ug/L	97
7) Chloroethane	2.29	64	33507	1.1359 ug/L	98
9) Trichlorofluoromethane	2.41	101	68633	1.1102 ug/L	94
10) 1,1-Dichloroethene	2.89	96	51497	1.0652 ug/L	96
12) 1,1,2-Trichloro-1,2,2-trif	2.93	101	58138	1.1580 ug/L	99
13) Acetone	3.56	43	84127	11.3505 ug/L	97
14) Carbon disulfide	2.93	76	173235	1.0736 ug/L	99
15) Methyl acetate	3.70	43	26009	1.0817 ug/L	96
16) Methylene chloride	3.49	84	59690	1.1831 ug/L	99
17) trans-1,2-Dichloroethene	3.68	96	58372	1.0836 ug/L	98
18) Methyl tert-butyl ether	3.82	73	113246	1.0476 ug/L	99
19) 1,1-Dichloroethane	4.49	63	116409	1.0763 ug/L	99
20) cis-1,2-Dichloroethene	5.31	96	57476	1.0563 ug/L	98
21) 2-Butanone	6.16	43	144438	9.7485 ug/L	99
23) Bromochloromethane	5.60	128	26477	1.0359 ug/L	96
24) Chloroform	5.72	83	100492	1.0620 ug/L	96
26) 1,2-Dichloroethane	6.77	62	70987	1.1271 ug/L	100

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB84S01.D Vial: 3
Acq Time : 12/04/2018 13:27 Operator: CQC
Sample : VSTD001ET VSTD001ET 1.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:46:10 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	6.00	97	85795	1.0351 ug/L		95
30)	Cyclohexane	5.60	56	98774	0.9145 ug/L		99
31)	Carbon tetrachloride	5.91	117	79265	0.9900 ug/L		99
32)	Benzene	6.51	78	219886	1.0243 ug/L	#	97
34)	Trichloroethene	7.26	130	61093	0.9829 ug/L		97
35)	Methylcyclohexane	7.24	83	69429	0.8597 ug/L		97
36)	1,2-Dichloropropane	7.88	63	60274	1.0454 ug/L		97
38)	Bromodichloromethane	7.97	83	70172	1.0410 ug/L		98
39)	cis-1,3-Dichloropropene	8.69	75	75111	0.9681 ug/L		98
41)	trans-1,3-Dichloropropene	9.41	75	61247	0.9297 ug/L		95
43)	1,1,2-Trichloroethane	9.58	97	34663	1.0182 ug/L		98
44)	Dibromochloromethane	9.77	129	44914	1.0260 ug/L		99
45)	4-Methyl-2-pentanone	9.39	43	336376	8.8116 ug/L		98
46)	Toluene	8.95	91	194095	0.9425 ug/L		99
48)	Tetrachloroethene	9.37	164	42157	1.0358 ug/L		97
49)	2-Hexanone	10.28	43	268653	9.2727 ug/L		97
51)	1,2-Dibromoethane	10.01	107	31700	1.0650 ug/L		97
52)	Chlorobenzene	10.57	112	136958	1.0188 ug/L		93
53)	Ethylbenzene	10.61	91	206378	0.9891 ug/L		99
54)	m,p-Xylene	10.77	106	72324	0.9164 ug/L		98
55)	o-Xylene	11.20	106	65342	0.9081 ug/L		94
56)	Styrene	11.26	104	102171	0.8762 ug/L		99
57)	Isopropylbenzene	11.53	105	166407	0.8758 ug/L		96
58)	1,1,2,2-Tetrachloroethane	12.03	83	32803	1.0518 ug/L		97
61)	Bromoform	11.28	173	21425	1.0655 ug/L		99
62)	1,3-Dichlorobenzene	12.90	146	73896	1.0843 ug/L		99
63)	1,4-Dichlorobenzene	12.99	146	79429	1.0719 ug/L	#	86
64)	1,2-Dichlorobenzene	13.43	146	62560	1.0570 ug/L		97
66)	1,2-Dibromo-3-chloropropan	14.27	157	4806	1.1416 ug/L		93
67)	1,2,4-Trichlorobenzene	14.99	180	27623	1.1400 ug/L		98
68)	1,2,3-Trichlorobenzene	15.53	180	21227	1.1288 ug/L		97

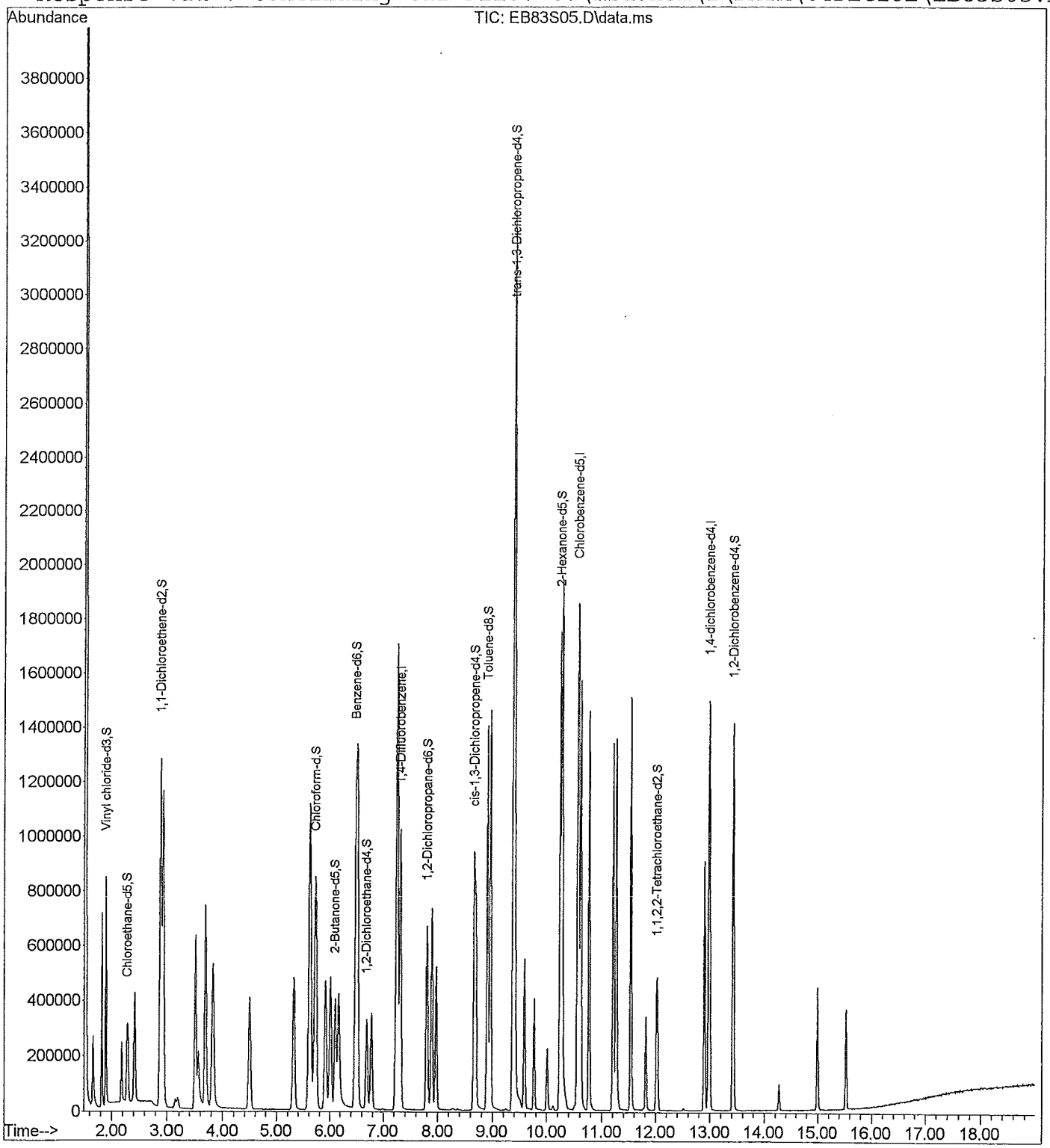
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB83S05.D Vial: 2
Acq Time : 12/04/2018 12:52 Operator: CQC
Sample : VSTD005ET VSTD005ET 5.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970; 2.0 uL of 44568 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:14:38 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal File: C:\msdchem\1\DATA\04DEC18E\EB83S05.D



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB83S05.D Vial: 2
Acq Time : 12/04/2018 12:52 Operator: CQC
Sample : VSTD005ET VSTD005ET 5.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970; 2.0 uL of 44568 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:14:38 2018 Results File: ETRACEE8.RES

Quant Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE7.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	895004	5.0000 ug/L	100.00
28) Chlorobenzene-d5	10.55	117	719853	5.0000 ug/L	100.00
60) 1,4-dichlorobenzene-d4	12.98	152	256428	5.0000 ug/L	100.00
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	280299	5.0000 ug/L	100.00%
8) Chloroethane-d5	2.28	69	168320	5.0000 ug/L	100.00%
11) 1,1-Dichloroethene-d2	2.88	63	636432	5.0000 ug/L	100.00%
22) 2-Butanone-d5	6.10	46	775740	50.0000 ug/L	100.00%
25) Chloroform-d	5.71	84	548090	5.0000 ug/L	100.00%
27) 1,2-Dichloroethane-d4	6.69	65	264186	5.0000 ug/L	100.00%
33) Benzene-d6	6.48	84	1088492	5.0000 ug/L	100.00%
37) 1,2-Dichloropropane-d6	7.79	67	319358	5.0000 ug/L	100.00%
40) cis-1,3-Dichloropropene-d4	8.66	79	488320	5.0000 ug/L	100.00%
42) trans-1,3-Dichloropropene-	9.39	79	309613	5.0000 ug/L	100.00%
47) Toluene-d8	8.90	98	929116	5.0000 ug/L	100.00%
50) 2-Hexanone-d5	10.24	63	565801	50.0000 ug/L	100.00%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	165511	5.0000 ug/L	100.00%
65) 1,2-Dichlorobenzene-d4	13.42	152	204841	5.0000 ug/L	100.00%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.66	85	232871	5.0000 ug/L #	100
3) Chloromethane	1.82	50	491137	5.0000 ug/L	100
4) Vinyl chloride	1.90	62	352791	5.0000 ug/L	100
6) Bromomethane	2.18	94	103486	5.0000 ug/L	100
7) Chloroethane	2.30	64	157991	5.0000 ug/L	100
9) Trichlorofluoromethane	2.42	101	331117	5.0000 ug/L	100
10) 1,1-Dichloroethene	2.90	96	258929	5.0000 ug/L	100
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	268896	5.0000 ug/L	100
13) Acetone	3.55	43	396969	50.0000 ug/L	100
14) Carbon disulfide	2.93	76	864210	5.0000 ug/L	100
15) Methyl acetate	3.71	43	128777	5.0000 ug/L	100
16) Methylene chloride	3.50	84	270211	5.0000 ug/L	100
17) trans-1,2-Dichloroethene	3.69	96	288504	5.0000 ug/L	100
18) Methyl tert-butyl ether	3.82	73	578975	5.0000 ug/L	100
19) 1,1-Dichloroethane	4.49	63	579278	5.0000 ug/L	100
20) cis-1,2-Dichloroethene	5.31	96	291435	5.0000 ug/L	100
21) 2-Butanone	6.17	43	793555	50.0000 ug/L	100
23) Bromochloromethane	5.60	128	136890	5.0000 ug/L	100
24) Chloroform	5.72	83	506824	5.0000 ug/L	100
26) 1,2-Dichloroethane	6.77	62	337336	5.0000 ug/L	100

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB83S05.D Vial: 2
Acq Time : 12/04/2018 12:52 Operator: CQC
Sample : VSTD005ET VSTD005ET 5.0 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970; 2.0 uL of 44568 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 13:14:38 2018 Results File: ETRACEE8.RES

Quant Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE7.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	1,1,1-Trichloroethane	6.01	97	423918	5.0000	ug/L		100
30)	Cyclohexane	5.61	56	552412	5.0000	ug/L		100
31)	Carbon tetrachloride	5.91	117	409533	5.0000	ug/L		100
32)	Benzene	6.51	78	1098008	5.0000	ug/L	#	100
34)	Trichloroethene	7.26	130	317919	5.0000	ug/L		100
35)	Methylcyclohexane	7.25	83	413070	5.0000	ug/L		100
36)	1,2-Dichloropropane	7.88	63	294896	5.0000	ug/L		100
38)	Bromodichloromethane	7.96	83	344779	5.0000	ug/L		100
39)	cis-1,3-Dichloropropene	8.69	75	396817	5.0000	ug/L		100
41)	trans-1,3-Dichloropropene	9.41	75	336955	5.0000	ug/L		100
43)	1,1,2-Trichloroethane	9.58	97	174121	5.0000	ug/L		100
44)	Dibromochloromethane	9.76	129	223898	5.0000	ug/L		100
45)	4-Methyl-2-pentanone	9.39	43	1952502	50.0000	ug/L		100
46)	Toluene	8.95	91	1053310	5.0000	ug/L		100
48)	Tetrachloroethene	9.37	164	208175	5.0000	ug/L		100
49)	2-Hexanone	10.28	43	1481861	50.0000	ug/L		100
51)	1,2-Dibromoethane	10.01	107	152245	5.0000	ug/L		100
52)	Chlorobenzene	10.57	112	687582	5.0000	ug/L		100
53)	Ethylbenzene	10.61	91	1067224	5.0000	ug/L		100
54)	m,p-Xylene	10.77	106	403642	5.0000	ug/L		100
55)	o-Xylene	11.21	106	368026	5.0000	ug/L		100
56)	Styrene	11.26	104	596436	5.0000	ug/L		100
57)	Isopropylbenzene	11.53	105	971845	5.0000	ug/L		100
58)	1,1,2,2-Tetrachloroethane	12.03	83	159522	5.0000	ug/L		100
61)	Bromoform	11.28	173	108326	5.0000	ug/L		100
62)	1,3-Dichlorobenzene	12.90	146	367159	5.0000	ug/L		100
63)	1,4-Dichlorobenzene	12.99	146	399196	5.0000	ug/L		100
64)	1,2-Dichlorobenzene	13.43	146	318856	5.0000	ug/L		100
66)	1,2-Dibromo-3-chloropropan	14.27	157	22679	5.0000	ug/L		100
67)	1,2,4-Trichlorobenzene	14.99	180	130542	5.0000	ug/L		100
68)	1,2,3-Trichlorobenzene	15.53	180	101311	5.0000	ug/L		100

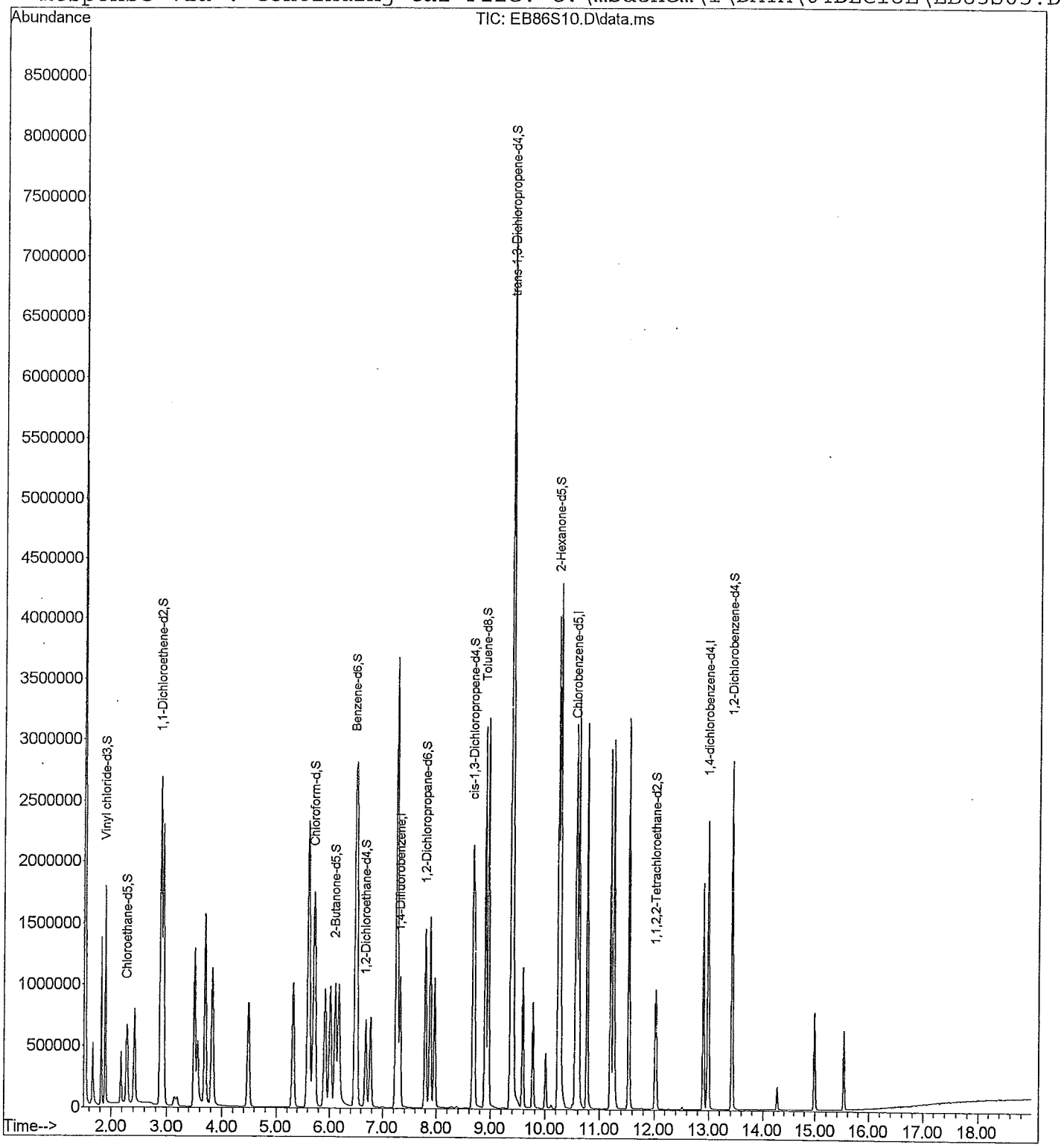
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB86S10.D Vial: 5
Acq Time : 12/04/2018 14:22 Operator: CQC
Sample : VSTD010ET VSTD010ET 10 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 10 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:41:59 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal File: C:\msdchem\1\DATA\04DEC18E\EB83S05.D



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB86S10.D Vial: 5
Acq Time : 12/04/2018 14:22 Operator: CQC
Sample : VSTD010ET VSTD010ET 10 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 10 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:41:59 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	925947	5.0000 ug/L	103.46
28) Chlorobenzene-d5	10.55	117	735646	5.0000 ug/L	102.19
60) 1,4-dichlorobenzene-d4	12.98	152	256532	5.0000 ug/L	100.04
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	727861	12.5498 ug/L	251.00%#
8) Chloroethane-d5	2.28	69	400135	11.4889 ug/L	229.78%#
11) 1,1-Dichloroethene-d2	2.88	63	1395432	10.5966 ug/L	211.93%#
22) 2-Butanone-d5	6.10	46	1880165	117.1355 ug/L	234.27%#
25) Chloroform-d	5.71	84	1156998	10.2021 ug/L	204.04%#
27) 1,2-Dichloroethane-d4	6.69	65	572051	10.4649 ug/L	209.30%#
33) Benzene-d6	6.48	84	2352381	10.5737 ug/L	211.47%#
37) 1,2-Dichloropropane-d6	7.80	67	682987	10.4636 ug/L	209.27%#
40) cis-1,3-Dichloropropene-d4	8.66	79	1095131	10.9725 ug/L	219.45%
42) trans-1,3-Dichloropropene-	9.39	79	665667	10.5192 ug/L	210.38%#
47) Toluene-d8	8.90	98	2037449	10.7291 ug/L	214.58%#
50) 2-Hexanone-d5	10.24	63	1336700	115.5886 ug/L	231.18%#
59) 1,1,2,2-Tetrachloroethane-	12.02	84	343178	10.1447 ug/L	202.89%#
65) 1,2-Dichlorobenzene-d4	13.42	152	404866	9.8784 ug/L	197.57%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.66	85	467618	9.7048 ug/L	99
3) Chloromethane	1.82	50	961963	9.4660 ug/L	100
4) Vinyl chloride	1.90	62	687354	9.4161 ug/L	98
6) Bromomethane	2.18	94	204396	9.5455 ug/L	98
7) Chloroethane	2.30	64	325221	9.9484 ug/L	98
9) Trichlorofluoromethane	2.42	101	674275	9.8416 ug/L	99
10) 1,1-Dichloroethene	2.90	96	535475	9.9946 ug/L	97
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	550764	9.8990 ug/L	98
13) Acetone	3.55	43	933688	113.6721 ug/L	97
14) Carbon disulfide	2.93	76	1733382	9.6936 ug/L	97
15) Methyl acetate	3.70	43	291172	10.9275 ug/L	99
16) Methylene chloride	3.50	84	561687	10.0462 ug/L	99
17) trans-1,2-Dichloroethene	3.69	96	592356	9.9229 ug/L	99
18) Methyl tert-butyl ether	3.82	73	1241650	10.3645 ug/L	100
19) 1,1-Dichloroethane	4.49	63	1203056	10.0371 ug/L	100
20) cis-1,2-Dichloroethene	5.31	96	601362	9.9725 ug/L	98
21) 2-Butanone	6.17	43	1846231	112.4392 ug/L	100
23) Bromochloromethane	5.60	128	283926	10.0240 ug/L	99
24) Chloroform	5.72	83	1035181	9.8712 ug/L	99
26) 1,2-Dichloroethane	6.78	62	712445	10.2070 ug/L	99

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB86S10.D Vial: 5
Acq Time : 12/04/2018 14:22 Operator: CQC
Sample : VSTD010ET VSTD010ET 10 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 10 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 14:41:59 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	6.01	97	859223	9.9167 ug/L		99
30)	Cyclohexane	5.61	56	1208563	10.7041 ug/L		100
31)	Carbon tetrachloride	5.91	117	855691	10.2229 ug/L		98
32)	Benzene	6.51	78	2314193	10.3119 ug/L	#	99
34)	Trichloroethene	7.26	130	665186	10.2370 ug/L		99
35)	Methylcyclohexane	7.25	83	918849	10.8834 ug/L		97
36)	1,2-Dichloropropane	7.88	63	626911	10.4012 ug/L		99
38)	Bromodichloromethane	7.97	83	719478	10.2099 ug/L		99
39)	cis-1,3-Dichloropropene	8.69	75	872769	10.7610 ug/L		99
41)	trans-1,3-Dichloropropene	9.41	75	724327	10.5174 ug/L		100
43)	1,1,2-Trichloroethane	9.58	97	359145	10.0917 ug/L		99
44)	Dibromochloromethane	9.77	129	467189	10.2091 ug/L		99
45)	4-Methyl-2-pentanone	9.39	43	4349933	109.0024 ug/L		99
46)	Toluene	8.95	91	2275275	10.5687 ug/L		99
48)	Tetrachloroethene	9.37	164	427495	10.0473 ug/L		98
49)	2-Hexanone	10.28	43	3255452	107.4852 ug/L		100
51)	1,2-Dibromoethane	10.00	107	323868	10.4081 ug/L		98
52)	Chlorobenzene	10.57	112	1413575	10.0586 ug/L		99
53)	Ethylbenzene	10.61	91	2282524	10.4642 ug/L		100
54)	m,p-Xylene	10.77	106	873857	10.5923 ug/L		100
55)	o-Xylene	11.20	106	790914	10.5147 ug/L		98
56)	Styrene	11.26	104	1318096	10.8126 ug/L		99
57)	Isopropylbenzene	11.53	105	2054681	10.3441 ug/L		99
58)	1,1,2,2-Tetrachloroethane	12.03	83	323055	9.9083 ug/L		100
61)	Bromoform	11.28	173	228193	10.5284 ug/L		100
62)	1,3-Dichlorobenzene	12.90	146	752086	10.2378 ug/L		98
63)	1,4-Dichlorobenzene	12.99	146	803206	10.0562 ug/L		98
64)	1,2-Dichlorobenzene	13.43	146	624969	9.7962 ug/L		99
66)	1,2-Dibromo-3-chloropropan	14.27	157	44205	9.7418 ug/L		97
67)	1,2,4-Trichlorobenzene	14.99	180	237431	9.0904 ug/L		99
68)	1,2,3-Trichlorobenzene	15.53	180	178352	8.7986 ug/L		99

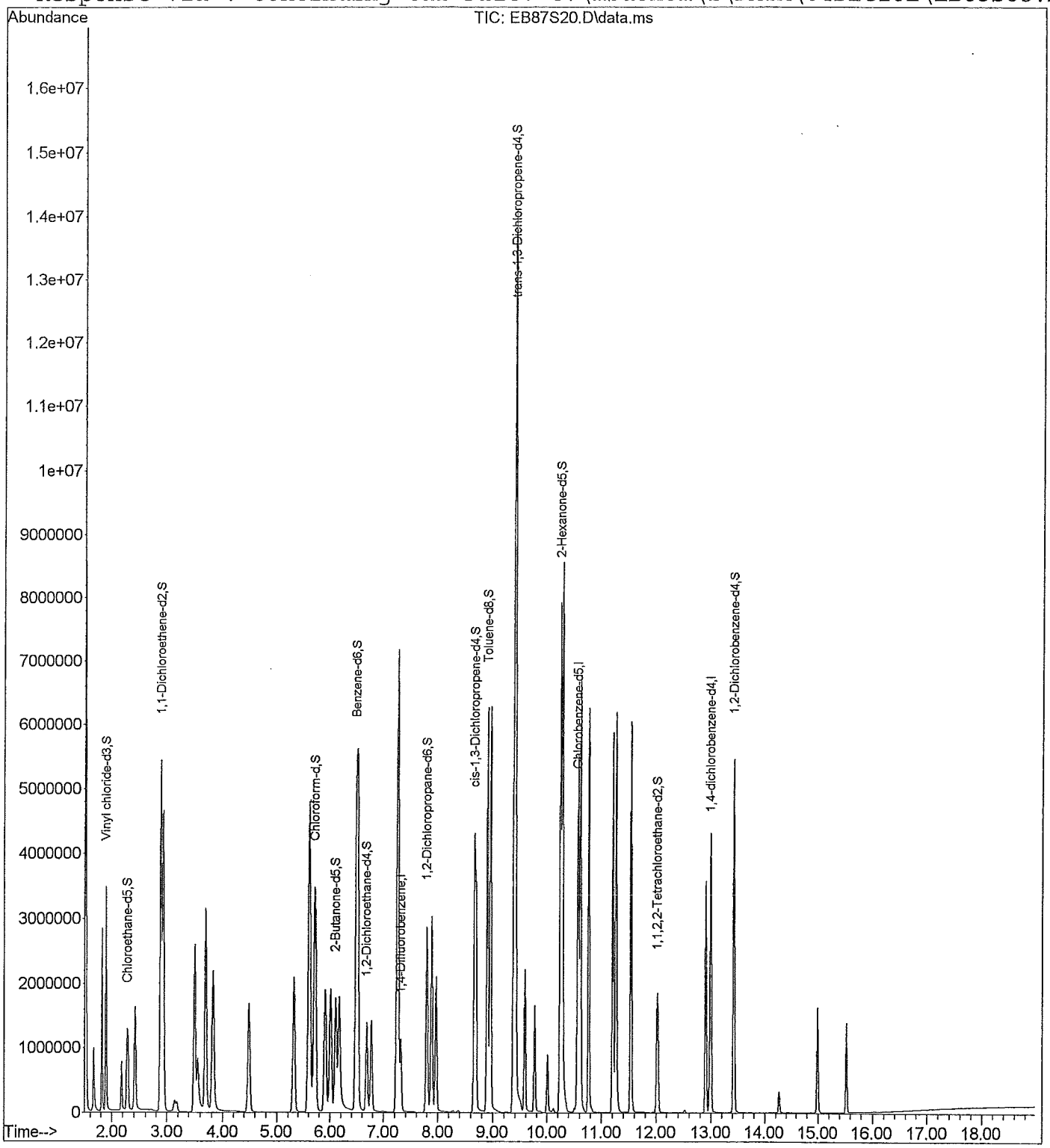
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB87S20.D Vial: 6
Acq Time : 12/04/2018 14:50 Operator: CQC
Sample : VSTD020ET VSTD020ET 20 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 20 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 15:09:26 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:29 2018
Response via : Continuing Cal File: C:\msdchem\1\DATA\04DEC18E\EB83S05.D



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB87S20.D Vial: 6
Acq Time : 12/04/2018 14:50 Operator: CQC
Sample : VSTD020ET VSTD020ET 20 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 20 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 15:09:26 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) 1,4-Difluorobenzene	7.32	114	968219	5.0000	ug/L	108.18
28) Chlorobenzene-d5	10.55	117	762123	5.0000	ug/L	105.87
60) 1,4-dichlorobenzene-d4	12.98	152	266040	5.0000	ug/L	103.75
System Monitoring Compounds						%Recovery
5) Vinyl chloride-d3	1.89	65	1458634	24.0517	ug/L	481.03%#
8) Chloroethane-d5	2.28	69	793900	21.7997	ug/L	435.99%#
11) 1,1-Dichloroethene-d2	2.88	63	2825956	20.5227	ug/L	410.45%#
22) 2-Butanone-d5	6.10	46	3495463	208.2619	ug/L	416.52%#
25) Chloroform-d	5.71	84	2295477	19.3572	ug/L	387.14%#
27) 1,2-Dichloroethane-d4	6.69	65	1128215	19.7380	ug/L	394.76%#
33) Benzene-d6	6.48	84	4741582	20.5725	ug/L	411.45%#
37) 1,2-Dichloropropane-d6	7.79	67	1376080	20.3495	ug/L	406.99%#
40) cis-1,3-Dichloropropene-d4	8.66	79	2272505	21.9780	ug/L	439.56%#
42) trans-1,3-Dichloropropene-	9.39	79	1367375	20.8573	ug/L	417.15%#
47) Toluene-d8	8.90	98	4163171	21.1613	ug/L	423.23%#
50) 2-Hexanone-d5	10.24	63	2755712	230.0164	ug/L	460.03%#
59) 1,1,2,2-Tetrachloroethane-	12.02	84	661772	18.8830	ug/L	377.66%#
65) 1,2-Dichlorobenzene-d4	13.42	152	789191	18.5675	ug/L	371.35%#
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.66	85	931699	18.4919	ug/L	98
3) Chloromethane	1.82	50	1945909	18.3122	ug/L	100
4) Vinyl chloride	1.90	62	1368390	17.9273	ug/L	98
6) Bromomethane	2.18	94	377419	16.8563	ug/L	99
7) Chloroethane	2.30	64	633850	18.5428	ug/L	97
9) Trichlorofluoromethane	2.42	101	1381112	19.2783	ug/L	100
10) 1,1-Dichloroethene	2.89	96	1086106	19.3871	ug/L	97
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	1091036	18.7532	ug/L	98
13) Acetone	3.55	43	1532787	178.4623	ug/L	97
14) Carbon disulfide	2.93	76	3547488	18.9724	ug/L	97
15) Methyl acetate	3.70	43	523234	18.7793	ug/L	100
16) Methylene chloride	3.50	84	1105420	18.9080	ug/L	99
17) trans-1,2-Dichloroethene	3.69	96	1196082	19.1615	ug/L	99
18) Methyl tert-butyl ether	3.82	73	2515707	20.0827	ug/L	97
19) 1,1-Dichloroethane	4.49	63	2419393	19.3037	ug/L	99
20) cis-1,2-Dichloroethene	5.31	96	1237987	19.6334	ug/L	99
21) 2-Butanone	6.16	43	3420331	199.2106	ug/L	100
23) Bromochloromethane	5.60	128	556762	18.7983	ug/L	99
24) Chloroform	5.72	83	2041839	18.6203	ug/L	98
26) 1,2-Dichloroethane	6.77	62	1398708	19.1640	ug/L	99

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB87S20.D Vial: 6
Acq Time : 12/04/2018 14:50 Operator: CQC
Sample : VSTD020ET VSTD020ET 20 ug/L ICS Inst : 5975-E
Misc : 2.5 uL of 44967; 20 uL of 44968, 970/50 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 04 15:09:26 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 04 13:14:32 2018
Response via : Continuing Cal C:\msdchem\1\DATA\04DEC18E\EB83S05.D
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	6.01	97	1701254	18.9529 ug/L		99
30)	Cyclohexane	5.61	56	2510804	21.4654 ug/L		100
31)	Carbon tetrachloride	5.91	117	1702224	19.6298 ug/L		98
32)	Benzene	6.51	78	4605350	19.8082 ug/L	#	99
34)	Trichloroethene	7.26	130	1329981	19.7569 ug/L		99
35)	Methylcyclohexane	7.25	83	1947424	22.2651 ug/L		95
36)	1,2-Dichloropropane	7.88	63	1219323	19.5271 ug/L		100
38)	Bromodichloromethane	7.96	83	1462295	20.0301 ug/L		99
39)	cis-1,3-Dichloropropene	8.69	75	1787479	21.2735 ug/L		99
41)	trans-1,3-Dichloropropene	9.41	75	1452959	20.3643 ug/L		97
43)	1,1,2-Trichloroethane	9.58	97	720517	19.5426 ug/L		98
44)	Dibromochloromethane	9.77	129	933453	19.6893 ug/L		99
45)	4-Methyl-2-pentanone	9.39	43	8604798	208.1316 ug/L		99
46)	Toluene	8.95	91	4590258	20.5812 ug/L		100
48)	Tetrachloroethene	9.37	164	838002	19.0110 ug/L		98
49)	2-Hexanone	10.27	43	6467799	206.1284 ug/L		100
51)	1,2-Dibromoethane	10.01	107	643250	19.9538 ug/L		100
52)	Chlorobenzene	10.57	112	2832894	19.4578 ug/L		100
53)	Ethylbenzene	10.61	91	4600040	20.3561 ug/L		100
54)	m,p-Xylene	10.77	106	1765360	20.6550 ug/L		100
55)	o-Xylene	11.20	106	1599297	20.5229 ug/L		99
56)	Styrene	11.26	104	2707114	21.4354 ug/L		99
57)	Isopropylbenzene	11.53	105	4051186	19.6867 ug/L		99
58)	1,1,2,2-Tetrachloroethane	12.03	83	630925	18.6787 ug/L		100
61)	Bromoform	11.28	173	450668	20.0499 ug/L		98
62)	1,3-Dichlorobenzene	12.90	146	1501388	19.7073 ug/L		99
63)	1,4-Dichlorobenzene	12.99	146	1569676	18.9501 ug/L		96
64)	1,2-Dichlorobenzene	13.43	146	1208652	18.2682 ug/L		99
66)	1,2-Dibromo-3-chloropropan	14.27	157	85484	18.1656 ug/L		97
67)	1,2,4-Trichlorobenzene	14.98	180	487918	18.0130 ug/L		99
68)	1,2,3-Trichlorobenzene	15.53	180	393192	18.7041 ug/L		98

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

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Calibration Date(s): 11/30/2018 11/30/2018

GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 09:09 11:01

Length: 30 (m)

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

LAB FILE ID: FB63S005 RRF 0.5 = FB63S005 RRF 1 = FB64S01
RRF 5 = FB65S05 RRF 10 = FB66S10 RRF 20 = FB67S20

ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
Dichlorodifluoromethane	0.308	0.306	0.258	0.240	0.230	0.269	13.6
Chloromethane	0.500	0.476	0.389	0.357	0.338	0.412	17.5
Vinyl chloride	0.434	0.418	0.364	0.338	0.322	0.375	13.1
Bromomethane	0.299	0.281	0.228	0.215	0.206	0.246	17.0
Chloroethane	0.294	0.283	0.228	0.206	0.202	0.243	17.8
Trichlorofluoromethane	0.619	0.565	0.500	0.463	0.451	0.519	13.7
1,1-Dichloroethene	0.318	0.355	0.285	0.264	0.260	0.296	13.5
1,1,2-Trichloro-1,2,2-trifluoroethane	0.345	0.334	0.283	0.250	0.238	0.290	16.6
Acetone	0.031	0.038	0.028	0.029	0.028	0.031	13.8
Carbon disulfide	1.226	1.165	0.978	0.888	0.853	1.022	16.2
Methyl acetate	0.091	0.100	0.089	0.090	0.087	0.091	5.5
Methylene chloride	0.332	0.308	0.251	0.232	0.222	0.269	18.0
trans-1,2-Dichloroethene	0.331	0.342	0.282	0.267	0.266	0.298	12.3
Methyl tert-butyl ether	0.472	0.478	0.425	0.442	0.458	0.455	4.8
1,1-Dichloroethane	0.614	0.633	0.516	0.478	0.468	0.542	14.2
cis-1,2-Dichloroethene	0.322	0.306	0.268	0.259	0.263	0.284	10.0
2-Butanone	0.059	0.060	0.054	0.056	0.055	0.057	4.6
Bromochloromethane	0.161	0.144	0.130	0.120	0.115	0.134	14.1
Chloroform	0.667	0.662	0.538	0.496	0.473	0.567	16.2
1,1,1-Trichloroethane	0.601	0.533	0.522	0.504	0.476	0.527	8.8
Cyclohexane	0.382	0.441	0.451	0.499	0.529	0.460	12.3
Carbon tetrachloride	0.572	0.546	0.471	0.445	0.424	0.492	13.1
Benzene	1.385	1.390	1.366	1.341	1.309	1.358	2.5
1,2-Dichloroethane	0.350	0.336	0.275	0.261	0.252	0.295	15.3
Trichloroethene	0.467	0.425	0.428	0.434	0.429	0.437	4.0
Methylcyclohexane	0.249	0.295	0.413	0.426	0.466	0.370	25.1
1,2-Dichloropropane	0.336	0.319	0.306	0.304	0.298	0.313	4.9
Bromodichloromethane	0.497	0.468	0.434	0.423	0.401	0.444	8.6
cis-1,3-Dichloropropene	0.381	0.376	0.413	0.438	0.446	0.411	7.8
4-Methyl-2-Pentanone	0.136	0.144	0.162	0.175	0.179	0.159	11.7
Toluene	1.271	1.289	1.453	1.502	1.516	1.406	8.4
trans-1,3-Dichloropropene	0.321	0.332	0.364	0.369	0.360	0.349	6.1
1,1,2-Trichloroethane	0.206	0.213	0.197	0.194	0.188	0.200	4.9
Tetrachloroethene	0.330	0.343	0.333	0.327	0.323	0.331	2.3

FORM 6A-OR
GC/MS INITIAL CALIBRATION DATA

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Instrument ID: 5975-F Calibration Date(s): 11/30/2018 11/30/2018
GC Column: RTX-VMS ID: 0.25 (mm) Calibration Time(s): 09:09 11:01
Length: 30 (m)
Heated Purge: (Y/N) Y Purge Volume: 25.0 (mL)

LAB FILE ID: FB63S005 RRF 0.5 = FB63S005 RRF 1 = FB64S01
RRF 5 = FB65S05 RRF 10 = FB66S10 RRF 20 = FB67S20

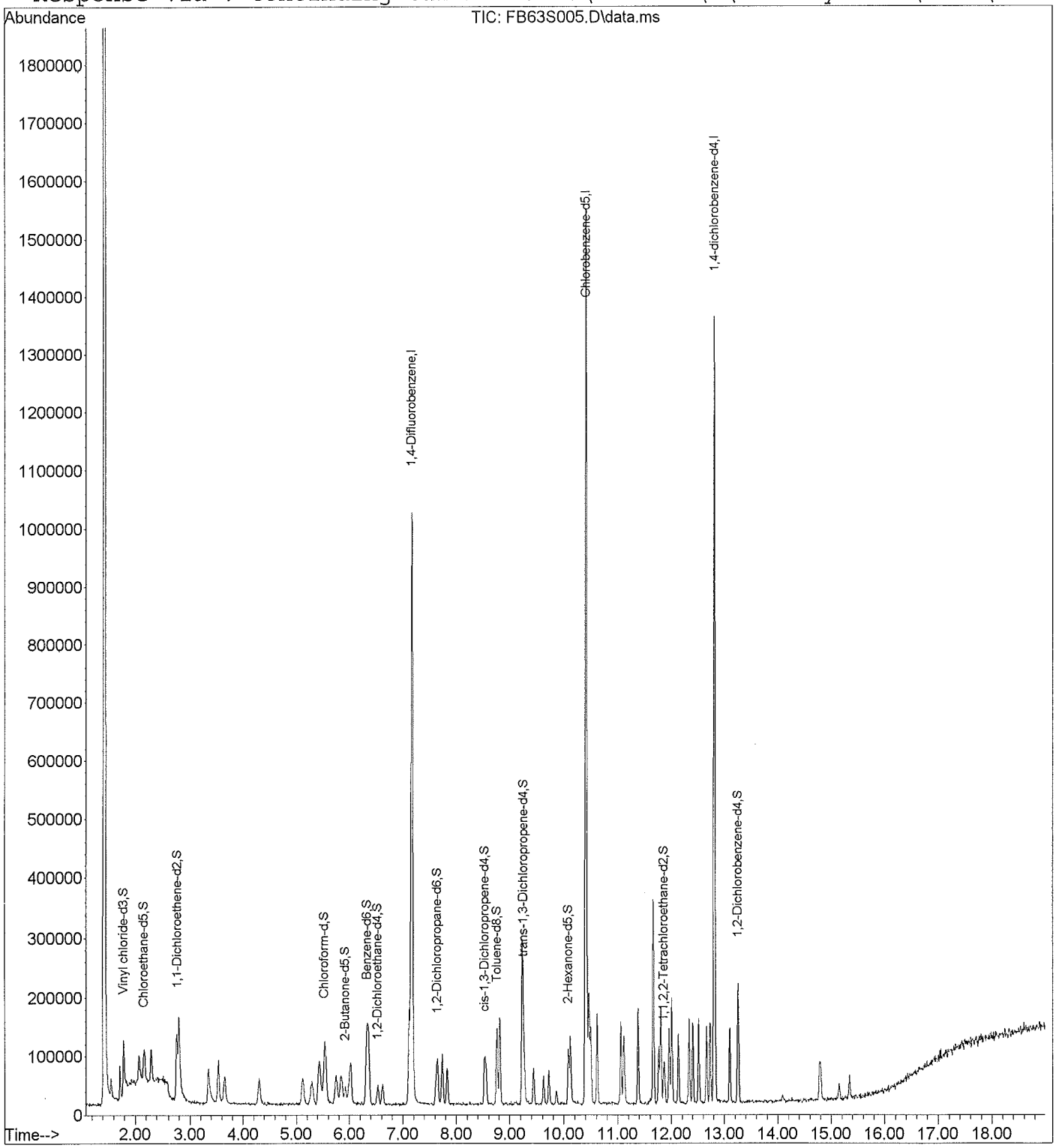
ANALYTE	RRF 0.5	RRF 1	RRF 5	RRF 10	RRF 20	$\overline{RRF}$	%RSD
2-Hexanone	0.098	0.109	0.129	0.139	0.137	0.123	14.7
Dibromochloromethane	0.304	0.314	0.280	0.269	0.264	0.286	7.7
1,2-Dibromoethane	0.188	0.187	0.169	0.170	0.164	0.176	6.3
Chlorobenzene	0.986	1.008	0.997	0.994	0.989	0.995	0.9
Ethylbenzene	1.343	1.463	1.610	1.663	1.678	1.551	9.3
o-Xylene	0.439	0.463	0.541	0.570	0.595	0.522	13.0
m,p-Xylene	0.479	0.519	0.604	0.645	0.650	0.579	13.2
Styrene	0.654	0.695	0.932	0.970	1.000	0.850	19.1
Bromoform	0.371	0.338	0.303	0.294	0.296	0.321	10.4
Isopropylbenzene	1.086	1.181	1.477	1.567	1.624	1.387	17.3
1,1,2,2-Tetrachloroethane	0.240	0.228	0.206	0.200	0.188	0.212	9.9
1,3-Dichlorobenzene	1.706	1.695	1.708	1.615	1.640	1.673	2.5
1,4-Dichlorobenzene	1.752	1.681	1.635	1.581	1.584	1.647	4.3
1,2-Dichlorobenzene	1.373	1.370	1.343	1.257	1.270	1.323	4.2
1,2-Dibromo-3-chloropropane	0.077	0.074	0.056	0.049	0.051	0.061	21.4
1,2,4-Trichlorobenzene	0.458	0.522	0.510	0.483	0.553	0.505	7.2
1,2,3-Trichlorobenzene	0.382	0.383	0.375	0.367	0.405	0.382	3.7
Vinyl chloride-d3	0.440	0.446	0.398	0.373	0.346	0.401	10.6
Chloroethane-d5	0.380	0.353	0.302	0.282	0.264	0.316	15.5
1,1-Dichloroethene-d2	0.723	0.735	0.654	0.617	0.588	0.664	9.7
2-Butanone-d5	0.059	0.060	0.055	0.058	0.055	0.057	3.9
Chloroform-d	0.801	0.786	0.651	0.617	0.608	0.693	13.6
1,2-Dichloroethane-d4	0.260	0.282	0.240	0.225	0.211	0.244	11.5
Benzene-d6	1.377	1.429	1.484	1.435	1.387	1.422	3.0
1,2-Dichloropropane-d6	0.368	0.384	0.365	0.361	0.341	0.364	4.2
Toluene-d8	1.092	1.139	1.295	1.363	1.355	1.249	10.1
trans-1,3-Dichloropropene-d4	0.290	0.314	0.349	0.359	0.343	0.331	8.6
2-Hexanone-d5	0.033	0.037	0.044	0.052	0.053	0.044	20.4
1,1,2,2-Tetrachloroethane-d2	0.247	0.234	0.217	0.211	0.196	0.221	9.0
1,2-Dichlorobenzene-d4	0.864	0.874	0.851	0.801	0.789	0.836	4.6

Quantitation Report

Data File : C:\msdchem\1\Data by...F\30NOV18F\FB63S005.D Vial: 2
Acq Time : 11/30/2018 09:09 Operator: CQC
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:05 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal File: C:\msdchem\1\Data by Year\2018\NOV18F\3



Quantitation Report

Data File : C:\msdchem\1\Data by...F\30NOV18F\FB63S005.D Vial: 2
Acq Time : 11/30/2018 09:09 Operator: CQC
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:05 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.16	114	967427	5.0000 ug/L	82.24
28) Chlorobenzene-d5	10.40	117	876553	5.0000 ug/L	88.28
60) 1,4-dichlorobenzene-d4	12.81	152	345004	5.0000 ug/L	74.69
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	42541	0.5522 ug/L	11.04%#
8) Chloroethane-d5	2.15	69	36774	0.6294 ug/L	12.59%#
11) 1,1-Dichloroethene-d2	2.76	63	69962	0.5527 ug/L	11.05%#
22) 2-Butanone-d5	5.92	46	57495	5.4023 ug/L	10.80%#
25) Chloroform-d	5.52	84	77531	0.6155 ug/L	12.31%#
27) 1,2-Dichloroethane-d4	6.53	65	25134	0.5407 ug/L	10.81%#
33) Benzene-d6	6.32	84	120713	0.4638 ug/L	9.28%#
37) 1,2-Dichloropropane-d6	7.65	67	32240	0.5037 ug/L	10.07%#
40) cis-1,3-Dichloropropene-d4	8.52	79	43224	0.4731 ug/L	9.46%
42) trans-1,3-Dichloropropene-	9.26	79	25420	0.4149 ug/L	8.30%#
47) Toluene-d8	8.76	98	95723	0.4216 ug/L	8.43%#
50) 2-Hexanone-d5	10.08	63	29259	3.7776 ug/L	7.56%#
59) 1,1,2,2-Tetrachloroethane-	11.85	84	21641	0.5691 ug/L	11.38%#
65) 1,2-Dichlorobenzene-d4	13.25	152	29823	0.5079 ug/L	10.16%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	29789	0.5963 ug/L #	98
3) Chloromethane	1.72	50	48395	0.6438 ug/L	97
4) Vinyl chloride	1.79	62	41991	0.5963 ug/L	97
6) Bromomethane	2.07	94	28940	0.6562 ug/L	95
7) Chloroethane	2.17	64	28461	0.6458 ug/L	91
9) Trichlorofluoromethane	2.29	101	59851	0.6191 ug/L	96
10) 1,1-Dichloroethene	2.76	96	30727	0.5567 ug/L	95
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	33379	0.6086 ug/L	85
13) Acetone	3.39	43	30236	5.6420 ug/L	97
14) Carbon disulfide	2.80	76	118588	0.6265 ug/L	80
15) Methyl acetate	3.54	43	8850	0.5144 ug/L	84
16) Methylene chloride	3.34	84	32128	0.6627 ug/L	93
17) trans-1,2-Dichloroethene	3.54	96	32061	0.5875 ug/L	91
18) Methyl tert-butyl ether	3.65	73	45644	0.5550 ug/L	80
19) 1,1-Dichloroethane	4.30	63	59396	0.5946 ug/L	97
20) cis-1,2-Dichloroethene	5.11	96	31136	0.5998 ug/L	96
21) 2-Butanone	5.99	43	57344	5.4453 ug/L	95
23) Bromochloromethane	5.41	128	15589	0.6199 ug/L #	79
24) Chloroform	5.55	83	64515	0.6193 ug/L	95
26) 1,2-Dichloroethane	6.62	62	33853	0.6363 ug/L	98

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

Quantitation Report

Data File : C:\msdchem\1\Data by...F\30NOV18F\FB63S005.D Vial: 2
Acq Time : 11/30/2018 09:09 Operator: CQC
Sample : VSTD0.5TF VSTD0.5TF 0.5 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 0.5 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:05 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	5.83	97	52655	0.5750 ug/L	#	96
30)	Cyclohexane	5.44	56	33476	0.4229 ug/L		97
31)	Carbon tetrachloride	5.74	117	50112	0.6064 ug/L		92
32)	Benzene	6.35	78	121427	0.5071 ug/L		96
34)	Trichloroethene	7.12	130	40929	0.5452 ug/L		93
35)	Methylcyclohexane	7.11	83	21801	0.3011 ug/L	#	32
36)	1,2-Dichloropropane	7.74	63	29457	0.5498 ug/L		92
38)	Bromodichloromethane	7.83	83	43551	0.5725 ug/L		96
39)	cis-1,3-Dichloropropene	8.55	75	33385	0.4607 ug/L		86
41)	trans-1,3-Dichloropropene	9.27	75	28156	0.4412 ug/L	#	56
43)	1,1,2-Trichloroethane	9.43	97	18022	0.5213 ug/L		84
44)	Dibromochloromethane	9.62	129	26685	0.5442 ug/L		95
45)	4-Methyl-2-pentanone	9.23	43	119261	4.1872 ug/L		91
46)	Toluene	8.81	91	111381	0.4372 ug/L		97
48)	Tetrachloroethene	9.24	164	28902	0.4944 ug/L		93
49)	2-Hexanone	10.12	43	86318	3.8166 ug/L		89
51)	1,2-Dibromoethane	9.85	107	16502	0.5557 ug/L	#	95
52)	Chlorobenzene	10.42	112	86454	0.4948 ug/L		87
53)	Ethylbenzene	10.46	91	117746	0.4170 ug/L		96
54)	m,p-Xylene	10.62	106	42010	0.3970 ug/L	#	48
55)	o-Xylene	11.05	106	38514	0.4063 ug/L		90
56)	Styrene	11.11	104	57337	0.3509 ug/L		95
57)	Isopropylbenzene	11.38	105	95212	0.3677 ug/L		96
58)	1,1,2,2-Tetrachloroethane	11.87	83	21024	0.5832 ug/L		97
61)	Bromoform	11.12	173	12793	0.6110 ug/L		98
62)	1,3-Dichlorobenzene	12.73	146	58848	0.4993 ug/L		97
63)	1,4-Dichlorobenzene	12.82	146	60430	0.5355 ug/L	#	73
64)	1,2-Dichlorobenzene	13.26	146	47369	0.5111 ug/L		93
66)	1,2-Dibromo-3-chloropropan	14.09	75	2655	0.6888 ug/L	#	64
67)	1,2,4-Trichlorobenzene	14.81	180	15805	0.4487 ug/L		91
68)	1,2,3-Trichlorobenzene	15.34	180	13166	0.5088 ug/L		89

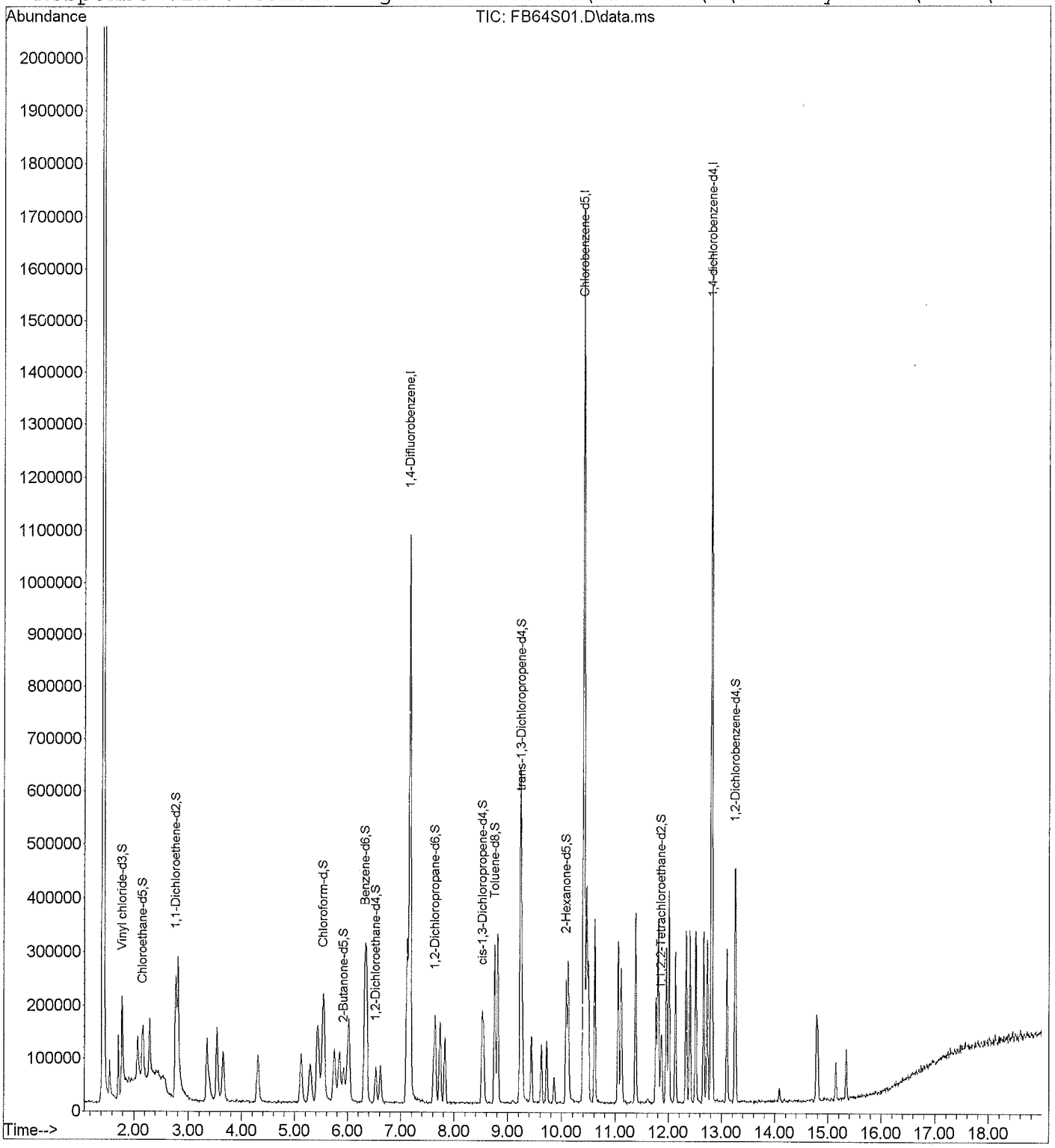
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB64S01.D Vial: 3
Acq Time : 11/30/2018 09:37 Operator: CQC
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:14 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal File: C:\msdchem\1\Data by Year\2018\NOV18F\3



Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB64S01.D Vial: 3
Acq Time : 11/30/2018 09:37 Operator: CQC
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:14 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1018475	5.0000 ug/L	86.58
28) Chlorobenzene-d5	10.40	117	920956	5.0000 ug/L	92.75
60) 1,4-dichlorobenzene-d4	12.81	152	389428	5.0000 ug/L	84.31
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	90754	1.1190 ug/L	22.38%#
8) Chloroethane-d5	2.15	69	71939	1.1696 ug/L	23.39%#
11) 1,1-Dichloroethene-d2	2.75	63	149776	1.1240 ug/L	22.48%#
22) 2-Butanone-d5	5.92	46	121372	10.8328 ug/L	21.67%#
25) Chloroform-d	5.53	84	160119	1.2074 ug/L	24.15%#
27) 1,2-Dichloroethane-d4	6.53	65	57457	1.1741 ug/L	23.48%#
33) Benzene-d6	6.32	84	263177	0.9625 ug/L	19.25%#
37) 1,2-Dichloropropane-d6	7.65	67	70666	1.0507 ug/L	21.01%#
40) cis-1,3-Dichloropropene-d4	8.52	79	92645	0.9651 ug/L	19.30%
42) trans-1,3-Dichloropropene-	9.25	79	57859	0.8988 ug/L	17.98%#
47) Toluene-d8	8.76	98	209750	0.8793 ug/L	17.59%#
50) 2-Hexanone-d5	10.08	63	67465	8.2903 ug/L	16.58%#
59) 1,1,2,2-Tetrachloroethane-	11.85	84	43068	1.0780 ug/L	21.56%#
65) 1,2-Dichlorobenzene-d4	13.25	152	68073	1.0271 ug/L	20.54%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	62394	1.1865 ug/L #	98
3) Chloromethane	1.71	50	96994	1.2255 ug/L	98
4) Vinyl chloride	1.78	62	85164	1.1488 ug/L	98
6) Bromomethane	2.07	94	57257	1.2332 ug/L	97
7) Chloroethane	2.17	64	57624	1.2420 ug/L	94
9) Trichlorofluoromethane	2.29	101	115157	1.1315 ug/L	95
10) 1,1-Dichloroethene	2.76	96	72267	1.2438 ug/L #	88
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	67955	1.1768 ug/L	92
13) Acetone	3.39	43	77615	13.7569 ug/L	86
14) Carbon disulfide	2.80	76	237204	1.1904 ug/L	95
15) Methyl acetate	3.53	43	20289	1.1203 ug/L	92
16) Methylene chloride	3.34	84	62666	1.2279 ug/L #	87
17) trans-1,2-Dichloroethene	3.53	96	69755	1.2142 ug/L	98
18) Methyl tert-butyl ether	3.65	73	97464	1.1258 ug/L	89
19) 1,1-Dichloroethane	4.30	63	128895	1.2257 ug/L	97
20) cis-1,2-Dichloroethene	5.12	96	62288	1.1399 ug/L	95
21) 2-Butanone	5.98	43	122681	11.0656 ug/L	97
23) Bromochloromethane	5.42	128	29358	1.1089 ug/L #	74
24) Chloroform	5.55	83	134895	1.2300 ug/L	95
26) 1,2-Dichloroethane	6.62	62	68477	1.2226 ug/L	97

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

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB64S01.D Vial: 3
Acq Time : 11/30/2018 09:37 Operator: CQC
Sample : VSTD001TF VSTD001TF 1.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 1.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:14 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
29) 1,1,1-Trichloroethane	5.84	97	98171	1.0203 ug/L #	91
30) Cyclohexane	5.44	56	81170	0.9761 ug/L	93
31) Carbon tetrachloride	5.74	117	100644	1.1592 ug/L	90
32) Benzene	6.35	78	256068	1.0179 ug/L	96
34) Trichloroethene	7.12	130	78242	0.9920 ug/L #	84
35) Methylcyclohexane	7.11	83	54347	0.7145 ug/L #	64
36) 1,2-Dichloropropane	7.74	63	58753	1.0437 ug/L	92
38) Bromodichloromethane	7.83	83	86235	1.0789 ug/L	99
39) cis-1,3-Dichloropropene	8.55	75	69263	0.9097 ug/L	88
41) trans-1,3-Dichloropropene	9.27	75	61095	0.9111 ug/L #	83
43) 1,1,2-Trichloroethane	9.44	97	39233	1.0801 ug/L	95
44) Dibromochloromethane	9.62	129	57844	1.1228 ug/L	96
45) 4-Methyl-2-pentanone	9.23	43	266039	8.8901 ug/L	92
46) Toluene	8.82	91	237332	0.8868 ug/L	97
48) Tetrachloroethene	9.24	164	63197	1.0289 ug/L	98
49) 2-Hexanone	10.12	43	201001	8.4589 ug/L	92
51) 1,2-Dibromoethane	9.86	107	34373	1.1017 ug/L	92
52) Chlorobenzene	10.42	112	185682	1.0116 ug/L	93
53) Ethylbenzene	10.46	91	269416	0.9082 ug/L	98
54) m,p-Xylene	10.61	106	95539	0.8594 ug/L #	53
55) o-Xylene	11.05	106	85247	0.8558 ug/L	93
56) Styrene	11.10	104	127958	0.7453 ug/L	97
57) Isopropylbenzene	11.38	105	217513	0.7996 ug/L	97
58) 1,1,2,2-Tetrachloroethane	11.87	83	41986	1.1086 ug/L	96
61) Bromoform	11.12	173	26357	1.1153 ug/L	98
62) 1,3-Dichlorobenzene	12.73	146	132045	0.9926 ug/L	96
63) 1,4-Dichlorobenzene	12.82	146	130908	1.0277 ug/L #	85
64) 1,2-Dichlorobenzene	13.26	146	106679	1.0197 ug/L	95
66) 1,2-Dibromo-3-chloropropan	14.08	75	5770	1.3262 ug/L #	73
67) 1,2,4-Trichlorobenzene	14.80	180	40675	1.0231 ug/L	91
68) 1,2,3-Trichlorobenzene	15.35	180	29795	1.0201 ug/L	98

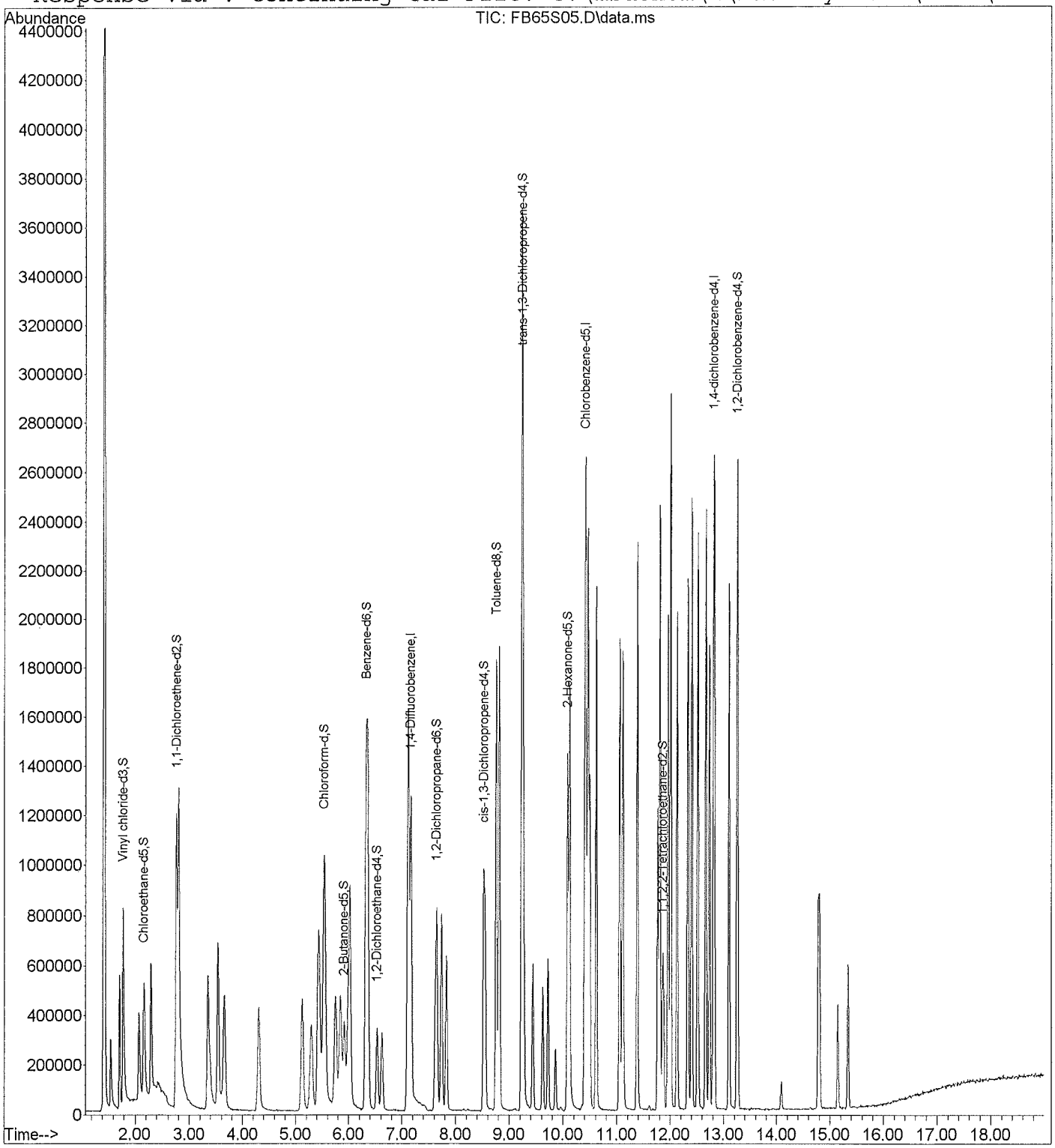
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB65S05.D Vial: 4
Acq Time : 11/30/2018 10:05 Operator: CQC
Sample : VSTD005TF VSTD005TF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 5.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:06:54 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal File: C:\msdchem\1\Data by Year\2018\NOV18F\3



Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB65S05.D Vial: 4
Acq Time : 11/30/2018 10:05 Operator: CQC
Sample : VSTD005TF VSTD005TF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 5.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:06:54 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1176330	5.0000 ug/L	100.00
28) Chlorobenzene-d5	10.40	117	992941	5.0000 ug/L	100.00
60) 1,4-dichlorobenzene-d4	12.81	152	461917	5.0000 ug/L	100.00
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	468366	5.0000 ug/L	100.00%
8) Chloroethane-d5	2.15	69	355196	5.0000 ug/L	100.00%
11) 1,1-Dichloroethene-d2	2.75	63	769540	5.0000 ug/L	100.00%
22) 2-Butanone-d5	5.92	46	647036	50.0000 ug/L	100.00%
25) Chloroform-d	5.53	84	765857	5.0000 ug/L	100.00%
27) 1,2-Dichloroethane-d4	6.53	65	282605	5.0000 ug/L	100.00%
33) Benzene-d6	6.32	84	1474003	5.0000 ug/L	100.00%
37) 1,2-Dichloropropane-d6	7.65	67	362559	5.0000 ug/L	100.00%
40) cis-1,3-Dichloropropene-d4	8.52	79	517515	5.0000 ug/L	100.00%
42) trans-1,3-Dichloropropene-	9.25	79	347014	5.0000 ug/L	100.00%
47) Toluene-d8	8.76	98	1285937	5.0000 ug/L	100.00%
50) 2-Hexanone-d5	10.08	63	438694	50.0000 ug/L	100.00%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	215382	5.0000 ug/L	100.00%
65) 1,2-Dichlorobenzene-d4	13.25	152	393086	5.0000 ug/L	100.00%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	303695	5.0000 ug/L #	97
3) Chloromethane	1.72	50	457050	5.0000 ug/L	99
4) Vinyl chloride	1.79	62	428128	5.0000 ug/L	99
6) Bromomethane	2.07	94	268137	5.0000 ug/L	99
7) Chloroethane	2.17	64	267926	5.0000 ug/L	98
9) Trichlorofluoromethane	2.29	101	587730	5.0000 ug/L	96
10) 1,1-Dichloroethene	2.76	96	335548	5.0000 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	333468	5.0000 ug/L	93
13) Acetone	3.39	43	325818	50.0000 ug/L	90
14) Carbon disulfide	2.80	76	1150783	5.0000 ug/L	99
15) Methyl acetate	3.53	43	104590	5.0000 ug/L	89
16) Methylene chloride	3.35	84	294736	5.0000 ug/L	91
17) trans-1,2-Dichloroethene	3.54	96	331775	5.0000 ug/L	96
18) Methyl tert-butyl ether	3.65	73	499966	5.0000 ug/L	92
19) 1,1-Dichloroethane	4.31	63	607277	5.0000 ug/L	99
20) cis-1,2-Dichloroethene	5.12	96	315576	5.0000 ug/L	94
21) 2-Butanone	5.98	43	640250	50.0000 ug/L	99
23) Bromochloromethane	5.42	128	152889	5.0000 ug/L #	84
24) Chloroform	5.56	83	633353	5.0000 ug/L	96
26) 1,2-Dichloroethane	6.62	62	323461	5.0000 ug/L	98

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

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB65S05.D Vial: 4
Acq Time : 11/30/2018 10:05 Operator: CQC
Sample : VSTD005TF VSTD005TF 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 5.0 uL of 44968, 70, 74 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:06:54 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	5.84	97	518684	5.0000 ug/L	#	99
30)	Cyclohexane	5.45	56	448295	5.0000 ug/L		92
31)	Carbon tetrachloride	5.75	117	468038	5.0000 ug/L		89
32)	Benzene	6.35	78	1356196	5.0000 ug/L		96
34)	Trichloroethene	7.12	130	425194	5.0000 ug/L		97
35)	Methylcyclohexane	7.11	83	410070	5.0000 ug/L		97
36)	1,2-Dichloropropane	7.74	63	303471	5.0000 ug/L		96
38)	Bromodichloromethane	7.83	83	430899	5.0000 ug/L		99
39)	cis-1,3-Dichloropropene	8.55	75	410442	5.0000 ug/L		95
41)	trans-1,3-Dichloropropene	9.27	75	361475	5.0000 ug/L		92
43)	1,1,2-Trichloroethane	9.44	97	195814	5.0000 ug/L		95
44)	Dibromochloromethane	9.62	129	277725	5.0000 ug/L		96
45)	4-Methyl-2-pentanone	9.23	43	1613224	50.0000 ug/L		95
46)	Toluene	8.82	91	1442782	5.0000 ug/L		99
48)	Tetrachloroethene	9.24	164	331126	5.0000 ug/L		96
49)	2-Hexanone	10.12	43	1280967	50.0000 ug/L		94
51)	1,2-Dibromoethane	9.86	107	168192	5.0000 ug/L		100
52)	Chlorobenzene	10.42	112	989547	5.0000 ug/L		95
53)	Ethylbenzene	10.46	91	1599099	5.0000 ug/L		99
54)	m,p-Xylene	10.61	106	599304	5.0000 ug/L	#	48
55)	o-Xylene	11.05	106	536953	5.0000 ug/L		95
56)	Styrene	11.10	104	925475	5.0000 ug/L		98
57)	Isopropylbenzene	11.38	105	1466408	5.0000 ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.87	83	204174	5.0000 ug/L		97
61)	Bromoform	11.12	173	140160	5.0000 ug/L		99
62)	1,3-Dichlorobenzene	12.73	146	788948	5.0000 ug/L		97
63)	1,4-Dichlorobenzene	12.83	146	755420	5.0000 ug/L		97
64)	1,2-Dichlorobenzene	13.26	146	620430	5.0000 ug/L		95
66)	1,2-Dibromo-3-chloropropan	14.08	75	25804	5.0000 ug/L	#	80
67)	1,2,4-Trichlorobenzene	14.80	180	235787	5.0000 ug/L		97
68)	1,2,3-Trichlorobenzene	15.34	180	173228	5.0000 ug/L		99

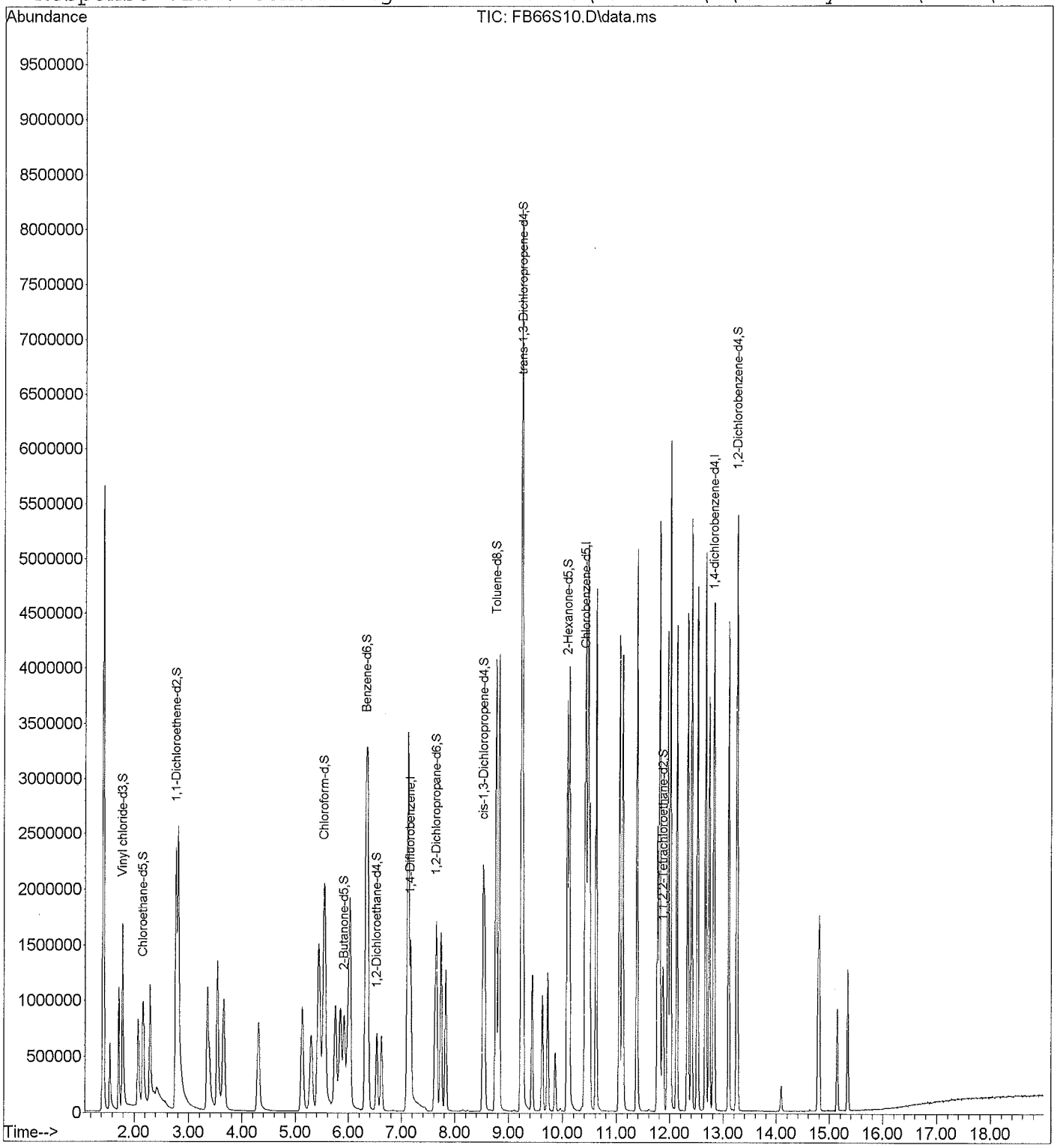
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB66S10.D Vial: 5
Acq Time : 11/30/2018 10:33 Operator: CQC
Sample : VSTD010TF VSTD010TF 10 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 10 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:22 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal File: C:\msdchem\1\Data by Year\2018\NOV18F\3



Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB66S10.D Vial: 5
Acq Time : 11/30/2018 10:33 Operator: CQC
Sample : VSTD010TF VSTD010TF 10 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 10 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:22 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1289610	5.0000 ug/L	109.63
28) Chlorobenzene-d5	10.40	117	1052035	5.0000 ug/L	105.95
60) 1,4-dichlorobenzene-d4	12.81	152	505183	5.0000 ug/L	109.37
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	962464	9.3722 ug/L	187.44%#
8) Chloroethane-d5	2.15	69	728103	9.3490 ug/L	186.98%#
11) 1,1-Dichloroethene-d2	2.75	63	1590795	9.4281 ug/L	188.56%#
22) 2-Butanone-d5	5.92	46	1486611	104.7875 ug/L	209.58%#
25) Chloroform-d	5.53	84	1591041	9.4749 ug/L	189.50%#
27) 1,2-Dichloroethane-d4	6.53	65	579051	9.3450 ug/L	186.90%#
33) Benzene-d6	6.32	84	3020045	9.6689 ug/L	193.38%#
37) 1,2-Dichloropropane-d6	7.65	67	760414	9.8977 ug/L	197.95%#
40) cis-1,3-Dichloropropene-d4	8.52	79	1145888	10.4492 ug/L	208.98%
42) trans-1,3-Dichloropropene-	9.25	79	755790	10.2782 ug/L	205.56%#
47) Toluene-d8	8.76	98	2867535	10.5233 ug/L	210.47%#
50) 2-Hexanone-d5	10.08	63	1101094	118.4475 ug/L	236.90%#
59) 1,1,2,2-Tetrachloroethane-	11.86	84	443672	9.7211 ug/L	194.42%#
65) 1,2-Dichlorobenzene-d4	13.25	152	809031	9.4094 ug/L	188.19%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	619580	9.3047 ug/L #	98
3) Chloromethane	1.72	50	921424	9.1947 ug/L	97
4) Vinyl chloride	1.79	62	872834	9.2982 ug/L	100
6) Bromomethane	2.07	94	553801	9.4197 ug/L	98
7) Chloroethane	2.17	64	532220	9.0598 ug/L	97
9) Trichlorofluoromethane	2.29	101	1193524	9.2618 ug/L	97
10) 1,1-Dichloroethene	2.76	96	680760	9.2529 ug/L	93
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	643909	8.8067 ug/L	95
13) Acetone	3.39	43	748693	104.8020 ug/L	91
14) Carbon disulfide	2.80	76	2290712	9.0786 ug/L	100
15) Methyl acetate	3.53	43	231909	10.1127 ug/L	91
16) Methylene chloride	3.35	84	599020	9.2693 ug/L	91
17) trans-1,2-Dichloroethene	3.54	96	688361	9.4627 ug/L	96
18) Methyl tert-butyl ether	3.65	73	1141023	10.4087 ug/L	97
19) 1,1-Dichloroethane	4.31	63	1233904	9.2669 ug/L	100
20) cis-1,2-Dichloroethene	5.12	96	668013	9.6543 ug/L	94
21) 2-Butanone	5.98	43	1431904	102.0012 ug/L	99
23) Bromochloromethane	5.42	128	309721	9.2392 ug/L #	85
24) Chloroform	5.55	83	1278979	9.2100 ug/L	98
26) 1,2-Dichloroethane	6.62	62	674298	9.5076 ug/L	97

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

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB66S10.D Vial: 5
Acq Time : 11/30/2018 10:33 Operator: CQC
Sample : VSTD010TF VSTD010TF 10 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 10 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:22 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	1,1,1-Trichloroethane	5.85	97	1060012	9.6443	ug/L	#	99
30)	Cyclohexane	5.45	56	1048887	11.0415	ug/L		88
31)	Carbon tetrachloride	5.75	117	936456	9.4421	ug/L		95
32)	Benzene	6.35	78	2822530	9.8215	ug/L		96
34)	Trichloroethene	7.12	130	912289	10.1253	ug/L		99
35)	Methylcyclohexane	7.12	83	896100	10.3124	ug/L		89
36)	1,2-Dichloropropane	7.74	63	640026	9.9528	ug/L		99
38)	Bromodichloromethane	7.83	83	889166	9.7380	ug/L		98
39)	cis-1,3-Dichloropropene	8.55	75	922189	10.6031	ug/L		96
41)	trans-1,3-Dichloropropene	9.27	75	775524	10.1247	ug/L		94
43)	1,1,2-Trichloroethane	9.44	97	408725	9.8503	ug/L		97
44)	Dibromochloromethane	9.62	129	565750	9.6133	ug/L		95
45)	4-Methyl-2-pentanone	9.23	43	3684773	107.7902	ug/L		96
46)	Toluene	8.82	91	3160717	10.3383	ug/L		100
48)	Tetrachloroethene	9.24	164	687719	9.8012	ug/L		96
49)	2-Hexanone	10.12	43	2934269	108.0999	ug/L		95
51)	1,2-Dibromoethane	9.86	107	357325	10.0259	ug/L		98
52)	Chlorobenzene	10.42	112	2090420	9.9692	ug/L		96
53)	Ethylbenzene	10.46	91	3498035	10.3231	ug/L		97
54)	m,p-Xylene	10.61	106	1356924	10.6849	ug/L	#	50
55)	o-Xylene	11.05	106	1199374	10.5410	ug/L		91
56)	Styrene	11.10	104	2040256	10.4036	ug/L		97
57)	Isopropylbenzene	11.38	105	3296506	10.6087	ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.87	83	421664	9.7461	ug/L		97
61)	Bromoform	11.13	173	297199	9.6941	ug/L		99
62)	1,3-Dichlorobenzene	12.73	146	1631287	9.4529	ug/L		97
63)	1,4-Dichlorobenzene	12.83	146	1597421	9.6675	ug/L		98
64)	1,2-Dichlorobenzene	13.26	146	1269684	9.3560	ug/L		95
66)	1,2-Dibromo-3-chloropropan	14.09	75	50013	8.8610	ug/L		86
67)	1,2,4-Trichlorobenzene	14.80	180	488342	9.4687	ug/L		98
68)	1,2,3-Trichlorobenzene	15.34	180	371006	9.7915	ug/L		97

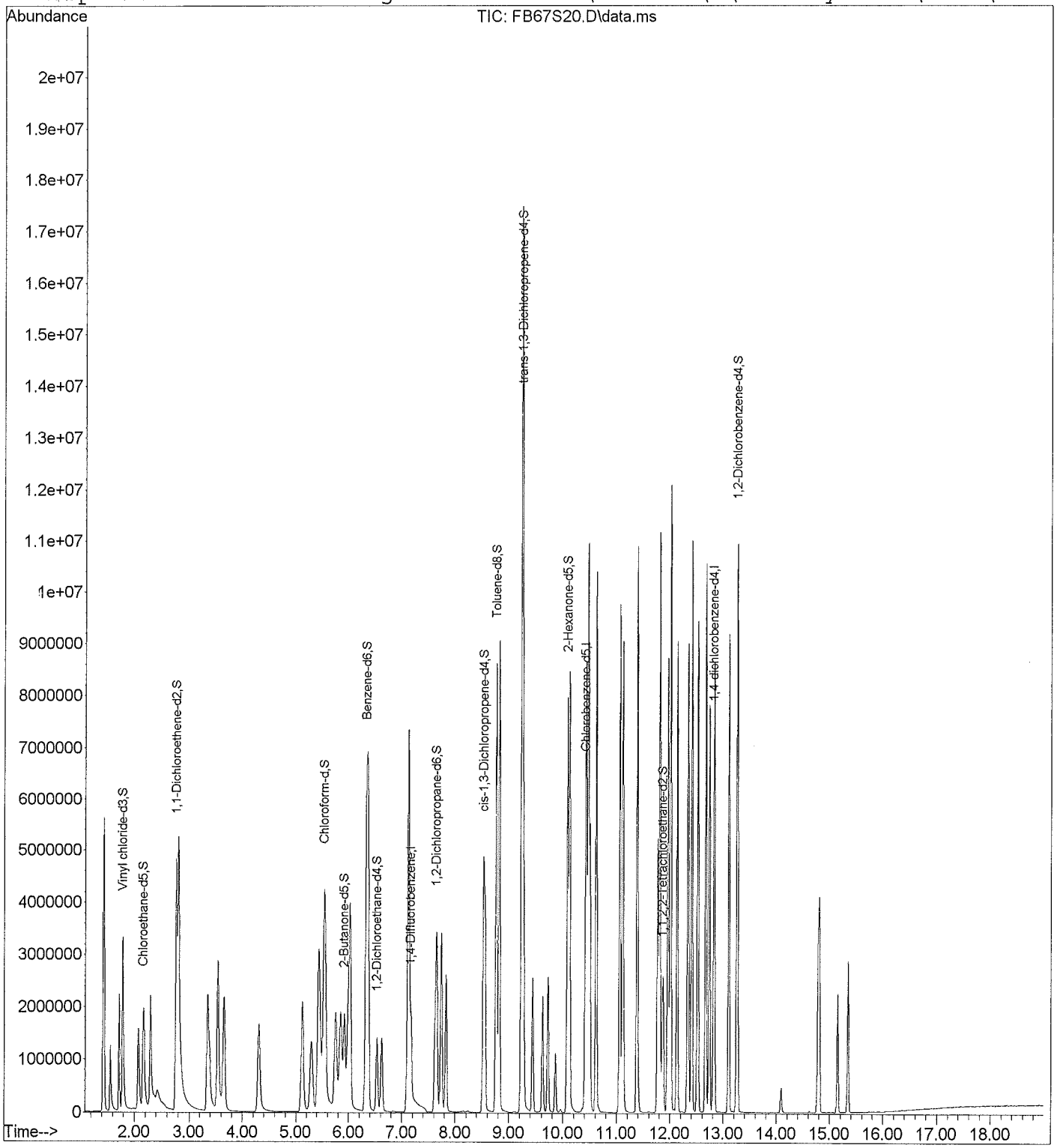
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB67S20.D Vial: 6
Acq Time : 11/30/2018 11:01 Operator: CQC
Sample : VSTD020TF VSTD020TF 20 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 20 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:28 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal File: C:\msdchem\1\Data by Year\2018\NOV18F\3



Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB67S20.D Vial: 6
Acq Time : 11/30/2018 11:01 Operator: CQC
Sample : VSTD020TF VSTD020TF 20 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 20 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:28 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1393321	5.0000 ug/L	118.45
28) Chlorobenzene-d5	10.40	117	1142703	5.0000 ug/L	115.08
60) 1,4-dichlorobenzene-d4	12.81	152	523838	5.0000 ug/L	113.41
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	1930266	17.3972 ug/L	347.94%#
8) Chloroethane-d5	2.15	69	1469154	17.4601 ug/L	349.20%#
11) 1,1-Dichloroethene-d2	2.75	63	3277830	17.9806 ug/L	359.61%#
22) 2-Butanone-d5	5.92	46	3064797	199.9499 ug/L	399.90%#
25) Chloroform-d	5.53	84	3386620	18.6667 ug/L	373.33%#
27) 1,2-Dichloroethane-d4	6.53	65	1177354	17.5863 ug/L	351.73%#
33) Benzene-d6	6.32	84	6338053	18.6818 ug/L	373.64%#
37) 1,2-Dichloropropane-d6	7.65	67	1559384	18.6868 ug/L	373.74%#
40) cis-1,3-Dichloropropene-d4	8.52	79	2540580	21.3290 ug/L	426.58%#
42) trans-1,3-Dichloropropene-	9.25	79	1569939	19.6560 ug/L	393.12%#
47) Toluene-d8	8.76	98	6195533	20.9324 ug/L	418.65%#
50) 2-Hexanone-d5	10.08	63	2436401	241.2944 ug/L	482.59%#
59) 1,1,2,2-Tetrachloroethane-	11.85	84	896740	18.0891 ug/L	361.78%#
65) 1,2-Dichlorobenzene-d4	13.25	152	1653413	18.5452 ug/L	370.90%#
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.56	85	1284219	17.8505 ug/L #	100
3) Chloromethane	1.72	50	1885312	17.4128 ug/L	98
4) Vinyl chloride	1.79	62	1792996	17.6788 ug/L	99
6) Bromomethane	2.07	94	1146355	18.0472 ug/L	98
7) Chloroethane	2.17	64	1125925	17.7395 ug/L	97
9) Trichlorofluoromethane	2.29	101	2513913	18.0560 ug/L	99
10) 1,1-Dichloroethene	2.76	96	1448126	18.2180 ug/L	94
12) 1,1,2-Trichloro-1,2,2-trif	2.80	101	1325640	16.7811 ug/L	99
13) Acetone	3.39	43	1575596	204.1351 ug/L	88
14) Carbon disulfide	2.80	76	4753294	17.4361 ug/L	99
15) Methyl acetate	3.53	43	482184	19.4612 ug/L	91
16) Methylene chloride	3.35	84	1237596	17.7253 ug/L	92
17) trans-1,2-Dichloroethene	3.54	96	1481760	18.8531 ug/L	95
18) Methyl tert-butyl ether	3.65	73	2554466	21.5679 ug/L	99
19) 1,1-Dichloroethane	4.31	63	2608860	18.1348 ug/L	100
20) cis-1,2-Dichloroethene	5.12	96	1466830	19.6211 ug/L	94
21) 2-Butanone	5.98	43	3082474	203.2347 ug/L	99
23) Bromochloromethane	5.42	128	639447	17.6553 ug/L #	84
24) Chloroform	5.55	83	2637631	17.5799 ug/L	98
26) 1,2-Dichloroethane	6.62	62	1403828	18.3206 ug/L	98

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

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB67S20.D Vial: 6
Acq Time : 11/30/2018 11:01 Operator: CQC
Sample : VSTD020TF VSTD020TF 20 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44967; 20 uL of 44968, 70, 74/ Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:07:28 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Continuing Cal C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\
DataAcq Meth : FM2719TD.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	5.85	97	2175256	18.2208 ug/L	#	100
30)	Cyclohexane	5.45	56	2415975	23.4147 ug/L		87
31)	Carbon tetrachloride	5.75	117	1936923	17.9801 ug/L		91
32)	Benzene	6.35	78	5984621	19.1723 ug/L		97
34)	Trichloroethene	7.12	130	1961874	20.0468 ug/L		99
35)	Methylcyclohexane	7.12	83	2130060	22.5680 ug/L		94
36)	1,2-Dichloropropane	7.74	63	1361704	19.4951 ug/L		99
38)	Bromodichloromethane	7.83	83	1831894	18.4708 ug/L		99
39)	cis-1,3-Dichloropropene	8.55	75	2039551	21.5895 ug/L		96
41)	trans-1,3-Dichloropropene	9.27	75	1647009	19.7960 ug/L		94
43)	1,1,2-Trichloroethane	9.44	97	860751	19.0983 ug/L		98
44)	Dibromochloromethane	9.62	129	1207804	18.8948 ug/L		98
45)	4-Methyl-2-pentanone	9.23	43	8167813	219.9739 ug/L		97
46)	Toluene	8.82	91	6927766	20.8618 ug/L		100
48)	Tetrachloroethene	9.24	164	1477866	19.3911 ug/L		96
49)	2-Hexanone	10.12	43	6267224	212.5677 ug/L		96
51)	1,2-Dibromoethane	9.86	107	747959	19.3211 ug/L		98
52)	Chlorobenzene	10.42	112	4520183	19.8463 ug/L		97
53)	Ethylbenzene	10.46	91	7668404	20.8348 ug/L		98
54)	m,p-Xylene	10.61	106	2969833	21.5300 ug/L	#	48
55)	o-Xylene	11.05	106	2718687	21.9980 ug/L		90
56)	Styrene	11.11	104	4569987	21.4541 ug/L		98
57)	Isopropylbenzene	11.38	105	7421234	21.9878 ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.87	83	859924	18.2987 ug/L		97
61)	Bromoform	11.13	173	621118	19.5383 ug/L		98
62)	1,3-Dichlorobenzene	12.74	146	3437210	19.2086 ug/L		97
63)	1,4-Dichlorobenzene	12.83	146	3319357	19.3732 ug/L		97
64)	1,2-Dichlorobenzene	13.26	146	2661439	18.9130 ug/L		96
66)	1,2-Dibromo-3-chloropropan	14.08	75	106047	18.1196 ug/L	#	82
67)	1,2,4-Trichlorobenzene	14.80	180	1158403	21.6609 ug/L		96
68)	1,2,3-Trichlorobenzene	15.34	180	849625	21.6245 ug/L		98

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/04/2018 Time: 15:45

Lab File ID: EB89V05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VICVET Init. Calib Time(s): 12:52 14:50

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	0.266	0.251	0.010	-5.5	40.0
Chloromethane	0.560	0.548	0.010	-2.2	30.0
Vinyl chloride	0.400	0.384	0.010	-4.0	30.0
Bromomethane	0.118	0.118	0.010	0.4	30.0
Chloroethane	0.180	0.178	0.010	-1.2	30.0
Trichlorofluoromethane	0.364	0.368	0.010	0.9	30.0
1,1-Dichloroethene	0.289	0.279	0.020	-3.5	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.309	0.284	0.010	-8.2	30.0
Acetone	0.045	0.042	0.010	-6.5	40.0
Carbon disulfide	0.968	0.937	0.010	-3.2	25.0
Methyl acetate	0.146	0.131	0.010	-10.2	40.0
Methylene chloride	0.321	0.294	0.010	-8.5	30.0
trans-1,2-Dichloroethene	0.328	0.308	0.070	-6.1	20.0
Methyl tert-butyl ether	0.651	0.602	0.010	-7.5	30.0
1,1-Dichloroethane	0.659	0.634	0.100	-3.9	20.0
cis-1,2-Dichloroethene	0.329	0.315	0.100	-4.4	20.0
2-Butanone	0.088	0.085	0.010	-2.9	40.0
Bromochloromethane	0.151	0.144	0.020	-4.6	20.0
Chloroform	0.566	0.540	0.040	-4.7	20.0
1,1,1-Trichloroethane	0.579	0.573	0.050	-1.0	20.0
Cyclohexane	0.753	0.753	0.100	-0.1	25.0
Carbon tetrachloride	0.566	0.563	0.020	-0.5	25.0
Benzene	1.531	1.489	0.300	-2.8	20.0
1,2-Dichloroethane	0.386	0.363	0.010	-6.0	25.0
Trichloroethene	0.435	0.423	0.100	-2.7	20.0
Methylcyclohexane	0.556	0.573	0.200	3.1	25.0
1,2-Dichloropropane	0.411	0.400	0.100	-2.6	20.0
Bromodichloromethane	0.486	0.457	0.090	-5.9	20.0
cis-1,3-Dichloropropene	0.551	0.520	0.100	-5.6	20.0
4-Methyl-2-Pentanone	0.260	0.257	0.010	-1.3	30.0
Toluene	1.432	1.397	0.400	-2.5	20.0
trans-1,3-Dichloropropene	0.455	0.446	0.010	-2.0	20.0
1,1,2-Trichloroethane	0.240	0.223	0.040	-6.9	20.0
Tetrachloroethene	0.287	0.280	0.100	-2.6	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/04/2018 Time: 15:45

Lab File ID: EB89V05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VICVET Init. Calib Time(s): 12:52 14:50

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

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

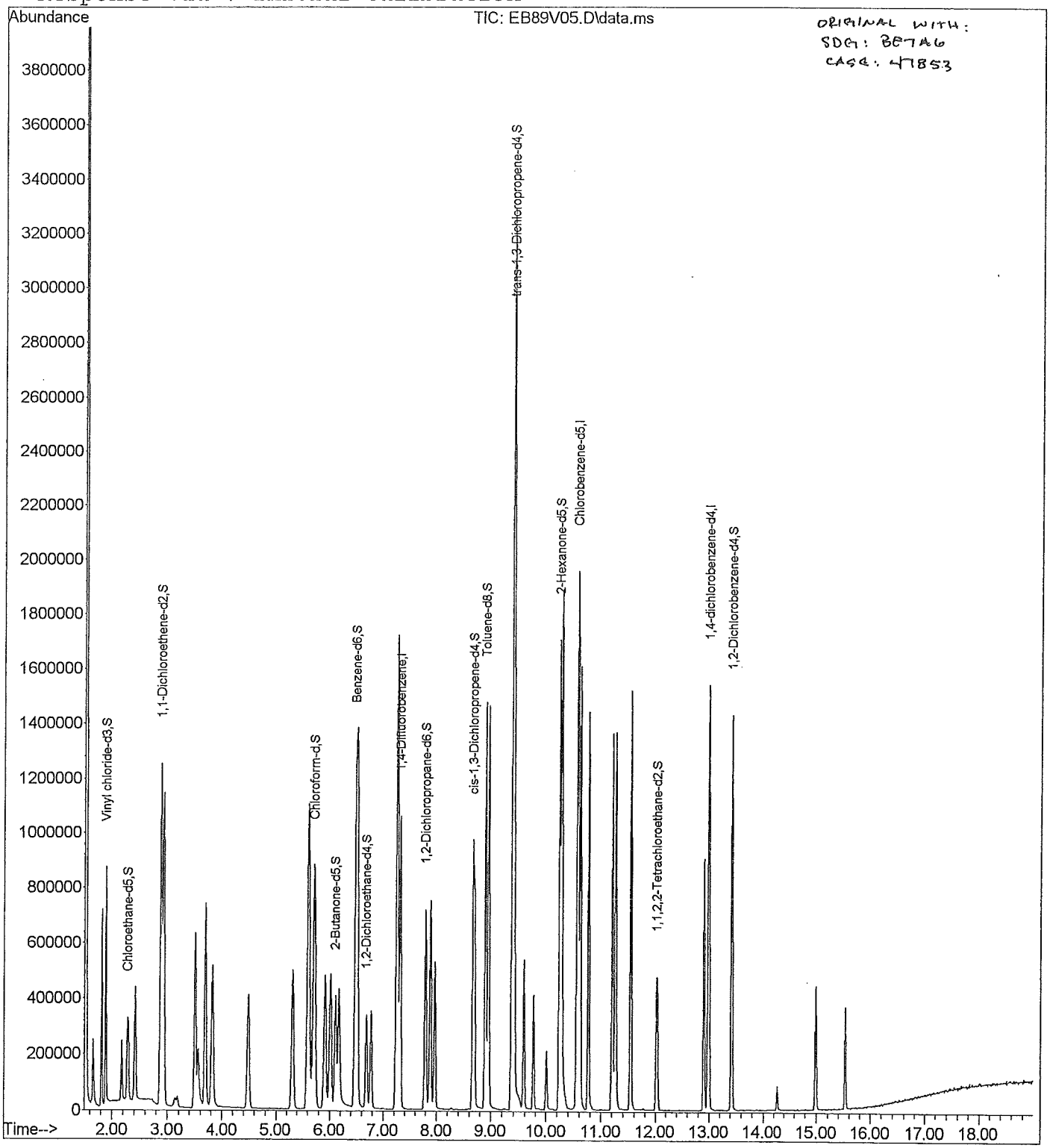
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.198	0.193	0.010	-2.6	40.0
Dibromochloromethane	0.311	0.301	0.050	-3.1	20.0
1,2-Dibromoethane	0.213	0.198	0.010	-6.9	20.0
Chlorobenzene	0.949	0.916	0.400	-3.5	20.0
Ethylbenzene	1.461	1.439	0.500	-1.5	20.0
o-Xylene	0.491	0.485	0.300	-1.3	20.0
m,p-Xylene	0.542	0.545	0.200	0.6	20.0
Styrene	0.790	0.805	0.200	1.9	20.0
Bromoform	0.421	0.399	0.010	-5.4	30.0
Isopropylbenzene	1.270	1.294	0.700	1.9	25.0
1,1,2,2-Tetrachloroethane	0.221	0.211	0.050	-4.7	25.0
1,3-Dichlorobenzene	1.461	1.426	0.500	-2.4	20.0
1,4-Dichlorobenzene	1.552	1.480	0.700	-4.7	20.0
1,2-Dichlorobenzene	1.220	1.191	0.400	-2.4	20.0
1,2-Dibromo-3-chloropropane	0.085	0.079	0.010	-7.3	40.0
1,2,4-Trichlorobenzene	0.505	0.492	0.300	-2.6	30.0
1,2,3-Trichlorobenzene	0.398	0.388	0.200	-2.7	40.0
Vinyl chloride-d3	0.392	0.304	0.010	-22.5	30.0
Chloroethane-d5	0.214	0.184	0.010	-14.1	30.0
1,1-Dichloroethene-d2	0.733	0.694	0.010	-5.4	25.0
2-Butanone-d5	0.093	0.082	0.010	-12.2	40.0
Chloroform-d	0.628	0.606	0.010	-3.4	20.0
1,2-Dichloroethane-d4	0.312	0.289	0.010	-7.4	25.0
Benzene-d6	1.534	1.503	0.030	-2.0	20.0
1,2-Dichloropropane-d6	0.454	0.438	0.100	-3.6	20.0
Toluene-d8	1.278	1.286	0.200	0.6	20.0
trans-1,3-Dichloropropene-d4	0.427	0.422	0.010	-1.3	25.0
2-Hexanone-d5	0.079	0.077	0.010	-3.4	40.0
1,1,2,2-Tetrachloroethane-d2	0.231	0.223	0.010	-3.7	25.0
1,2-Dichlorobenzene-d4	0.805	0.777	0.060	-3.4	20.0

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB89V05.D Vial: 8
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : VICVET VICVET 5.0 ug/L ICV Inst : 5975-E
Misc : 2.5 uL of 44969, 44972 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 05 06:21:14 2018 Results File: ETRACEE8.RES

Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB89V05.D Vial: 8
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : VICVET VICVET 5.0 ug/L ICV Inst : 5975-E
Misc : 2.5 uL of 44969, 44972 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 05 06:21:14 2018 Results File: ETRACEE8.RES

Quant Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	930022	5.0000 ug/L	103.91
28) Chlorobenzene-d5	10.55	117	750704	5.0000 ug/L	104.29
60) 1,4-dichlorobenzene-d4	12.98	152	265126	5.0000 ug/L	103.39
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.88	65	282269	3.8753 ug/L	77.51%
8) Chloroethane-d5	2.28	69	171009	4.2955 ug/L	85.91%
11) 1,1-Dichloroethene-d2	2.88	63	645283	4.7321 ug/L	94.64%
22) 2-Butanone-d5	6.10	46	759623	43.9032 ug/L	87.81%
25) Chloroform-d	5.71	84	563625	4.8275 ug/L	96.55%
27) 1,2-Dichloroethane-d4	6.69	65	268699	4.6314 ug/L	92.63%
33) Benzene-d6	6.48	84	1128201	4.8991 ug/L	97.98%
37) 1,2-Dichloropropane-d6	7.79	67	328602	4.8179 ug/L	96.36%
40) cis-1,3-Dichloropropene-d4	8.66	79	509009	4.8490 ug/L	96.98%
42) trans-1,3-Dichloropropene-	9.39	79	316490	4.9334 ug/L	98.67%
47) Toluene-d8	8.90	98	965137	5.0292 ug/L	100.58%
50) 2-Hexanone-d5	10.24	63	574360	48.3207 ug/L	96.64%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	167260	4.8152 ug/L	96.30%
65) 1,2-Dichlorobenzene-d4	13.42	152	206133	4.8278 ug/L	96.56%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.65	85	233699	4.7225 ug/L #	98
3) Chloromethane	1.82	50	509303	4.8889 ug/L	100
4) Vinyl chloride	1.89	62	357254	4.7991 ug/L	98
6) Bromomethane	2.18	94	109990	5.0208 ug/L	99
7) Chloroethane	2.30	64	165185	4.9417 ug/L	97
9) Trichlorofluoromethane	2.42	101	342076	5.0455 ug/L	99
10) 1,1-Dichloroethene	2.89	96	259295	4.8234 ug/L	99
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	264254	4.5908 ug/L	98
13) Acetone	3.55	43	390477	46.7274 ug/L	99
14) Carbon disulfide	2.93	76	871431	4.8395 ug/L	99
15) Methyl acetate	3.70	43	122234	4.4908 ug/L	99
16) Methylene chloride	3.49	84	273068	4.5750 ug/L	98
17) trans-1,2-Dichloroethene	3.69	96	286362	4.6946 ug/L	99
18) Methyl tert-butyl ether	3.82	73	560242	4.6262 ug/L	98
19) 1,1-Dichloroethane	4.49	63	589535	4.8064 ug/L	99
20) cis-1,2-Dichloroethene	5.31	96	292611	4.7799 ug/L	98
21) 2-Butanone	6.17	43	793327	48.5737 ug/L	99
23) Bromochloromethane	5.60	128	134258	4.7716 ug/L	100
24) Chloroform	5.72	83	501888	4.7660 ug/L	99
26) 1,2-Dichloroethane	6.77	62	337252	4.6979 ug/L	99

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

Quantitation Report

Data File : C:\msdchem\1\DATA\04DEC18E\EB89V05.D Vial: 8
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : VICVET VICVET 5.0 ug/L ICV Inst : 5975-E
Misc : 2.5 uL of 44969, 44972 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 05 06:21:14 2018 Results File: ETRACEE8.RES

Quant Method : C:\msdchem\1\methods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
29)	1,1,1-Trichloroethane	6.00	97	430277	4.9499 ug/L		98
30)	Cyclohexane	5.61	56	565263	4.9972 ug/L		99
31)	Carbon tetrachloride	5.91	117	422532	4.9735 ug/L		99
32)	Benzene	6.51	78	1117468	4.8615 ug/L	#	99
34)	Trichloroethene	7.26	130	317874	4.8643 ug/L		98
35)	Methylcyclohexane	7.25	83	430358	5.1559 ug/L		98
36)	1,2-Dichloropropane	7.88	63	300588	4.8691 ug/L		100
38)	Bromodichloromethane	7.96	83	343175	4.7070 ug/L		99
39)	cis-1,3-Dichloropropene	8.69	75	390536	4.7191 ug/L		99
41)	trans-1,3-Dichloropropene	9.41	75	334853	4.9004 ug/L		99
43)	1,1,2-Trichloroethane	9.58	97	167413	4.6532 ug/L		98
44)	Dibromochloromethane	9.77	129	226026	4.8471 ug/L		99
45)	4-Methyl-2-pentanone	9.39	43	1925862	49.3330 ug/L		99
46)	Toluene	8.95	91	1048508	4.8764 ug/L		100
48)	Tetrachloroethene	9.37	164	209989	4.8690 ug/L		100
49)	2-Hexanone	10.27	43	1446106	48.7182 ug/L		100
51)	1,2-Dibromoethane	10.01	107	148861	4.6530 ug/L		99
52)	Chlorobenzene	10.57	112	687384	4.8234 ug/L		98
53)	Ethylbenzene	10.61	91	1080451	4.9250 ug/L		100
54)	m,p-Xylene	10.77	106	409100	5.0282 ug/L		98
55)	o-Xylene	11.20	106	363914	4.9352 ug/L		99
56)	Styrene	11.26	104	604459	5.0934 ug/L		99
57)	Isopropylbenzene	11.53	105	971042	5.0942 ug/L		99
58)	1,1,2,2-Tetrachloroethane	12.03	83	158365	4.7647 ug/L		99
61)	Bromoform	11.27	173	105661	4.7293 ug/L		100
62)	1,3-Dichlorobenzene	12.90	146	378040	4.8794 ug/L		98
63)	1,4-Dichlorobenzene	12.99	146	392356	4.7665 ug/L		98
64)	1,2-Dichlorobenzene	13.43	146	315725	4.8824 ug/L		99
66)	1,2-Dibromo-3-chloropropan	14.27	157	20967	4.6364 ug/L		99
67)	1,2,4-Trichlorobenzene	14.98	180	130516	4.8704 ug/L		99
68)	1,2,3-Trichlorobenzene	15.53	180	102788	4.8674 ug/L		98

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 11/30/2018 Time: 11:56

Lab File ID: FB69V05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VICVTF Init. Calib Time(s): 09:09 11:01

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	0.269	0.239	0.010	-11.1	40.0
Chloromethane	0.412	0.376	0.010	-8.8	30.0
Vinyl chloride	0.375	0.337	0.010	-10.2	30.0
Bromomethane	0.246	0.217	0.010	-11.5	30.0
Chloroethane	0.243	0.214	0.010	-11.8	30.0
Trichlorofluoromethane	0.519	0.470	0.010	-9.5	30.0
1,1-Dichloroethene	0.296	0.258	0.020	-13.0	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.290	0.246	0.010	-15.3	30.0
Acetone	0.031	0.029	0.010	-7.4	40.0
Carbon disulfide	1.022	0.897	0.010	-12.2	25.0
Methyl acetate	0.091	0.080	0.010	-12.8	40.0
Methylene chloride	0.269	0.230	0.010	-14.6	30.0
trans-1,2-Dichloroethene	0.298	0.257	0.070	-13.7	20.0
Methyl tert-butyl ether	0.455	0.412	0.010	-9.4	30.0
1,1-Dichloroethane	0.542	0.483	0.100	-10.8	20.0
cis-1,2-Dichloroethene	0.284	0.262	0.100	-7.7	20.0
2-Butanone	0.057	0.056	0.010	-2.2	40.0
Bromochloromethane	0.134	0.115	0.020	-14.2	20.0
Chloroform	0.567	0.508	0.040	-10.4	20.0
1,1,1-Trichloroethane	0.527	0.485	0.050	-8.0	20.0
Cyclohexane	0.460	0.458	0.100	-0.4	25.0
Carbon tetrachloride	0.492	0.453	0.020	-7.8	25.0
Benzene	1.358	1.285	0.300	-5.4	20.0
1,2-Dichloroethane	0.295	0.256	0.010	-13.2	25.0
Trichloroethene	0.437	0.408	0.100	-6.5	20.0
Methylcyclohexane	0.370	0.435	0.200	17.6	25.0
1,2-Dichloropropane	0.313	0.286	0.100	-8.6	20.0
Bromodichloromethane	0.444	0.398	0.090	-10.4	20.0
cis-1,3-Dichloropropene	0.411	0.386	0.100	-6.1	20.0
4-Methyl-2-Pentanone	0.159	0.152	0.010	-4.8	30.0
Toluene	1.406	1.362	0.400	-3.1	20.0
trans-1,3-Dichloropropene	0.349	0.328	0.010	-5.9	20.0
1,1,2-Trichloroethane	0.200	0.183	0.040	-8.4	20.0
Tetrachloroethene	0.331	0.316	0.100	-4.6	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 11/30/2018 Time: 11:56

Lab File ID: FB69V05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VICVTF Init. Calib Time(s): 09:09 11:01

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

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

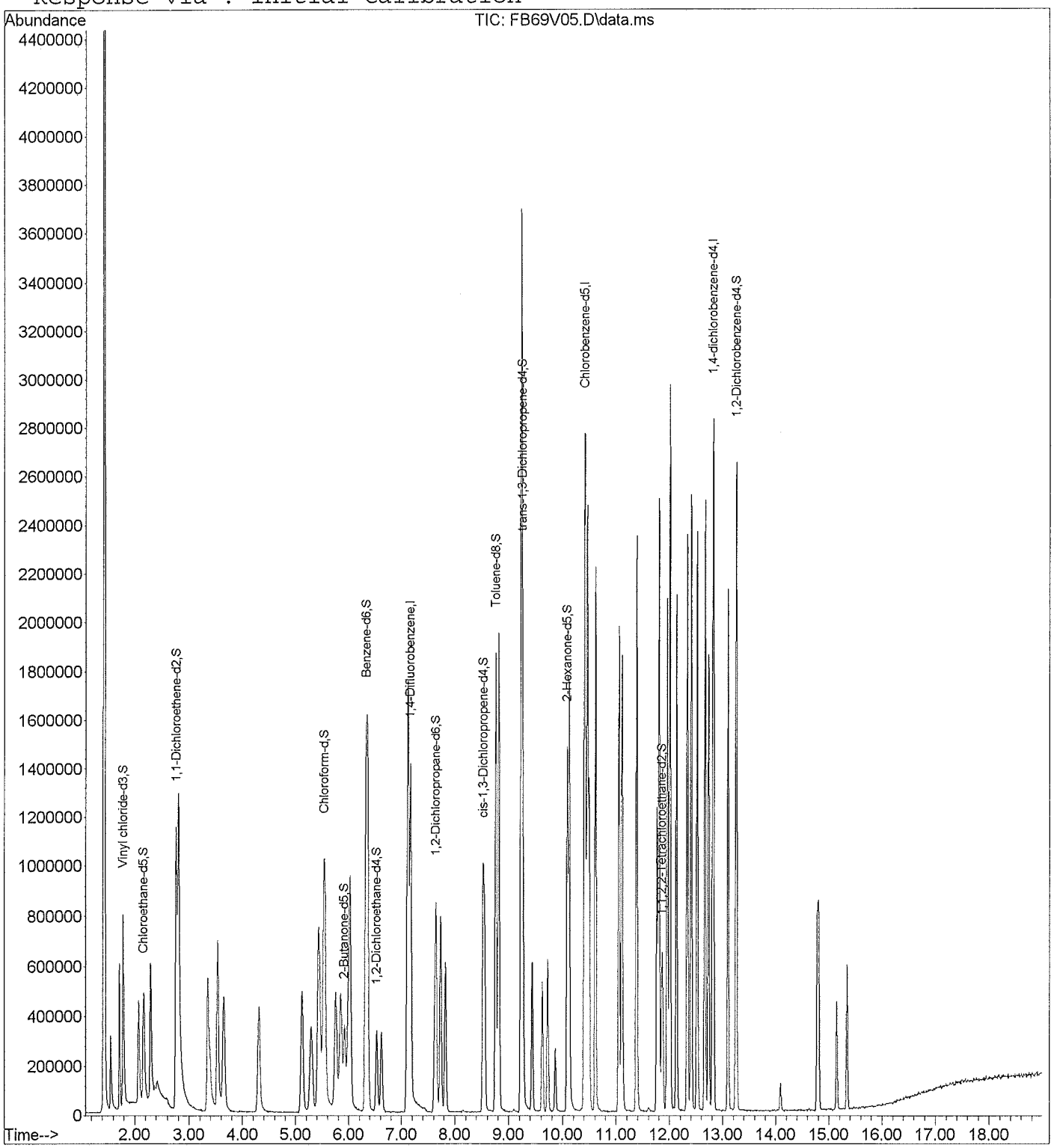
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.123	0.120	0.010	-2.2	40.0
Dibromochloromethane	0.286	0.269	0.050	-6.0	20.0
1,2-Dibromoethane	0.176	0.158	0.010	-10.2	20.0
Chlorobenzene	0.995	0.940	0.400	-5.5	20.0
Ethylbenzene	1.551	1.540	0.500	-0.8	20.0
o-Xylene	0.522	0.508	0.300	-2.6	20.0
m,p-Xylene	0.579	0.576	0.200	-0.5	20.0
Styrene	0.850	0.856	0.200	0.7	20.0
Bromoform	0.321	0.278	0.010	-13.3	30.0
Isopropylbenzene	1.387	1.396	0.700	0.7	25.0
1,1,2,2-Tetrachloroethane	0.212	0.187	0.050	-11.9	25.0
1,3-Dichlorobenzene	1.673	1.597	0.500	-4.5	20.0
1,4-Dichlorobenzene	1.647	1.527	0.700	-7.2	20.0
1,2-Dichlorobenzene	1.323	1.260	0.400	-4.7	20.0
1,2-Dibromo-3-chloropropane	0.061	0.050	0.010	-18.5	40.0
1,2,4-Trichlorobenzene	0.505	0.483	0.300	-4.4	30.0
1,2,3-Trichlorobenzene	0.382	0.358	0.200	-6.4	40.0
Vinyl chloride-d3	0.401	0.284	0.010	-29.0	30.0
Chloroethane-d5	0.316	0.237	0.010	-25.2	30.0
1,1-Dichloroethene-d2	0.664	0.582	0.010	-12.3	25.0
2-Butanone-d5	0.057	0.050	0.010	-12.3	40.0
Chloroform-d	0.693	0.622	0.010	-10.3	20.0
1,2-Dichloroethane-d4	0.244	0.217	0.010	-11.1	25.0
Benzene-d6	1.422	1.358	0.030	-4.6	20.0
1,2-Dichloropropane-d6	0.364	0.345	0.100	-5.3	20.0
Toluene-d8	1.249	1.247	0.200	-0.1	20.0
trans-1,3-Dichloropropene-d4	0.331	0.319	0.010	-3.7	25.0
2-Hexanone-d5	0.044	0.042	0.010	-3.4	40.0
1,1,2,2-Tetrachloroethane-d2	0.221	0.201	0.010	-8.9	25.0
1,2-Dichlorobenzene-d4	0.836	0.802	0.060	-4.1	20.0

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB69V05.D Vial: 8
Acq Time : 11/30/2018 11:56 Operator: CQC
Sample : VICVTF VICVTF 5.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL of 44969, 44972, 44975 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:08:09 2018 Results File: FTRACEF8.RES

Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:08:15 2018
Response via : Initial Calibration



Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB69V05.D Vial: 8
Acq Time : 11/30/2018 11:56 Operator: CQC
Sample : VICVTF VICVTF 5.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL of 44969, 44972, 44975 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:08:09 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Initial Calibration
DataAcq Meth : FM2719TD.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1302483	5.0000 ug/L	110.72
28) Chlorobenzene-d5	10.40	117	1085286	5.0000 ug/L	109.30
60) 1,4-dichlorobenzene-d4	12.81	152	499860	5.0000 ug/L	108.21
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	370554	3.5510 ug/L	71.02%
8) Chloroethane-d5	2.15	69	308085	3.7400 ug/L	74.80%
11) 1,1-Dichloroethene-d2	2.75	63	757917	4.3850 ug/L	87.70%
22) 2-Butanone-d5	5.92	46	654624	43.8338 ug/L	87.67%
25) Chloroform-d	5.53	84	809560	4.4870 ug/L	89.74%
27) 1,2-Dichloroethane-d4	6.53	65	282130	4.4465 ug/L	88.93%
33) Benzene-d6	6.32	84	1473387	4.7719 ug/L	95.44%
37) 1,2-Dichloropropane-d6	7.65	67	374038	4.7363 ug/L	94.73%
40) cis-1,3-Dichloropropene-d4	8.52	79	541361	4.7639 ug/L	95.28%
42) trans-1,3-Dichloropropene-	9.26	79	346297	4.8163 ug/L	96.33%
47) Toluene-d8	8.76	98	1353395	4.9928 ug/L	99.86%
50) 2-Hexanone-d5	10.08	63	461030	48.3115 ug/L	96.62%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	218365	4.5535 ug/L	91.07%
65) 1,2-Dichlorobenzene-d4	13.25	152	400712	4.7954 ug/L	95.91%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	311127	4.4465 ug/L #	99
3) Chloromethane	1.72	50	489324	4.5582 ug/L	98
4) Vinyl chloride	1.79	62	439135	4.4924 ug/L	99
6) Bromomethane	2.07	94	283091	4.4227 ug/L	99
7) Chloroethane	2.17	64	278699	4.4092 ug/L	98
9) Trichlorofluoromethane	2.29	101	612128	4.5234 ug/L	97
10) 1,1-Dichloroethene	2.76	96	335634	4.3487 ug/L	92
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	319834	4.2348 ug/L	97
13) Acetone	3.39	43	372206	46.2843 ug/L	92
14) Carbon disulfide	2.80	76	1168104	4.3880 ug/L	99
15) Methyl acetate	3.53	43	103659	4.3592 ug/L	94
16) Methylene chloride	3.35	84	299226	4.2714 ug/L	91
17) trans-1,2-Dichloroethene	3.53	96	334564	4.3137 ug/L	93
18) Methyl tert-butyl ether	3.65	73	537005	4.5286 ug/L	94
19) 1,1-Dichloroethane	4.31	63	629372	4.4585 ug/L	99
20) cis-1,2-Dichloroethene	5.12	96	341024	4.6158 ug/L	95
21) 2-Butanone	5.98	43	725656	48.9133 ug/L	97
23) Bromochloromethane	5.42	128	149720	4.2888 ug/L #	82
24) Chloroform	5.55	83	662118	4.4802 ug/L	98
26) 1,2-Dichloroethane	6.62	62	333430	4.3407 ug/L	99

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

Quantitation Report

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB69V05.D Vial: 8
Acq Time : 11/30/2018 11:56 Operator: CQC
Sample : VICVTF VICVTF 5.0 ug/L ICV Inst : 5975-F
Misc : 2.5 uL of 44969, 44972, 44975 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 08:08:09 2018 Results File: FTRACEF8.RES

Quant Method : C:\msdchem\1\methods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Dec 11 08:06:46 2018
Response via : Initial Calibration
DataAcq Meth : FM2719TD.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
29)	1,1,1-Trichloroethane	5.84	97	526208	4.5988	ug/L	#	100
30)	Cyclohexane	5.45	56	497415	4.9793	ug/L		90
31)	Carbon tetrachloride	5.74	117	491846	4.6088	ug/L		95
32)	Benzene	6.35	78	1394660	4.7300	ug/L		96
34)	Trichloroethene	7.12	130	443155	4.6768	ug/L		98
35)	Methylcyclohexane	7.12	83	471851	5.8796	ug/L		98
36)	1,2-Dichloropropane	7.74	63	310070	4.5705	ug/L		94
38)	Bromodichloromethane	7.83	83	432049	4.4783	ug/L		99
39)	cis-1,3-Dichloropropene	8.55	75	418679	4.6937	ug/L		95
41)	trans-1,3-Dichloropropene	9.27	75	356440	4.7030	ug/L		91
43)	1,1,2-Trichloroethane	9.44	97	198473	4.5793	ug/L		97
44)	Dibromochloromethane	9.62	129	292115	4.7013	ug/L		98
45)	4-Methyl-2-pentanone	9.23	43	1646008	47.5869	ug/L		95
46)	Toluene	8.81	91	1478468	4.8445	ug/L		100
48)	Tetrachloroethene	9.24	164	343166	4.7721	ug/L		98
49)	2-Hexanone	10.12	43	1301804	48.9051	ug/L		95
51)	1,2-Dibromoethane	9.86	107	171177	4.4924	ug/L		99
52)	Chlorobenzene	10.42	112	1020336	4.7259	ug/L		97
53)	Ethylbenzene	10.46	91	1670873	4.9621	ug/L		97
54)	m,p-Xylene	10.61	106	625336	4.9738	ug/L	#	49
55)	o-Xylene	11.05	106	551284	4.8697	ug/L		95
56)	Styrene	11.11	104	929429	5.0372	ug/L		98
57)	Isopropylbenzene	11.38	105	1515356	5.0339	ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.87	83	203121	4.4060	ug/L		96
61)	Bromoform	11.13	173	138914	4.3336	ug/L		100
62)	1,3-Dichlorobenzene	12.73	146	798204	4.7730	ug/L		98
63)	1,4-Dichlorobenzene	12.83	146	763514	4.6382	ug/L		96
64)	1,2-Dichlorobenzene	13.26	146	629720	4.7628	ug/L		96
66)	1,2-Dibromo-3-chloropropan	14.09	75	25011	4.0744	ug/L		86
67)	1,2,4-Trichlorobenzene	14.80	180	241431	4.7784	ug/L		98
68)	1,2,3-Trichlorobenzene	15.34	180	178939	4.6810	ug/L		96

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/06/2018 Time: 09:55

Lab File ID: EC07S05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T3 Init. Calib Time(s): 12:52 14:50

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	0.266	0.244	0.010	-8.1	40.0
Chloromethane	0.560	0.537	0.010	-4.2	30.0
Vinyl chloride	0.400	0.386	0.010	-3.6	30.0
Bromomethane	0.118	0.112	0.010	-4.7	30.0
Chloroethane	0.180	0.172	0.010	-4.2	30.0
Trichlorofluoromethane	0.364	0.343	0.010	-6.0	30.0
1,1-Dichloroethene	0.289	0.267	0.020	-7.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.309	0.299	0.010	-3.3	30.0
Acetone	0.045	0.045	0.010	0.1	40.0
Carbon disulfide	0.968	0.882	0.010	-8.9	25.0
Methyl acetate	0.146	0.135	0.010	-7.8	40.0
Methylene chloride	0.321	0.296	0.010	-7.7	30.0
trans-1,2-Dichloroethene	0.328	0.302	0.070	-7.8	20.0
Methyl tert-butyl ether	0.651	0.618	0.010	-5.1	30.0
1,1-Dichloroethane	0.659	0.634	0.100	-3.9	20.0
cis-1,2-Dichloroethene	0.329	0.303	0.100	-7.8	20.0
2-Butanone	0.088	0.088	0.010	-0.3	40.0
Bromochloromethane	0.151	0.147	0.020	-2.9	20.0
Chloroform	0.566	0.563	0.040	-0.6	20.0
1,1,1-Trichloroethane	0.579	0.529	0.050	-8.6	20.0
Cyclohexane	0.753	0.665	0.100	-11.7	25.0
Carbon tetrachloride	0.566	0.499	0.020	-11.9	25.0
Benzene	1.531	1.466	0.300	-4.3	20.0
1,2-Dichloroethane	0.386	0.367	0.010	-4.9	25.0
Trichloroethene	0.435	0.419	0.100	-3.8	20.0
Methylcyclohexane	0.556	0.483	0.200	-13.2	25.0
1,2-Dichloropropane	0.411	0.396	0.100	-3.6	20.0
Bromodichloromethane	0.486	0.451	0.090	-7.1	20.0
cis-1,3-Dichloropropene	0.551	0.523	0.100	-5.1	20.0
4-Methyl-2-Pentanone	0.260	0.258	0.010	-0.9	30.0
Toluene	1.432	1.397	0.400	-2.4	20.0
trans-1,3-Dichloropropene	0.455	0.449	0.010	-1.3	20.0
1,1,2-Trichloroethane	0.240	0.231	0.040	-3.8	20.0
Tetrachloroethene	0.287	0.271	0.100	-5.8	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/06/2018 Time: 09:55

Lab File ID: EC07S05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T3 Init. Calib Time(s): 12:52 14:50

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

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

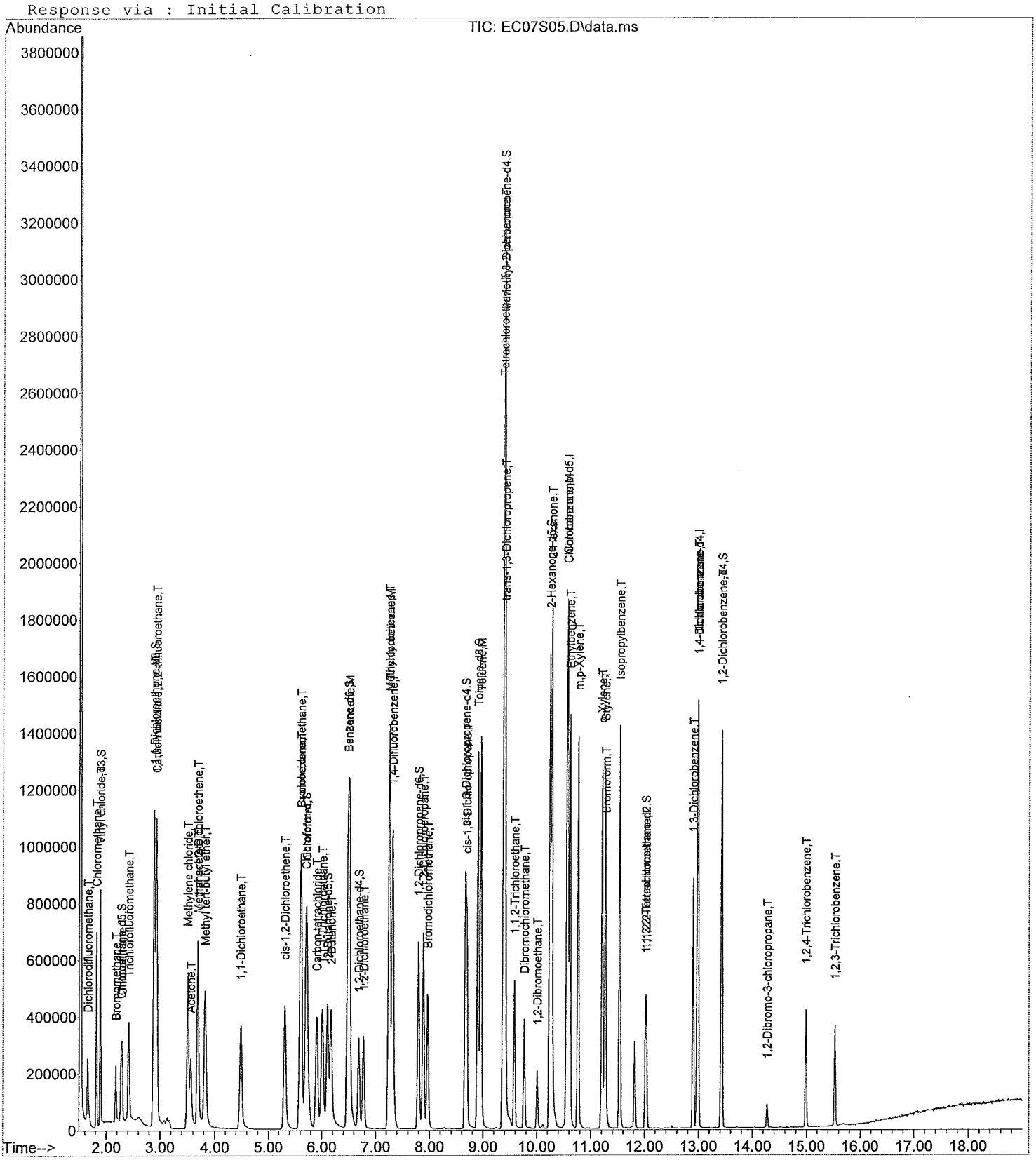
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.198	0.198	0.010	0.2	40.0
Dibromochloromethane	0.311	0.287	0.050	-7.7	20.0
1,2-Dibromoethane	0.213	0.206	0.010	-3.4	20.0
Chlorobenzene	0.949	0.916	0.400	-3.5	20.0
Ethylbenzene	1.461	1.434	0.500	-1.9	20.0
o-Xylene	0.491	0.489	0.300	-0.4	20.0
m,p-Xylene	0.542	0.542	0.200	0.0	20.0
Styrene	0.790	0.795	0.200	0.6	20.0
Bromoform	0.421	0.393	0.010	-6.8	30.0
Isopropylbenzene	1.270	1.298	0.700	2.2	25.0
1,1,2,2-Tetrachloroethane	0.221	0.216	0.050	-2.4	25.0
1,3-Dichlorobenzene	1.461	1.415	0.500	-3.2	20.0
1,4-Dichlorobenzene	1.552	1.479	0.700	-4.7	20.0
1,2-Dichlorobenzene	1.220	1.201	0.400	-1.5	20.0
1,2-Dibromo-3-chloropropane	0.085	0.083	0.010	-2.2	40.0
1,2,4-Trichlorobenzene	0.505	0.489	0.300	-3.3	30.0
1,2,3-Trichlorobenzene	0.398	0.388	0.200	-2.6	40.0
Vinyl chloride-d3	0.392	0.294	0.010	-24.9	30.0
Chloroethane-d5	0.214	0.179	0.010	-16.3	30.0
1,1-Dichloroethene-d2	0.733	0.651	0.010	-11.2	25.0
2-Butanone-d5	0.093	0.092	0.010	-1.3	40.0
Chloroform-d	0.628	0.637	0.010	1.5	20.0
1,2-Dichloroethane-d4	0.312	0.299	0.010	-4.2	25.0
Benzene-d6	1.534	1.491	0.030	-2.8	20.0
1,2-Dichloropropane-d6	0.454	0.447	0.100	-1.7	20.0
Toluene-d8	1.278	1.277	0.200	-0.1	20.0
trans-1,3-Dichloropropene-d4	0.427	0.420	0.010	-1.6	25.0
2-Hexanone-d5	0.079	0.078	0.010	-1.5	40.0
1,1,2,2-Tetrachloroethane-d2	0.231	0.230	0.010	-0.6	25.0
1,2-Dichlorobenzene-d4	0.805	0.784	0.060	-2.6	20.0

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC07S05.D Vial: 2
Acq Time : 12/06/2018 09:55 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT2 2.5 uL of 44969, 44970; 2.0 uL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:14:49 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC07S05.D Vial: 2
Acq Time : 12/06/2018 09:55 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT2 2.5 uL of 44969, 44970; 2.0 uL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:14:49 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	879694	5.00 ug/L	98.29
28) Chlorobenzene-d5	10.55	117	722653	5.00 ug/L	100.39
60) 1,4-dichlorobenzene-d4	12.98	152	257446	5.00 ug/L	100.40
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	258647	3.75 ug/L	75.08%
8) Chloroethane-d5	2.27	69	157591	4.18 ug/L	83.70%
11) 1,1-Dichloroethene-d2	2.88	63	572497	4.44 ug/L	88.77%
22) 2-Butanone-d5	6.10	46	807897	49.36 ug/L	98.73%
25) Chloroform-d	5.70	84	560275	5.07 ug/L	101.47%
27) 1,2-Dichloroethane-d4	6.69	65	262788	4.79 ug/L	95.77%
33) Benzene-d6	6.48	84	1077344	4.86 ug/L	97.20%
37) 1,2-Dichloropropane-d6	7.79	67	322743	4.92 ug/L	98.31%
40) cis-1,3-Dichloropropene-d4	8.66	79	482430	4.77 ug/L	95.48%
42) trans-1,3-Dichloropropene-	9.39	79	303705	4.92 ug/L	98.36%
47) Toluene-d8	8.90	98	922891	5.00 ug/L	99.91%
50) 2-Hexanone-d5	10.24	63	563250	49.23 ug/L	98.45%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	166249	4.97 ug/L	99.44%
65) 1,2-Dichlorobenzene-d4	13.42	152	201959	4.87 ug/L	97.42%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	1.66	85	215052	4.5943 ug/L #	99
3) Chloromethane	1.82	50	472107	4.7912 ug/L	100
4) Vinyl chloride	1.89	62	339253	4.8180 ug/L	99
6) Bromomethane	2.18	94	98786	4.7673 ug/L	98
7) Chloroethane	2.29	64	151526	4.7924 ug/L	97
9) Trichlorofluoromethane	2.42	101	301351	4.6991 ug/L	99
10) 1,1-Dichloroethene	2.90	96	234535	4.6124 ug/L	99
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	263346	4.8368 ug/L	97
13) Acetone	3.55	43	395681	50.0591 ug/L	100
14) Carbon disulfide	2.93	76	775479	4.5530 ug/L	96
15) Methyl acetate	3.70	43	118648	4.6084 ug/L	94
16) Methylene chloride	3.50	84	260508	4.6143 ug/L	100
17) trans-1,2-Dichloroethene	3.69	96	266069	4.6115 ug/L	97
18) Methyl tert-butyl ether	3.82	73	543275	4.7427 ug/L	98
19) 1,1-Dichloroethane	4.49	63	557609	4.8062 ug/L	98
20) cis-1,2-Dichloroethene	5.31	96	266859	4.6087 ug/L	95
21) 2-Butanone	6.17	43	770026	49.8443 ug/L	99
23) Bromochloromethane	5.60	128	129227	4.8555 ug/L	100
24) Chloroform	5.72	83	494860	4.9682 ug/L	100
26) 1,2-Dichloroethane	6.78	62	322727	4.7527 ug/L	100
29) 1,1,1-Trichloroethane	6.01	97	382532	4.5714 ug/L	95
30) Cyclohexane	5.61	56	480835	4.4158 ug/L	100
31) Carbon tetrachloride	5.91	117	360353	4.4062 ug/L	99
32) Benzene	6.51	78	1059246	4.7871 ug/L #	98
34) Trichloroethene	7.26	130	302493	4.8086 ug/L	96
35) Methylcyclohexane	7.24	83	348776	4.3407 ug/L	97
36) 1,2-Dichloropropane	7.88	63	286365	4.8187 ug/L	99
38) Bromodichloromethane	7.96	83	325897	4.6435 ug/L	100
39) cis-1,3-Dichloropropene	8.69	75	378138	4.7466 ug/L	99
41) trans-1,3-Dichloropropene	9.41	75	324653	4.9355 ug/L	100
43) 1,1,2-Trichloroethane	9.58	97	166585	4.8100 ug/L	100
44) Dibromochloromethane	9.77	129	207269	4.6174 ug/L	100
45) 4-Methyl-2-pentanone	9.39	43	1862957	49.5741 ug/L	100
46) Toluene	8.95	91	1009881	4.8790 ug/L	99

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC07S05.D Vial: 2
Acq Time : 12/06/2018 09:55 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT2 2.5 uL of 44969, 44970; 2.0 uL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:14:49 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
48)	Tetrachloroethene	9.37	164	195594	4.7113	ug/L	98
49)	2-Hexanone	10.27	43	1431927	50.1130	ug/L	100
51)	1,2-Dibromoethane	10.00	107	148728	4.8293	ug/L	97
52)	Chlorobenzene	10.57	112	661927	4.8251	ug/L	99
53)	Ethylbenzene	10.61	91	1036000	4.9056	ug/L	100
54)	m,p-Xylene	10.77	106	391686	5.0010	ug/L	100
55)	o-Xylene	11.21	106	353407	4.9787	ug/L	99
56)	Styrene	11.26	104	574629	5.0300	ug/L	99
57)	Isopropylbenzene	11.54	105	937903	5.1113	ug/L	99
58)	1,1,2,2-Tetrachloroethane	12.03	83	156096	4.8787	ug/L	98
61)	Bromoform	11.28	173	101109	4.6606	ug/L	99
62)	1,3-Dichlorobenzene	12.90	146	364301	4.8423	ug/L	99
63)	1,4-Dichlorobenzene	12.99	146	380726	4.7631	ug/L	99
64)	1,2-Dichlorobenzene	13.43	146	309267	4.9252	ug/L	99
66)	1,2-Dibromo-3-chloropropan	14.27	157	21477	4.8909	ug/L	95
67)	1,2,4-Trichlorobenzene	14.98	180	125797	4.8344	ug/L	99
68)	1,2,3-Trichlorobenzene	15.53	180	99827	4.8682	ug/L	97

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/06/2018 Time: 16:46

Lab File ID: EC21F05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T4 Init. Calib Time(s): 12:52 14:50

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	0.266	0.236	0.010	-11.2	50.0
Chloromethane	0.560	0.558	0.010	-0.3	50.0
Vinyl chloride	0.400	0.387	0.010	-3.4	50.0
Bromomethane	0.118	0.097	0.010	-17.5	50.0
Chloroethane	0.180	0.172	0.010	-4.1	50.0
Trichlorofluoromethane	0.364	0.331	0.010	-9.3	50.0
1,1-Dichloroethene	0.289	0.273	0.020	-5.4	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.309	0.296	0.010	-4.5	50.0
Acetone	0.045	0.043	0.010	-5.1	50.0
Carbon disulfide	0.968	0.958	0.010	-1.0	25.0
Methyl acetate	0.146	0.140	0.010	-4.3	50.0
Methylene chloride	0.321	0.301	0.010	-6.1	50.0
trans-1,2-Dichloroethene	0.328	0.318	0.070	-3.0	25.0
Methyl tert-butyl ether	0.651	0.633	0.010	-2.8	50.0
1,1-Dichloroethane	0.659	0.658	0.100	-0.2	25.0
cis-1,2-Dichloroethene	0.329	0.320	0.100	-2.6	25.0
2-Butanone	0.088	0.085	0.010	-3.6	50.0
Bromochloromethane	0.151	0.146	0.020	-3.3	25.0
Chloroform	0.566	0.557	0.040	-1.6	25.0
1,1,1-Trichloroethane	0.579	0.573	0.050	-1.0	25.0
Cyclohexane	0.753	0.692	0.100	-8.2	50.0
Carbon tetrachloride	0.566	0.515	0.020	-9.0	50.0
Benzene	1.531	1.502	0.300	-1.9	25.0
1,2-Dichloroethane	0.386	0.376	0.010	-2.5	50.0
Trichloroethene	0.435	0.440	0.100	1.1	25.0
Methylcyclohexane	0.556	0.485	0.200	-12.7	50.0
1,2-Dichloropropane	0.411	0.394	0.100	-4.3	25.0
Bromodichloromethane	0.486	0.444	0.090	-8.5	25.0
cis-1,3-Dichloropropene	0.551	0.510	0.100	-7.5	25.0
4-Methyl-2-Pentanone	0.260	0.262	0.010	0.9	50.0
Toluene	1.432	1.439	0.400	0.4	25.0
trans-1,3-Dichloropropene	0.455	0.428	0.010	-5.9	25.0
1,1,2-Trichloroethane	0.240	0.230	0.040	-4.1	25.0
Tetrachloroethene	0.287	0.280	0.100	-2.5	25.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/06/2018 Time: 16:46

Lab File ID: EC21F05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T4 Init. Calib Time(s): 12:52 14:50

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

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

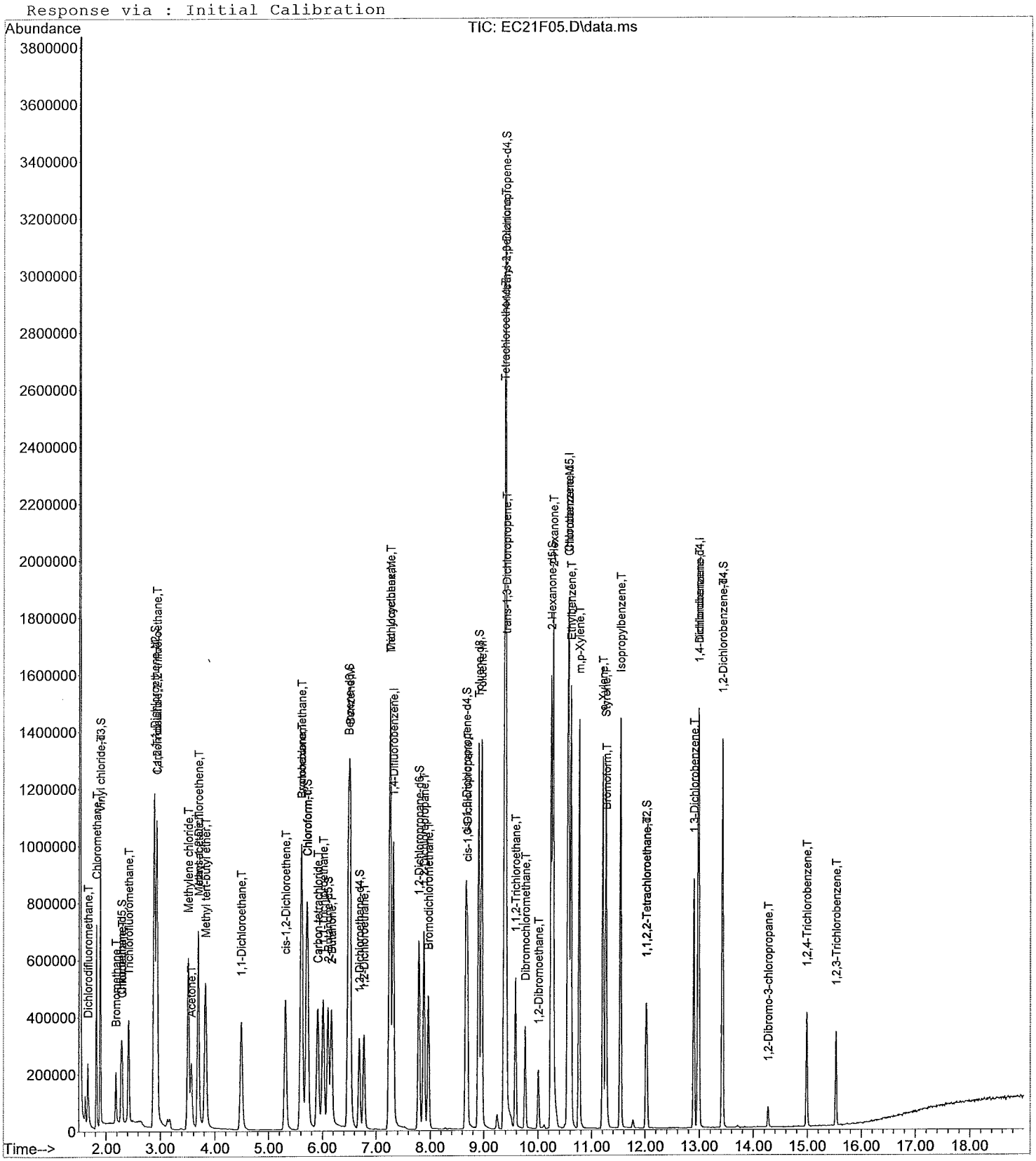
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.198	0.197	0.010	-0.2	50.0
Dibromochloromethane	0.311	0.272	0.050	-12.5	25.0
1,2-Dibromoethane	0.213	0.201	0.010	-5.6	25.0
Chlorobenzene	0.949	0.932	0.400	-1.8	25.0
Ethylbenzene	1.461	1.489	0.500	1.9	25.0
o-Xylene	0.491	0.498	0.300	1.4	25.0
m,p-Xylene	0.542	0.564	0.200	4.1	25.0
Styrene	0.790	0.825	0.200	4.3	25.0
Bromoform	0.421	0.364	0.010	-13.6	50.0
Isopropylbenzene	1.270	1.316	0.700	3.6	25.0
1,1,2,2-Tetrachloroethane	0.221	0.199	0.050	-10.0	25.0
1,3-Dichlorobenzene	1.461	1.431	0.500	-2.1	25.0
1,4-Dichlorobenzene	1.552	1.496	0.700	-3.7	25.0
1,2-Dichlorobenzene	1.220	1.200	0.400	-1.6	25.0
1,2-Dibromo-3-chloropropane	0.085	0.076	0.010	-11.1	50.0
1,2,4-Trichlorobenzene	0.505	0.475	0.300	-6.0	50.0
1,2,3-Trichlorobenzene	0.398	0.358	0.200	-10.1	50.0
Vinyl chloride-d3	0.392	0.380	0.010	-3.0	50.0
Chloroethane-d5	0.214	0.202	0.010	-5.5	50.0
1,1-Dichloroethene-d2	0.733	0.697	0.010	-4.9	25.0
2-Butanone-d5	0.093	0.086	0.010	-8.1	50.0
Chloroform-d	0.628	0.609	0.010	-3.0	25.0
1,2-Dichloroethane-d4	0.312	0.301	0.010	-3.5	25.0
Benzene-d6	1.534	1.528	0.030	-0.4	25.0
1,2-Dichloropropane-d6	0.454	0.439	0.100	-3.3	25.0
Toluene-d8	1.278	1.284	0.200	0.4	25.0
trans-1,3-Dichloropropene-d4	0.427	0.397	0.010	-7.1	25.0
2-Hexanone-d5	0.079	0.076	0.010	-3.7	50.0
1,1,2,2-Tetrachloroethane-d2	0.231	0.217	0.010	-6.4	25.0
1,2-Dichlorobenzene-d4	0.805	0.790	0.060	-1.9	25.0

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC21F05.D Vial: 16
Acq Time : 12/06/2018 16:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 17:05:50 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC21F05.D Vial: 16
Acq Time : 12/06/2018 16:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 17:05:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	874982	5.00 ug/L	97.76
28) Chlorobenzene-d5	10.55	117	714621	5.00 ug/L	99.27
60) 1,4-dichlorobenzene-d4	12.98	152	252314	5.00 ug/L	98.40
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.89	65	332274	4.85 ug/L	96.98%
8) Chloroethane-d5	2.28	69	176995	4.73 ug/L	94.51%
11) 1,1-Dichloroethene-d2	2.88	63	609869	4.75 ug/L	95.07%
22) 2-Butanone-d5	6.10	46	748116	45.96 ug/L	91.92%
25) Chloroform-d	5.71	84	532593	4.85 ug/L	96.97%
27) 1,2-Dichloroethane-d4	6.69	65	263491	4.83 ug/L	96.55%
33) Benzene-d6	6.48	84	1091808	4.98 ug/L	99.61%
37) 1,2-Dichloropropane-d6	7.79	67	313884	4.83 ug/L	96.69%
40) cis-1,3-Dichloropropene-d4	8.66	79	459555	4.60 ug/L	91.98%
42) trans-1,3-Dichloropropene-	9.40	79	283728	4.65 ug/L	92.92%
47) Toluene-d8	8.90	98	917462	5.02 ug/L	100.44%
50) 2-Hexanone-d5	10.24	63	544569	48.13 ug/L	96.26%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	154820	4.68 ug/L	93.64%
65) 1,2-Dichlorobenzene-d4	13.42	152	199374	4.91 ug/L	98.13%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	1.66	85	206800	4.4418 ug/L #	100
3) Chloromethane	1.82	50	488538	4.9846 ug/L	99
4) Vinyl chloride	1.89	62	338418	4.8320 ug/L	99
6) Bromomethane	2.18	94	84974	4.1228 ug/L	100
7) Chloroethane	2.30	64	150845	4.7966 ug/L	97
9) Trichlorofluoromethane	2.42	101	289207	4.5340 ug/L	98
10) 1,1-Dichloroethene	2.89	96	239265	4.7308 ug/L	97
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	258602	4.7752 ug/L	97
13) Acetone	3.55	43	373233	47.4734 ug/L	99
14) Carbon disulfide	2.93	76	838388	4.9489 ug/L	95
15) Methyl acetate	3.70	43	122558	4.7859 ug/L	99
16) Methylene chloride	3.50	84	263614	4.6945 ug/L	98
17) trans-1,2-Dichloroethene	3.69	96	278431	4.8517 ug/L	99
18) Methyl tert-butyl ether	3.82	73	553889	4.8614 ug/L	97
19) 1,1-Dichloroethane	4.49	63	575910	4.9907 ug/L	98
20) cis-1,2-Dichloroethene	5.31	96	280397	4.8685 ug/L	98
21) 2-Butanone	6.17	43	740788	48.2099 ug/L	100
23) Bromochloromethane	5.60	128	128039	4.8368 ug/L	97
24) Chloroform	5.72	83	487531	4.9209 ug/L	98
26) 1,2-Dichloroethane	6.77	62	329314	4.8758 ug/L	100
29) 1,1,1-Trichloroethane	6.01	97	409430	4.9479 ug/L	95
30) Cyclohexane	5.61	56	494267	4.5902 ug/L	99
31) Carbon tetrachloride	5.91	117	367950	4.5497 ug/L	99
32) Benzene	6.52	78	1073062	4.9040 ug/L #	98
34) Trichloroethene	7.26	130	314453	5.0549 ug/L	98
35) Methylcyclohexane	7.25	83	346682	4.3632 ug/L	99
36) 1,2-Dichloropropane	7.88	63	281319	4.7870 ug/L	98
38) Bromodichloromethane	7.96	83	317569	4.5757 ug/L	100
39) cis-1,3-Dichloropropene	8.69	75	364511	4.6270 ug/L	98
41) trans-1,3-Dichloropropene	9.41	75	306113	4.7060 ug/L	95
43) 1,1,2-Trichloroethane	9.58	97	164197	4.7943 ug/L	97
44) Dibromochloromethane	9.77	129	194136	4.3734 ug/L	100
45) 4-Methyl-2-pentanone	9.39	43	1875413	50.4664 ug/L	100
46) Toluene	8.95	91	1027999	5.0224 ug/L	100

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC21F05.D Vial: 16
Acq Time : 12/06/2018 16:46 Operator: SLS
Sample : VSTD005T4 VSTD005T4 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 17:05:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
48)	Tetrachloroethene	9.37	164	200239	4.8774	ug/L	98
49)	2-Hexanone	10.27	43	1409824	49.8941	ug/L	99
51)	1,2-Dibromoethane	10.01	107	143761	4.7205	ug/L	98
52)	Chlorobenzene	10.57	112	666077	4.9099	ug/L	99
53)	Ethylbenzene	10.61	91	1064261	5.0961	ug/L	99
54)	m,p-Xylene	10.77	106	403060	5.2041	ug/L	98
55)	o-Xylene	11.20	106	355965	5.0711	ug/L	98
56)	Styrene	11.26	104	589242	5.2159	ug/L	99
57)	Isopropylbenzene	11.53	105	940318	5.1821	ug/L	99
58)	1,1,2,2-Tetrachloroethane	12.03	83	142406	4.5008	ug/L	99
61)	Bromoform	11.28	173	91807	4.3179	ug/L	100
62)	1,3-Dichlorobenzene	12.90	146	360995	4.8960	ug/L	99
63)	1,4-Dichlorobenzene	12.99	146	377385	4.8174	ug/L	97
64)	1,2-Dichlorobenzene	13.43	146	302704	4.9187	ug/L	99
66)	1,2-Dibromo-3-chloropropan	14.27	157	19124	4.4436	ug/L	96
67)	1,2,4-Trichlorobenzene	14.99	180	119892	4.7011	ug/L	99
68)	1,2,3-Trichlorobenzene	15.53	180	90304	4.4934	ug/L	98

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/07/2018 Time: 09:27

Lab File ID: EC28S05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T5 Init. Calib Time(s): 12:52 14:50

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	0.266	0.237	0.010	-10.8	40.0
Chloromethane	0.560	0.556	0.010	-0.6	30.0
Vinyl chloride	0.400	0.387	0.010	-3.2	30.0
Bromomethane	0.118	0.130	0.010	10.0	30.0
Chloroethane	0.180	0.189	0.010	4.9	30.0
Trichlorofluoromethane	0.364	0.372	0.010	2.0	30.0
1,1-Dichloroethene	0.289	0.294	0.020	1.8	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.309	0.300	0.010	-3.0	30.0
Acetone	0.045	0.049	0.010	9.2	40.0
Carbon disulfide	0.968	0.986	0.010	1.8	25.0
Methyl acetate	0.146	0.158	0.010	8.3	40.0
Methylene chloride	0.321	0.309	0.010	-3.8	30.0
trans-1,2-Dichloroethene	0.328	0.326	0.070	-0.5	20.0
Methyl tert-butyl ether	0.651	0.661	0.010	1.6	30.0
1,1-Dichloroethane	0.659	0.668	0.100	1.2	20.0
cis-1,2-Dichloroethene	0.329	0.320	0.100	-2.7	20.0
2-Butanone	0.088	0.095	0.010	8.7	40.0
Bromochloromethane	0.151	0.150	0.020	-1.0	20.0
Chloroform	0.566	0.569	0.040	0.6	20.0
1,1,1-Trichloroethane	0.579	0.604	0.050	4.3	20.0
Cyclohexane	0.753	0.804	0.100	6.7	25.0
Carbon tetrachloride	0.566	0.594	0.020	5.0	25.0
Benzene	1.531	1.584	0.300	3.5	20.0
1,2-Dichloroethane	0.386	0.384	0.010	-0.6	25.0
Trichloroethene	0.435	0.449	0.100	3.1	20.0
Methylcyclohexane	0.556	0.597	0.200	7.4	25.0
1,2-Dichloropropane	0.411	0.429	0.100	4.3	20.0
Bromodichloromethane	0.486	0.490	0.090	0.9	20.0
cis-1,3-Dichloropropene	0.551	0.561	0.100	1.7	20.0
4-Methyl-2-Pentanone	0.260	0.281	0.010	8.1	30.0
Toluene	1.432	1.499	0.400	4.7	20.0
trans-1,3-Dichloropropene	0.455	0.477	0.010	4.7	20.0
1,1,2-Trichloroethane	0.240	0.246	0.040	2.5	20.0
Tetrachloroethene	0.287	0.288	0.100	0.3	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/07/2018 Time: 09:27

Lab File ID: EC28S05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T5 Init. Calib Time(s): 12:52 14:50

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

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

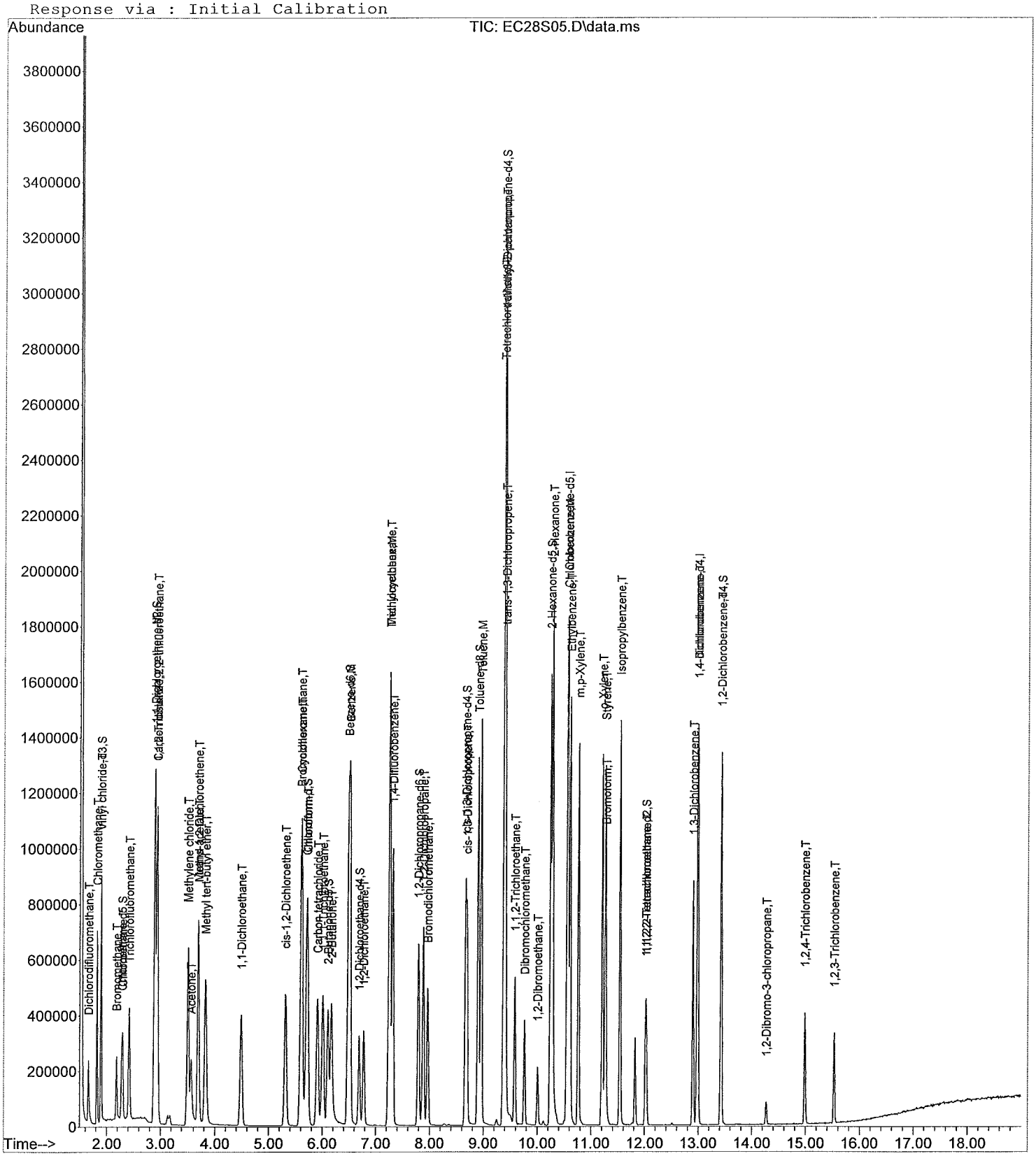
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.198	0.218	0.010	10.2	40.0
Dibromochloromethane	0.311	0.308	0.050	-0.9	20.0
1,2-Dibromoethane	0.213	0.214	0.010	0.3	20.0
Chlorobenzene	0.949	0.960	0.400	1.1	20.0
Ethylbenzene	1.461	1.540	0.500	5.4	20.0
o-Xylene	0.491	0.524	0.300	6.6	20.0
m,p-Xylene	0.542	0.575	0.200	6.1	20.0
Styrene	0.790	0.839	0.200	6.1	20.0
Bromoform	0.421	0.418	0.010	-0.9	30.0
Isopropylbenzene	1.270	1.369	0.700	7.8	25.0
1,1,2,2-Tetrachloroethane	0.221	0.226	0.050	2.1	25.0
1,3-Dichlorobenzene	1.461	1.457	0.500	-0.3	20.0
1,4-Dichlorobenzene	1.552	1.577	0.700	1.6	20.0
1,2-Dichlorobenzene	1.220	1.228	0.400	0.7	20.0
1,2-Dibromo-3-chloropropane	0.085	0.087	0.010	1.7	40.0
1,2,4-Trichlorobenzene	0.505	0.490	0.300	-3.1	30.0
1,2,3-Trichlorobenzene	0.398	0.376	0.200	-5.6	40.0
Vinyl chloride-d3	0.392	0.374	0.010	-4.6	30.0
Chloroethane-d5	0.214	0.211	0.010	-1.6	30.0
1,1-Dichloroethene-d2	0.733	0.748	0.010	2.1	25.0
2-Butanone-d5	0.093	0.095	0.010	2.3	40.0
Chloroform-d	0.628	0.602	0.010	-4.0	20.0
1,2-Dichloroethane-d4	0.312	0.300	0.010	-3.8	25.0
Benzene-d6	1.534	1.556	0.030	1.5	20.0
1,2-Dichloropropane-d6	0.454	0.452	0.100	-0.4	20.0
Toluene-d8	1.278	1.299	0.200	1.7	20.0
trans-1,3-Dichloropropene-d4	0.427	0.427	0.010	-0.1	25.0
2-Hexanone-d5	0.079	0.080	0.010	1.5	40.0
1,1,2,2-Tetrachloroethane-d2	0.231	0.230	0.010	-0.4	25.0
1,2-Dichlorobenzene-d4	0.805	0.778	0.060	-3.4	20.0

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC28S05.D Vial: 19
Acq Time : 12/07/2018 09:27 Operator: CQC
Sample : VSTD005T5 VSTD005T5 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT3 2.5 uL of 44969, 44970; 2.0 uL of Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 09:46:23 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC28S05.D Vial: 19
Acq Time : 12/07/2018 09:27 Operator: CQC
Sample : VSTD005T5 VSTD005T5 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT3 2.5 uL of 44969, 44970; 2.0 uL of Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 09:46:23 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Area%
1) 1,4-Difluorobenzene	7.32	114	863330	5.00	ug/L	96.46
28) Chlorobenzene-d5	10.55	117	677808	5.00	ug/L	94.16
60) 1,4-dichlorobenzene-d4	12.98	152	242353	5.00	ug/L	94.51
System Monitoring Compounds						%Recovery
5) Vinyl chloride-d3	1.89	65	322466	4.77	ug/L	95.38%
8) Chloroethane-d5	2.28	69	181891	4.92	ug/L	98.44%
11) 1,1-Dichloroethene-d2	2.88	63	646113	5.10	ug/L	102.08%
22) 2-Butanone-d5	6.10	46	821617	51.15	ug/L	102.31%
25) Chloroform-d	5.71	84	520155	4.80	ug/L	95.99%
27) 1,2-Dichloroethane-d4	6.69	65	258935	4.81	ug/L	96.16%
33) Benzene-d6	6.48	84	1054718	5.07	ug/L	101.45%
37) 1,2-Dichloropropane-d6	7.79	67	306550	4.98	ug/L	99.56%
40) cis-1,3-Dichloropropene-d4	8.66	79	460016	4.85	ug/L	97.07%
42) trans-1,3-Dichloropropene-	9.39	79	289389	5.00	ug/L	99.92%
47) Toluene-d8	8.90	98	880707	5.08	ug/L	101.66%
50) 2-Hexanone-d5	10.24	63	544619	50.75	ug/L	101.49%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	156230	4.98	ug/L	99.63%
65) 1,2-Dichlorobenzene-d4	13.42	152	188504	4.83	ug/L	96.59%
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.66	85	204933	4.4611	ug/L #	96
3) Chloromethane	1.82	50	480402	4.9677	ug/L	99
4) Vinyl chloride	1.90	62	334369	4.8387	ug/L	98
6) Bromomethane	2.18	94	111816	5.4984	ug/L	98
7) Chloroethane	2.30	64	162748	5.2449	ug/L	97
9) Trichlorofluoromethane	2.42	101	320835	5.0978	ug/L	100
10) 1,1-Dichloroethene	2.89	96	254116	5.0922	ug/L	99
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	259219	4.8512	ug/L	98
13) Acetone	3.55	43	423555	54.6013	ug/L	99
14) Carbon disulfide	2.93	76	851074	5.0915	ug/L	99
15) Methyl acetate	3.70	43	136811	5.4146	ug/L	98
16) Methylene chloride	3.50	84	266382	4.8078	ug/L	97
17) trans-1,2-Dichloroethene	3.69	96	281758	4.9760	ug/L	98
18) Methyl tert-butyl ether	3.82	73	570884	5.0782	ug/L	99
19) 1,1-Dichloroethane	4.49	63	576383	5.0622	ug/L	99
20) cis-1,2-Dichloroethene	5.31	96	276509	4.8658	ug/L	96
21) 2-Butanone	6.17	43	824104	54.3559	ug/L	99
23) Bromochloromethane	5.60	128	129343	4.9520	ug/L	95
24) Chloroform	5.72	83	491647	5.0295	ug/L	100
26) 1,2-Dichloroethane	6.77	62	331252	4.9707	ug/L	99
29) 1,1,1-Trichloroethane	6.01	97	409141	5.2129	ug/L	98
30) Cyclohexane	5.61	56	545069	5.3369	ug/L	100
31) Carbon tetrachloride	5.91	117	402867	5.2520	ug/L	100
32) Benzene	6.52	78	1073816	5.1740	ug/L #	99
34) Trichloroethene	7.26	130	304139	5.1546	ug/L	99
35) Methylcyclohexane	7.25	83	404828	5.3717	ug/L	98
36) 1,2-Dichloropropane	7.89	63	290622	5.2139	ug/L	99
38) Bromodichloromethane	7.96	83	332228	5.0469	ug/L	99
39) cis-1,3-Dichloropropene	8.69	75	380045	5.0862	ug/L	99
41) trans-1,3-Dichloropropene	9.41	75	323135	5.2375	ug/L	99
43) 1,1,2-Trichloroethane	9.58	97	166423	5.1232	ug/L	98
44) Dibromochloromethane	9.77	129	208623	4.9551	ug/L	99
45) 4-Methyl-2-pentanone	9.39	43	1904778	54.0405	ug/L	100
46) Toluene	8.95	91	1016360	5.2352	ug/L	99

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC28S05.D Vial: 19
Acq Time : 12/07/2018 09:27 Operator: CQC
Sample : VSTD005T5 VSTD005T5 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT3 2.5 uL of 44969, 44970; 2.0 uL of Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 09:46:23 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	195332	5.0163 ug/L	99
49)	2-Hexanone	10.28	43	1476194	55.0803 ug/L	99
51)	1,2-Dibromoethane	10.01	107	144832	5.0139 ug/L	98
52)	Chlorobenzene	10.57	112	650539	5.0558 ug/L	98
53)	Ethylbenzene	10.61	91	1043922	5.2702 ug/L	99
54)	m,p-Xylene	10.77	106	389683	5.3046 ug/L	99
55)	o-Xylene	11.20	106	354932	5.3310 ug/L	99
56)	Styrene	11.26	104	568357	5.3042 ug/L	99
57)	Isopropylbenzene	11.53	105	927889	5.3913 ug/L	99
58)	1,1,2,2-Tetrachloroethane	12.03	83	153135	5.1028 ug/L	99
61)	Bromoform	11.28	173	101204	4.9555 ug/L	99
62)	1,3-Dichlorobenzene	12.90	146	353116	4.9859 ug/L	99
63)	1,4-Dichlorobenzene	12.99	146	382093	5.0780 ug/L	99
64)	1,2-Dichlorobenzene	13.43	146	297652	5.0354 ug/L	99
66)	1,2-Dibromo-3-chloropropan	14.27	157	21023	5.0856 ug/L	96
67)	1,2,4-Trichlorobenzene	14.98	180	118732	4.8470 ug/L	98
68)	1,2,3-Trichlorobenzene	15.53	180	91122	4.7204 ug/L	98

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/07/2018 Time: 14:10

Lab File ID: EC38F05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T6 Init. Calib Time(s): 12:52 14:50

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	0.266	0.233	0.010	-12.5	50.0
Chloromethane	0.560	0.538	0.010	-3.9	50.0
Vinyl chloride	0.400	0.384	0.010	-4.1	50.0
Bromomethane	0.118	0.094	0.010	-20.6	50.0
Chloroethane	0.180	0.162	0.010	-9.6	50.0
Trichlorofluoromethane	0.364	0.331	0.010	-9.1	50.0
1,1-Dichloroethene	0.289	0.271	0.020	-6.4	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.309	0.295	0.010	-4.6	50.0
Acetone	0.045	0.038	0.010	-15.3	50.0
Carbon disulfide	0.968	0.957	0.010	-1.2	25.0
Methyl acetate	0.146	0.138	0.010	-5.4	50.0
Methylene chloride	0.321	0.296	0.010	-7.7	50.0
trans-1,2-Dichloroethene	0.328	0.315	0.070	-3.8	25.0
Methyl tert-butyl ether	0.651	0.637	0.010	-2.2	50.0
1,1-Dichloroethane	0.659	0.652	0.100	-1.1	25.0
cis-1,2-Dichloroethene	0.329	0.322	0.100	-2.2	25.0
2-Butanone	0.088	0.080	0.010	-8.6	50.0
Bromochloromethane	0.151	0.146	0.020	-3.6	25.0
Chloroform	0.566	0.549	0.040	-2.9	25.0
1,1,1-Trichloroethane	0.579	0.568	0.050	-1.8	25.0
Cyclohexane	0.753	0.725	0.100	-3.7	50.0
Carbon tetrachloride	0.566	0.517	0.020	-8.7	50.0
Benzene	1.531	1.530	0.300	-0.1	25.0
1,2-Dichloroethane	0.386	0.370	0.010	-4.1	50.0
Trichloroethene	0.435	0.429	0.100	-1.5	25.0
Methylcyclohexane	0.556	0.507	0.200	-8.8	50.0
1,2-Dichloropropane	0.411	0.411	0.100	0.0	25.0
Bromodichloromethane	0.486	0.460	0.090	-5.2	25.0
cis-1,3-Dichloropropene	0.551	0.528	0.100	-4.2	25.0
4-Methyl-2-Pentanone	0.260	0.270	0.010	3.9	50.0
Toluene	1.432	1.465	0.400	2.3	25.0
trans-1,3-Dichloropropene	0.455	0.440	0.010	-3.3	25.0
1,1,2-Trichloroethane	0.240	0.234	0.040	-2.2	25.0
Tetrachloroethene	0.287	0.283	0.100	-1.4	25.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-E Date Analyzed: 12/07/2018 Time: 14:10

Lab File ID: EC38F05 Init. Calib Date(s): 12/04/2018 12/04/2018

EPA Sample No.: VSTD005T6 Init. Calib Time(s): 12:52 14:50

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

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

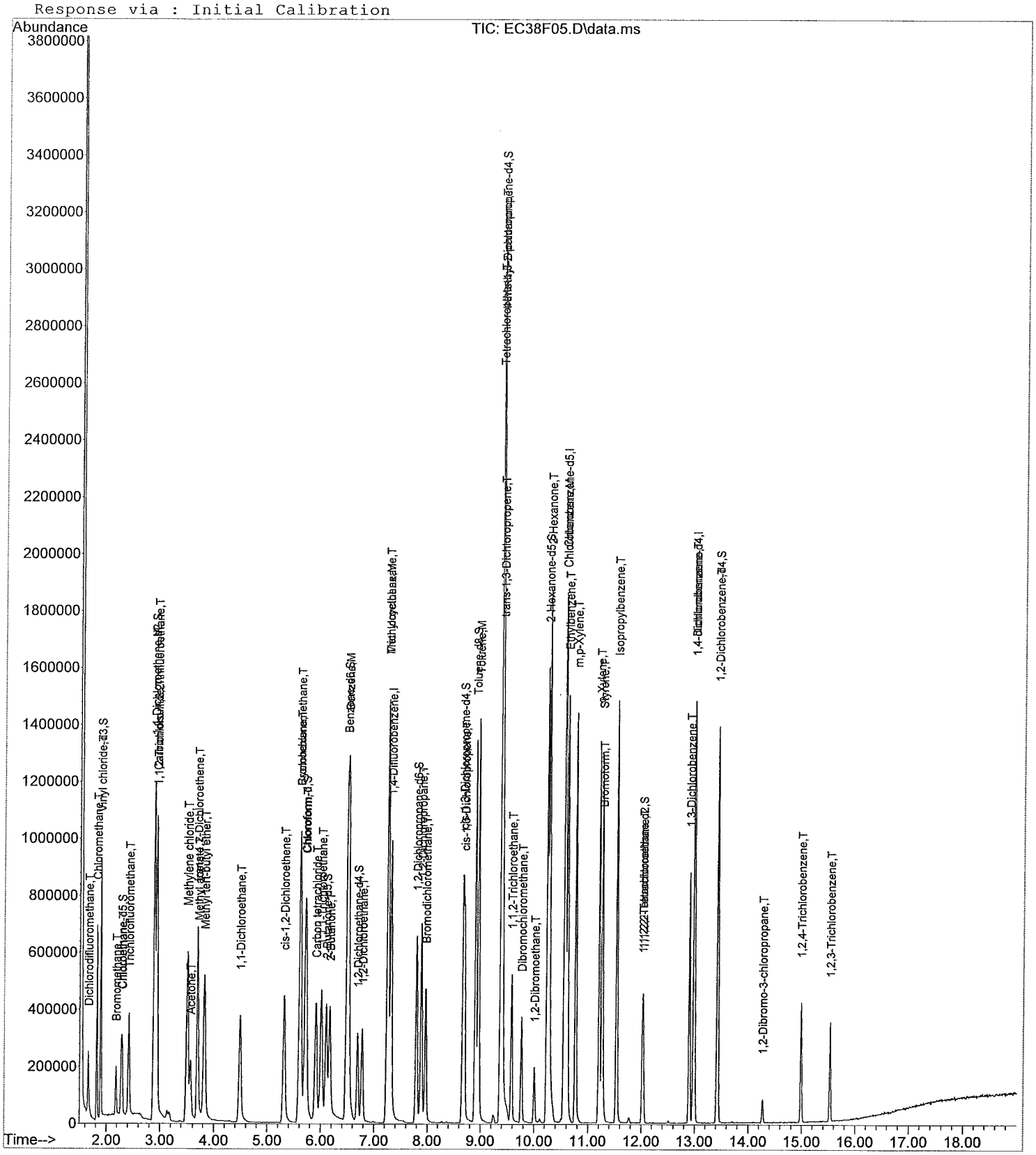
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.198	0.205	0.010	3.7	50.0
Dibromochloromethane	0.311	0.292	0.050	-5.8	25.0
1,2-Dibromoethane	0.213	0.201	0.010	-5.7	25.0
Chlorobenzene	0.949	0.943	0.400	-0.7	25.0
Ethylbenzene	1.461	1.490	0.500	1.9	25.0
o-Xylene	0.491	0.509	0.300	3.6	25.0
m,p-Xylene	0.542	0.568	0.200	4.8	25.0
Styrene	0.790	0.816	0.200	3.3	25.0
Bromoform	0.421	0.391	0.010	-7.1	50.0
Isopropylbenzene	1.270	1.340	0.700	5.6	25.0
1,1,2,2-Tetrachloroethane	0.221	0.214	0.050	-3.1	25.0
1,3-Dichlorobenzene	1.461	1.423	0.500	-2.6	25.0
1,4-Dichlorobenzene	1.552	1.490	0.700	-4.0	25.0
1,2-Dichlorobenzene	1.220	1.200	0.400	-1.6	25.0
1,2-Dibromo-3-chloropropane	0.085	0.080	0.010	-6.6	50.0
1,2,4-Trichlorobenzene	0.505	0.485	0.300	-4.0	50.0
1,2,3-Trichlorobenzene	0.398	0.372	0.200	-6.6	50.0
Vinyl chloride-d3	0.392	0.362	0.010	-7.6	50.0
Chloroethane-d5	0.214	0.197	0.010	-7.8	50.0
1,1-Dichloroethene-d2	0.733	0.695	0.010	-5.2	25.0
2-Butanone-d5	0.093	0.082	0.010	-11.8	50.0
Chloroform-d	0.628	0.607	0.010	-3.2	25.0
1,2-Dichloroethane-d4	0.312	0.295	0.010	-5.5	25.0
Benzene-d6	1.534	1.542	0.030	0.5	25.0
1,2-Dichloropropane-d6	0.454	0.446	0.100	-1.9	25.0
Toluene-d8	1.278	1.286	0.200	0.6	25.0
trans-1,3-Dichloropropene-d4	0.427	0.408	0.010	-4.5	25.0
2-Hexanone-d5	0.079	0.078	0.010	-0.9	50.0
1,1,2,2-Tetrachloroethane-d2	0.231	0.226	0.010	-2.5	25.0
1,2-Dichlorobenzene-d4	0.805	0.785	0.060	-2.5	25.0

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC38F05.D Vial: 29
Acq Time : 12/07/2018 14:10 Operator: CQC
Sample : VSTD005T6 VSTD005T6 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 14:29:54 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC38F05.D Vial: 29
Acq Time : 12/07/2018 14:10 Operator: CQC
Sample : VSTD005T6 VSTD005T6 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 14:29:54 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.32	114	884552	5.00 ug/L	98.83
28) Chlorobenzene-d5	10.55	117	711534	5.00 ug/L	98.84
60) 1,4-dichlorobenzene-d4	12.98	152	254844	5.00 ug/L	99.38
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.89	65	320020	4.62 ug/L	92.39%
8) Chloroethane-d5	2.28	69	174587	4.61 ug/L	92.22%
11) 1,1-Dichloroethene-d2	2.88	63	614506	4.74 ug/L	94.76%
22) 2-Butanone-d5	6.10	46	725707	44.10 ug/L	88.20%
25) Chloroform-d	5.71	84	537326	4.84 ug/L	96.78%
27) 1,2-Dichloroethane-d4	6.69	65	260660	4.72 ug/L	94.48%
33) Benzene-d6	6.48	84	1096998	5.03 ug/L	100.52%
37) 1,2-Dichloropropane-d6	7.80	67	316999	4.90 ug/L	98.07%
40) cis-1,3-Dichloropropene-d4	8.66	79	465375	4.68 ug/L	93.55%
42) trans-1,3-Dichloropropene-	9.39	79	290455	4.78 ug/L	95.54%
47) Toluene-d8	8.90	98	915027	5.03 ug/L	100.61%
50) 2-Hexanone-d5	10.24	63	558447	49.57 ug/L	99.14%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	160496	4.87 ug/L	97.50%
65) 1,2-Dichlorobenzene-d4	13.42	152	199976	4.87 ug/L	97.45%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.66	85	205862	4.3738 ug/L #	99
3) Chloromethane	1.82	50	475936	4.8035 ug/L	99
4) Vinyl chloride	1.90	62	339597	4.7964 ug/L	98
6) Bromomethane	2.18	94	82719	3.9700 ug/L	97
7) Chloroethane	2.30	64	143709	4.5202 ug/L	98
9) Trichlorofluoromethane	2.42	101	292925	4.5426 ug/L	100
10) 1,1-Dichloroethene	2.89	96	239388	4.6820 ug/L	96
12) 1,1,2-Trichloro-1,2,2-trif	2.94	101	261257	4.7720 ug/L	97
13) Acetone	3.55	43	336483	42.3360 ug/L	99
14) Carbon disulfide	2.93	76	846462	4.9425 ug/L	95
15) Methyl acetate	3.71	43	122440	4.7296 ug/L	97
16) Methylene chloride	3.50	84	261952	4.6144 ug/L	97
17) trans-1,2-Dichloroethene	3.69	96	278971	4.8085 ug/L	99
18) Methyl tert-butyl ether	3.82	73	563471	4.8920 ug/L	99
19) 1,1-Dichloroethane	4.49	63	577049	4.9464 ug/L	98
20) cis-1,2-Dichloroethene	5.31	96	284754	4.8907 ug/L	99
21) 2-Butanone	6.17	43	709902	45.7001 ug/L	99
23) Bromochloromethane	5.60	128	129011	4.8208 ug/L	97
24) Chloroform	5.72	83	486033	4.8527 ug/L	98
26) 1,2-Dichloroethane	6.78	62	327555	4.7973 ug/L	99
29) 1,1,1-Trichloroethane	6.01	97	404431	4.9086 ug/L	98
30) Cyclohexane	5.61	56	516067	4.8134 ug/L	98
31) Carbon tetrachloride	5.91	117	367689	4.5662 ug/L	100
32) Benzene	6.51	78	1088561	4.9964 ug/L #	99
34) Trichloroethene	7.26	130	305048	4.9250 ug/L	97
35) Methylcyclohexane	7.25	83	360826	4.5609 ug/L	99
36) 1,2-Dichloropropane	7.88	63	292466	4.9983 ug/L	99
38) Bromodichloromethane	7.96	83	327478	4.7390 ug/L	100
39) cis-1,3-Dichloropropene	8.69	75	375643	4.7890 ug/L	99
41) trans-1,3-Dichloropropene	9.41	75	313208	4.8360 ug/L	99
43) 1,1,2-Trichloroethane	9.58	97	166718	4.8890 ug/L	99
44) Dibromochloromethane	9.77	129	208081	4.7079 ug/L	100
45) 4-Methyl-2-pentanone	9.39	43	1922896	51.9687 ug/L	99
46) Toluene	8.95	91	1042488	5.1153 ug/L	100

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC38F05.D Vial: 29
Acq Time : 12/07/2018 14:10 Operator: CQC
Sample : VSTD005T6 VSTD005T6 5.0 ug/L FCS Inst : 5975-E
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 14:29:54 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	201449	4.9282 ug/L	100
49)	2-Hexanone	10.27	43	1458442	51.8386 ug/L	99
51)	1,2-Dibromoethane	10.01	107	143015	4.7163 ug/L	99
52)	Chlorobenzene	10.57	112	670780	4.9660 ug/L	99
53)	Ethylbenzene	10.61	91	1059844	5.0970 ug/L	99
54)	m,p-Xylene	10.77	106	403972	5.2385 ug/L	100
55)	o-Xylene	11.20	106	361970	5.1791 ug/L	99
56)	Styrene	11.26	104	580917	5.1645 ug/L	100
57)	Isopropylbenzene	11.53	105	953657	5.2784 ug/L	99
58)	1,1,2,2-Tetrachloroethane	12.03	83	152620	4.8446 ug/L	99
61)	Bromoform	11.28	173	99761	4.6454 ug/L	97
62)	1,3-Dichlorobenzene	12.90	146	362675	4.8699 ug/L	99
63)	1,4-Dichlorobenzene	12.99	146	379619	4.7978 ug/L	98
64)	1,2-Dichlorobenzene	13.43	146	305937	4.9219 ug/L	99
66)	1,2-Dibromo-3-chloropropan	14.27	157	20304	4.6710 ug/L	95
67)	1,2,4-Trichlorobenzene	14.98	180	123596	4.7983 ug/L	98
68)	1,2,3-Trichlorobenzene	15.53	180	94792	4.6699 ug/L	99

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 12/06/2018 Time: 10:06

Lab File ID: FB76S05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VSTD005T1 Init. Calib Time(s): 09:09 11:01

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	0.269	0.238	0.010	-11.2	40.0
Chloromethane	0.412	0.353	0.010	-14.2	30.0
Vinyl chloride	0.375	0.332	0.010	-11.6	30.0
Bromomethane	0.246	0.207	0.010	-15.9	30.0
Chloroethane	0.243	0.204	0.010	-16.1	30.0
Trichlorofluoromethane	0.519	0.458	0.010	-11.8	30.0
1,1-Dichloroethene	0.296	0.260	0.020	-12.2	20.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.290	0.242	0.010	-16.6	30.0
Acetone	0.031	0.030	0.010	-4.2	40.0
Carbon disulfide	1.022	0.891	0.010	-12.9	25.0
Methyl acetate	0.091	0.072	0.010	-21.0	40.0
Methylene chloride	0.269	0.238	0.010	-11.4	30.0
trans-1,2-Dichloroethene	0.298	0.267	0.070	-10.3	20.0
Methyl tert-butyl ether	0.455	0.431	0.010	-5.3	30.0
1,1-Dichloroethane	0.542	0.466	0.100	-14.0	20.0
cis-1,2-Dichloroethene	0.284	0.256	0.100	-9.8	20.0
2-Butanone	0.057	0.055	0.010	-4.3	40.0
Bromochloromethane	0.134	0.123	0.020	-8.6	20.0
Chloroform	0.567	0.475	0.040	-16.3	20.0
1,1,1-Trichloroethane	0.527	0.467	0.050	-11.3	20.0
Cyclohexane	0.460	0.428	0.100	-7.0	25.0
Carbon tetrachloride	0.492	0.423	0.020	-13.9	25.0
Benzene	1.358	1.238	0.300	-8.9	20.0
1,2-Dichloroethane	0.295	0.266	0.010	-9.8	25.0
Trichloroethene	0.437	0.403	0.100	-7.7	20.0
Methylcyclohexane	0.370	0.387	0.200	4.7	25.0
1,2-Dichloropropane	0.313	0.286	0.100	-8.6	20.0
Bromodichloromethane	0.444	0.403	0.090	-9.4	20.0
cis-1,3-Dichloropropene	0.411	0.402	0.100	-2.3	20.0
4-Methyl-2-Pentanone	0.159	0.156	0.010	-2.1	30.0
Toluene	1.406	1.342	0.400	-4.5	20.0
trans-1,3-Dichloropropene	0.349	0.353	0.010	1.0	20.0
1,1,2-Trichloroethane	0.200	0.187	0.040	-6.4	20.0
Tetrachloroethene	0.331	0.315	0.100	-5.0	20.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 12/06/2018 Time: 10:06

Lab File ID: FB76S05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VSTD005T1 Init. Calib Time(s): 09:09 11:01

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

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

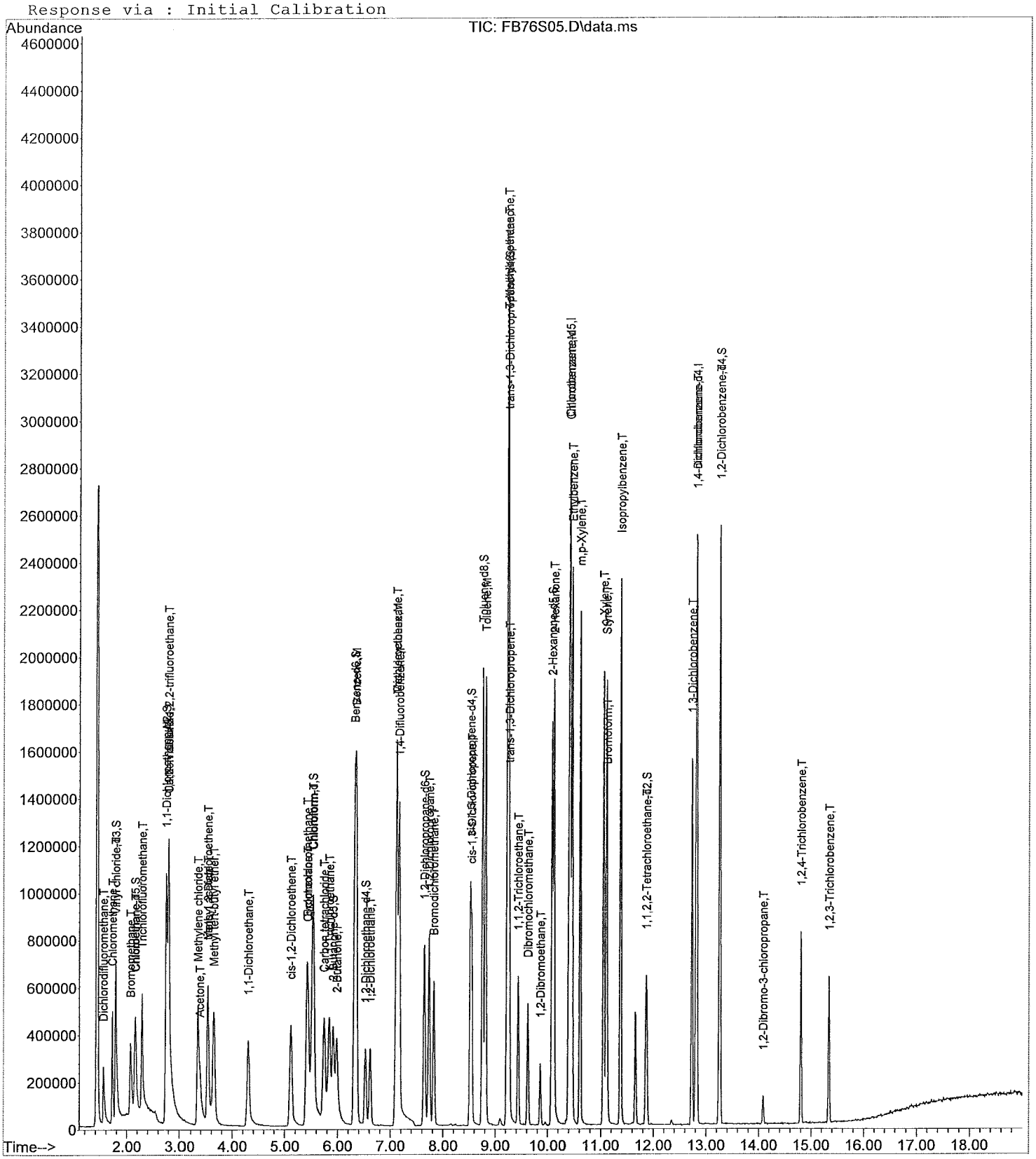
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.123	0.128	0.010	4.6	40.0
Dibromochloromethane	0.286	0.262	0.050	-8.3	20.0
1,2-Dibromoethane	0.176	0.164	0.010	-6.5	20.0
Chlorobenzene	0.995	0.950	0.400	-4.5	20.0
Ethylbenzene	1.551	1.498	0.500	-3.5	20.0
o-Xylene	0.522	0.503	0.300	-3.5	20.0
m,p-Xylene	0.579	0.570	0.200	-1.6	20.0
Styrene	0.850	0.861	0.200	1.2	20.0
Bromoform	0.321	0.350	0.010	9.0	30.0
Isopropylbenzene	1.387	1.395	0.700	0.6	25.0
1,1,2,2-Tetrachloroethane	0.212	0.192	0.050	-9.5	25.0
1,3-Dichlorobenzene	1.673	1.554	0.500	-7.1	20.0
1,4-Dichlorobenzene	1.647	1.607	0.700	-2.4	20.0
1,2-Dichlorobenzene	1.323	1.370	0.400	3.6	20.0
1,2-Dibromo-3-chloropropane	0.061	0.063	0.010	3.0	40.0
1,2,4-Trichlorobenzene	0.505	0.560	0.300	10.8	30.0
1,2,3-Trichlorobenzene	0.382	0.415	0.200	8.5	40.0
Vinyl chloride-d3	0.401	0.337	0.010	-15.8	30.0
Chloroethane-d5	0.316	0.258	0.010	-18.3	30.0
1,1-Dichloroethene-d2	0.664	0.578	0.010	-12.9	25.0
2-Butanone-d5	0.057	0.062	0.010	7.7	40.0
Chloroform-d	0.693	0.600	0.010	-13.4	20.0
1,2-Dichloroethane-d4	0.244	0.225	0.010	-7.6	25.0
Benzene-d6	1.422	1.328	0.030	-6.7	20.0
1,2-Dichloropropane-d6	0.364	0.344	0.100	-5.5	20.0
Toluene-d8	1.249	1.207	0.200	-3.4	20.0
trans-1,3-Dichloropropene-d4	0.331	0.336	0.010	1.4	25.0
2-Hexanone-d5	0.044	0.047	0.010	7.9	40.0
1,1,2,2-Tetrachloroethane-d2	0.221	0.203	0.010	-7.9	25.0
1,2-Dichlorobenzene-d4	0.836	0.853	0.060	2.1	20.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB76S05.D Vial: 2
Acq Time : 12/06/2018 10:06 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44969, 70 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:25:35 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB76S05.D Vial: 2
Acq Time : 12/06/2018 10:06 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44969, 70 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:25:35 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.16	114	1275432	5.00 ug/L	108.42
28) Chlorobenzene-d5	10.40	117	1095169	5.00 ug/L	110.30
60) 1,4-dichlorobenzene-d4	12.81	152	440068	5.00 ug/L	95.27
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	430269	4.21 ug/L	84.21%
8) Chloroethane-d5	2.15	69	329634	4.09 ug/L	81.73%
11) 1,1-Dichloroethene-d2	2.75	63	737397	4.36 ug/L	87.14%
22) 2-Butanone-d5	5.92	46	787631	53.86 ug/L	107.72%
25) Chloroform-d	5.52	84	764780	4.33 ug/L	86.57%
27) 1,2-Dichloroethane-d4	6.52	65	287175	4.62 ug/L	92.44%
33) Benzene-d6	6.32	84	1454040	4.67 ug/L	93.34%
37) 1,2-Dichloropropane-d6	7.64	67	376519	4.72 ug/L	94.49%
40) cis-1,3-Dichloropropene-d4	8.52	79	563780	4.92 ug/L	98.33%
42) trans-1,3-Dichloropropene-	9.25	79	367773	5.07 ug/L	101.38%
47) Toluene-d8	8.76	98	1321789	4.83 ug/L	96.64%
50) 2-Hexanone-d5	10.08	63	519655	53.96 ug/L	107.93%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	222857	4.61 ug/L	92.10%
65) 1,2-Dichlorobenzene-d4	13.25	152	375595	5.11 ug/L	102.11%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	304113	4.4384 ug/L #	99
3) Chloromethane	1.72	50	450731	4.2878 ug/L	99
4) Vinyl chloride	1.79	62	423240	4.4217 ug/L	100
6) Bromomethane	2.07	94	263523	4.2043 ug/L	98
7) Chloroethane	2.17	64	259695	4.1957 ug/L	98
9) Trichlorofluoromethane	2.29	101	584688	4.4123 ug/L	99
10) 1,1-Dichloroethene	2.76	96	331960	4.3923 ug/L	95
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	308415	4.1702 ug/L	98
13) Acetone	3.39	43	377361	47.9206 ug/L	91
14) Carbon disulfide	2.79	76	1135842	4.3573 ug/L	97
15) Methyl acetate	3.53	43	91930	3.9479 ug/L	98
16) Methylene chloride	3.34	84	303845	4.4293 ug/L	94
17) trans-1,2-Dichloroethene	3.53	96	340500	4.4834 ug/L	96
18) Methyl tert-butyl ether	3.64	73	550008	4.7367 ug/L	95
19) 1,1-Dichloroethane	4.30	63	594540	4.3011 ug/L	100
20) cis-1,2-Dichloroethene	5.12	96	326144	4.5080 ug/L	94
21) 2-Butanone	5.98	43	695184	47.8532 ug/L	94
23) Bromochloromethane	5.42	128	156293	4.5721 ug/L #	87
24) Chloroform	5.54	83	605490	4.1839 ug/L	96
26) 1,2-Dichloroethane	6.62	62	339166	4.5090 ug/L	97
29) 1,1,1-Trichloroethane	5.84	97	511865	4.4331 ug/L #	99
30) Cyclohexane	5.44	56	468645	4.6490 ug/L	90
31) Carbon tetrachloride	5.74	117	463342	4.3026 ug/L	95
32) Benzene	6.35	78	1355523	4.5558 ug/L	96
34) Trichloroethene	7.12	130	441276	4.6150 ug/L	97
35) Methylcyclohexane	7.11	83	424078	5.2366 ug/L	95
36) 1,2-Dichloropropane	7.73	63	312889	4.5704 ug/L	97
38) Bromodichloromethane	7.82	83	441126	4.5311 ug/L	99
39) cis-1,3-Dichloropropene	8.55	75	439850	4.8865 ug/L	96
41) trans-1,3-Dichloropropene	9.27	75	386302	5.0510 ug/L	94
43) 1,1,2-Trichloroethane	9.43	97	204715	4.6807 ug/L	96
44) Dibromochloromethane	9.62	129	287356	4.5830 ug/L	97
45) 4-Methyl-2-pentanone	9.23	43	1709114	48.9654 ug/L	96
46) Toluene	8.81	91	1469834	4.7727 ug/L	99

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

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB76S05.D Vial: 2
Acq Time : 12/06/2018 10:06 Operator: SLS
Sample : VSTD005T1 VSTD005T1 5.0 ug/L ICS Inst : 5975-F
Misc : 2.5 uL of 44969, 70 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 10:25:35 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	Tetrachloroethene	9.23	164	344841	4.7521	ug/L		98
49)	2-Hexanone	10.12	43	1404480	52.2862	ug/L		95
51)	1,2-Dibromoethane	9.86	107	179677	4.6730	ug/L		99
52)	Chlorobenzene	10.42	112	1040819	4.7773	ug/L		96
53)	Ethylbenzene	10.46	91	1640240	4.8272	ug/L		97
54)	m,p-Xylene	10.61	106	624253	4.9204	ug/L	#	49
55)	o-Xylene	11.05	106	551324	4.8261	ug/L		92
56)	Styrene	11.10	104	942484	5.0618	ug/L		98
57)	Isopropylbenzene	11.38	105	1527233	5.0276	ug/L		99
58)	1,1,2,2-Tetrachloroethane	11.87	83	210515	4.5252	ug/L		97
61)	Bromoform	11.12	173	153821	5.4506	ug/L		99
62)	1,3-Dichlorobenzene	12.74	146	683817	4.6446	ug/L		99
63)	1,4-Dichlorobenzene	12.82	146	707053	4.8789	ug/L		98
64)	1,2-Dichlorobenzene	13.26	146	602739	5.1781	ug/L		97
66)	1,2-Dibromo-3-chloropropan	14.08	75	27839	5.1513	ug/L		84
67)	1,2,4-Trichlorobenzene	14.80	180	246439	5.5402	ug/L		98
68)	1,2,3-Trichlorobenzene	15.34	180	182539	5.4240	ug/L		98

(#) = 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: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 12/06/2018 Time: 15:26

Lab File ID: FB87F05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VSTD005T2 Init. Calib Time(s): 09:09 11:01

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	0.269	0.243	0.010	-9.7	50.0
Chloromethane	0.412	0.361	0.010	-12.3	50.0
Vinyl chloride	0.375	0.339	0.010	-9.7	50.0
Bromomethane	0.246	0.205	0.010	-16.7	50.0
Chloroethane	0.243	0.209	0.010	-14.1	50.0
Trichlorofluoromethane	0.519	0.471	0.010	-9.4	50.0
1,1-Dichloroethene	0.296	0.266	0.020	-10.3	25.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.290	0.264	0.010	-8.8	50.0
Acetone	0.031	0.023	0.010	-26.5	50.0
Carbon disulfide	1.022	0.899	0.010	-12.1	25.0
Methyl acetate	0.091	0.070	0.010	-23.0	50.0
Methylene chloride	0.269	0.225	0.010	-16.4	50.0
trans-1,2-Dichloroethene	0.298	0.276	0.070	-7.4	25.0
Methyl tert-butyl ether	0.455	0.387	0.010	-15.0	50.0
1,1-Dichloroethane	0.542	0.484	0.100	-10.6	25.0
cis-1,2-Dichloroethene	0.284	0.252	0.100	-11.1	25.0
2-Butanone	0.057	0.043	0.010	-23.8	50.0
Bromochloromethane	0.134	0.111	0.020	-17.3	25.0
Chloroform	0.567	0.497	0.040	-12.4	25.0
1,1,1-Trichloroethane	0.527	0.499	0.050	-5.4	25.0
Cyclohexane	0.460	0.438	0.100	-4.9	50.0
Carbon tetrachloride	0.492	0.465	0.020	-5.5	50.0
Benzene	1.358	1.278	0.300	-5.9	25.0
1,2-Dichloroethane	0.295	0.236	0.010	-20.1	50.0
Trichloroethene	0.437	0.415	0.100	-4.8	25.0
Methylcyclohexane	0.370	0.439	0.200	18.8	50.0
1,2-Dichloropropane	0.313	0.275	0.100	-11.9	25.0
Bromodichloromethane	0.444	0.377	0.090	-15.2	25.0
cis-1,3-Dichloropropene	0.411	0.363	0.100	-11.6	25.0
4-Methyl-2-Pentanone	0.159	0.135	0.010	-15.4	50.0
Toluene	1.406	1.410	0.400	0.3	25.0
trans-1,3-Dichloropropene	0.349	0.300	0.010	-14.1	25.0
1,1,2-Trichloroethane	0.200	0.168	0.040	-15.6	25.0
Tetrachloroethene	0.331	0.320	0.100	-3.4	25.0

FORM 7A-OR

INITIAL CALIBRATION VERIFICATION AND CONTINUING CALIBRATION VERIFICATION FOR GC/MS

Lab Name: ALS Environmental (SLC) Contract: 97756

Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130

Analytical Method: Trace VOA Level: TRACE

Instrument ID: 5975-F Date Analyzed: 12/06/2018 Time: 15:26

Lab File ID: FB87F05 Init. Calib Date(s): 11/30/2018 11/30/2018

EPA Sample No.: VSTD005T2 Init. Calib Time(s): 09:09 11:01

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

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

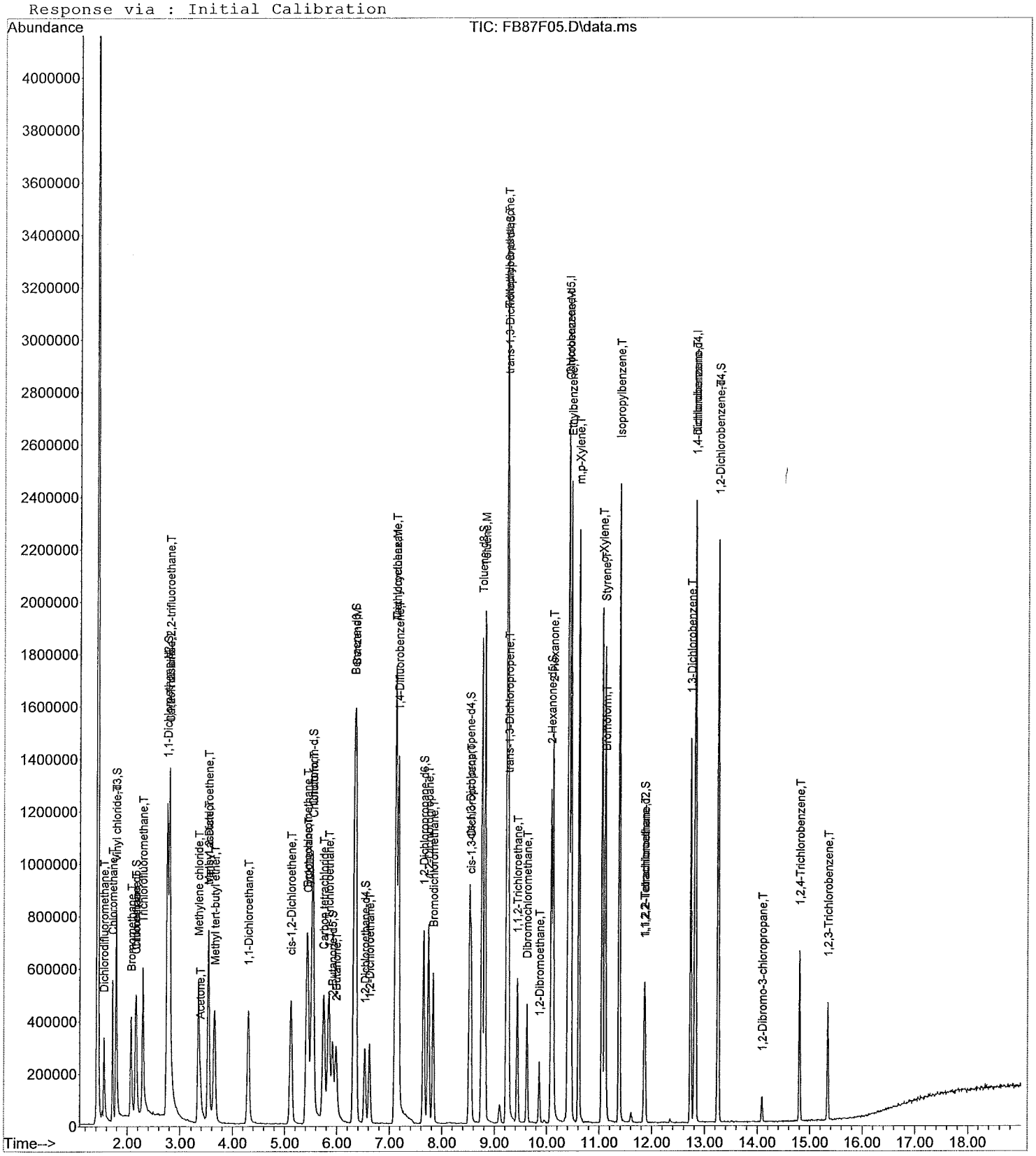
ANALYTE	$\overline{RRF}$	RRF 5	MIN RRF	%D	MAX %D
2-Hexanone	0.123	0.105	0.010	-14.7	50.0
Dibromochloromethane	0.286	0.231	0.050	-19.4	25.0
1,2-Dibromoethane	0.176	0.146	0.010	-16.8	25.0
Chlorobenzene	0.995	0.950	0.400	-4.5	25.0
Ethylbenzene	1.551	1.574	0.500	1.5	25.0
o-Xylene	0.522	0.520	0.300	-0.2	25.0
m,p-Xylene	0.579	0.598	0.200	3.2	25.0
Styrene	0.850	0.846	0.200	-0.4	25.0
Bromoform	0.321	0.301	0.010	-6.1	50.0
Isopropylbenzene	1.387	1.484	0.700	7.0	25.0
1,1,2,2-Tetrachloroethane	0.212	0.165	0.050	-22.2	25.0
1,3-Dichlorobenzene	1.673	1.584	0.500	-5.3	25.0
1,4-Dichlorobenzene	1.647	1.605	0.700	-2.5	25.0
1,2-Dichlorobenzene	1.323	1.325	0.400	0.2	25.0
1,2-Dibromo-3-chloropropane	0.061	0.055	0.010	-10.4	50.0
1,2,4-Trichlorobenzene	0.505	0.473	0.300	-6.4	50.0
1,2,3-Trichlorobenzene	0.382	0.333	0.200	-13.0	50.0
Vinyl chloride-d3	0.401	0.335	0.010	-16.3	50.0
Chloroethane-d5	0.316	0.253	0.010	-20.0	50.0
1,1-Dichloroethene-d2	0.664	0.606	0.010	-8.7	25.0
2-Butanone-d5	0.057	0.043	0.010	-25.1	50.0
Chloroform-d	0.693	0.614	0.010	-11.3	25.0
1,2-Dichloroethane-d4	0.244	0.196	0.010	-19.5	25.0
Benzene-d6	1.422	1.360	0.030	-4.4	25.0
1,2-Dichloropropane-d6	0.364	0.328	0.100	-10.0	25.0
Toluene-d8	1.249	1.254	0.200	0.4	25.0
trans-1,3-Dichloropropene-d4	0.331	0.289	0.010	-12.6	25.0
2-Hexanone-d5	0.044	0.036	0.010	-18.1	50.0
1,1,2,2-Tetrachloroethane-d2	0.221	0.179	0.010	-19.1	25.0
1,2-Dichlorobenzene-d4	0.836	0.831	0.060	-0.6	25.0

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB87F05.D Vial: 13
Acq Time : 12/06/2018 15:26 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 15:46:08 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB87F05.D Vial: 13
Acq Time : 12/06/2018 15:26 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 15:46:08 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.16	114	1287054	5.00 ug/L	109.41
28) Chlorobenzene-d5	10.40	117	1069121	5.00 ug/L	107.67
60) 1,4-dichlorobenzene-d4	12.81	152	409224	5.00 ug/L	88.59
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	431694	4.19 ug/L	83.73%
8) Chloroethane-d5	2.15	69	325546	4.00 ug/L	79.99%
11) 1,1-Dichloroethene-d2	2.75	63	779820	4.57 ug/L	91.32%
22) 2-Butanone-d5	5.92	46	552471	37.44 ug/L	74.87%
25) Chloroform-d	5.53	84	790541	4.43 ug/L	88.68%
27) 1,2-Dichloroethane-d4	6.52	65	252319	4.02 ug/L	80.49%
33) Benzene-d6	6.32	84	1453811	4.78 ug/L	95.59%
37) 1,2-Dichloropropane-d6	7.65	67	350190	4.50 ug/L	90.03%
40) cis-1,3-Dichloropropene-d4	8.52	79	479335	4.28 ug/L	85.64%
42) trans-1,3-Dichloropropene-	9.25	79	309482	4.37 ug/L	87.39%
47) Toluene-d8	8.76	98	1341026	5.02 ug/L	100.44%
50) 2-Hexanone-d5	10.08	63	384893	40.94 ug/L	81.89%
59) 1,1,2,2-Tetrachloroethane-	11.85	84	191157	4.05 ug/L	80.93%
65) 1,2-Dichlorobenzene-d4	13.25	152	339913	4.97 ug/L	99.38%
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.55	85	312251	4.5160 ug/L #	100
3) Chloromethane	1.71	50	465183	4.3853 ug/L	98
4) Vinyl chloride	1.79	62	436040	4.5143 ug/L	99
6) Bromomethane	2.07	94	263505	4.1661 ug/L	99
7) Chloroethane	2.17	64	268416	4.2975 ug/L	98
9) Trichlorofluoromethane	2.29	101	605776	4.5301 ug/L	98
10) 1,1-Dichloroethene	2.76	96	341912	4.4831 ug/L	92
12) 1,1,2-Trichloro-1,2,2-trif	2.79	101	340416	4.5614 ug/L	97
13) Acetone	3.39	43	292101	36.7586 ug/L	90
14) Carbon disulfide	2.80	76	1156655	4.3970 ug/L	99
15) Methyl acetate	3.53	43	90441	3.8489 ug/L	92
16) Methylene chloride	3.34	84	289332	4.1797 ug/L	93
17) trans-1,2-Dichloroethene	3.53	96	354977	4.6318 ug/L	96
18) Methyl tert-butyl ether	3.65	73	497916	4.2493 ug/L	97
19) 1,1-Dichloroethane	4.30	63	623391	4.4691 ug/L	98
20) cis-1,2-Dichloroethene	5.12	96	324620	4.4465 ug/L	94
21) 2-Butanone	5.98	43	558626	38.1059 ug/L	94
23) Bromochloromethane	5.42	128	142572	4.1330 ug/L #	83
24) Chloroform	5.55	83	639533	4.3792 ug/L	97
26) 1,2-Dichloroethane	6.62	62	303157	3.9939 ug/L	99
29) 1,1,1-Trichloroethane	5.84	97	533065	4.7292 ug/L #	96
30) Cyclohexane	5.45	56	468104	4.7568 ug/L	96
31) Carbon tetrachloride	5.75	117	496674	4.7244 ug/L	97
32) Benzene	6.35	78	1366451	4.7044 ug/L	96
34) Trichloroethene	7.12	130	444133	4.7580 ug/L	96
35) Methylcyclohexane	7.11	83	469718	5.9415 ug/L	96
36) 1,2-Dichloropropane	7.73	63	294474	4.4062 ug/L	97
38) Bromodichloromethane	7.83	83	403202	4.2425 ug/L	98
39) cis-1,3-Dichloropropene	8.55	75	388553	4.4218 ug/L	97
41) trans-1,3-Dichloropropene	9.27	75	320767	4.2963 ug/L	92
43) 1,1,2-Trichloroethane	9.43	97	180070	4.2175 ug/L	95
44) Dibromochloromethane	9.62	129	246781	4.0318 ug/L	97
45) 4-Methyl-2-pentanone	9.23	43	1440540	42.2764 ug/L	95
46) Toluene	8.81	91	1507112	5.0130 ug/L	99

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

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB87F05.D Vial: 13
Acq Time : 12/06/2018 15:26 Operator: SLS
Sample : VSTD005T2 VSTD005T2 5.0 ug/L FCS Inst : 5975-F
Misc : 2.5 uL of 44969, 44970 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 15:46:08 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

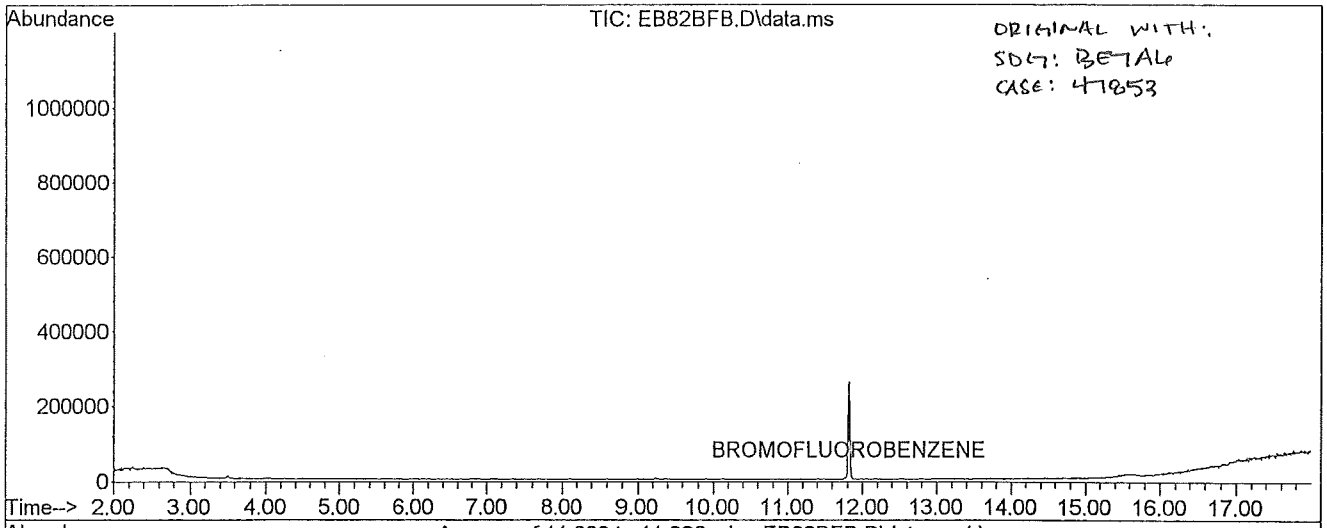
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	Tetrachloroethene	9.23	164	342004	4.8279	ug/L		93
49)	2-Hexanone	10.12	43	1118012	42.6356	ug/L		95
51)	1,2-Dibromoethane	9.86	107	156181	4.1608	ug/L		99
52)	Chlorobenzene	10.42	112	1015389	4.7741	ug/L		96
53)	Ethylbenzene	10.46	91	1682679	5.0727	ug/L		98
54)	m,p-Xylene	10.61	106	639272	5.1615	ug/L	#	51
55)	o-Xylene	11.05	106	556454	4.9897	ug/L		92
56)	Styrene	11.10	104	904916	4.9785	ug/L		99
57)	Isopropylbenzene	11.38	105	1586876	5.3512	ug/L		98
58)	1,1,2,2-Tetrachloroethane	11.87	83	176644	3.8896	ug/L		99
61)	Bromoform	11.12	173	123263	4.6970	ug/L		98
62)	1,3-Dichlorobenzene	12.73	146	648176	4.7343	ug/L		98
63)	1,4-Dichlorobenzene	12.82	146	656968	4.8749	ug/L		98
64)	1,2-Dichlorobenzene	13.26	146	542395	5.0109	ug/L		97
66)	1,2-Dibromo-3-chloropropan	14.09	75	22511	4.4794	ug/L	#	80
67)	1,2,4-Trichlorobenzene	14.80	180	193685	4.6824	ug/L		100
68)	1,2,3-Trichlorobenzene	15.34	180	136159	4.3508	ug/L		97

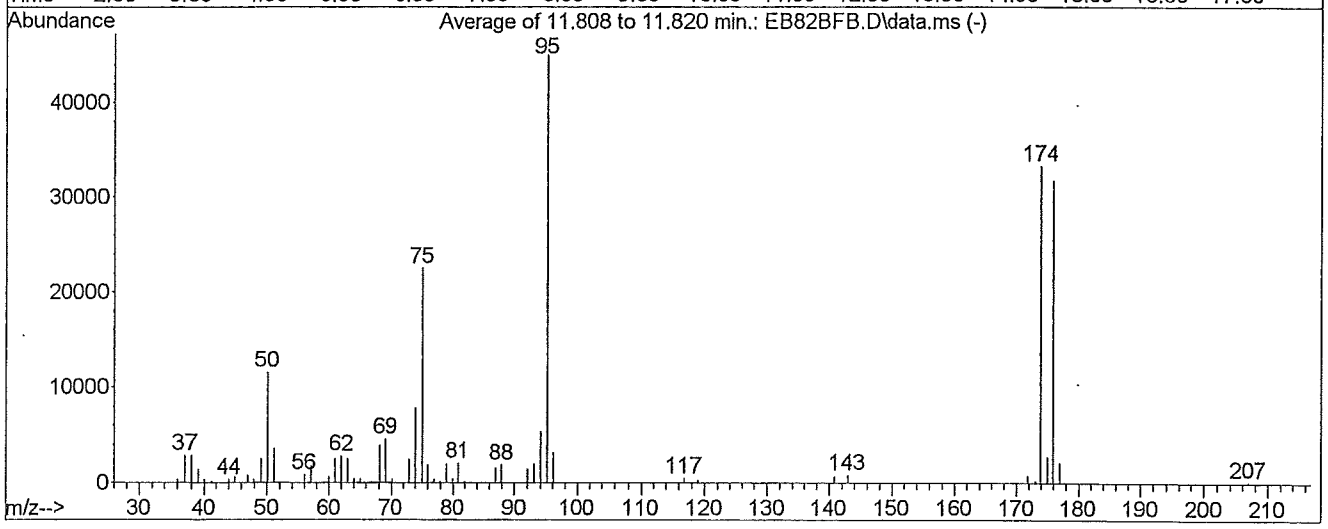
(#) = qualifier out of range (m) = manual integration

SOM01.2 BFB

Data File : C:\msdchem\1\DATA\04DEC18E\EB82BFB.D Vial: 1
Acq Time : 12/04/2018 12:22 Operator: CQC
Sample : BFBET 50 ng BFB Inst : 5975-E
Misc : 2.0 uL of 44568 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: 1694
Average of 3 Scans: 1693,1694,1695 minus Background scan: 1688

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.54	11512	PASS
75	95	30	80	49.93	22505	PASS
95	95	100	100	100.00	45072	PASS
96	95	5	9	7.00	3156	PASS
173	174	0.00	2	0.65	217	PASS
174	95	50	120	73.93	33320	PASS
175	174	5	9	8.21	2737	PASS
176	174	95	101	95.16	31707	PASS
177	176	5	9	6.64	2106	PASS

Data File : C:\msdchem\1\DATA\04DEC18E\EB82BFB.D
Inject Time: 12/04/2018 12:22 Operator:CQC
Sample : BFBET 5 Inst :5975-E
Misc : 2.0 uL of 44568

Average of 11.808 to 11.820 min.: EB82BFB.D\data.ms
BFBET 50 ng BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	389	50.05	11512	68.05	3920	79.95	438
37.10	2868	51.05	3602	69.05	4547	80.85	2048
38.05	2867	56.00	863	70.15	328	82.00	175
39.05	1378	57.05	1738	73.00	2442	87.00	1592
40.00	352	59.95	624	74.00	7796	87.95	1890
41.20	139	61.00	2487	75.05	22505	92.00	1399
44.00	373	62.05	2782	76.00	1828	93.05	1977
45.00	597	63.05	2520	76.80	164	94.05	5385
47.00	743	64.05	390	77.05	355	95.00	45072
47.95	349	65.10	417	77.90	169	96.05	3156
49.00	2517	66.80	140	78.95	1984	116.85	512

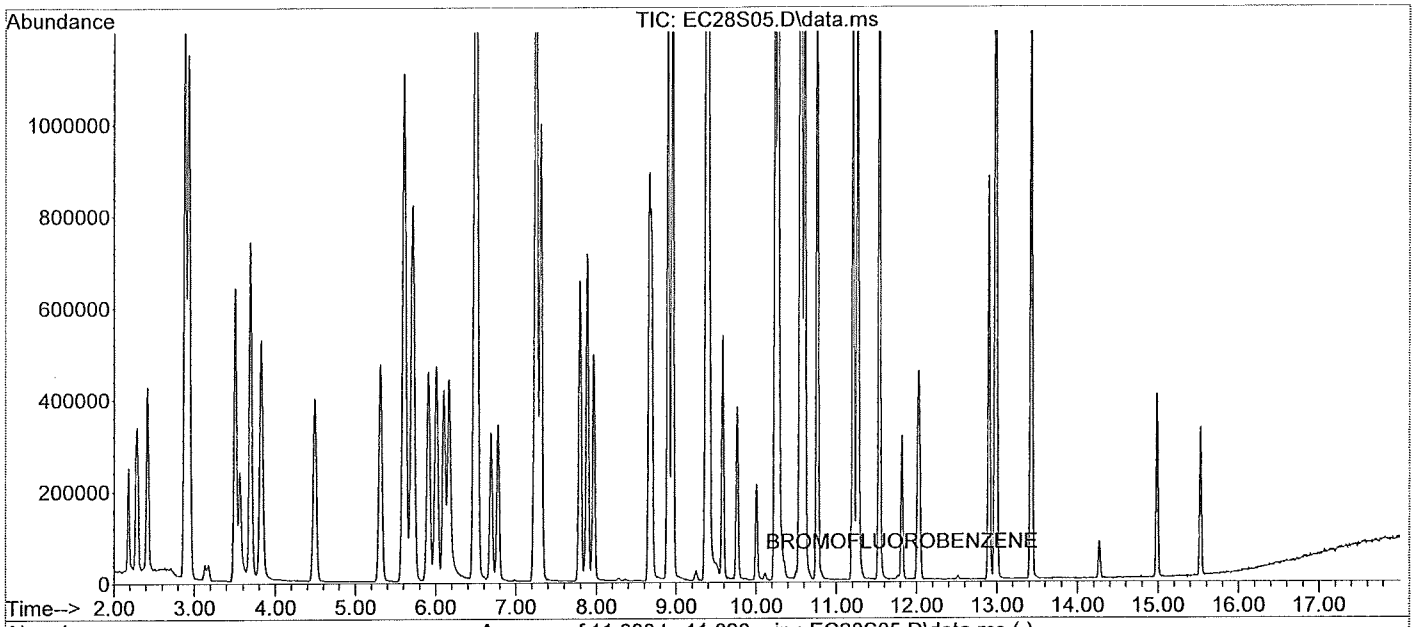
Average of 11.808 to 11.820 min.: EB82BFB.D\data.ms
BFBET 50 ng BFB
Modified:subtracted

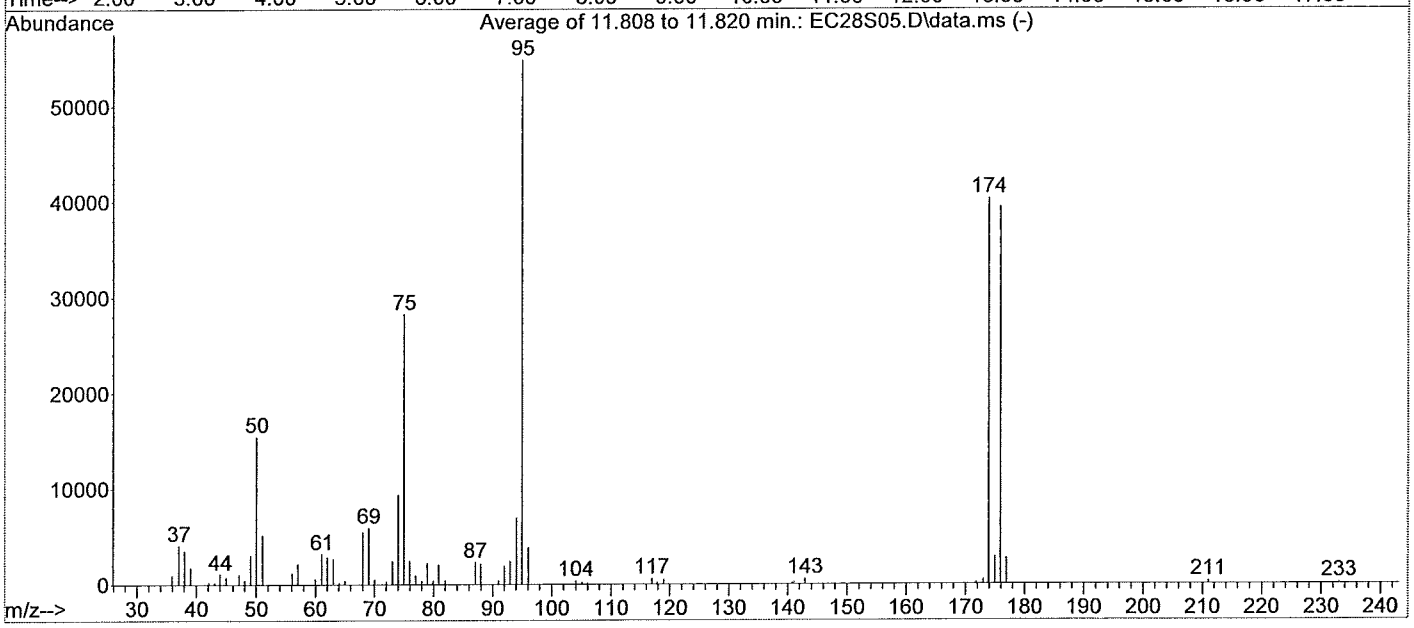
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
118.95	271						
140.85	610						
142.95	836						
171.85	792						
172.90	217						
173.10	200						
173.90	33320						
174.95	2737						
175.90	31707						
176.95	2106						
206.90	139						

SOM01.2 BFB

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC28S05.D Vial: 19
Acq Time : 12/07/2018 09:27 Operator: CQC
Sample : VSTD005T5 VSTD005T5 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT3 2.5 uL of 44969, 44970; 2.0 uL of Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\2018\Methods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST





Peak Apex is scan: 1694
Average of 3 Scans: 1693,1694,1695 minus Background scan: 1687

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	28.19	15455	PASS
75	95	30	80	51.54	28253	PASS
95	95	100	100	100.00	54821	PASS
96	95	5	9	7.05	3864	PASS
173	174	0.00	2	1.13	455	PASS
174	95	50	120	73.54	40317	PASS
175	174	5	9	7.03	2836	PASS
176	174	95	101	97.76	39413	PASS
177	176	5	9	6.84	2694	PASS

Data File : Q:\E-5975-E\2018\DATA\DEC18E\07DEC18E\EC28S05.D
Inject Time: 12/07/2018 09:27 Operator:CQC
Sample : VSTD005T5 Inst :5975-E
Misc : BFBT3 2.5 uL of 449

Average of 11.808 to 11.820 min.: EC28S05.D\data.ms
VSTD005T5 VSTD005T5 5.0 ug/L CVS
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	925	50.05	15455	69.00	5924	79.95	383
37.05	4066	51.05	5155	70.05	501	80.90	2031
38.05	3493	56.05	1179	72.00	297	81.95	419
39.05	1744	57.00	2150	73.00	2451	87.00	2311
42.10	202	59.95	573	74.00	9393	87.95	2095
43.10	171	61.05	3173	75.00	28253	90.95	354
44.00	1066	62.00	2857	75.95	2441	92.00	1936
45.05	755	63.05	2630	77.00	906	93.00	2421
47.00	1024	64.10	182	78.00	336	94.05	6949
48.00	441	65.05	362	78.95	2222	95.00	54821
49.05	3060	68.00	5468	79.80	144	96.05	3864

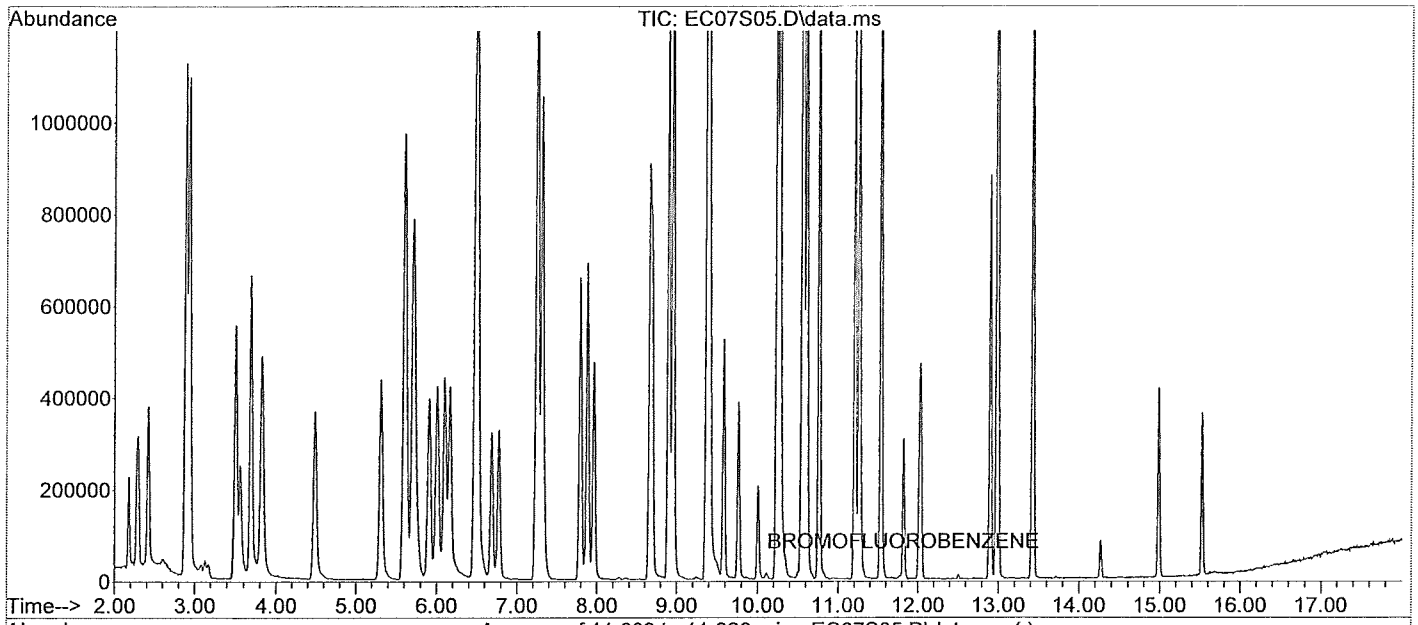
Average of 11.808 to 11.820 min.: EC28S05.D\data.ms
VSTD005T5 VSTD005T5 5.0 ug/L CVS
Modified:subtracted

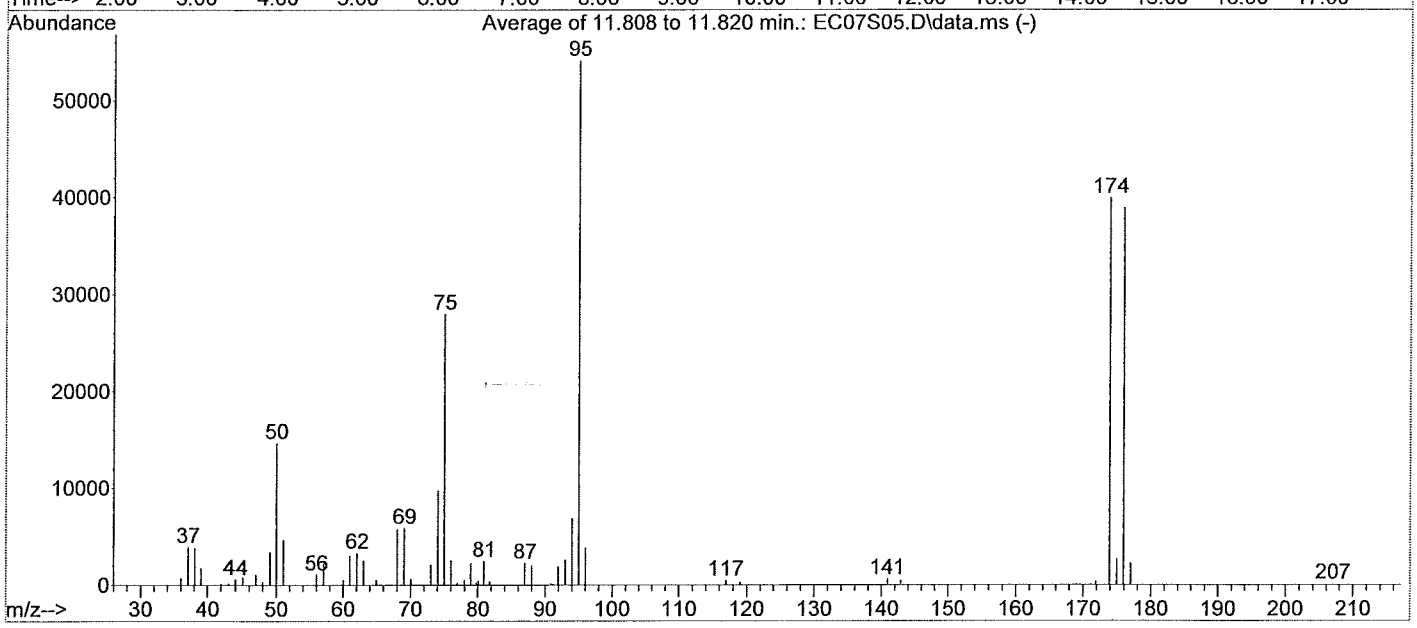
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
104.00	339	173.90	40317				
105.00	153	174.95	2836				
106.00	151	175.90	39413				
116.95	575	176.95	2694				
117.90	185	211.00	305				
118.95	465	233.00	145				
140.80	185						
141.10	231						
142.95	546						
171.80	158						
173.00	455						

SOM01.2 BFB

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC07S05.D Vial: 2
Acq Time : 12/06/2018 09:55 Operator: SLS
Sample : VSTD005T3 VSTD005T3 5.0 ug/L CVS Inst : 5975-E
Misc : BFBT2 2.5 uL of 44969, 44970; 2.0 uL Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\2018\Methods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST





Peak Apex is scan: 1694
Average of 3 Scans: 1693,1694,1695 minus Background scan: 1687

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.02	14616	PASS
75	95	30	80	51.65	27941	PASS
95	95	100	100	100.00	54093	PASS
96	95	5	9	7.06	3817	PASS
173	174	0.00	2	0.00	0	PASS
174	95	50	120	73.78	39912	PASS
175	174	5	9	6.60	2633	PASS
176	174	95	101	97.46	38899	PASS
177	176	5	9	5.71	2220	PASS

Data File : Q:\E-5975-E\2018\DATA\DEC18E\06DEC18E\EC07S05.D
Inject Time: 12/06/2018 09:55 Operator:SLS
Sample : VSTD005T3 Inst :5975-E
Misc : BFBT2 2.5 uL of

Average of 11.808 to 11.820 min.: EC07S05.D\data.ms
VSTD005T3 VSTD005T3 5.0 ug/L CVS
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	688	50.00	14616	70.05	596	81.80	352
37.05	3880	51.05	4629	73.00	2092	86.95	2243
38.05	3760	56.00	1057	74.05	9710	88.00	1999
39.05	1704	57.05	2252	75.00	27941	90.90	165
42.00	144	60.05	475	76.00	2526	91.20	146
43.10	153	61.00	3011	76.90	187	91.95	1876
44.00	565	62.05	3277	77.95	477	93.00	2569
45.05	759	63.05	2502	78.95	2203	94.00	6851
47.00	1066	64.95	509	79.80	235	95.00	54093
48.00	345	68.00	5733	80.05	422	96.00	3817
49.05	3398	69.05	5840	80.90	2434	116.95	435

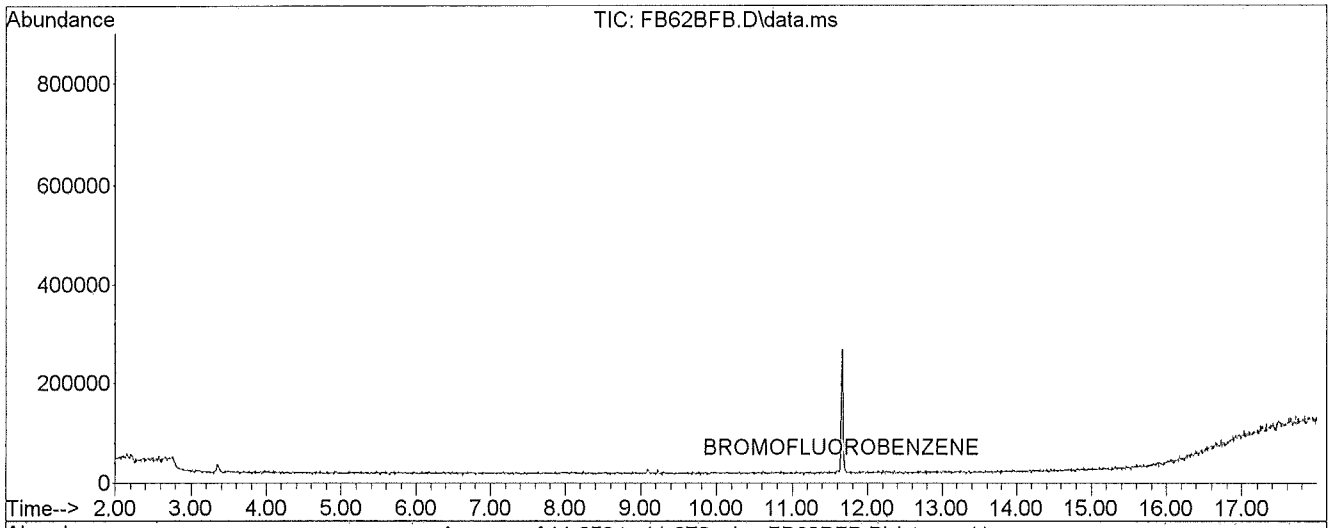
Average of 11.808 to 11.820 min.: EC07S05.D\data.ms
VSTD005T3 VSTD005T3 5.0 ug/L CVS
Modified:subtracted

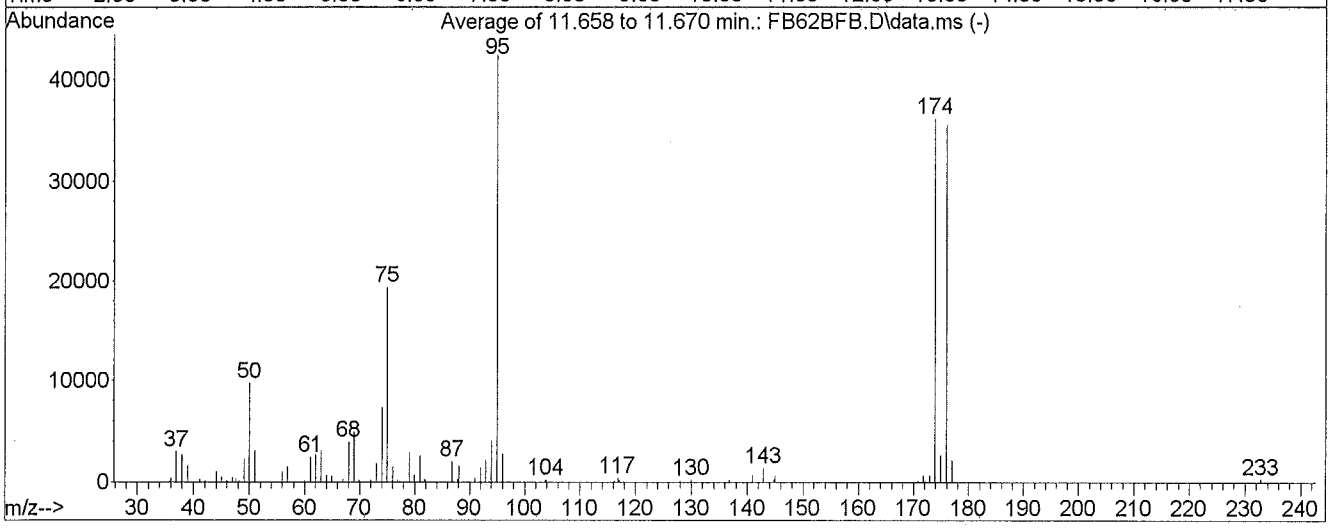
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
119.00	273						
140.90	583						
142.90	467						
171.90	340						
173.90	39912						
174.95	2633						
175.90	38899						
176.95	2220						
207.00	71						

SOM01.2 BFB

Data File : C:\msdchem\1\Data by...8F\30NOV18F\FB62BFB.D Vial: 1
Acq Time : 11/30/2018 08:38 Operator: CQC
Sample : BFBTF 50 ng BFB Inst : 5975-F
Misc : 2.0 uL of 44568 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	22.92	9725	PASS
75	95	30	80	45.68	19379	PASS
95	95	100	100	100.00	42421	PASS
96	95	5	9	6.65	2822	PASS
173	174	0.00	2	1.75	632	PASS
174	95	50	120	85.19	36139	PASS
175	174	5	9	7.21	2605	PASS
176	174	95	101	98.07	35443	PASS
177	176	5	9	5.93	2100	PASS

FB62BFB.D BFB_SOM.M Tue Dec 11 08:09:43 2018

Data File : C:\msdchem\1\Data by Year\2018\NOV18F\30NOV18F\FB62BFB.D
Inject Time: 11/30/2018 08:38 Operator:CQC
Sample : BFBTF 5 Inst :5975-F
Misc : 2.0 uL of 44568

Average of 11.658 to 11.670 min.: FB62BFB.D\data.ms
BFBTF 50 ng BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.80	164	46.10	133	62.00	2725	75.00	19379
36.10	389	46.95	459	63.00	3079	76.00	1489
37.00	2985	47.55	343	64.00	660	76.80	192
38.00	2700	48.10	171	65.00	603	77.10	163
38.95	1616	49.05	2204	67.05	279	78.95	2858
40.00	115	50.00	9725	68.00	3929	79.95	705
41.10	269	51.00	3079	69.00	4908	80.95	2527
42.00	140	56.00	1046	69.90	207	81.80	284
44.00	1048	56.90	1497	72.00	212	82.00	218
44.95	555	60.00	161	73.00	1770	86.85	1991
45.80	141	61.05	2442	74.00	7291	87.80	361

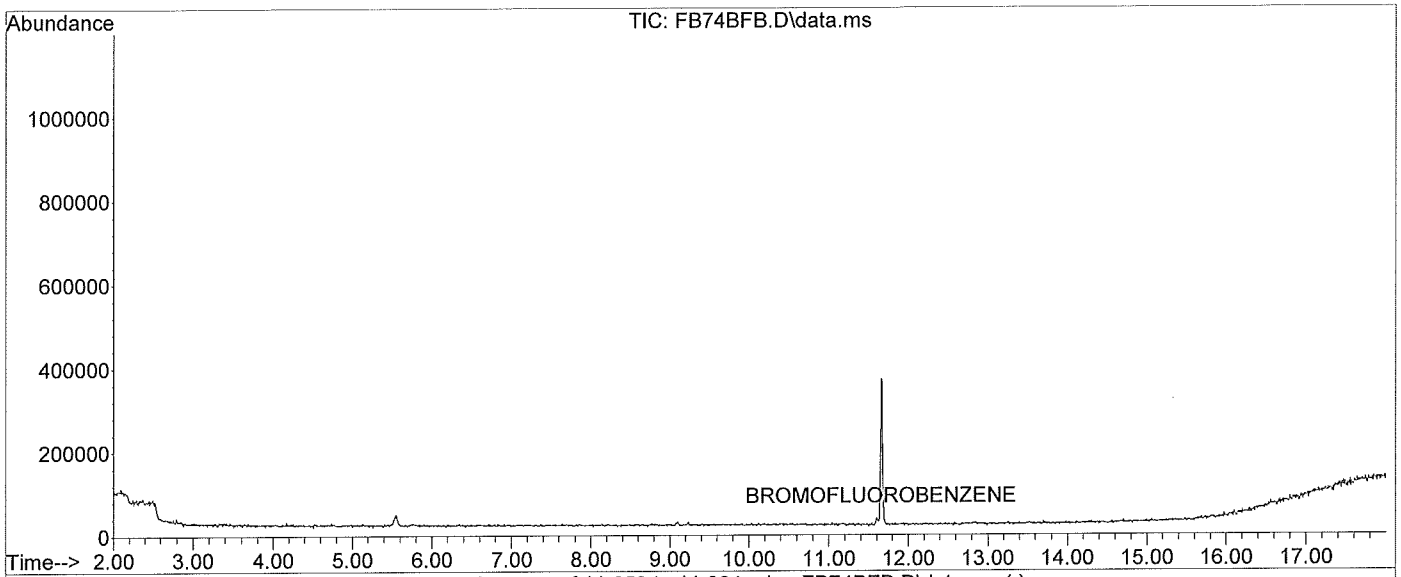
Average of 11.658 to 11.670 min.: FB62BFB.D\data.ms
BFBTF 50 ng BFB
Modified:subtracted

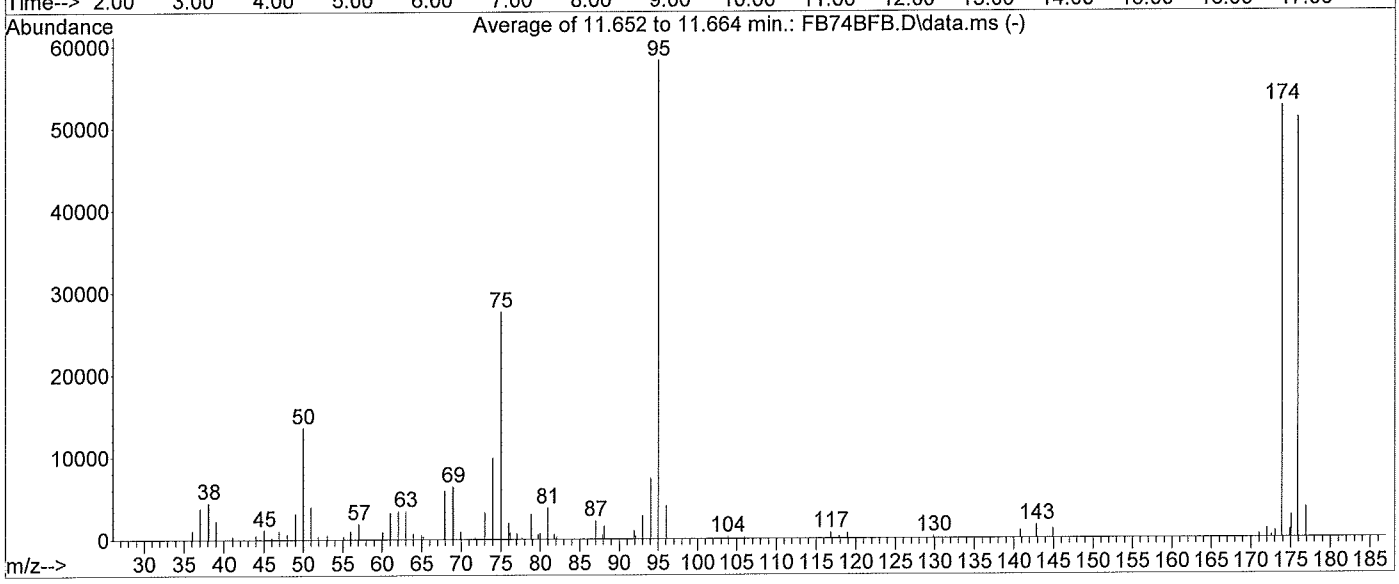
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.05	1568	117.10	183	172.90	632		
90.95	365	128.00	137	173.90	36139		
92.05	1428	130.00	192	174.90	2605		
92.95	2101	136.80	185	175.90	35443		
94.00	4064	140.90	624	176.95	2100		
95.00	42421	142.90	1371	232.80	308		
96.00	2822	144.70	193				
103.70	164	145.00	622				
103.90	220	170.90	142				
116.20	143	171.80	646				
116.85	389	172.10	210				

SOM01.2 BFB

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB74BFB.D Vial: 1
Acq Time : 12/06/2018 07:23 Operator: SLS
Sample : BFBT1 50 ng BFB Inst : 5975-F
Misc : 2.0 uL of 44568 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\2018\Methods\BFB_SOM.M (RTE Integrator)
Title : VOA COMPOUND LIST





Peak Apex is scan: 1734
Average of 3 Scans: 1733,1734,1735 minus Background scan: 1727

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.26	13534	PASS
75	95	30	80	47.45	27605	PASS
95	95	100	100	100.00	58179	PASS
96	95	5	9	6.80	3955	PASS
173	174	0.00	2	1.51	791	PASS
174	95	50	120	90.23	52496	PASS
175	174	5	9	5.07	2663	PASS
176	174	95	101	97.26	51059	PASS
177	176	5	9	7.11	3629	PASS

FB74BFB.D BFB_SOM.M Mon Dec 10 11:34:30 2018

Data File : Q:\F-5975-F\2018\DATA\DEC18F\06DEC18F\FB74BFB.D
Inject Time: 12/06/2018 07:23 Operator:SLS
Sample : BFBT1 5 Inst :5975-F
Misc : 2.0 uL of 44568

Average of 11.652 to 11.664 min.: FB74BFB.D\data.ms
BFBT1 50 ng BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1031	50.00	13534	64.00	676	76.20	853
37.05	3740	51.00	3938	64.95	484	77.05	669
38.10	4400	51.90	297	65.20	360	77.70	140
39.05	2176	53.05	477	67.95	5832	78.85	3005
41.00	313	55.15	344	69.00	6351	79.75	581
44.00	461	56.00	940	69.95	874	80.00	645
45.05	1119	57.05	1851	71.80	158	80.95	3764
46.00	162	60.05	847	73.00	3235	81.80	558
46.95	1023	61.05	3180	74.00	9861	82.10	286
48.00	632	62.05	3345	75.00	27605	87.00	2185
49.00	3116	63.00	3400	76.00	1912	87.90	549

Average of 11.652 to 11.664 min.: FB74BFB.D\data.ms
BFBT1 50 ng BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.10	1527	118.95	612	175.05	2663		
91.90	991	129.90	198	175.90	51059		
92.10	385	140.85	893	176.90	3629		
93.05	2822	142.90	1577				
94.05	7373	144.90	1074				
95.00	58179	171.00	442				
96.05	3955	172.00	1069				
103.90	225	172.60	241				
106.00	175	173.05	791				
116.85	702	173.90	52496				
117.90	244	174.90	984				

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

EPA SAMPLE NO.
VBLKT2

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 631007
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC08BLK
% Solids: Date Received:
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.25	J
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC08BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC08BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

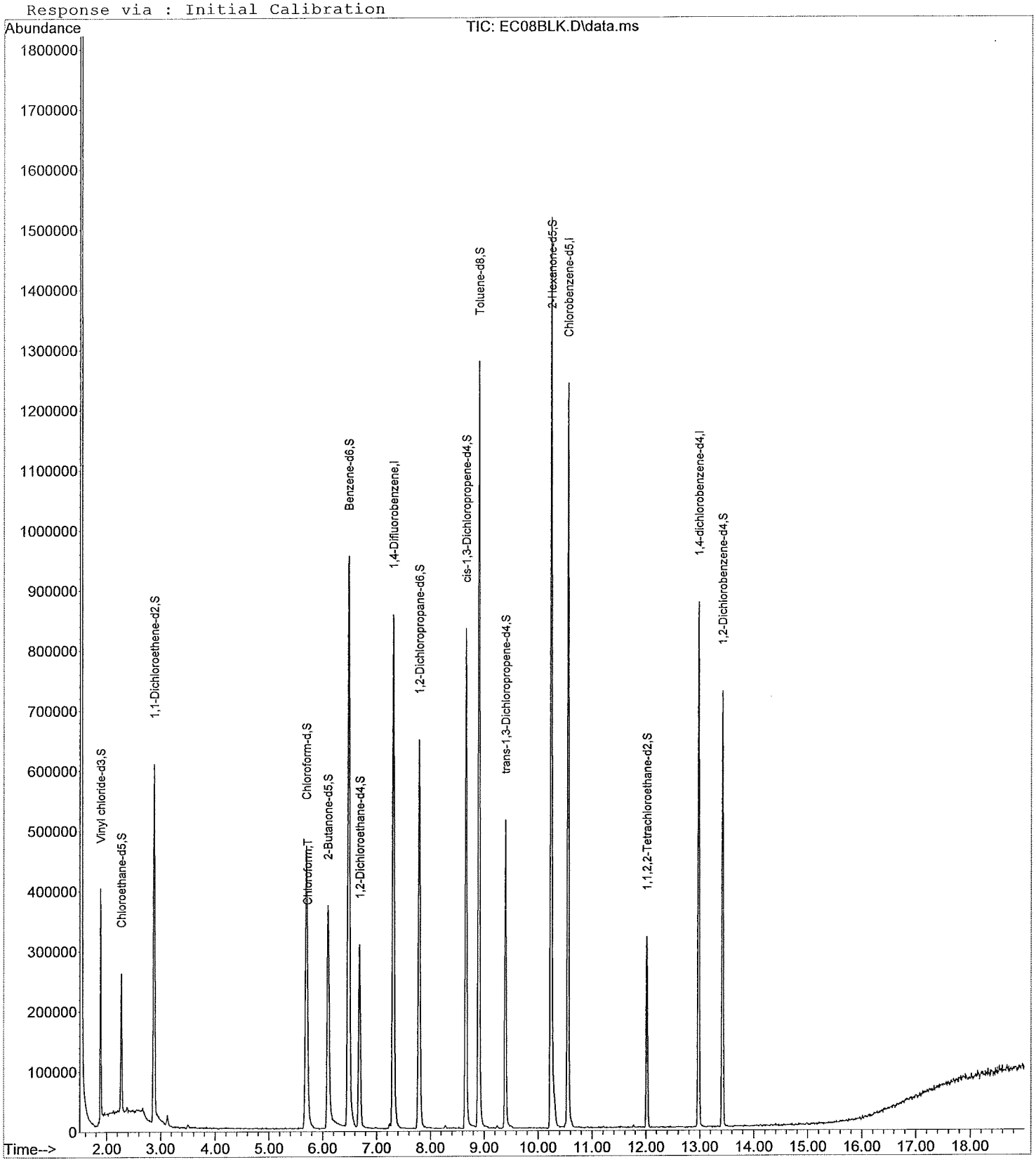
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC08BLK.D Vial: 3
Acq Time : 12/06/2018 10:33 Operator: SLS
Sample : 631007 VBLKT2 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:50:34 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC08BLK.D Vial: 3
Acq Time : 12/06/2018 10:33 Operator: SLS
Sample : 631007 VBLKT2 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:50:34 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	798066	5.00 ug/L	89.17
28) Chlorobenzene-d5	10.55	117	690262	5.00 ug/L	95.89
60) 1,4-dichlorobenzene-d4	12.98	152	231155	5.00 ug/L	90.14
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	260352	4.17 ug/L	83.31%
8) Chloroethane-d5	2.27	69	167533	4.90 ug/L	98.08%
11) 1,1-Dichloroethene-d2	2.88	63	426919	3.65 ug/L	72.97%
22) 2-Butanone-d5	6.10	46	730476	49.20 ug/L	98.40%
25) Chloroform-d	5.70	84	510632	5.10 ug/L	101.94%
27) 1,2-Dichloroethane-d4	6.69	65	259930	5.22 ug/L	104.42%
33) Benzene-d6	6.48	84	1049493	4.96 ug/L	99.13%
37) 1,2-Dichloropropane-d6	7.79	67	311732	4.97 ug/L	99.42%
40) cis-1,3-Dichloropropene-d4	8.66	79	460264	4.77 ug/L	95.37%
42) trans-1,3-Dichloropropene-	9.39	79	265146	4.49 ug/L	89.90%
47) Toluene-d8	8.90	98	877521	4.97 ug/L	99.46%
50) 2-Hexanone-d5	10.24	63	518705	47.46 ug/L	94.92%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	157518	4.93 ug/L	98.64%
65) 1,2-Dichlorobenzene-d4	13.42	152	191912	5.16 ug/L	103.10%
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	5.72	83	22821	0.2525 ug/L #	1
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

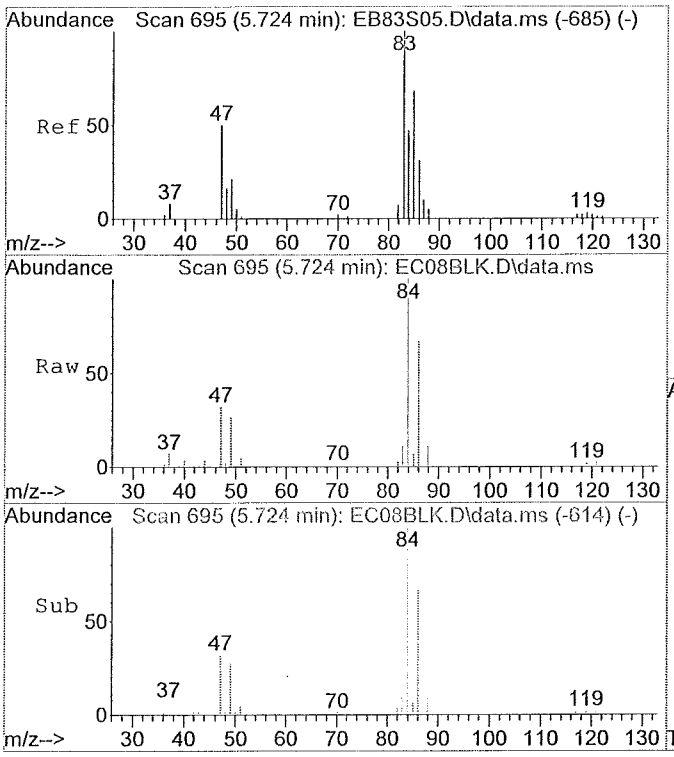
Data File : Q:\E-5975-E\2018\DAT...8E\06DEC18E\EC08BLK.D Vial: 3
Acq Time : 12/06/2018 10:33 Operator: SLS
Sample : 631007 VBLKT2 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 18:50:34 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.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	157		Not Detected	
67)	1,2,4-Trichlorobenzene	0.00	180		Not Detected	
68)	1,2,3-Trichlorobenzene	0.00	180		Not Detected	

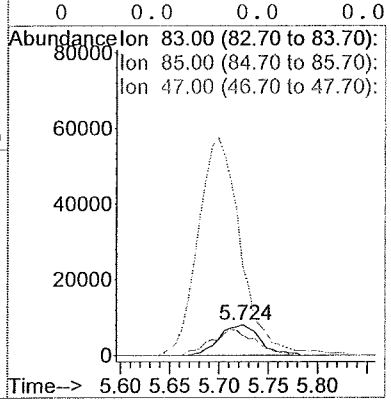
(#) = qualifier out of range (m) = manual integration



#24
Chloroform
Concen: 0.25 ug/L
RT: 5.72 min Scan# 695
Delta R.T. 0.00 min
Lab File: EC08BLK.D
Acq: 12/06/2018 10:33

Tgt Ion:83 Resp: 22821

Ion	Ratio	Lower	Upper
83	100		
85	91.5	46.8	86.8#
47	757.0	48.1	88.1#
0	0.0	0.0	0.0



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

EPA SAMPLE NO.
VBLKT3

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 631611
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC29BLK
% Solids: Date Received:
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/07/2018
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.
VBLKT3

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631611
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC29BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/07/2018
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.
VBLKT3

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631611
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC29BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/07/2018
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		

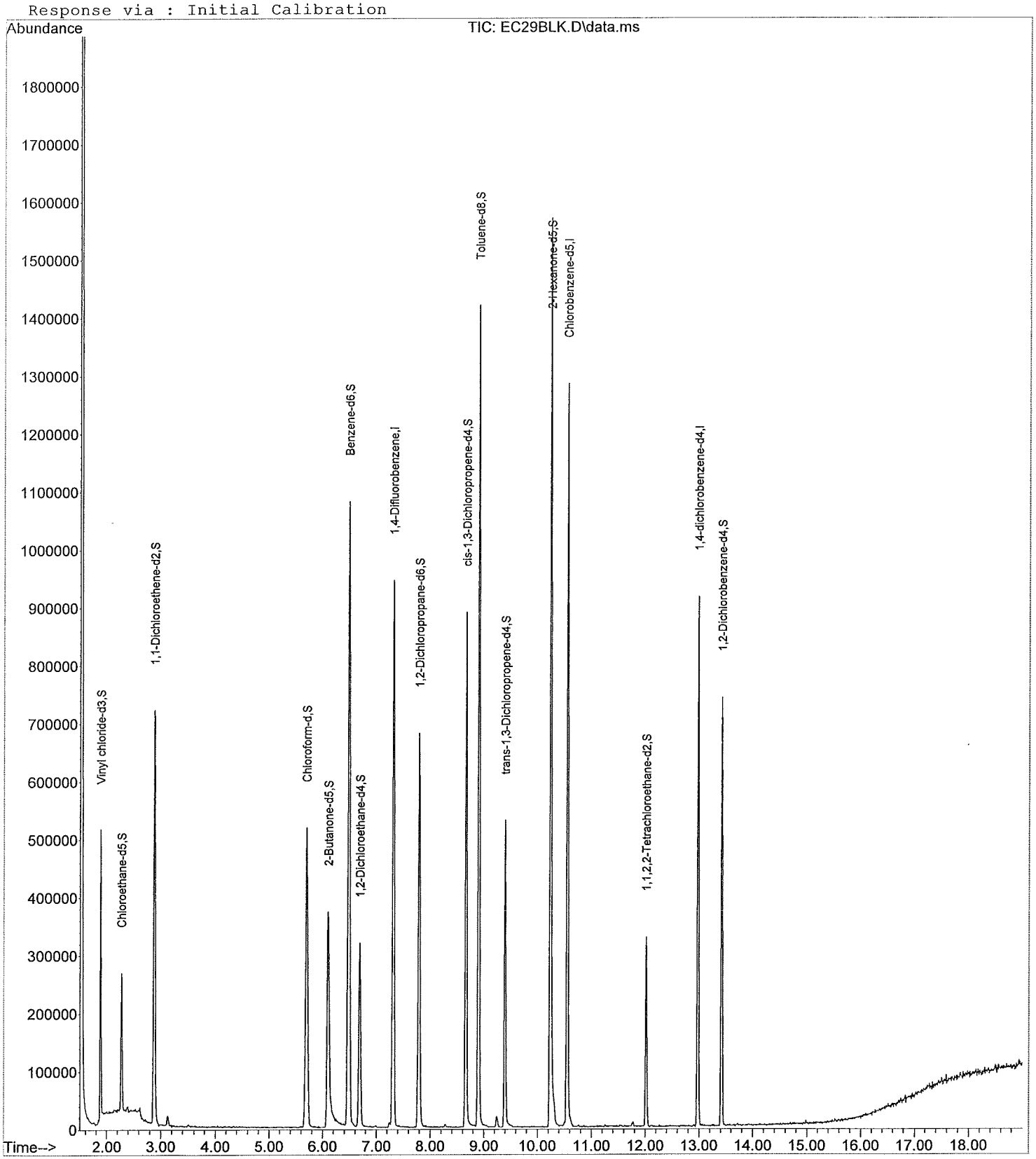
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC29BLK.D Vial: 20
Acq Time : 12/07/2018 10:00 Operator: CQC
Sample : 630889/631611 VBLKT3 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 10:19:24 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...8E\07DEC18E\EC29BLK.D Vial: 20
Acq Time : 12/07/2018 10:00 Operator: CQC
Sample : 630889/631611 VBLKT3 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 10:19:24 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	843671	5.00 ug/L	94.26
28) Chlorobenzene-d5	10.55	117	712611	5.00 ug/L	98.99
60) 1,4-dichlorobenzene-d4	12.98	152	231787	5.00 ug/L	90.39
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	346795	5.25 ug/L	104.97%
8) Chloroethane-d5	2.27	69	184526	5.11 ug/L	102.19%
11) 1,1-Dichloroethene-d2	2.88	63	527633	4.27 ug/L	85.31%
22) 2-Butanone-d5	6.10	46	765537	48.77 ug/L	97.55%
25) Chloroform-d	5.70	84	535775	5.06 ug/L	101.17%
27) 1,2-Dichloroethane-d4	6.69	65	266512	5.06 ug/L	101.28%
33) Benzene-d6	6.48	84	1117579	5.11 ug/L	102.25%
37) 1,2-Dichloropropane-d6	7.79	67	322554	4.98 ug/L	99.64%
40) cis-1,3-Dichloropropene-d4	8.66	79	479255	4.81 ug/L	96.19%
42) trans-1,3-Dichloropropene-	9.39	79	264654	4.35 ug/L	86.92%
47) Toluene-d8	8.90	98	920266	5.05 ug/L	101.03%
50) 2-Hexanone-d5	10.24	63	540037	47.86 ug/L	95.72%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	162329	4.92 ug/L	98.46%
65) 1,2-Dichlorobenzene-d4	13.42	152	191041	5.12 ug/L	102.36%
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:\E-5975-E\2018\DAT...8E\07DEC18E\EC29BLK.D Vial: 20
Acq Time : 12/07/2018 10:00 Operator: CQC
Sample : 630889/631611 VBLKT3 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 10:19:24 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.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	157		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.
VBLKT1

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB77BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.24	J
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 631006
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB77BLK
% Solids: Date Received:
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS
Case No.: 5POINTS
MA No.:
SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB77BLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		

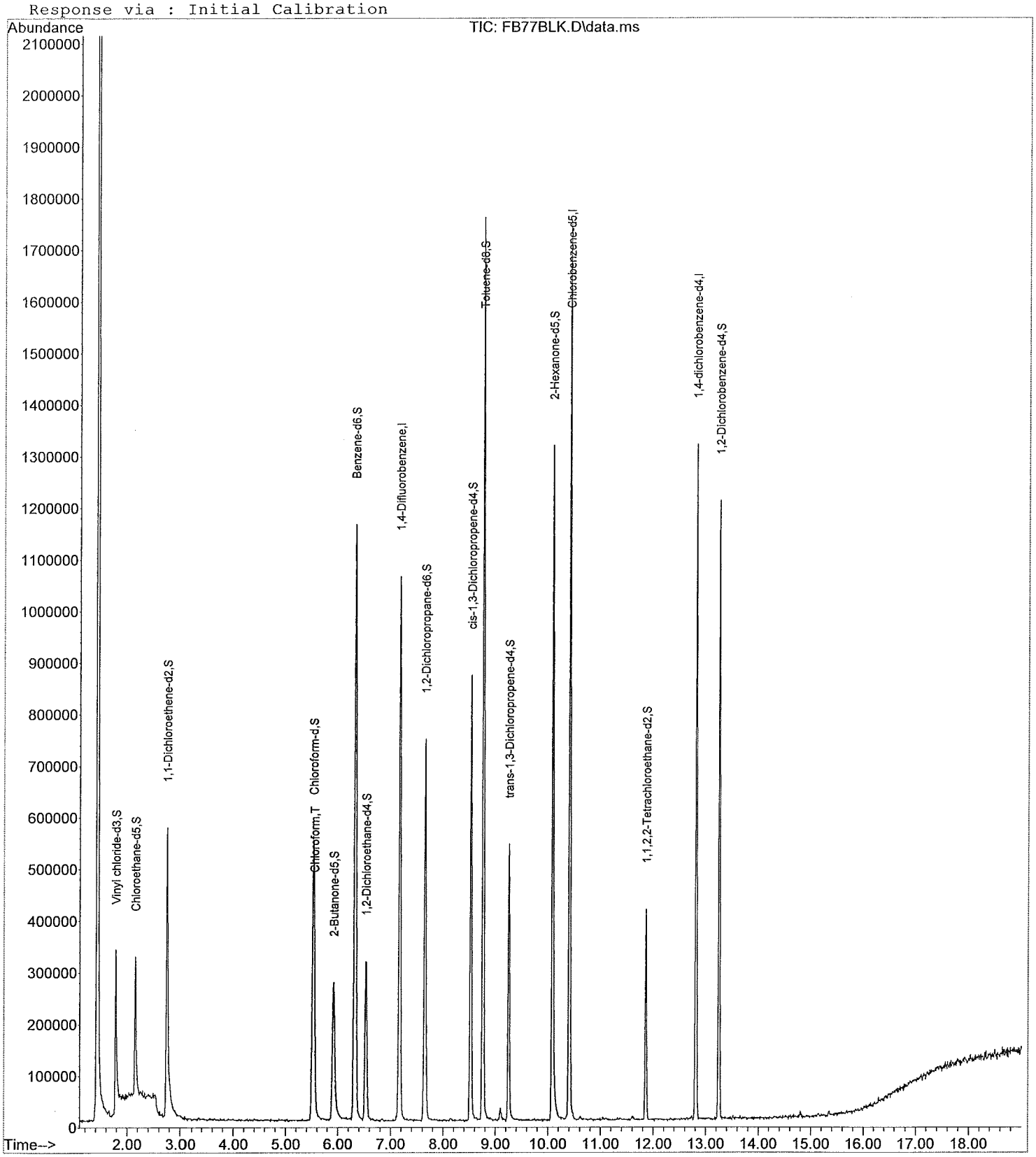
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB77BLK.D Vial: 3
Acq Time : 12/06/2018 10:41 Operator: SLS
Sample : 631006 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:20:53 2018 Results File: FTRACEF8.RES

Method : Q:\F-5975-F\Curr...thods\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Thu Dec 06 18:48:30 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB77BLK.D Vial: 3
Acq Time : 12/06/2018 10:41 Operator: SLS
Sample : 631006 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:20:53 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.17	114	1035580	5.00 ug/L	88.03
28) Chlorobenzene-d5	10.40	117	1015859	5.00 ug/L	102.31
60) 1,4-dichlorobenzene-d4	12.81	152	349120	5.00 ug/L	75.58
System Monitoring Compounds					%Recovery
5) Vinyl chloride-d3	1.78	65	322291	3.88 ug/L	77.69%
8) Chloroethane-d5	2.15	69	285636	4.36 ug/L	87.22%
11) 1,1-Dichloroethene-d2	2.75	63	504314	3.67 ug/L	73.40%
22) 2-Butanone-d5	5.92	46	592292	49.88 ug/L	99.76%
25) Chloroform-d	5.53	84	672714	4.69 ug/L	93.79%
27) 1,2-Dichloroethane-d4	6.52	65	281444	5.58 ug/L	111.58%
33) Benzene-d6	6.32	84	1355235	4.69 ug/L	93.79%
37) 1,2-Dichloropropane-d6	7.65	67	356548	4.82 ug/L	96.47%
40) cis-1,3-Dichloropropene-d4	8.52	79	509445	4.79 ug/L	95.79%
42) trans-1,3-Dichloropropene-	9.25	79	288612	4.29 ug/L	85.77%
47) Toluene-d8	8.76	98	1219246	4.81 ug/L	96.11%
50) 2-Hexanone-d5	10.08	63	413986	46.35 ug/L	92.69%
59) 1,1,2,2-Tetrachloroethane-	11.86	84	201552	4.49 ug/L	89.80%
65) 1,2-Dichlorobenzene-d4	13.25	152	319640	5.48 ug/L	109.54%
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	5.55	83	28709	0.2443 ug/L #	1
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

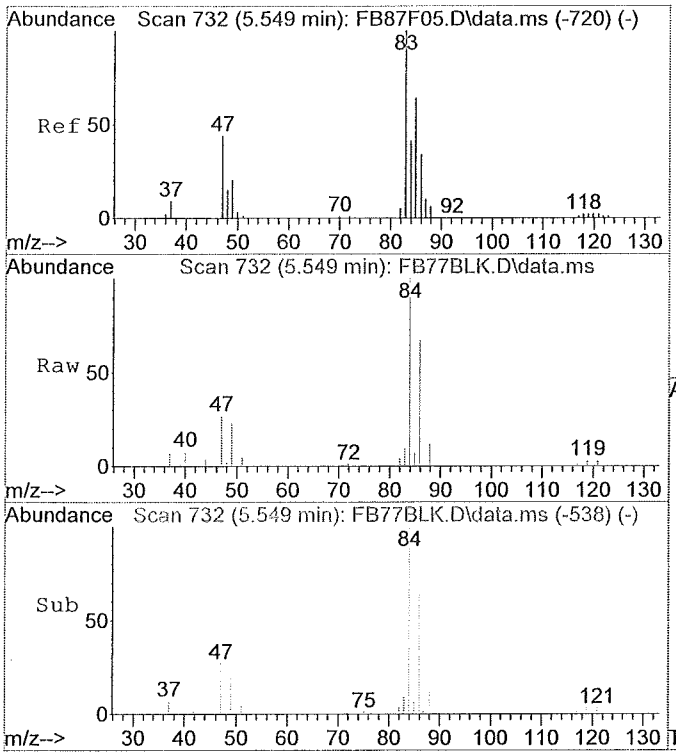
Data File : Q:\F-5975-F\2018\DAT...8F\06DEC18F\FB77BLK.D Vial: 3
Acq Time : 12/06/2018 10:41 Operator: SLS
Sample : 631006 VBLKT1 Inst : 5975-F
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:20:53 2018 Results File: FTRACEF8.RES

Quant Method : C:\MSDCHEM\1\METHODS\FTRACEF8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Sun Dec 02 10:19:02 2018
Response via : Initial Calibration
DataAcq Meth : FTRACEF8.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	

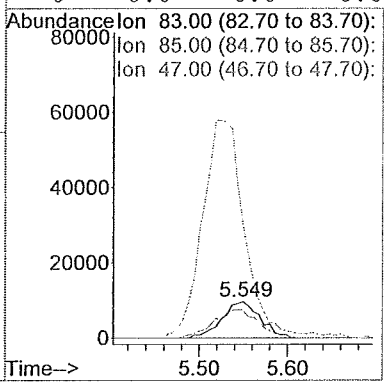
(#) = qualifier out of range (m) = manual integration



#24
Chloroform
Concen: 0.24 ug/L
RT: 5.55 min Scan# 732
Delta R.T. -0.01 min
Lab File: FB77BLK.D
Acq: 12/06/2018 10:41

Tgt Ion:83 Resp: 28709

Ion	Ratio	Lower	Upper
83	100		
85	91.4	47.2	87.2#
47	666.2	35.8	75.8#
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 631008
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC36HBLK
% Solids: Date Received:
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/07/2018
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.
VHBLKT1

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 631008
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC36HBLK
% Solids: Date Received:
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/07/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.:
SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 631008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC36HBLK
% Solids:
Date Received:
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/07/2018
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		

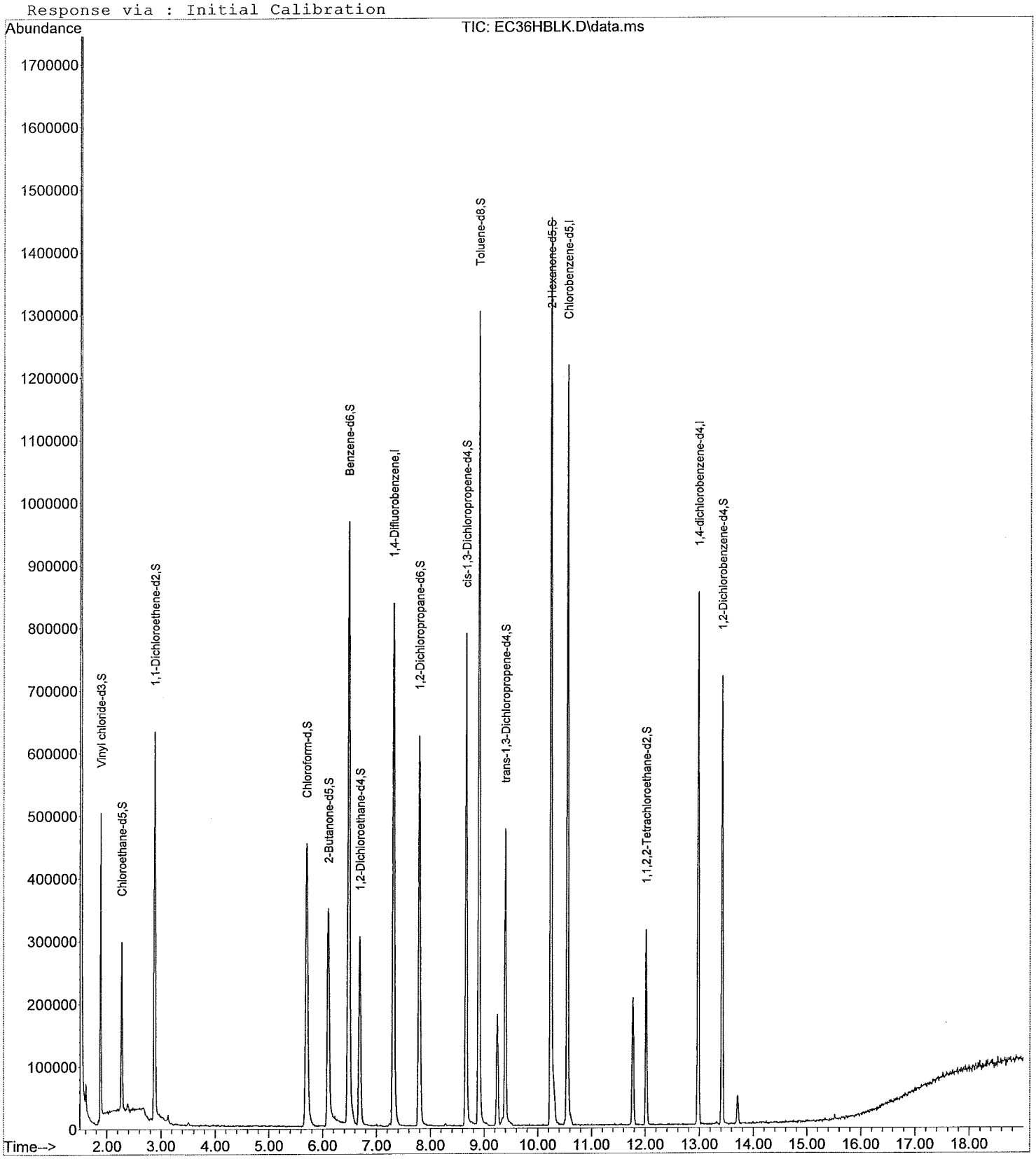
[1] EPA-designated Registry Number.

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC36HBLK.D Vial: 27
Acq Time : 12/07/2018 13:15 Operator: CQC
Sample : 631008 VHBLKT1 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:37:08 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC36HBLK.D Vial: 27
Acq Time : 12/07/2018 13:15 Operator: CQC
Sample : 631008 VHBLKT1 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:37:08 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	790420	5.00 ug/L	88.31
28) Chlorobenzene-d5	10.55	117	681574	5.00 ug/L	94.68
60) 1,4-dichlorobenzene-d4	12.98	152	227003	5.00 ug/L	88.53
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	318058	5.14 ug/L	102.76%
8) Chloroethane-d5	2.27	69	186511	5.51 ug/L	110.25%
11) 1,1-Dichloroethene-d2	2.88	63	462512	3.99 ug/L	79.82%
22) 2-Butanone-d5	6.10	46	705450	47.97 ug/L	95.95%
25) Chloroform-d	5.71	84	505878	5.10 ug/L	101.96%
27) 1,2-Dichloroethane-d4	6.69	65	260773	5.29 ug/L	105.77%
33) Benzene-d6	6.48	84	1060308	5.07 ug/L	101.43%
37) 1,2-Dichloropropane-d6	7.79	67	307465	4.97 ug/L	99.30%
40) cis-1,3-Dichloropropene-d4	8.66	79	436193	4.58 ug/L	91.54%
42) trans-1,3-Dichloropropene-	9.39	79	249100	4.28 ug/L	85.53%
47) Toluene-d8	8.90	98	869369	4.99 ug/L	99.79%
50) 2-Hexanone-d5	10.24	63	507036	46.98 ug/L	93.97%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	157681	5.00 ug/L	100.00%
65) 1,2-Dichlorobenzene-d4	13.42	152	187112	5.12 ug/L	102.36%
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:\E-5975-E\2018\DAT...E\07DEC18E\EC36HBLK.D Vial: 27
Acq Time : 12/07/2018 13:15 Operator: CQC
Sample : 631008 VHBLKT1 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 07 13:37:08 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.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	157		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

Library Search Compound Report

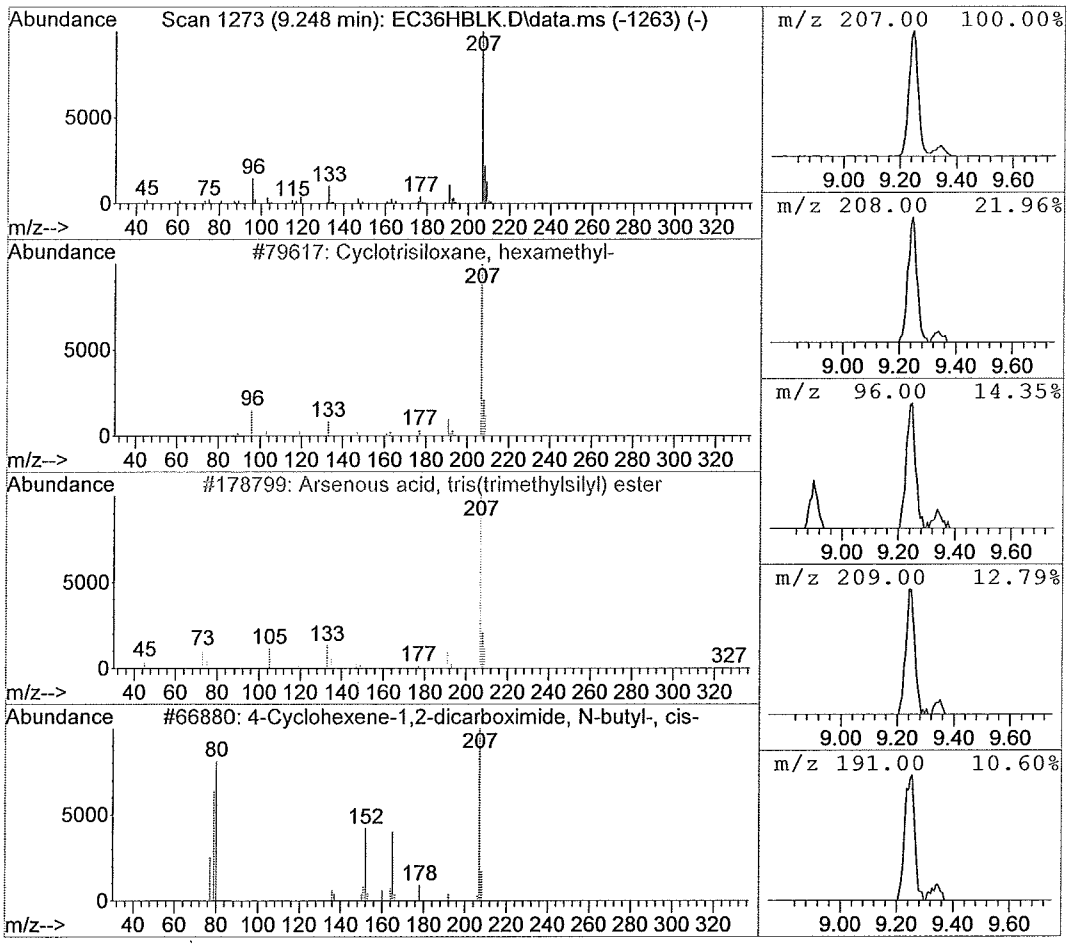
Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC36HBLK.D Vial: 27
Acq Time : 12/07/2018 13:15 Operator: CQC
Sample : 631008 VHBLKT1 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
9.25	0.89 ug/L	388214	Chlorobenzene-d5	2170581

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	79617	000541-05-9	91.00
2	Arsenous acid, tris(trimethylsilyl)	178799	055429-29-3	56.00
3	4-Cyclohexene-1,2-dicarboximide, N-	66880	028916-00-9	40.00
4	Benzo[h]quinoline, 2,4-dimethyl-	67017	000605-67-4	38.00
5	1H-Indole, 1-methyl-2-phenyl-	67010	003558-24-5	36.00

CB



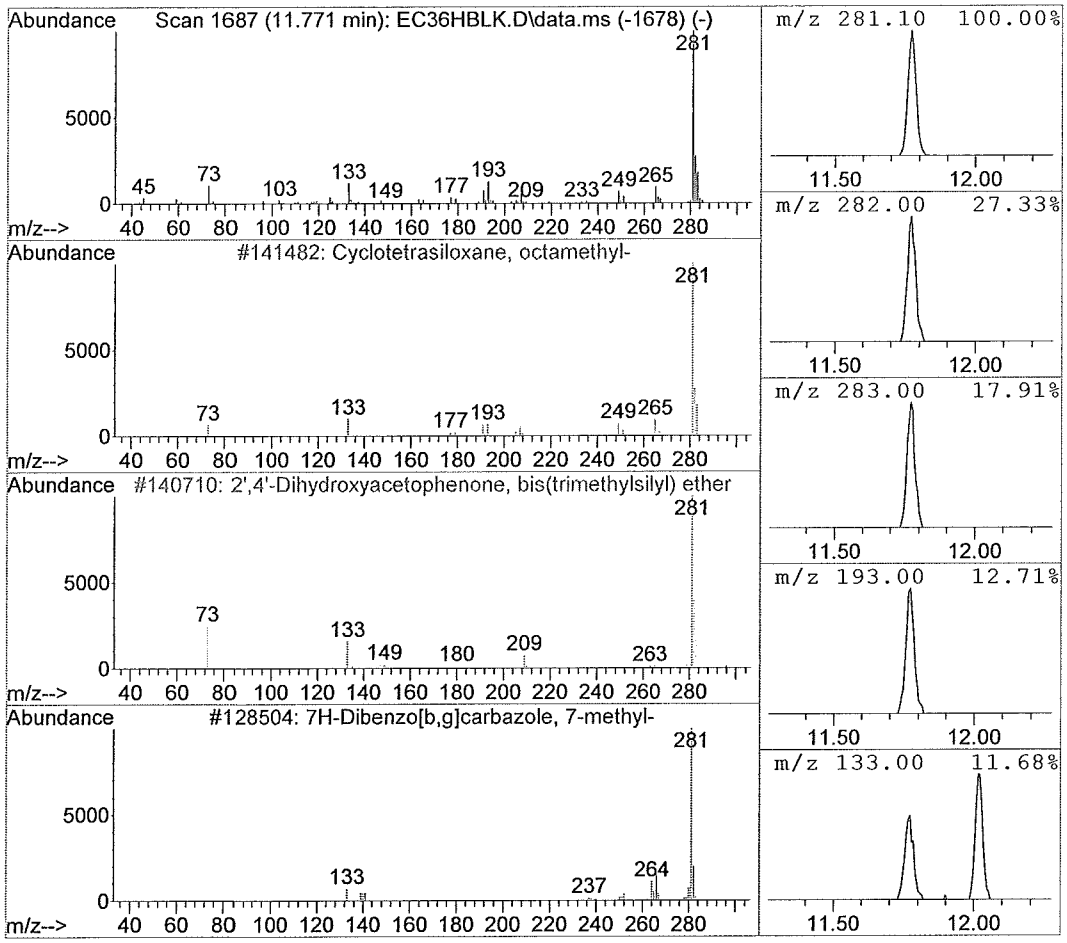
Library Search Compound Report

Data File : Q:\E-5975-E\2018\DAT...E\07DEC18E\EC36HBLK.D Vial: 27
Acq Time : 12/07/2018 13:15 Operator: CQC
Sample : 631008 VHBLKT1 Inst : 5975-E
Misc : 2.5 uL of 44969 Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Library : C:\Database\NIST11.L

R.T.	Conc	Area	Relative to ISTD	ISTD Area
11.77	1.39 ug/L	408213	1,4-dichlorobenzene-d4	1467911

Hit# of 20	Tentative ID	Ref#	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	141482	000556-67-2	91.00
2	2',4'-Dihydroxyacetophenone, bis(tr	140710	1000352-82-1	59.00
3	7H-Dibenzo[b,g]carbazole, 7-methyl-	128504	003557-49-1	53.00
4	4H-1,2,4-Triazole-3-thiol, 4-allyl-	128309	031803-13-1	46.00
5	Benzofuran-6-ol-3-one, 2-(4-ethoxyc	152845	1000128-64-6	45.00



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

EPA SAMPLE NO.
5P-MW105-147MS

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368015
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC14A015
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.44	J
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	5.4	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	15.	
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	5.9	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	5.7	
108-87-2	Methylcyclohexane	0.50	U

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

EPA SAMPLE NO.
5P-MW105-147MS

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368015
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC14A015
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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

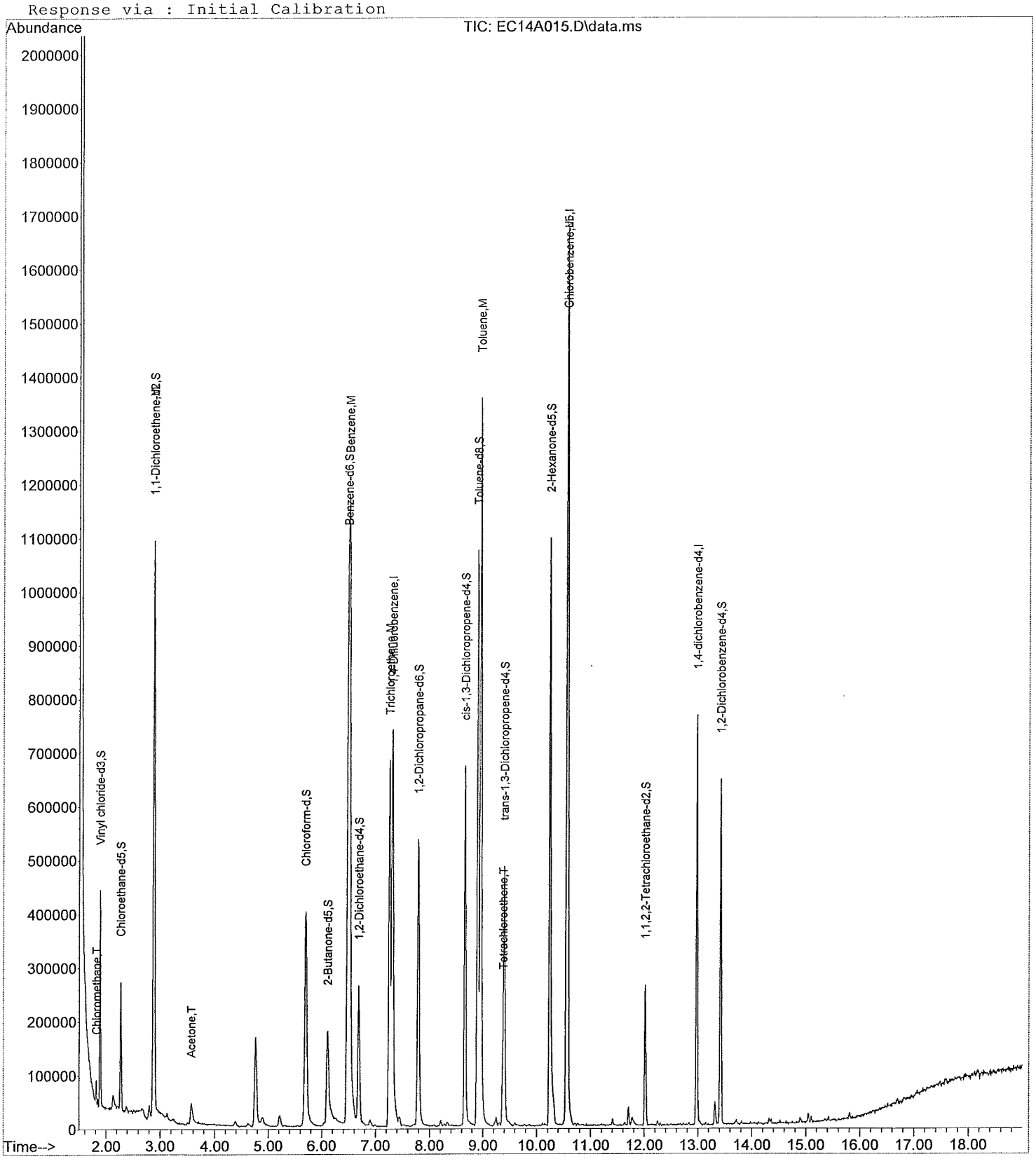
CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	6.0	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.88	
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	5.8	
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:\E-5975-E\2018\DAT...E\06DEC18E\EC14A015.D Vial: 9
Acq Time : 12/06/2018 13:26 Operator: SLS
Sample : 1833368015 5P-MW105-147MS Inst : 5975-E
Misc : 1833368 A MS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 10:28:50 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC14A015.D Vial: 9
Acq Time : 12/06/2018 13:26 Operator: SLS
Sample : 1833368015 5P-MW105-147MS Inst : 5975-E
Misc : 1833368 A MS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 10:28:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	681423	5.00 ug/L	76.14
28) Chlorobenzene-d5	10.55	117	590519	5.00 ug/L	82.03
60) 1,4-dichlorobenzene-d4	12.98	152	195169	5.00 ug/L	76.11
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	292362	5.48 ug/L	109.56%
8) Chloroethane-d5	2.27	69	170857	5.86 ug/L	117.15%
11) 1,1-Dichloroethene-d2	2.88	63	525029	5.25 ug/L	105.10%
22) 2-Butanone-d5	6.11	46	396104	31.25 ug/L	62.49%
25) Chloroform-d	5.70	84	441046	5.16 ug/L	103.12%
27) 1,2-Dichloroethane-d4	6.69	65	222149	5.23 ug/L	104.52%
33) Benzene-d6	6.48	84	914700	5.05 ug/L	100.99%
37) 1,2-Dichloropropane-d6	7.79	67	265192	4.94 ug/L	98.86%
40) cis-1,3-Dichloropropene-d4	8.66	79	380951	4.61 ug/L	92.27%
42) trans-1,3-Dichloropropene-	9.39	79	221848	4.40 ug/L	87.92%
47) Toluene-d8	8.90	98	738584	4.89 ug/L	97.85%
50) 2-Hexanone-d5	10.24	63	389712	41.68 ug/L	83.36%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	135256	4.95 ug/L	99.00%
65) 1,2-Dichlorobenzene-d4	13.42	152	167527	5.33 ug/L	106.60%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	33613	0.4404 ug/L	97
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	2.89	96	214310	5.4410 ug/L	99
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.56	43	89758	14.6597 ug/L	93
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	6.51	78	1062577	5.8766 ug/L #	97
34) Trichloroethene	7.26	130	293325	5.7062 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	8.95	91	1015734	6.0054 ug/L	99

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC14A015.D Vial: 9
Acq Time : 12/06/2018 13:26 Operator: SLS
Sample : 1833368015 5P-MW105-147MS Inst : 5975-E
Misc : 1833368 A MS Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 11 10:28:50 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	29717	0.8760 ug/L	97
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	10.57	112	650588	5.8036 ug/L	99
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	157		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-MW105-147MSD

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368016
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC15A016
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.30	J
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	4.7	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	50.	
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	0.15	JB
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	5.1	
107-06-2	1,2-Dichloroethane	0.50	U
79-01-6	Trichloroethene	4.9	
108-87-2	Methylcyclohexane	0.50	U

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

EPA SAMPLE NO.
5P-MW105-147MSD

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368016
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC15A016
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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

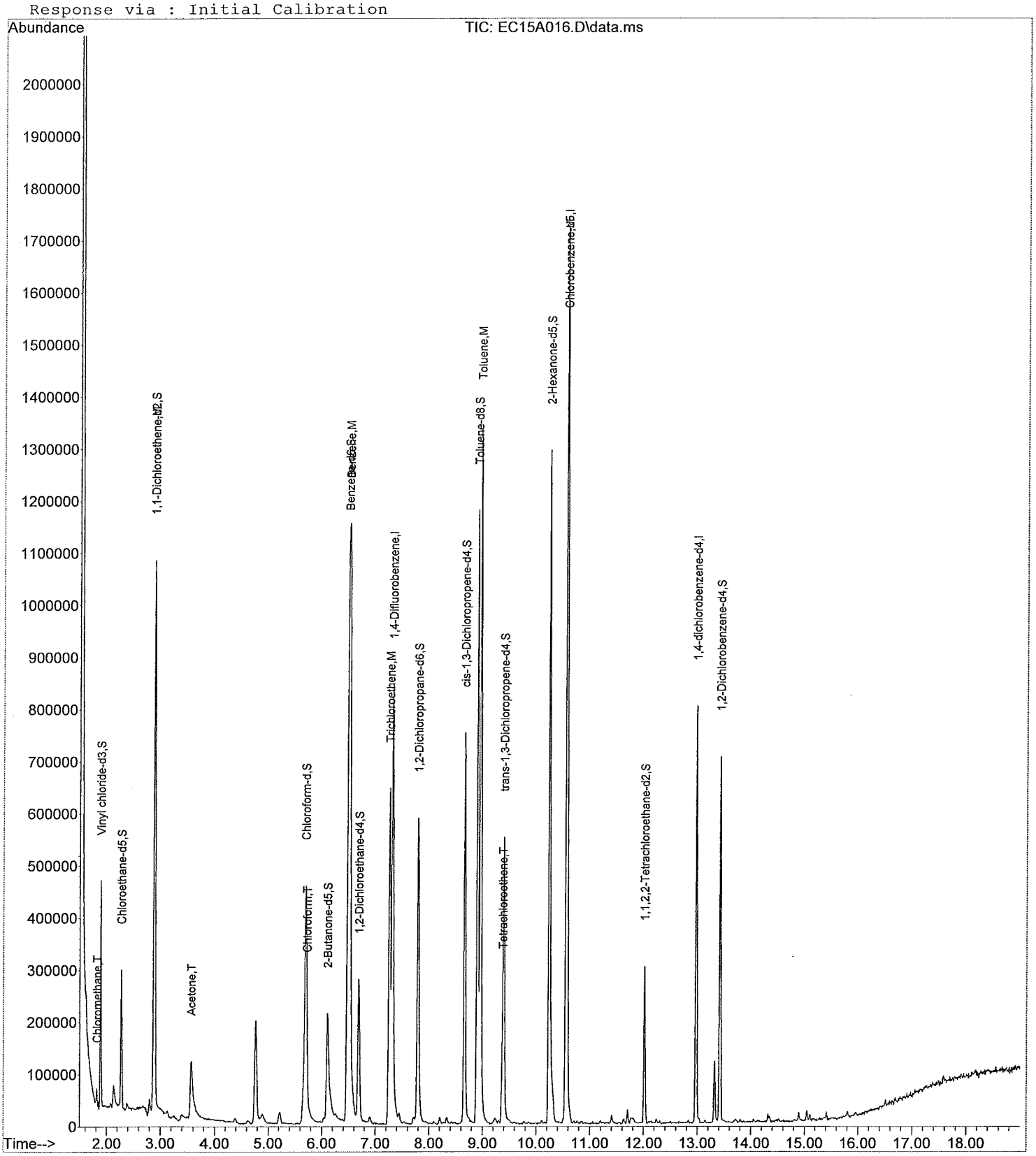
CAS NO.	ANALYTE	CONCENTRATION	Q
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-Pentanone	5.0	U
108-88-3	Toluene	5.3	
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.94	
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	5.1	
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:\E-5975-E\2018\DAT...E\06DEC18E\EC15A016.D Vial: 10
Acq Time : 12/06/2018 13:54 Operator: SLS
Sample : 1833368016 5P-MW105-147MSD Inst : 5975-E
Misc : 1833368 A MSD Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:08:22 2018 Results File: ETRACEE8.RES

Method : Q:\E-5975-E\Curr...thods\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration



Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC15A016.D Vial: 10
Acq Time : 12/06/2018 13:54 Operator: SLS
Sample : 1833368016 5P-MW105-147MSD Inst : 5975-E
Misc : 1833368 A MSD Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:08:22 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) 1,4-Difluorobenzene	7.31	114	752867	5.00 ug/L	84.12
28) Chlorobenzene-d5	10.55	117	653647	5.00 ug/L	90.80
60) 1,4-dichlorobenzene-d4	12.98	152	213402	5.00 ug/L	83.22
System Monitoring Compounds					**%Recovery**
5) Vinyl chloride-d3	1.88	65	310982	5.27 ug/L	105.48%
8) Chloroethane-d5	2.27	69	182418	5.66 ug/L	113.20%
11) 1,1-Dichloroethene-d2	2.88	63	544187	4.93 ug/L	98.60%
22) 2-Butanone-d5	6.11	46	497483	35.52 ug/L	71.04%
25) Chloroform-d	5.70	84	479492	5.07 ug/L	101.47%
27) 1,2-Dichloroethane-d4	6.69	65	241475	5.14 ug/L	102.83%
33) Benzene-d6	6.48	84	996501	4.97 ug/L	99.40%
37) 1,2-Dichloropropane-d6	7.80	67	291045	4.90 ug/L	98.02%
40) cis-1,3-Dichloropropene-d4	8.66	79	428441	4.69 ug/L	93.75%
42) trans-1,3-Dichloropropene-	9.40	79	248110	4.44 ug/L	88.83%
47) Toluene-d8	8.90	98	825515	4.94 ug/L	98.81%
50) 2-Hexanone-d5	10.24	63	468595	45.28 ug/L	90.55%
59) 1,1,2,2-Tetrachloroethane-	12.02	84	148162	4.90 ug/L	97.98%
65) 1,2-Dichlorobenzene-d4	13.42	152	186672	5.43 ug/L	108.63%
Target Compounds					**Qvalue**
2) Dichlorodifluoromethane	0.00	85		Not Detected	
3) Chloromethane	1.82	50	25326	0.3003 ug/L	95
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	2.89	96	204781	4.7057 ug/L	97
12) 1,1,2-Trichloro-1,2,2-trif	0.00	101		Not Detected	
13) Acetone	3.56	43	339217	50.1452 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	5.73	83	13091	0.1536 ug/L #	1
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	6.51	78	1030521	5.1489 ug/L #	100
34) Trichloroethene	7.26	130	279597	4.9138 ug/L	95
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	8.95	91	995816	5.3190 ug/L	99

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

Quantitation Report

Data File : Q:\E-5975-E\2018\DAT...E\06DEC18E\EC15A016.D Vial: 10
Acq Time : 12/06/2018 13:54 Operator: SLS
Sample : 1833368016 5P-MW105-147MSD Inst : 5975-E
Misc : 1833368 A MSD Multiplr: 1.00
MS Integration Params: rteint.p Column ID: Rtx-VMS

Quant Time: Dec 06 19:08:22 2018 Results File: ETRACEE8.RES

Quant Method : C:\MSDCHEM\1\METHODS\ETRACEE8.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Wed Dec 05 06:20:48 2018
Response via : Initial Calibration
DataAcq Meth : ETRACEE8.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
48)	Tetrachloroethene	9.37	164	35372	0.9420 ug/L	98
49)	2-Hexanone	0.00	43		Not Detected	
51)	1,2-Dibromoethane	0.00	107		Not Detected	
52)	Chlorobenzene	10.57	112	635617	5.1224 ug/L	99
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	157		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:
1833368	18	228797	TV1130/5POINTS	11/29/18	12/6/18-12/7/18

Sample Matrix: Water

Method: EPA CLP SOM02.4 Trace Water

Instrument: 5975-E

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 ETRACEE8 analyzed on 12/04/18.

Initial Calibration Standards: VSTD0.5TE, 001TE, 005TE, 010TE, 020TE (Trace Water Curve) - 44967, 44968, 44970

Initial Calibration Verification Standards: VICVTE - 44969, 44972

Calibration Verification/MS Standards: VSTD005TX - 44969, 44970

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 FTRACEF8 analyzed on 11/30/18.

Initial Calibration Standards: VSTD0.5TF, 001TF, 005TF, 010TF, 020TF (Trace Water Curve) - 44967, 44968, 44970

Initial Calibration Verification Standards: VICVTE - 44969, 44972

Calibration Verification/MS Standards: VSTD005TX - 44969, 44970

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

DATACHEM LABORATORIES - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-E

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
EB81BFB	12/04/2018 11:50	CQC	ETRACEE8	1	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568 Failed.									
EB82BFB	12/04/2018 12:22	CQC	ETRACEE8	1	19.00	1	WATER	BFBET	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568									
EB83S05	12/04/2018 12:52	CQC	ETRACEE8	2	19.00	1	WATER	VSTD005ET	VSTD005ET 5.0	895004
	COMMENTS: 2.5 uL of 44969, 44970; 2.0 uL of 44568									
EB84S01	12/04/2018 13:27	CQC	ETRACEE8	3	19.00	1	WATER	VSTD001ET	VSTD001ET 1.0	835526
	COMMENTS: 2.5 uL of 44967; 1.0 uL of 44968, 970/50 mL									
EB85S005	12/04/2018 13:54	CQC	ETRACEE8	4	19.00	1	WATER	VSTD0.5ET	VSTD0.5ET 0.5	894757
	COMMENTS: 2.5 uL of 44967; 0.5 uL of 44968, 970/50 mL									
EB86S10	12/04/2018 14:22	CQC	ETRACEE8	5	19.00	1	WATER	VSTD010ET	VSTD010ET 10 u	925947
	COMMENTS: 2.5 uL of 44967; 10 uL of 44968, 970/50 mL									
EB87S20	12/04/2018 14:50	CQC	ETRACEE8	6	19.00	1	WATER	VSTD020ET	VSTD020ET 20 u	968219
	COMMENTS: 2.5 uL of 44967; 20 uL of 44968, 970/50 mL									
EB88BLK	12/04/2018 15:18	CQC	ETRACEE8	7	19.00	1	WATER	System Blank		849777
	COMMENTS: 2.5 uL of 44969									
EB89V05	12/04/2018 15:45	CQC	ETRACEE8	8	19.00	1	WATER	VICVET	VICVET 5.0 ug/L I	930022
	COMMENTS: 2.5 uL of 44969, 44972									
EB90BLK	12/04/2018 16:14	CQC	ETRACEE8	9	19.00	1	WATER	XXXXXX	VBLKTX	831804
	COMMENTS: 2.5 uL of 44969 Autosampler error after this run.									

DATACHEM LABORATORIES - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-E

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
EC06BFB	12/06/2018 09:27	SLS	ETRACEE8	1	19.00	1	WATER	BFBT2	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568									
EC07S05	12/06/2018 09:55	SLS	ETRACEE8	2	19.00	1	WATER	VSTD005T3	VSTD005T3 5.0	879694
	COMMENTS: 2.5 uL of 44969, 44970; 2.0 uL of 44568									
EC08BLK	12/06/2018 10:33	SLS	ETRACEE8	3	19.00	1	WATER	631007	VBLKT1	798066
	COMMENTS: 2.5 uL of 44969									
EC09A010	12/06/2018 11:07	SLS	ETRACEE8	4	19.00	1	WATER	1833368010	5P-MW110I-208	710074
	COMMENTS: 1833368 A									
EC10A011	12/06/2018 11:35	SLS	ETRACEE8	5	19.00	1	WATER	1833368011	5P-MW110D-301	523172
	COMMENTS: 1833368 A									
EC11A012	12/06/2018 12:03	SLS	ETRACEE8	6	19.00	1	WATER	1833368012	5P-MW104-120	760834
	COMMENTS: 1833368 A									
EC12A013	12/06/2018 12:31	SLS	ETRACEE8	7	19.00	1	WATER	1833368013	5P-MW103-122	692543
	COMMENTS: 1833368 A									
EC13A014	12/06/2018 12:58	SLS	ETRACEE8	8	19.00	1	WATER	1833368014	5P-MW105-147	780441
	COMMENTS: 1833368 A									
EC14A015	12/06/2018 13:26	SLS	ETRACEE8	9	19.00	1	WATER	1833368015	5P-MW105-147MS	681423
	COMMENTS: 1833368 A MS									
EC15A016	12/06/2018 13:54	SLS	ETRACEE8	10	19.00	1	WATER	1833368016	5P-MW105-147MS	752867
	COMMENTS: 1833368 A MSD									
EC16A017	12/06/2018 14:21	SLS	ETRACEE8	11	19.00	5	WATER	1833368017DL	5P-MW101-162	791493
	COMMENTS: 1833368 A 1:5 DILUTION									
EC17A018	12/06/2018 14:55	SLS	ETRACEE8	12	19.00	5	WATER	1833368018DL	5P-MW101-162	782752
	COMMENTS: 1833368 A 1:5 DILUTION									
EC18A017	12/06/2018 15:23	SLS	ETRACEE8	13	19.00	1	WATER	1833368017	5P-MW101-162	795311
	COMMENTS: 1833368 B									
EC19A018	12/06/2018 15:50	SLS	ETRACEE8	14	19.00	1	WATER	1833368018	5P-MW101-162-Y	781446
	COMMENTS: 1833368 B									
EC20BLK	12/06/2018 16:18	SLS	ETRACEE8	15	19.00	1	WATER	XXXXXX	VHBLKT1	796423
	COMMENTS: 2.5 uL of 44969									
EC21F05	12/06/2018 16:46	SLS	ETRACEE8	16	19.00	1	WATER	VSTD005T4	VSTD005T4 5.0	874982
	COMMENTS: 2.5 uL of 44969, 44970									
EC22F05	12/06/2018 17:14	SLS	ETRACEE8	17	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	884420
	COMMENTS: 2.5 uL of 44969, 44970									

DATACHEM LABORATORIES - GC\MS VOLATILE ANALYSIS
INJECTION LOGBOOK
INSTRUMENT 5975-E

FILE NAME	DATE & TIME INJECTED	OP	METHOD	SPAR GER#	RUN LENGTH	DIL FAC	MATRIX	SAMPLE	(STANDARD) (SOLUTION)	ISTD #1 AREA
EC23BFB	12/07/2018 06:31	CQC	ETRACEE8	19	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0 u	0
	COMMENTS: BFBTX 2.5 uL of 44969, 44970; 2.0 uL of 44568 Standard passed BFB failed.									
EC24BFB	12/07/2018 07:02	CQC	ETRACEE8	18	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568 Failed.									
EC25BFB	12/07/2018 07:35	CQC	ETRACEE8	18	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568 Failed.									
EC26BFB	12/07/2018 08:08	CQC	ETRACEE8	18	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568 AUMG & EMV+1 Failed.									
EC27BFB	12/07/2018 08:59	CQC	ETRACEE8	18	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568 Failed.									
EC28S05	12/07/2018 09:27	CQC	ETRACEE8	19	19.00	1	WATER	VSTD005T5	VSTD005T5 5.0	863330
	COMMENTS: BFBT3 2.5 uL of 44969, 44970; 2.0 uL of 44568									
EC29BLK	12/07/2018 10:00	CQC	ETRACEE8	20	19.00	1	WATER	630889/631611	VBLKT1	843671
	COMMENTS: 2.5 uL of 44969									
EC30C003	12/07/2018 10:29	CQC	ETRACEE8	21	19.00	1	WATER	1834029003	BE7T8	800526
	COMMENTS: 1834029 A									
EC31C002	12/07/2018 10:57	CQC	ETRACEE8	22	19.00	1	WATER	1834029002	BE7Q3	778579
	COMMENTS: 1834029 A									
EC32C004	12/07/2018 11:25	CQC	ETRACEE8	23	19.00	1	WATER	1834174001	BE7Q4	913730
	COMMENTS: 1834029 A									
EC33R001	12/07/2018 11:52	CQC	ETRACEE8	24	19.00	1000	WATER	1834029001DL	E7B9DL	785228
	COMMENTS: 1834029 A 1;1,000 Dilution									
EC34C001	12/07/2018 12:20	CQC	ETRACEE8	25	19.00	100	WATER	1834029001	BE7B9 (100	803068
	COMMENTS: 1834029 A 1;100 Dilution									
EC35E001	12/07/2018 12:48	CQC	ETRACEE8	26	19.00	1	WATER	1833368001	TB-112918	779778
	COMMENTS: 1833368 A									
EC36HBLK	12/07/2018 13:15	CQC	ETRACEE8	27	19.00	1	WATER	631008	VHBLKTX	790420
	COMMENTS: 2.5 uL of 44969									
EC37HBLK	12/07/2018 13:43	CQC	ETRACEE8	28	19.00	1	WATER	XXXXXX	VHBLKTX	784645
	COMMENTS: 2.5 uL of 44969									
EC38F05	12/07/2018 14:10	CQC	ETRACEE8	29	19.00	1	WATER	VSTD005T6	VSTD005T6 5.0	884552
	COMMENTS: 2.5 uL of 44969, 44970									

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
FB61BFB	11/30/2018 07:56	CQC	FM2719TD	1	19.00	1	WATER	BFBTX	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568									
FB62BFB	11/30/2018 08:38	CQC	FM2719TD	1	19.00	1	WATER	BFBTF	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568									
FB63S005	11/30/2018 09:09	CQC	FM2719TD	2	19.00	1	WATER	VSTD0.5TF	VSTD0.5TF 0.5	965337
	COMMENTS: 2.5 uL of 44967; 0.5 uL of 44968, 70, 74/50 m									
FB64S01	11/30/2018 09:37	CQC	FM2719TD	3	19.00	1	WATER	VSTD001TF	VSTD001TF 1.0	1016453
	COMMENTS: 2.5 uL of 44967; 1.0 uL of 44968, 70, 74/50 m									
FB65S05	11/30/2018 10:05	CQC	FM2719TD	4	19.00	1	WATER	VSTD005TF	VSTD005TF 5.0	1174024
	COMMENTS: 2.5 uL of 44967; 5.0 uL of 44968, 70, 74/50 m									
FB66S10	11/30/2018 10:33	CQC	FM2719TD	5	19.00	1	WATER	VSTD010TF	VSTD010TF 10 u	1286467
	COMMENTS: 2.5 uL of 44967; 10 uL of 44968, 70, 74/50 mL									
FB67S20	11/30/2018 11:01	CQC	FM2719TD	6	19.00	1	WATER	VSTD020TF	VSTD020TF 20 u	1391297
	COMMENTS: 2.5 uL of 44967; 20 uL of 44968, 70, 74/50 mL									
FB68BLK	11/30/2018 11:28	CQC	FM2719TD	7	19.00	1	WATER	System Blank		1095298
	COMMENTS: 2.5 uL of 44969									
FB69V05	11/30/2018 11:56	CQC	FM2719TD	8	19.00	1	WATER	VICVTF	VICVTF 5.0 ug/L I	1297691
	COMMENTS: 2.5 uL of 44969, 44972, 44975									
FB70BLK	11/30/2018 12:23	CQC	FM2719TD	9	19.00	1	WATER	VBLKTA	MDL Blank	1112563
	COMMENTS: 2.5 uL of 44969									
FB71R001	11/30/2018 12:51	CQC	FM2719TD	10	19.00	1	WATER	0.2 ug/L	MDL Standard	1075375
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R002	11/30/2018 13:19	CQC	FM2719TD	11	19.00	1	WATER	0.2 ug/L	MDL Standard	1083658
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R003	11/30/2018 13:47	CQC	FM2719TD	12	19.00	1	WATER	0.2 ug/L	MDL Standard	1099587
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R004	11/30/2018 14:14	CQC	FM2719TD	13	19.00	1	WATER	0.2 ug/L	MDL Standard	1085508
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R005	11/30/2018 14:42	CQC	FM2719TD	14	19.00	1	WATER	0.2 ug/L	MDL Standard	1058039
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R006	11/30/2018 15:10	CQC	FM2719TD	15	19.00	1	WATER	0.2 ug/L	MDL Standard	1068920
	COMMENTS: 0.4 uL of 44970/100 mL									
FB71R007	11/30/2018 15:37	CQC	FM2719TD	16	19.00	1	WATER	0.2 ug/L	MDL Standard	1062588
	COMMENTS: 0.4 uL of 44970/100 mL									
FB72F05	11/30/2018 16:05	CQC	FM2719TD	17	19.00	1	WATER	VSTD005TM	VSTD005TM 5.0	1257527
	COMMENTS: 2.5 uL of 44969, 44970, 44974									
FB73F05	11/30/2018 16:33	CQC	FM2719TD	18	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1290881
	COMMENTS: 2.5 uL of 44969, 44970, 44974									

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
FB74BFB	12/06/2018 07:23	SLS	FTRACEF8	1	19.00	1	WATER	BFBT1	50 ng BFB	0
	COMMENTS: 2.0 uL of 44568									
FB75S05	12/06/2018 07:57	SLS	FTRACEF8	2	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1339139
	COMMENTS: 2.5 uL of 44969, 70									
FB75R05	12/06/2018 08:34	SLS	FTRACEF8	2	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1501771
	COMMENTS: 2.5 uL of 44969, 70									
FB76R05	12/06/2018 09:18	SLS	FTRACEF8	2	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1264673
	COMMENTS: 2.5 uL of 44969, 70									
FB76S05	12/06/2018 10:06	SLS	FTRACEF8	2	19.00	1	WATER	VSTD005T1	VSTD005T1 5.0	1275432
	COMMENTS: 2.5 uL of 44969, 70									
FB77BLK	12/06/2018 10:41	SLS	FTRACEF8	3	19.00	1	WATER	631006	VBLKT1	1035580
	COMMENTS: 2.5 uL of 44969									
FB78A002	12/06/2018 11:18	SLS	FTRACEF8	4	19.00	1	WATER	1833368002	5P-MW107I-145	1090259
	COMMENTS: 1833368 A									
FB78A003	12/06/2018 11:45	SLS	FTRACEF8	5	19.00	1	WATER	1833368003	5P-MW107D-200	1044508
	COMMENTS: 1833368 A									
FB79A004	12/06/2018 12:13	SLS	FTRACEF8	6	19.00	1	WATER	1833368004	5P-MW106I-145	1055579
	COMMENTS: 1833368 A									
FB80A005	12/06/2018 12:41	SLS	FTRACEF8	7	19.00	1	WATER	1833368005	5P-MW106D195	1072711
	COMMENTS: 1833368 A									
FB81A006	12/06/2018 13:09	SLS	FTRACEF8	8	19.00	1	WATER	1833368006	5P-MW108I-149	1041968
	COMMENTS: 1833368 A									
FB82A007	12/06/2018 13:37	SLS	FTRACEF8	9	19.00	1	WATER	1833368007	5P-MW108D-214	1040914
	COMMENTS: 1833368 A									
FB83A008	12/06/2018 14:04	SLS	FTRACEF8	10	19.00	1	WATER	1833368008	5P-MW109I-169	1045724
	COMMENTS: 1833368 A									
FB84A009	12/06/2018 14:32	SLS	FTRACEF8	11	19.00	1	WATER	1833368009	5P-MW109D-230	998100
	COMMENTS: 1833368 A									
FB86BLK	12/06/2018 14:59	SLS	FTRACEF8	12	19.00	1	WATER	XXXXXX	VHBLKT1	1037039
	COMMENTS: 2.5 uL of 44969									
FB87F05	12/06/2018 15:26	SLS	FTRACEF8	13	19.00	1	WATER	VSTD005T2	VSTD005T2 5.0	1287054
	COMMENTS: 2.5 uL of 44969, 44970									
FB88F05	12/06/2018 15:55	SLS	FTRACEF8	14	19.00	1	WATER	VSTD005TX	VSTD005TX 5.0	1282510
	COMMENTS: 2.5 uL of 44969, 44970									

STANDARD REPORT

Working Standard - 4-BFB

4-BFB — Description - 4-Bromofluorobenzene

Standard: 44568
MFG: NA
MFG Lot: CH-3248Z
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/04/2018 02:11PM

Amount: 5 mL
Expires: 01/04/2019
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: 08/10/2018 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: 11/15/2018 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: 44967
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 35944
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: 44968
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
Usable: Yes
Lab Lot: Trace DMC Only

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	50 ug/mL
2	865-49-6	Chloroform-d	50 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
5	22280-73-6	1,1-Dichloroethene-d2	50 ug/mL
6	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	50 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
9	2037-26-5	Toluene-d8	50 ug/mL
10	19199-91-8	Chloroethane-d5	50 ug/mL
11	6745-35-3	Vinyl Chloride-d3	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 032418	50 uL	03/24/2019
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1500 uL	08/10/2025
39971	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases072817	50 uL	07/26/2020
43828	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 081018	400 uL	08/10/2021

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: 43828
MFG: Absolute Standards, Inc.
MFG Lot: 081018
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 09/26/2018 06:09AM

Amount: Not Provided
Expires: 08/10/2021
Usable: Yes
Lab Lot: CLP DMC Ket 081018

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: 39971
MFG: Absolute Standards, Inc.
MFG Lot: 072617
Part ID: 94156

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 07/26/2020
Usable: Yes
Lab Lot: CLPDMCGases072617

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 - TraceIstdDMC

TraceIstdDMC — Description - Trace Istd/DMC

Standard: 44969
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
Usable: Yes
Lab Lot: Trace Istd/DMC

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	50 ug/mL
2	865-49-6	Chloroform-d	50 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
5	22280-73-5	1,1-Dichloroethene-d2	50 ug/mL
6	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	50 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
9	2037-26-5	Toluene-d8	50 ug/mL
10	540-36-3	1,4-Difluorobenzene	50 ug/mL
11	3114-55-4	Chlorobenzene-d5	50 ug/mL
12	3855-82-1	1,4-Dichlorobenzene-d4	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	1480 uL	08/10/2025
36944	CLP Istd	EPA CLP Istd Stock	CLP Istd 011917	40 uL	01/19/2022
39971	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases072617	50 uL	07/26/2020
43828	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 081018	400 uL	08/10/2021

00207

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: 01/18/2022
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

Constituent

Stock Standard - CLP DMC KET

CLP DMC KET — Description - EPA CLP DMC Ketones Stock

Standard: 43828
MFG: Absolute Standards, Inc.
MFG Lot: 081018
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 09/26/2018 06:09AM

Amount: Not Provided
Expires: 08/10/2021
Usable: Yes
Lab Lot: CLP DMC Ket 081018

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	76-87-5(d6)	1,2-Dichloropropane-d6	2000 ug/mL
7	93951-88-1	trans-1,3-Dichloropropene-d4	2000 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	2000 ug/mL
9	2037-28-5	Toluene-d8	2000 ug/mL

STANDARD REPORT

Constituent

Stock Standard - CLPDMCGases

CLPDMCGases — Description - EPA CLP DMC Gases Stock

Standard: 39371
MFG: Absolute Standards, Inc.
MFG Lot: 072617
Part ID: 94158

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 07/28/2020
Usable: Yes
Lab Lot: CLPDMCGases072617

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: 44970
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 44970
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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
38044	CLP Ketones	EPA CLP Ketones Stock	CLP Ketones 022916	50 uL	03/01/2019
39972	CLP Gases	EPA CLP Gases Stock	CLP Gases 082117	50 uL	08/21/2020

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: 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
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: 39972
MFG: Absolute Standards, Inc.
MFG Lot: 082117
Part ID: 30058

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 08/21/2020
Usable: Yes
Lab Lot: CLP Gases 082117

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: 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 Ketones

CLP Ketones	Description - EPA CLP Ketones Stock

Standard: 38044
MFG: Absolute Standards, Inc.
MFG Lot: 022916
Part ID: 82402

Created By: Christopher Q. Coleman
Create Date: 08/15/2017 07:08PM

Amount: Not Provided
Expires: 03/01/2019
Usable: Yes
Lab Lot: CLP Ketones 022916

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: 44971
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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 03:08PM

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: 44972
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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

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STANDARD REPORT

Working Standard - CLP TraceICV

CLP TraceICV — Description - CLP Trace ICV

Standard: 44972
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1.25 mL	08/10/2025
43826	8260 Gases	VOAL Gases Stock	Ab Gases 062618	0.5 mL	06/26/2021
44973	CLPKetoneICV	EPA CLP Ketones ICV Stock	CLP Ketones ICV	200 uL	04/30/2021

STANDARD REPORT
Constituent

Stock Standard - CLPKetoneICV

CLPKetoneICV — Description - EPA CLP Ketones ICV Stock

Standard: 44973
MFG: Restek
MFG Lot: A0134324
Part ID: 30008

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: Not Provided
Expires: 04/30/2021
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: 43826 MFG: Absolute Standards, Inc. MFG Lot: 062618 Part ID: 30002		Created By: Christopher Q. Coleman Create Date: 09/26/2018 06:09AM	Amount: Not Provided Expires: 06/26/2021 Usable: Yes Lab Lot: Ab Gases 062618

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

ULTRA ISO 17025 CERTIFICATION

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.

34352

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

ANAB ACCREDITED TESTING LABORATORY

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Certified Reference Material CRM

Absolute Standards, Inc.
(800) 368-1161
http://www.absolutestandards.com

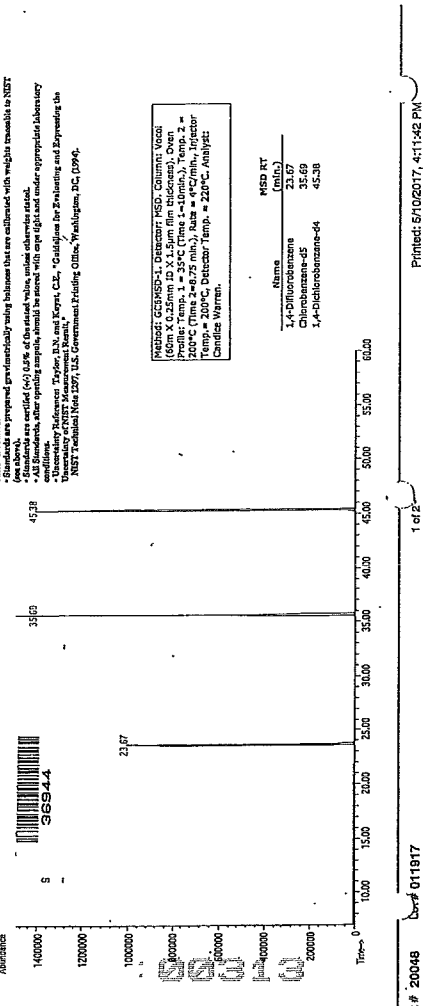
MODIFIED WEIGHT REPORT

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

Solvent: Methanol
Lot#: DN815

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#	MSDS Information (Solvent Safety Info. On Attached pg.) OSHA PEL (TWA)	LD50
55-06 Balance Uncertainty												
0.001 Flask Uncertainty												
1,4-Chlorobenzene-d5	69	C443AP12	2500	99.8	0.2	0.25103	0.25118	2501.5	10.1	3114-55-4	N/A	orl-rat 1110mg/kg
1,4-Chlorobenzene-d4	118	PR-1949/07/07/CB1	2500	98	0.2	0.25513	0.25502	2500.9	10.3	3855-82-1	N/A	orl-rat 500mg/kg
1,4-Difluorobenzene	155	13105AD	2500	99	0.2	0.25235	0.25278	2502.0	10.2	540-36-3	N/A	N/A

TIC 20048.D



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1 of 2

Lot# 20048 Lot# 011917

TIFIED WEIGHT REPORT

Part Number: 94157
Lot Number: 033018
Description: CLP SOM 01.1 DMC Ketones
2 components
Expiration Date: 033021
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.002 Flask Uncertainty

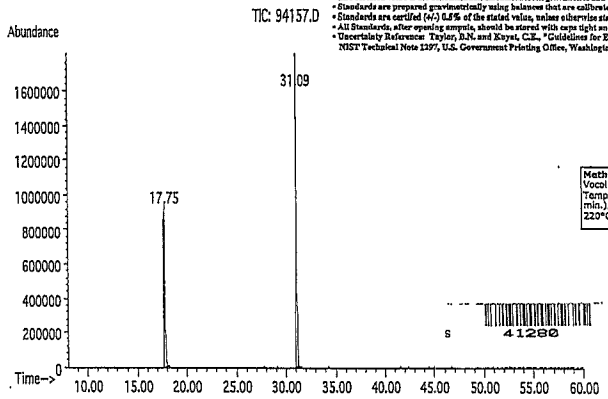
Solvent(s): Lot#
Methanol DS435 (90%)
Water 050917 (10%)

Formulated By: Gabriel Halland 033018 DATE
Reviewed By: Pedro L. Rentas 033018 DATE

SDS 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. 2-Butanone-1,1,1,3,3-d5	2557	M276P23	2500	99	0.2	0.06314	0.06318	2501.6	10.9	24313-50-6	N/A	orl-rat 2737mg/kg
2. 2-Hexanone-1,1,1,3,3-d5	2558	S168P26	2500	98.5	0.2	0.06348	0.06369	2509.0	10.9	4840-82-6	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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



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.

Name	MSD RT (min.)
2-Butanone-1,1,1,3,3-d5	17.75
2-Hexanone-1,1,1,3,3-d5	31.12

S 41280

CERTIFIED WEIGHT REPORT

Part Number: 94156
Lot Number: 072617
Description: CLP SOM 01.1 VOC DMC Gases
2 components
Expiration Date: 072620
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL): 50.0 0.007 Flask Uncertainty

Solvent(s): Lot#
Methanol DQ538

Formulated By: Vincent K. Criscio, Jr. 072617 DATE
Reviewed By: Pedro L. Rentas 072617 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

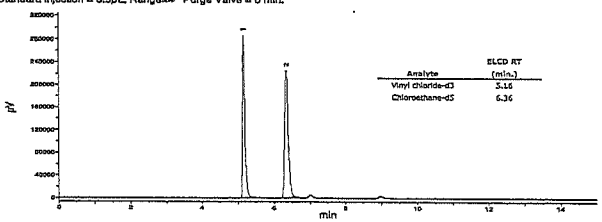
Compound	Part Number	Lot Number	DIL Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(us/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Chloroethane-d5	94178	072617	0.24	12.00	0.042	8353.2	2004.8	16.3	19199-91-8	N/A	N/A
2. Vinyl chloride-d3	94177	072617	0.20	10.00	0.042	10016.8	2003.8	18.8	6745-35-3	N/A	orl-rat 500mg/kg

Run 1, "P94156 L072617 [2000µg/mL in MeOH]"

Run Length: 15.00 min. 8999 points at 10 points/second.
Created: Wed, Jul 26, 2017 at 4:35:41 PM.
Sampled: Sequence "072617-GC1", Method "GC1-M9".
Analyzed using Method "GC1-M9".

- 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
GC1-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, FID Temp.=200°C.
ELCD Signal = Edaq Channel 1 PID Signal = Edaq Channel 2
Standard injection = 0.5µL, Range=4 Purge Valve = 0 min.



Analyte	ELCD RT (min.)
Vinyl chloride-d3	5.16
Chloroethane-d5	6.36

S 39971

TIFIED WEIGHT REPORT

Part Number: 30058
Lot Number: 082117
Description: EPA Method 502/524 - Volatile Gases Mix #1
6 components
Expiration Date: 082120
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 500.0 0.058 Flask Uncertainty

Solvent(s): Lot#
Methanol DQ538

Formulated By: Vincent K. Criscio, Jr. 082117 DATE
Reviewed By: Pedro L. Rentas 082117 DATE

MSDS Information (Solvent Safety Info. On Attached pg.)

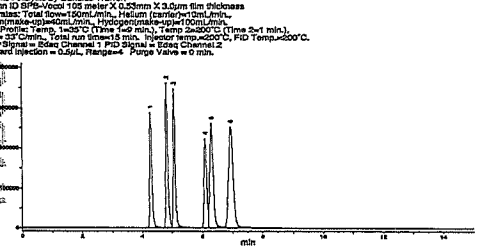
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Bromomethane	50	01611JX	2000	99.5	0.2	1.00508	1.0110	2011.6	8.1	74-83-9	5 ppm (20mg/m3/8H) (skin)	orl-rat 214mg/kg
2. Chloroethane	72	00727KX	2000	99	0.2	1.01016	1.0140	2007.6	8.1	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
3. Chloromethane	79	08906MS	2000	99.5	0.2	1.00508	1.0071	2004.0	8.1	74-87-3	100 ppm	orl-rat 1800mg/kg
4. Dichlorodifluoromethane	134	92-0487	2000	99	0.2	1.01016	1.0145	2008.6	8.1	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
5. Trichlorofluoromethane	294	01623MW	2000	99	0.2	1.01016	1.0150	2009.6	8.1	75-69-4	1000 ppm (5600mg/m3/8H)	orl-mus 1743mg/kg
6. Vinyl chloride	305	04854EA	2000	99.5	0.2	1.00508	1.0072	2004.2	8.1	75-01-4	N/A	N/A

Run 3, "P30058 L082117 [2000µg/mL in MeOH]"

Run Length: 15.00 min. 8999 points at 10 points/second.
Created: Tue, Aug 22, 2017 at 2:28:22 PM.
Sampled: Sequence "081717-GC1", Method "GC1-M9".
Analyzed using Method "GC1-M9".

- 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
GC1-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, FID Temp.=200°C.
ELCD Signal = Edaq Channel 1 PID Signal = Edaq Channel 2
Standard injection = 0.5µL, Range=4 Purge Valve = 0 min.



Analyte	ELCD RT (min.)
Dichlorodifluoromethane	4.34
Chloromethane	4.89
Vinyl chloride	5.14
Bromomethane	5.19
Chloroethane	6.40
Trichlorofluoromethane	7.05

S 39972

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#: 822-275672-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.006 Flask Uncertainty

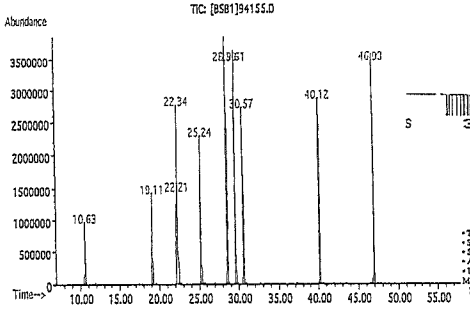
Solvent(s): Lot#
Methanol DM417

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	99.8	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-18853/1207D02	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 825mg/kg
5. 1,1-Dichloroethene-d2	2047	W151P10	2000	99	0.2	0.20203	0.20230	2002.6	8.2	22286-73-5	N/A	orl-rat 200mg/kg
6. 1,2-Dichloropropane-d6	2051	Z322P1	2000	99.4	0.2	0.20122	0.20185	2003.8	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	0.47622	0.47650	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	2001.8	8.1	33685-54-0	N/A	orl-rat 800mg/kg
9. Toluene-d8	282	80-549	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.



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

S 31457

- 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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Analytical Reference Material ARM

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IFIED 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 — 010816 DATE
Reviewed By: Pedro L. Rentas — 010816 DATE

Volume(s) shown below were combined and diluted to (mL): 100.0 — 5E-05 Balance Uncertainty — 0.008 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	060515	0.10	10.00	0.008	20017.5	2001.8	8.4	00071-43-2	1 ppm	orl-rat 4894mg/kg
Toluene	93831	060515	0.10	10.00	0.008	20010.8	2000.9	8.0	00108-88-3	200 ppm	orl-rat 5000mg/kg
Ethyl benzene	93831	060515	0.10	10.00	0.008	20007.4	2000.6	8.0	00100-41-4	100 ppm (435mg/m3/8H)	orl-rat >3000mg/kg
o-Xylene	93831	060515	0.10	10.00	0.008	20010.0	2000.9	8.1	00095-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
m-Xylene	93831	060515	0.10	10.00	0.008	10007.2	1000.7	4.0	00108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
p-Xylene	93831	060515	0.10	10.00	0.008	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	40008.7	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	0.008	20002.1	2000.1	8.1	00075-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
Bromochloromethane	94170	010616	0.10	10.00	0.008	20017.5	2001.6	8.1	00074-97-5	200 ppm (1050mg/m3/8H)	orl-rat 5000mg/kg
Bromoform	94170	010616	0.10	10.00	0.008	20010.4	2000.9	8.1	00075-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
Carbon tetrachloride	94170	010616	0.10	10.00	0.008	20005.0	2000.5	8.0	00056-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
Chloroform	94170	010616	0.10	10.00	0.008	20019.5	2001.8	8.0	00067-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
1,1-Dichloroethane	94170	010616	0.10	10.00	0.008	20007.8	2000.8	8.1	00075-34-3	100 ppm	orl-rat 725mg/kg
Tetrachloroethene	94170	010616	0.10	10.00	0.008	20015.7	2001.4	8.1	00127-18-4	25 ppm (170mg/m3/8H)(skin)	orl-rat 2629mg/kg
1,1,1-Trichloroethane	94170	010616	0.10	10.00	0.008	20007.4	2000.8	8.1	00071-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10000mg/kg
1,2-Dibromo-3-chloropropane	94171	010616	0.10	10.00	0.008	20015.3	2001.4	8.1	00096-12-8	0.001 ppm	orl-rat 170mg/kg
1,2-Dibromoethane	94171	010616	0.10	10.00	0.008	20017.3	2001.6	8.1	00106-93-4	20 ppm (8H)	orl-rat 108mg/kg
1,2-Dichloroethane	94171	010616	0.10	10.00	0.008	20005.4	2000.4	8.0	00107-06-2	50 ppm (8H)	orl-rat 670mg/kg
[illegible]chloropropane	94171	010616	0.10	10.00	0.008	20006.4	2000.5	8.1	00078-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
[illegible]-Dichloropropene	94171	010616	0.10	10.00	0.008	20016.0	2001.5	8.2	10061-01-5	N/A	N/A
trans-1,3-Dichloropropene	94171	010616	0.10	10.00	0.008	20011.4	2001.0	8.1	10061-02-6	N/A	N/A
1,1,2,2-Tetrachloroethane	94171	010616	0.10	10.00	0.008	20014.3	2001.3	8.1	00079-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
1,1,2-Trichloroethane	94171	010616	0.10	10.00	0.008	20024.9	2002.4	8.2	00079-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
Trichloroethene	94171	010616	0.10	10.00	0.008	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	0.008	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	0.008	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	0.008	20004.5	2000.3	8.2	00541-73-1	N/A	ipr-mus 1062mg/kg
1,4-Dichlorobenzene	94172	010716	0.10	10.00	0.008	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	0.008	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	0.008	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	0.008	20018.5	2001.5	8.1	00087-61-6	N/A	ipr-mus 1390mg/kg
1,2,4-Trichlorobenzene	94172	010716	0.10	10.00	0.008	20017.3	2001.8	8.1	00120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
Carbon disulphide	94173	010716	0.10	10.00	0.008	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	0.008	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	0.008	20002.4	2000.1	8.0	00079-20-9	200 ppm (610mg/m3/8H)	orl-rat 3705mg/kg
Methylcyclohexane	94173	010716	0.10	10.00	0.008	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	0.008	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	0.008	20001.9	2000.1	8.1	00076-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg

S 30593

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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CERTIFIED WEIGHT REPORT

Part Number: 82492
Lot Number: 022916
Description: EPA Method 8240A - Mix #2 Conc
Ketones - 4 components
Expiration Date: 030119
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 20000
NIST Test ID#: 822-275872-11

Solvent(s): Methanol — Lot# DM417 (90%); Water — Lot# 020516 (10%)

Formulated By: Jason Criscio — 022916 DATE
Reviewed By: Pedro L. Rentas — 022916 DATE

Weight(s) shown below were combined and diluted to (mL): 200.0 — 5E-05 Balance Uncertainty — 0.014 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. Acetone	4	09484BH	20000	99.5	0.2	4.01942	4.02050	20005.4	80.5	67-64-1	750 ppm	orl-rat 5800mg/kg
2. 2-Butanone (Methyl ethyl ketone)	53	4605EL	20000	99.9	0.2	4.00333	4.00430	20004.8	80.1	78-93-3	200 ppm (590mg/m3/8H)	orl-rat 2737mg/kg
3. 2-Hexanone	200	Z9VCD-PO	20000	98	0.2	4.08095	4.08171	20003.7	81.7	591-78-6	100 ppm (410mg/m3/8H)	orl-rat 2590mg/kg
4. 4-Methyl-2-pentanone	210	00861PH	20000	99.5	0.2	4.01942	4.02095	20007.6	80.5	108-10-1	100 ppm (410mg/m3/8H)	orl-rat 2080mg/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).

S 38044

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Certified Reference Material CRM

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IFIED WEIGHT REPORT

Part Number: 30002
Lot Number: 062618
Description: EPA Method 502.2 - Volatile Gases Mix #1
6 components
Expiration Date: 062621
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 200
NIST Test ID#: 2684186

Solvent(s): Methanol — Lot# DS435

Formulated By: Vincent K. Criscio, Jr. — 062618 DATE
Reviewed By: Pedro L. Rentas — 062618 DATE

Volume(s) shown below were combined and diluted to (mL): 200.0 — Balance Uncertainty — 0.058 Flask Uncertainty

SDS Information (Solvent Safety Info. On Attached pg.)

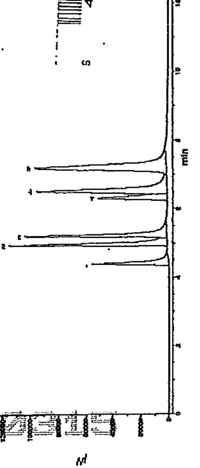
Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(ug/mL)	Final Conc.(ug/mL)	Expanded Uncertainty (+/-) (ug/mL)	CAS#	OSHA PEL (TWA)	LD50
Bromomethane	30058	041018	0.10	20.0	0.003	2006.8	200.7	1.4	74-83-9	5 ppm (20mg/m3/8H) (skin)	orl-rat 214mg/kg
Chloroethane	30058	041018	0.10	20.0	0.003	2001.1	200.1	1.4	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
Chloromethane	30058	041018	0.10	20.0	0.003	2002.6	200.3	1.4	74-87-3	100 ppm	orl-rat 1800mg/kg
Dichlorodifluoromethane	30058	041018	0.10	20.0	0.003	2009.6	201.0	1.4	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
Trichlorofluoromethane	30058	041018	0.10	20.0	0.003	2009.6	201.0	1.4	75-69-4	1000 ppm (5600mg/m3/8H)	ipr-mus 1743mg/kg
Vinyl chloride	30058	041018	0.10	20.0	0.003	2002.6	200.3	1.4	75-01-4	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).

un 2, "P30002 L062618 200µg/mL in MeOH"

un Length: 15.00 min, 9000 points at 10 points/second.
reated: Tue, Jun 26, 2018 at 11:24:50 AM.
ampled: Sequence "062618-GC1", Method "GC1-M9".
nalyzed using Method "GC1-M9".

omments
C1-M9 Analysis by Candice Warren
olumn ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
low rates: Total flow=150mL/min., Helium (carrier)=10mL/min.,
elium(make-up)=40mL/min., Hydrogen(make-up)=100mL/min.
ven Profile: Temp. 1=35°C (Time 1=9 min.), Temp 2=200°C (Time 2=1 min.).
ate = 33°C/min., Total run time=15 min. Injector temp.=200°C, PID Temp.=200°C.
LCD Signal = Edaq Channel 1 PID Signal = Edaq Channel 2
tandard Injection = 0.5µL. Range=4 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

S 43826

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED

ilac-MRA

ACCREDITED

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. : 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

Solution Number	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)			
1	1,1,2-Trichlorotrifluoroethane (CFC-113) CAS # 76-13-1 (Lot 0000456G) Purity 99%	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 (Lot SHBD6170V) Purity 99%	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 (Lot SHBD7134V) Purity 98%	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 (Lot SHBF9870V) Purity 99%	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 (Lot S20A856) Purity 99%	2,015.0 µg/mL	+/- 11.8251 +/- 121.5845 +/- 121.8751	µg/mL µg/mL 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 +/- 120.9208 +/- 121.2078	µg/mL µg/mL 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 +/- 122.1768 +/- 122.4648	µg/mL µg/mL 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 +/- 122.0508 +/- 122.3787	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed	
9	cis-1,2-Dichloroethene CAS # 156-59-2 (Lot MKBV2831V) Purity 98%	2,001.7 µg/mL	+/- 11.7463 +/- 120.7790 +/- 121.0657	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed	
10	chloroform CAS # 67-66-3 (Lot MKBV2089V) Purity 99%	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 (Lot 00004559) Purity 99%	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 (Lot B15MW0705) Purity 99%	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 (Lot MKBV3194V) Purity 99%	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 (Lot SHBG1763V) Purity 99%	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 (Lot MKBV4565V) Purity 99%	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 (Lot SHBG1169V) Purity 99%	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 (Lot SHBF0943V) Purity 99%	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 (Lot SHBG0634V) Purity 98%	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 (Lot 01113D0V) Purity 99%	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 (Lot MKBL1617V) Purity 98%	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 (Lot 22238) Purity 99%	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 (Lot MKBV5601V) Purity 99%	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 (Lot C584177) Purity 99%	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 (Lot FGB01) Purity 99%	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 (Lot SHBD9374V) Purity 99%	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 (Lot MKBQ6577V) Purity 98%	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 (Lot BCBH3877V) Purity 99%	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 (Lot SHBF0505V) Purity 99%	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 (Lot SHBF8969V) Purity 99%	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 (Lot SHBF8095V) Purity 99%	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 (Lot SHBF3427V) Purity 99%	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 (Lot SHBF7003V) Purity 99%	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 (Lot MKBS7097V) Purity 99%	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 (Lot 10185056) Purity 99%	2,016.0 µg/mL	+/- 11.8310 +/- 121.6448 +/- 121.9336	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed	
35	bromoform CAS # 75-25-2 (Lot SHBD8459V) Purity 99%	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 (Lot CFA4D) Purity 99%	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 (Lot BCBM5751V) Purity 99%	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 (Lot MKBS1350V) Purity 99%	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 (Lot SHBD7331V) Purity 99%	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 (Lot FBL01-3M) Purity 99%	2,003.5 µg/mL	+/- 11.7577 +/- 120.8906 +/- 121.1776	µg/mL µg/mL 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 +/- 121.1621 +/- 121.4497	µg/mL µg/mL 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 +/- 121.0414 +/- 121.3288	µg/mL µg/mL 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.#10912)

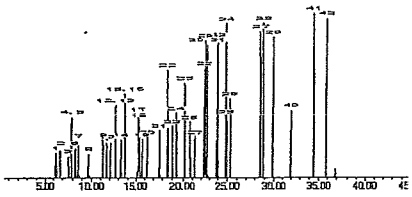
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
45°C (hold 6 min.) to 240°C
@ [illegible] (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.

Lane Kibe - Mix Technician Date Mixed: 02-Mar-2016 Balance: 1127510185

Jodi E. Breon - QA Analyst Date Passed: 09-Mar-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

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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.

:atalog No.: 30006 Lot No.: A0134324

escription: VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

ontainer Size: 2 mL Pkg Amt: > 1 mL

xpiration Date: April 30, 2021 Storage: 0°C or colder

CERTIFIED VALUES

Solution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone CAS # 67-64-1 (Lot SHBH6933) Purity 99%	5,002.7 µg/mL	+/- 29.0861 µg/mL +/- 301.8351 µg/mL +/- 302.5517 µg/mL	Gravimetric Unstressed Stressed
2	2-Butanone (MEK) CAS # 78-93-3 (Lot SHBF2461V) Purity 99%	5,004.7 µg/mL	+/- 29.0978 µg/mL +/- 301.9557 µg/mL +/- 302.6726 µg/mL	Gravimetric Unstressed Stressed
3	4-Methyl-2-pentanone (MIBK) CAS # 108-10-1 (Lot SHBH7006) Purity 99%	5,000.1 µg/mL	+/- 29.0710 µg/mL +/- 301.6782 µg/mL +/- 302.3944 µg/mL	Gravimetric Unstressed Stressed
4	2-Hexanone CAS # 591-78-6 (Lot MKBW0198V) Purity 99%	5,007.4 µg/mL	+/- 29.1135 µg/mL +/- 302.1186 µg/mL +/- 302.8359 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

S 44973

STANDARD REPORT

Working Standard - 4-BFB

4-BFB — Description - 4-Bromofluorobenzene

Standard: 44568
MFG: NA
MFG Lot: CH-3248Z
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/04/2018 02:11PM

Amount: 5 mL
Expires: 01/04/2019
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: 44967
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 44998
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
Usable: Yes
Lab Lot: Trace DMC Only

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	50 ug/mL
2	865-49-6	Chloroform-d	50 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
5	22280-73-5	1,1-Dichloroethene-d2	50 ug/mL
6	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	50 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
9	2037-26-5	Toluene-d8	50 ug/mL
10	19199-91-8	Chloroethane-d5	50 ug/mL
11	6745-35-3	Vinyl Chloride-d3	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
39971	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases072617	50 uL	07/26/2020
43828	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 081018	400 uL	08/10/2021

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: 43828
MFG: Absolute Standards, Inc.
MFG Lot: 081018
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 09/26/2018 06:09AM

Amount: Not Provided
Expires: 08/10/2021
Usable: Yes
Lab Lot: CLP DMC Ket 081018

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: 39971
MFG: Absolute Standards, Inc.
MFG Lot: 072617
Part ID: 94156

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 07/26/2020
Usable: Yes
Lab Lot: CLPDMCGases072617

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 - TraceIstdDMC

TraceIstdDMC — Description - Trace Istd/DMC

Standard: 44969
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
Usable: Yes
Lab Lot: Trace Istd/DMC

Pos.	Analyte	Name	Concentration
1	1076-43-3	Benzene-d6	50 ug/mL
2	865-49-6	Chloroform-d	50 ug/mL
3	2199-69-1	1,2-Dichlorobenzene-d4	50 ug/mL
4	17060-07-0	1,2-Dichloroethane-d4	50 ug/mL
5	22280-73-5	1,1-Dichloroethene-d2	50 ug/mL
6	78-87-5(d6)	1,2-Dichloropropane-d6	50 ug/mL
7	93951-86-1	trans-1,3-Dichloropropene-d4	50 ug/mL
8	33685-54-0	1,1,2,2-Tetrachloroethane-d2	50 ug/mL
9	2037-26-5	Toluene-d8	50 ug/mL
10	540-36-3	1,4-Difluorobenzene	50 ug/mL
11	3114-55-4	Chlorobenzene-d5	50 ug/mL
12	3855-82-1	1,4-Dichlorobenzene-d4	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
36944	CLP Istd	EPA CLP Istd Stock	CLP Istd 011917	40 uL	01/19/2022
39971	CLPDMCGases	EPA CLP DMC Gases Stock	CLPDMCGases072617	50 uL	07/26/2020
43828	CLP DMC KET	EPA CLP DMC Ketones Stock	CLP DMC Ket 081018	400 uL	08/10/2021

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

Constituent

Stock Standard - CLP DMC KET

CLP DMC KET — Description - EPA CLP DMC Ketones Stock

Standard: 43828
MFG: Absolute Standards, Inc.
MFG Lot: 081018
Part ID: Not Provided

Created By: Christopher Q. Coleman
Create Date: 09/26/2018 06:09AM

Amount: Not Provided
Expires: 08/10/2021
Usable: Yes
Lab Lot: CLP DMC Ket 081018

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: 39971
MFG: Absolute Standards, Inc.
MFG Lot: 072617
Part ID: 94156

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 07/26/2020
Usable: Yes
Lab Lot: CLPDMCGases072617

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: 44970
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 44970
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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-816	1850 uL	08/10/2025
38044	CLP Ketones	EPA CLP Ketones Stock	CLP Ketones 022916	50 uL	03/01/2019
39972	CLP Gases	EPA CLP Gases Stock	CLP Gases 082117	50 uL	08/21/2020

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: 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
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: 39972
MFG: Absolute Standards, Inc.
MFG Lot: 082117
Part ID: 30058

Created By: Christopher Q. Coleman
Create Date: 12/29/2017 08:12AM

Amount: Not Provided
Expires: 08/21/2020
Usable: Yes
Lab Lot: CLP Gases 082117

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: 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 Ketones

CLP Ketones — Description - EPA CLP Ketones Stock

Standard: 38044
MFG: Absolute Standards, Inc.
MFG Lot: 022916
Part ID: 82492

Created By: Christopher Q. Coleman
Create Date: 08/15/2017 07:08PM

Amount: Not Provided
Expires: 03/01/2019
Usable: Yes
Lab Lot: CLP Ketones 022916

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: 44971
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 44972
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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: 44972
MFG: NA
MFG Lot: NA
Pipette ID: NA

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: 2 mL
Expires: 12/30/2018
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
33018	Methanol	Purge & Trap Methanol Solvent	P&T MeOH DN-615	1.25 mL	08/10/2025
43828	8260 Gases	VOAL Gases Stock	Ab Gases 062618	0.5 mL	06/26/2021
44973	CLPKetoneICV	EPA CLP Ketones ICV Stock	CLP Ketones ICV	200 uL	04/30/2021

STANDARD REPORT

Constituent

Stock Standard - CLPKetoneICV

CLPKetoneICV — Description - EPA CLP Ketones ICV Stock

Standard: 44973
MFG: Restek
MFG Lot: A0134324
Part ID: 30006

Created By: Christopher Q. Coleman
Create Date: 11/30/2018 06:11AM

Amount: Not Provided
Expires: 04/30/2021
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: 07/26/2016 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: 43826 MFG: Absolute Standards, Inc. MFG Lot: 062618 Part ID: 30002	Created By: Christopher Q. Coleman Create Date: 09/26/2018 06:09AM	Amount: Not Provided Expires: 06/26/2021 Usable: Yes Lab Lot: Ab Gases 062618

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

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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.

$ 34352

John Russo
President

Vincent Wang, Ph.D.
Director of QA/RA

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Certified Reference Material CRM

CERTIFIED WEIGHT REPORT

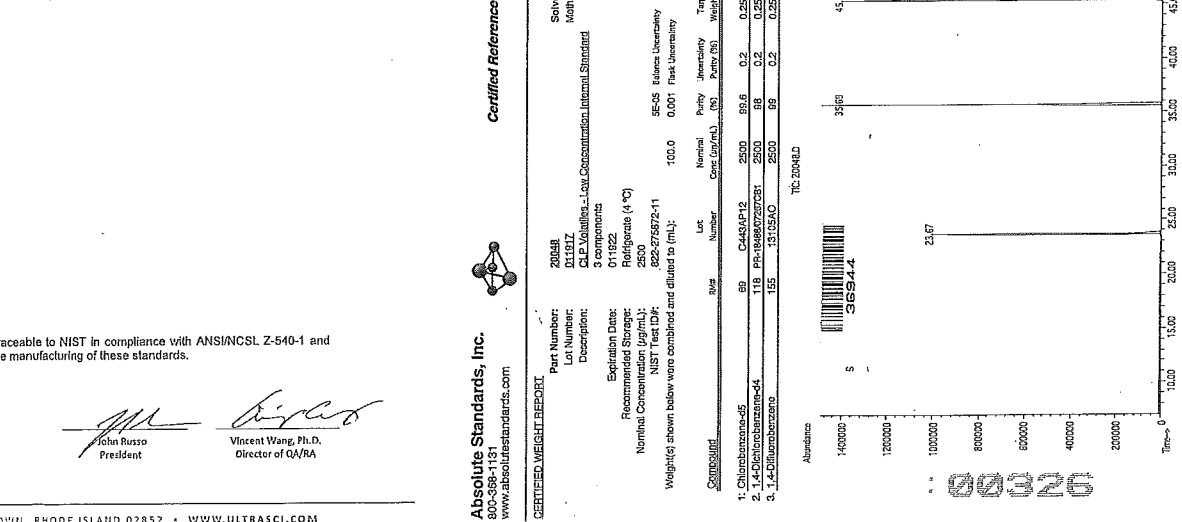
Part Number: 20048
Lot Number: 011917
Description: CLP Volatiles - Low Concentration Internal Standard
3 components
Expiration Date: 011922
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 822-275872-11
Weight(s) shown below were combined and diluted to (mL): 100.0

Solvent: Methanol
Lot#: DN815

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	C448AP12	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-R9496/072307C81	2500	98	0.2	0.25513	0.25522	2530.9	10.3	3855-82-1	N/A	orl-rat 500mg/kg
3. 1,4-Difluorobenzene	155	131154AO	2500	99	0.2	0.25255	0.25276	2502.0	10.2	540-36-3	N/A	N/A

Balance Uncertainty: 5E-05
Flask Uncertainty: 0.001

TIC 20048.D



Formulated By: Gabriel Holland 011917 DATE
Reviewed By: Pedro L. Rentas 011917 DATE

MSDS Information
(Solvent Safety Info. On Attached pg.)

- 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 verified (+/-) 0.5% 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", NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).

Method: GC/MS/D-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.), Ramp = 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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Part # 20048 Lot# 011917

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Analytical Reference Material ARM

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Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

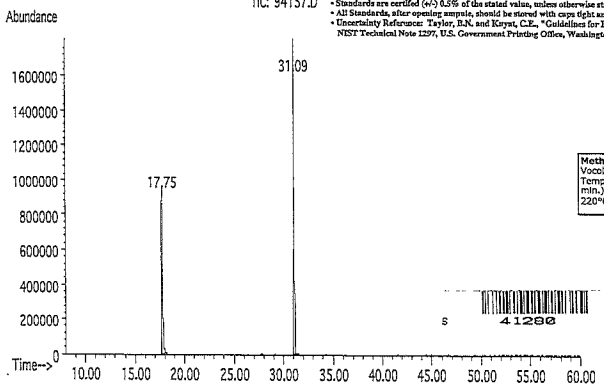
Part Number: 94157
Lot Number: 033018
Description: CLP SOM 01.1 DMC Ketones
2 components
Expiration Date: 033021
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 2500
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 25.0 0.002 Flask Uncertainty

Solvent(s):	Lot#	
Methanol	DS435	(90%)
Water	050917	(10%)

Formulated By: Gabriel Helland 033018 DATE
Reviewed By: Pedro L. Rentas 033018 DATE

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)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Butanone-1,1,1,3,3-d5	2557	M276P23	2500	99	0.2	0.06314	0.06318	2501.6	10.9	24313-50-6	N/A	orl-rat 2737mg/kg
2. 2-Hexanone-1,1,1,3,3-d5	2558	S168P28	2500	98.5	0.2	0.06346	0.06369	2509.0	10.9	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 Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).



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.

Name	MSD RT (min.)
2-Butanone-1,1,1,3,3-d5	17.75
2-Hexanone-1,1,1,3,3-d5	31.12

S 41280

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CERTIFIED WEIGHT REPORT

Part Number: 94156
Lot Number: 072617
Description: CLP SOM 01.1 VOC DMC Gases
2 components
Expiration Date: 072620
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL): 50.0 0.007 Flask Uncertainty

Solvent(s):	Lot#
Methanol	DQ538

Formulated By: Vincent K. Criscio, Jr. 072617 DATE
Reviewed By: Pedro L. Rentas 072617 DATE

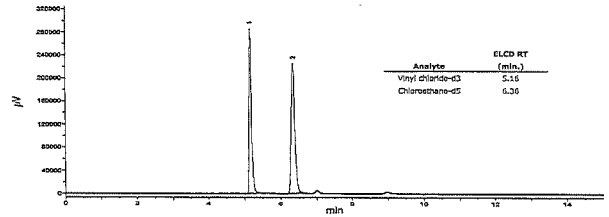
Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Chloroethane-d5	94176	072617	0.24	12.00	0.042	8353.2	2004.9	16.3	19199-91-8	N/A	N/A
2. Vinyl chloride-d3	94177	072617	0.20	10.00	0.042	10018.8	2003.8	18.8	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).

Run 1, "P94156 L072617 [2000µg/mL in MeOH]"

Run Length: 15.00 min. 8999 points at 10 points/second.
Created: Wed, Jul 26, 2017 at 4:35:41 PM.
Sampled: Sequence "072617-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 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=8 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 1 PID Signal = Edaq Channel 2
Standard injection = 0.5µL, Range=4 Purge Valve = 0 min.



Analyte	ELCD RT (min.)
Vinyl chloride-d3	5.16
Chloroethane-d5	6.36

S 39971

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CERTIFIED WEIGHT REPORT

Part Number: 30058
Lot Number: 082117
Description: EPA Method 502/524 - Volatile Gases Mix #1
6 components
Expiration Date: 082120
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 500.0 0.056 Flask Uncertainty

Solvent(s):	Lot#
Methanol	DQ538

Formulated By: Vincent K. Criscio, Jr. 082117 DATE
Reviewed By: Pedro L. Rentas 082117 DATE

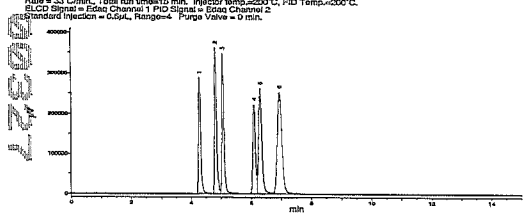
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Bromomethane	50	01611JX	2000	99.5	0.2	1.00508	1.0110	2011.8	8.1	74-83-9	5 ppm (20mg/m3/8H) (skin)	orl-rat 214mg/kg
2. Chloroethane	72	00727KX	2000	99	0.2	1.01015	1.0140	2007.6	8.1	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
3. Chloromethane	79	06908MS	2000	99.5	0.2	1.00508	1.0071	2004.0	8.1	74-87-3	100 ppm	orl-rat 1800mg/kg
4. Dichlorodifluoromethane	134	92-0487	2000	99	0.2	1.01016	1.0145	2008.6	8.1	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
5. Trichlorofluoromethane	294	01823MW	2000	99	0.2	1.01016	1.0150	2009.8	8.1	75-69-4	1000 ppm (5600mg/m3/8H)[or-mus 1743mg/kg	
6. Vinyl chloride	305	04854EA	2000	99.5	0.2	1.00508	1.0072	2004.2	8.1	75-01-4	N/A	N/A

Run 3, "P30058 L082117 [2000µg/mL in MeOH]"

Run Length: 15.00 min. 8999 points at 10 points/second.
Created: Tue, Aug 22, 2017 at 2:36:02 PM.
Sampled: Sequence "081717-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 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=8 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 1 PID Signal = Edaq Channel 2
Standard injection = 0.5µL, Range=4 Purge Valve = 0 min.

- 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).



Analyte	ELCD RT (min.)
Dichlorodifluoromethane	4.34
Chloromethane	4.89
Vinyl chloride	5.14
Bromomethane	6.19
Chloroethane	6.40
Trichlorofluoromethane	7.05

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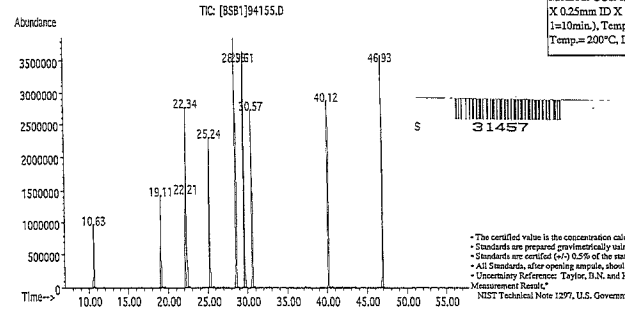
CERTIFIED WEIGHT REPORT

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
Weight(s) shown below were combined and diluted to (mL): 100.0 0.008 Flask Uncertainty

Solvent(s):	Lot#
Methanol	DM417

Formulated By: Paul Barron 032416 DATE
Reviewed By: Pedro L. Rentas 032416 DATE

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	4605DKDK	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	126	PR-18653/1207DB2	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 825mg/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	0.47622	0.47650	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	2001.8	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.

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

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- 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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Analytical Reference Material ARM

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RTIFIED 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 Holland 010816 DATE
Reviewed By: Pedro L. Rentas 010816 DATE

Volume(s) shown below were combined and diluted to (mL): 100.0 — 5E-05 Balance Uncertainty — 0.008 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)	CAS#	OSHA PEL (TWA)	LD50
1. Benzene	93831	080515	0.10	10.00	0.008	20017.5	2001.8	8.4	00071-43-2	1 ppm	orl-rat 4894mg/kg
2. Toluene	93831	080515	0.10	10.00	0.008	20010.8	2000.9	8.0	00108-88-3	200 ppm	orl-rat 5000mg/kg
3. Ethyl benzene	93831	080515	0.10	10.00	0.008	20007.4	2000.8	8.0	00100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
4. o-Xylene	93831	080515	0.10	10.00	0.008	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	0.008	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	0.008	10008.3	1000.6	4.0	00106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
7. Bromodichloromethane	35171	101615	0.05	5.00	0.025	40012.7	2000.5	8.2	00075-27-4	N/A	orl-rat 916mg/kg
8. Dibromochloromethane	35171	101615	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	101615	0.05	5.00	0.025	40008.7	2000.2	8.1	00156-59-2	N/A	N/A
0. 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
1. 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
2. 1,1-Dichloroethene	32251	101515	0.10	10.00	0.008	20002.1	2000.1	8.1	00075-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
3. Bromochloromethane	94170	010616	0.10	10.00	0.008	20017.5	2001.8	8.1	00074-97-5	200 ppm (1050mg/m3/8H)	orl-rat 5000mg/kg
4. Bromoform	94170	010616	0.10	10.00	0.008	20010.4	2000.9	8.1	00075-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
5. Carbon tetrachloride	94170	010616	0.10	10.00	0.008	20008.0	2000.5	8.0	00056-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
6. Chloroform	94170	010616	0.10	10.00	0.008	20019.5	2001.9	8.0	00067-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
7. 1,1-Dichloroethane	94170	010616	0.10	10.00	0.008	20007.6	2000.8	8.1	00075-34-3	100 ppm	orl-rat 725mg/kg
8. Tetrachloroethene	94170	010616	0.10	10.00	0.008	20015.7	2001.4	8.1	00127-18-4	25 ppm (170mg/m3/8H)	orl-rat 2629mg/kg
9. 1,1,1-Trichloroethane	94170	010616	0.10	10.00	0.008	20007.4	2000.8	8.1	00071-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
0. 1,2-Dibromo-3-chloropropane	94171	010616	0.10	10.00	0.008	20015.3	2001.4	8.1	00096-12-8	0.001 ppm	orl-rat 170mg/kg
1. 1,2-Dibromoethane	94171	010616	0.10	10.00	0.008	20017.3	2001.6	8.1	00106-93-4	20 ppm (8H)	orl-rat 108mg/kg
2. 1,2-Dichloroethane	94171	010616	0.10	10.00	0.008	20005.4	2000.4	8.0	00107-06-2	50 ppm (8H)	orl-rat 670mg/kg
3. [illegible]chloropropane	94171	010616	0.10	10.00	0.008	20008.4	2000.5	8.1	00078-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
4. [illegible]-Dichloropropene	94171	010616	0.10	10.00	0.008	20018.0	2001.5	8.2	10061-01-5	N/A	N/A
5. trans-1,3-Dichloropropene	94171	010616	0.10	10.00	0.008	20011.4	2001.0	8.1	10061-02-6	N/A	N/A
6. 1,1,2,2-Tetrachloroethane	94171	010616	0.10	10.00	0.008	20014.3	2001.3	8.1	00079-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
7. 1,1,2-Trichloroethane	94171	010616	0.10	10.00	0.008	20024.9	2002.4	8.2	00079-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
8. Trichloroethene	94171	010616	0.10	10.00	0.008	20012.9	2001.2	8.1	00079-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
9. Chlorobenzene	94172	010716	0.10	10.00	0.008	20003.1	2000.2	8.1	00108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
0. 1,2-Dichlorobenzene	94172	010716	0.10	10.00	0.008	20017.3	2001.6	8.1	00095-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
1. 1,3-Dichlorobenzene	94172	010716	0.10	10.00	0.008	20004.5	2000.3	8.2	00541-73-1	N/A	ipr-mus 1062mg/kg
2. 1,4-Dichlorobenzene	94172	010716	0.10	10.00	0.008	20013.9	2001.3	8.1	00106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
3. Isopropylbenzene	94172	010716	0.10	10.00	0.008	20008.0	2000.7	8.2	00098-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
4. Styrene	94172	010716	0.10	10.00	0.008	20004.6	2000.3	8.1	00100-42-5	100 ppm	orl-rat 5000mg/kg
5. 1,2,3-Trichlorobenzene	94172	010716	0.10	10.00	0.008	20016.5	2001.5	8.1	00087-61-6	N/A	ipr-mus 1390mg/kg
6. 1,2,4-Trichlorobenzene	94172	010716	0.10	10.00	0.008	20017.3	2001.6	8.1	00120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
7. Carbon disulphide	94173	010716	0.10	10.00	0.008	20001.9	2000.1	8.1	00075-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
8. Cyclohexane	94173	010716	0.10	10.00	0.008	20002.0	2000.1	8.0	00110-82-7	300 ppm (1050mg/m3/8H)	orl-rat 12705mg/kg
9. Methyl acetate	94173	010716	0.10	10.00	0.008	20002.4	2000.1	8.0	00079-20-9	200 ppm (610mg/m3/8H)	orl-rbt 3705mg/kg
0. Methylcyclohexane	94173	010716	0.10	10.00	0.008	20001.7	2000.0	8.1	00108-87-2	N/A	orl-mus 2250mg/kg
1. Methyl tert-butyl ether (MTBE)	94173	010716	0.10	10.00	0.008	20001.2	2000.0	8.0	01634-04-4	N/A	orl-rat 4g/kg
2. 1,1,2-Trichloro-1,2,2-trifluoroethane	94173	010716	0.10	10.00	0.008	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: 82492
Lot Number: 022916
Description: EPA Method 8240A - Mix #2 Conc
Ketones - 4 components
Expiration Date: 030119
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 20000
NIST Test ID#: 822-275872-11

Solvent(s): Methanol (90%), Water (10%) — Lot# DM417, 020516

Formulated By: Jason Criscio 022916 DATE
Reviewed By: Pedro L. Rentas 022916 DATE

Weight(s) shown below were combined and diluted to (mL): 200.0 — 5E-05 Balance Uncertainty — 0.014 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)	CAS#	OSHA PEL (TWA)	LD50
1. Acetone	4	09484BH	20000	99.5	0.2	4.01942	4.02050	20005.4	80.5	67-64-1	750 ppm	orl-rat 5800mg/kg
2. 2-Butanone (Methyl ethyl ketone)	53	4805EL	20000	99.9	0.2	4.00333	4.00430	20004.8	80.1	78-93-3	200 ppm (590mg/m3/8H)	orl-rat 2737mg/kg
3. 2-Hexanone	200	ZSVCD-PO	20000	98	0.2	4.08095	4.08171	20003.7	81.7	591-78-6	100 ppm (410mg/m3/8H)	orl-rat 2590mg/kg
4. 4-Methyl-2-pentanone	210	00861PH	20000	99.5	0.2	4.01942	4.02095	20007.6	80.5	108-10-1	100 ppm (410mg/m3/8H)	orl-rat 2080mg/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).

S 38044

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

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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CERTIFIED WEIGHT REPORT

Part Number: 30002
Lot Number: 062618
Description: EPA Method 502.2 - Volatile Gases Mix #1
6 components
Expiration Date: 062621
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 200
NIST Test ID#: 2684186

Solvent(s): Methanol — Lot# DS435

Formulated By: Vincent K. Criscio, Jr. 062618 DATE
Reviewed By: Pedro L. Rentas 062618 DATE

Volume(s) shown below were combined and diluted to (mL): 200.0 — 0.058 Balance Uncertainty — Flask Uncertainty

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc. (µg/mL)	Final Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Bromomethane	30058	041018	0.10	20.0	0.003	2006.8	200.7	1.4	74-83-9	5 ppm (20mg/m3/8H) (skin)	orl-rat 214mg/kg
2. Chloroethane	30058	041018	0.10	20.0	0.003	2001.1	200.1	1.4	75-00-3	1000 ppm (2600mg/m3/8H)	N/A
3. Chloromethane	30058	041018	0.10	20.0	0.003	2002.6	200.3	1.4	74-87-3	100 ppm	orl-rat 1800mg/kg
4. Dichlorodifluoromethane	30058	041018	0.10	20.0	0.003	2009.6	201.0	1.4	75-71-8	1000 ppm (4950mg/m3/8H)	N/A
5. Trichlorofluoromethane	30058	041018	0.10	20.0	0.003	2009.6	201.0	1.4	75-69-4	1000 ppm (5600mg/m3/8H)	ipr-mus 1743mg/kg
6. Vinyl chloride	30058	041018	0.10	20.0	0.003	2002.6	200.3	1.4	75-01-4	N/A	N/A

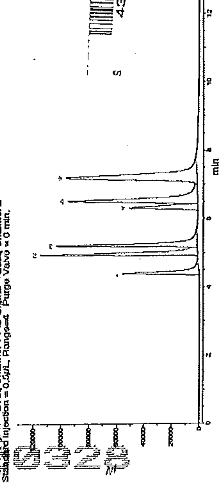
- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, 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).

Run 2, "P30002 L062618 [200µg/mL in MeOH]"

Run Length: 15.00 min, 9000 points at 10 points/second.
Created: Tue, Jun 26, 2018 at 11:24:50 AM.
Sampled: Sequence "062618-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 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 1 PID Signal = Edaq Channel 2
Standard Injection = 0.5µL, Range=4 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



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Certificate of Analysis

ACCREDITED ISO Guide 34 Accredited Reference Material Producer Certificate 4202L21

ilac-MRA

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate 4202L21

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.: 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

Solution 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
[illegible]	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%	2,017.8 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
[illegible]	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
[illegible]	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	+/- 15.5498 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
[illegible]	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%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 [cat.#10916]

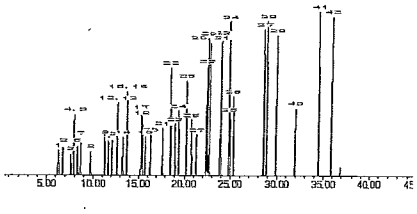
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
42°C [hold 6 min] to 240°C
@ [illegible] n. [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.

Lane Kiba - 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 88357

S 32772

00329

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3322.01

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3322.02

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.:** A0134324

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 : April 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Acetone		5,002.7 µg/mL	+/- 29.0861	µg/mL	Gravimetric
	CAS # 67-64-1	(Lot SHBH6933)		+/- 301.8351	µg/mL	Unstressed
	Purity 99%			+/- 302.5517	µg/mL	Stressed
2	2-Butanone (MEK)		5,004.7 µg/mL	+/- 29.0978	µg/mL	Gravimetric
	CAS # 78-93-3	(Lot SHBF2461V)		+/- 301.9557	µg/mL	Unstressed
	Purity 99%			+/- 302.6726	µg/mL	Stressed
3	4-Methyl-2-pentanone (MIBK)		5,000.1 µg/mL	+/- 29.0710	µg/mL	Gravimetric
	CAS # 108-10-1	(Lot SHBH7006)		+/- 301.6782	µg/mL	Unstressed
	Purity 99%			+/- 302.3944	µg/mL	Stressed
4	2-Hexanone		5,007.4 µg/mL	+/- 29.1135	µg/mL	Gravimetric
	CAS # 591-78-6	(Lot MKBW0198V)		+/- 302.1186	µg/mL	Unstressed
	Purity 99%			+/- 302.8359	µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

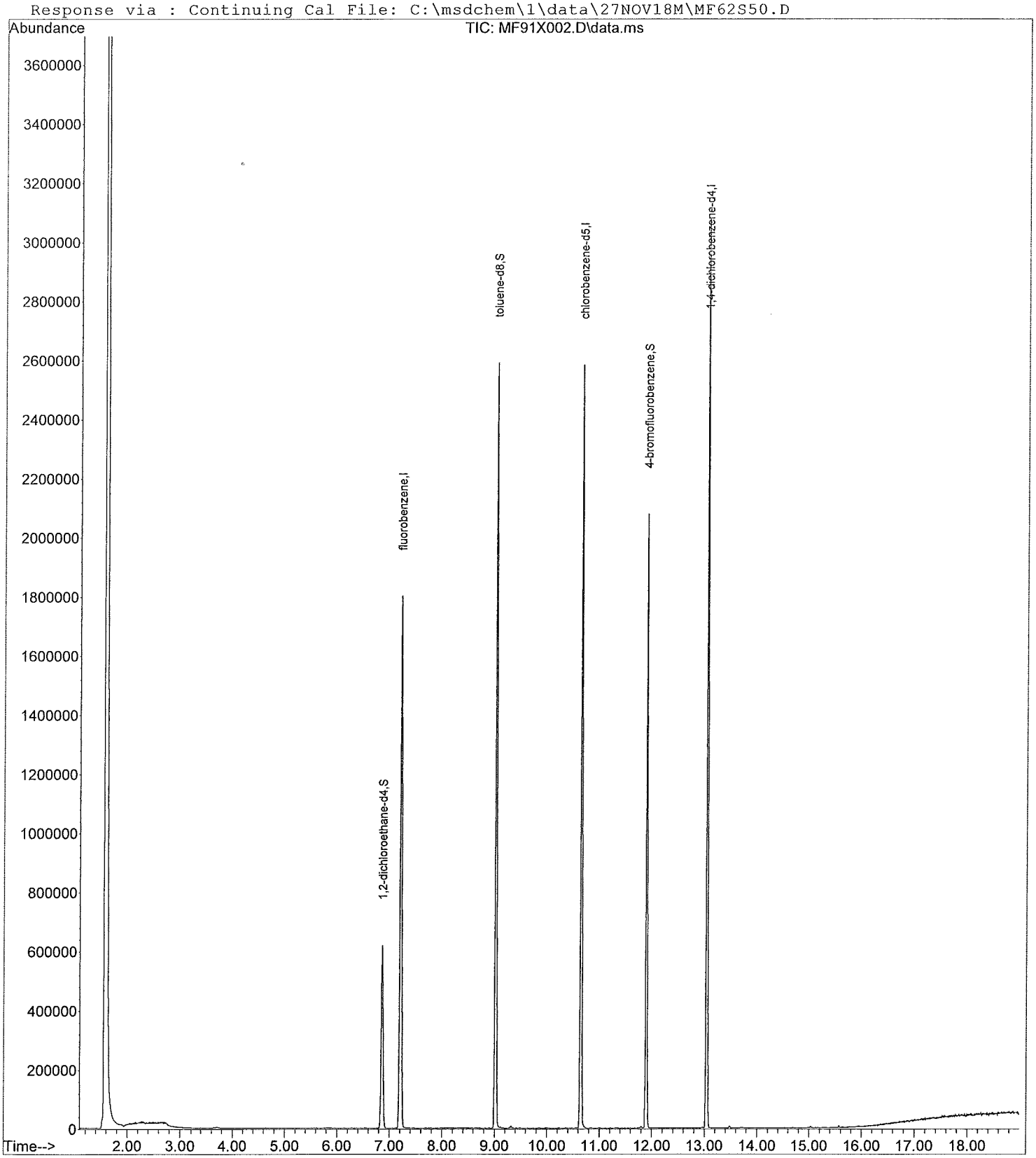
S 44973

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X002.D Vial: 2
Acq Time : 12/04/2018 12:22 Operator: CQC
Sample : 107i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 12:41:58 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X002.D Vial: 2
Acq Time : 12/04/2018 12:22 Operator: CQC
Sample : 107i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 12:41:58 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	2071919	50.0000 ug/Kg	117.80
42) chlorobenzene-d5	10.65	117	1686067	50.0000 ug/Kg	111.92
61) 1,4-dichlorobenzene-d4	13.04	152	899253	50.0000 ug/Kg	107.23
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	573440	47.3906 ug/Kg	94.78%
43) toluene-d8	9.02	98	1907281	50.0692 ug/Kg	100.14%
63) 4-bromofluorobenzene	11.90	95	727772	51.2436 ug/Kg	102.49%
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	
5) bromomethane	2.28	94	1415	0.2078 ug/Kg#	17
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	8702	3.8496 ug/Kg	78
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	8702	1.7376 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	5.86	75	4570	0.2996 ug/Kg#	32
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24933	1.7810 ug/Kg	76
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	13504	5.7869 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X002.D Vial: 2
Acq Time : 12/04/2018 12:22 Operator: CQC
Sample : 107i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 12:41:58 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	3879	0.6082 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2385	0.7904 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

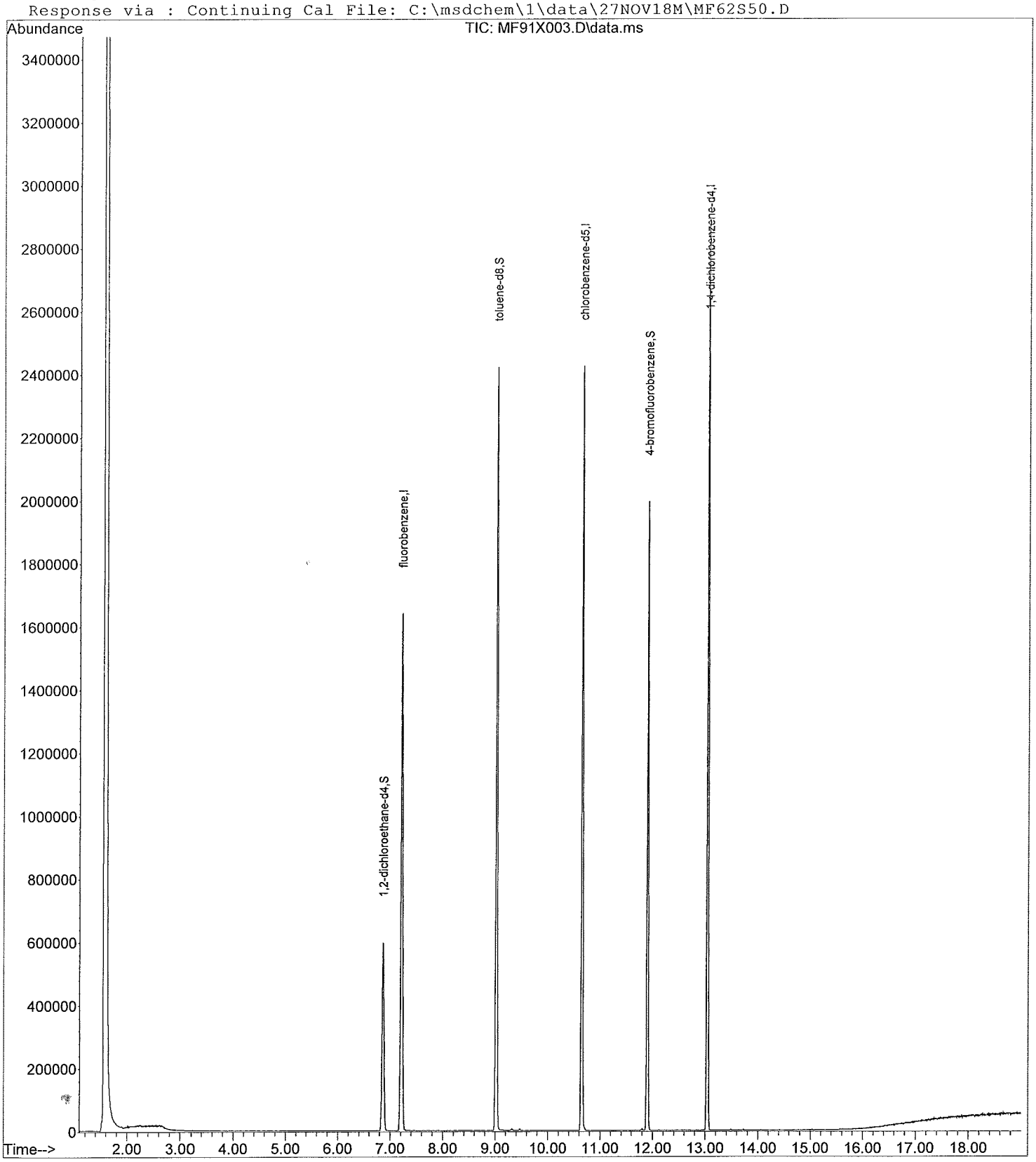
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X003.D Vial: 3
Acq Time : 12/04/2018 12:47 Operator: CQC
Sample : 107d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:06:14 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X003.D Vial: 3
Acq Time : 12/04/2018 12:47 Operator: CQC
Sample : 107d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:06:14 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1899147	50.0000 ug/Kg	107.98
42) chlorobenzene-d5	10.65	117	1595287	50.0000 ug/Kg	105.89
61) 1,4-dichlorobenzene-d4	13.04	152	857179	50.0000 ug/Kg	102.22
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	557141	50.2324 ug/Kg	100.46%
43) toluene-d8	9.02	98	1781117	49.4179 ug/Kg	98.84%
63) 4-bromofluorobenzene	11.90	95	693044	51.1936 ug/Kg	102.39%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	600	0.2896 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	0.00	43		Not Detected	
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	23659	1.8437 ug/Kg	75
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12266	5.7345 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X003.D Vial: 3
Acq Time : 12/04/2018 12:47 Operator: CQC
Sample : 107d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:06:14 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	2361	0.3884 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	1934	0.6724 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

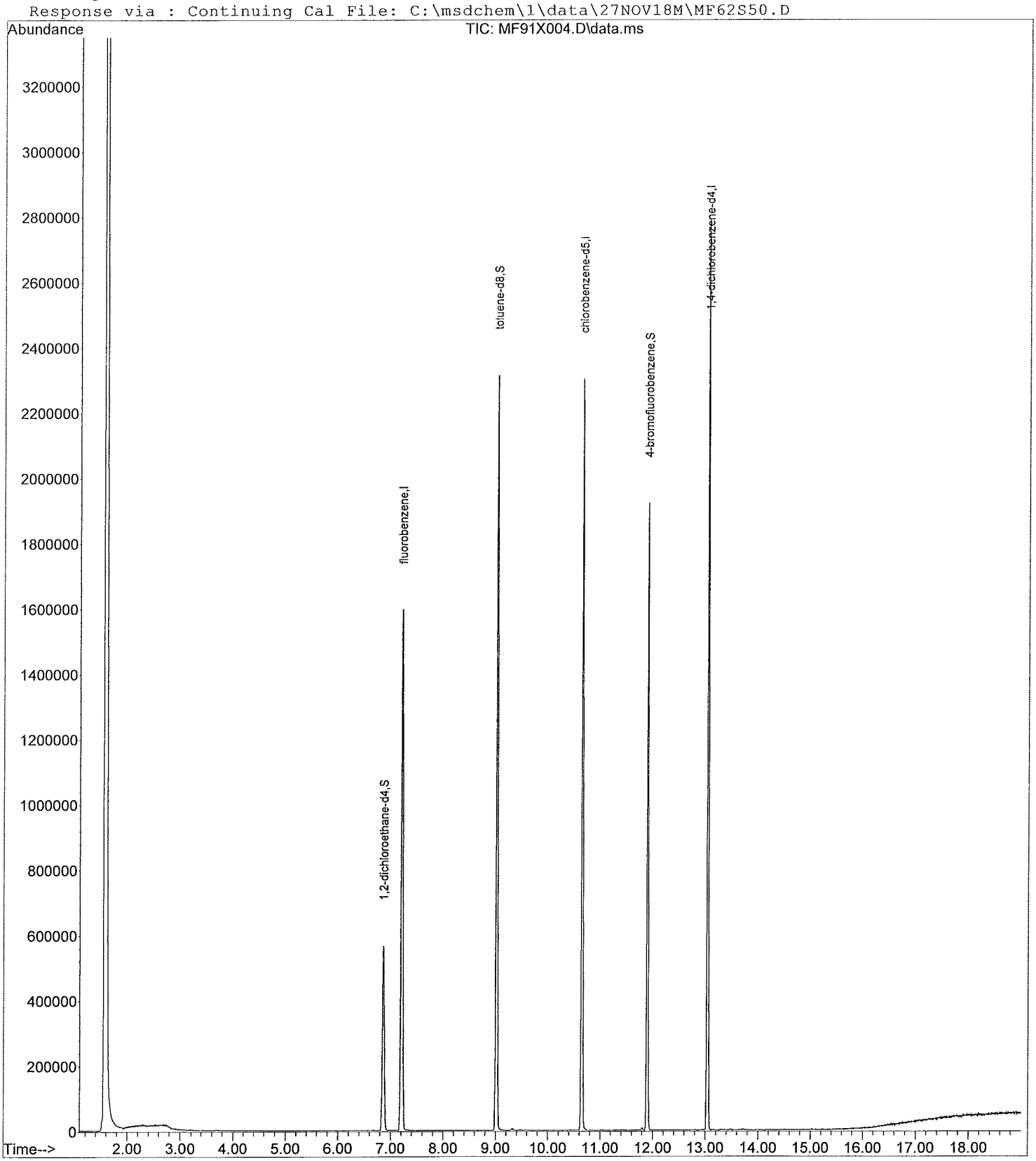
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X004.D Vial: 4
Acq Time : 12/04/2018 13:11 Operator: CQC
Sample : 106i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:30:48 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X004.D Vial: 4
Acq Time : 12/04/2018 13:11 Operator: CQC
Sample : 106i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:30:48 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1853101	50.0000 ug/Kg	105.36
42) chlorobenzene-d5	10.64	117	1524419	50.0000 ug/Kg	101.19
61) 1,4-dichlorobenzene-d4	13.04	152	827539	50.0000 ug/Kg	98.68
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	531540	49.1150 ug/Kg	98.23%
43) toluene-d8	9.02	98	1722824	50.0227 ug/Kg	100.05%
63) 4-bromofluorobenzene	11.90	95	664015	50.8061 ug/Kg	101.61%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	1517	0.7503 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	1517	0.3387 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	22086	1.7639 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12303	5.8948 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X004.D Vial: 4
Acq Time : 12/04/2018 13:11 Operator: CQC
Sample : 106i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:30:48 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	2691	0.4585 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2161	0.7782 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

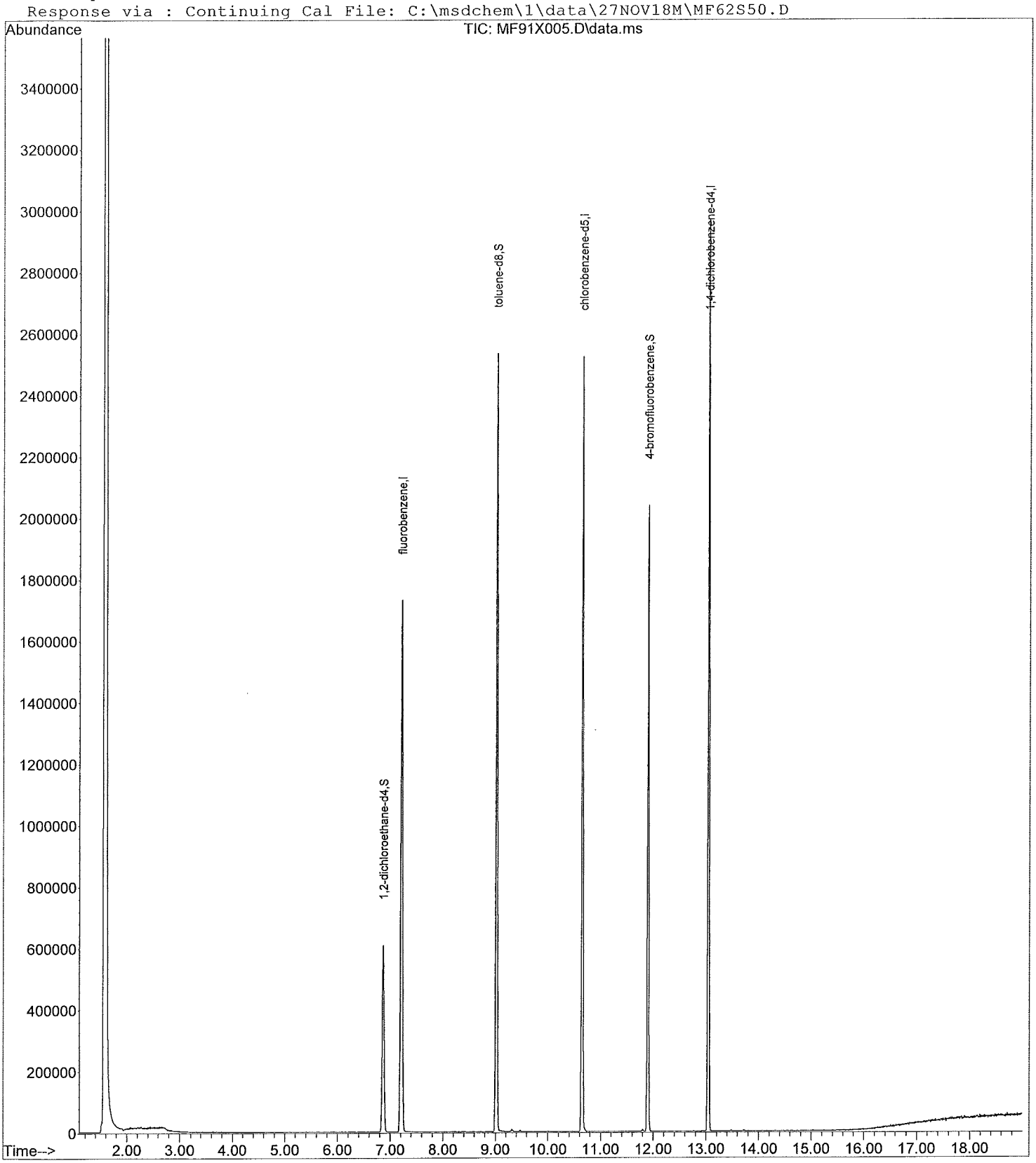
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X005.D Vial: 5
Acq Time : 12/04/2018 13:35 Operator: CQC
Sample : 106d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:55:00 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X005.D Vial: 5
Acq Time : 12/04/2018 13:35 Operator: CQC
Sample : 106d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:55:00 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1995155	50.0000 ug/Kg	113.44
42) chlorobenzene-d5	10.65	117	1648653	50.0000 ug/Kg	109.43
61) 1,4-dichlorobenzene-d4	13.04	152	875407	50.0000 ug/Kg	104.39
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	572535	49.1363 ug/Kg	98.27%
43) toluene-d8	9.02	98	1859122	49.9125 ug/Kg	99.83%
63) 4-bromofluorobenzene	11.90	95	716644	51.8346 ug/Kg	103.67%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	1185	0.5444 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.71	43	1185	0.2457 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.20	62	25121	1.8635 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	13057	5.8106 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X005.D Vial: 5
Acq Time : 12/04/2018 13:35 Operator: CQC
Sample : 106d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 13:55:00 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	4261	0.6863 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2376	0.8089 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

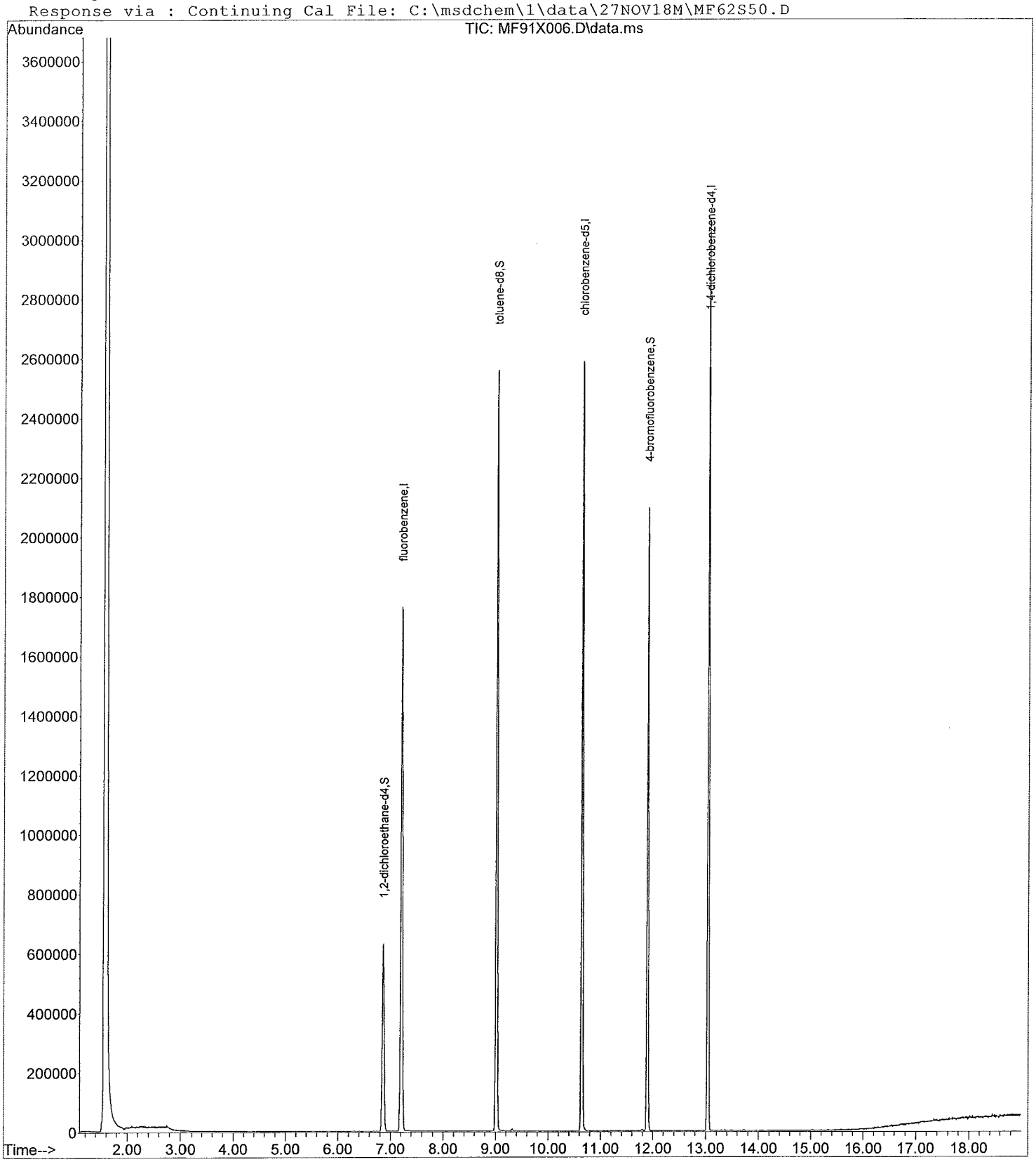
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X006.D Vial: 6
Acq Time : 12/04/2018 14:09 Operator: CQC
Sample : 108i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:28:16 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X006.D Vial: 6
Acq Time : 12/04/2018 14:09 Operator: CQC
Sample : 108i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:28:16 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	2039447	50.0000 ug/Kg	115.96
42) chlorobenzene-d5	10.65	117	1691892	50.0000 ug/Kg	112.30
61) 1,4-dichlorobenzene-d4	13.04	152	912016	50.0000 ug/Kg	108.76
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	600988	50.4581 ug/Kg	100.92%
43) toluene-d8	9.02	98	1883941	49.2862 ug/Kg	98.57%
63) 4-bromofluorobenzene	11.90	95	729915	50.6753 ug/Kg	101.35%
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	
5) bromomethane	2.28	94	1740	0.2596 ug/Kg#	17
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	2543	1.1429 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.71	43	2543	0.5159 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	25254	1.8326 ug/Kg	79
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	13529	5.8899 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X006.D Vial: 6
Acq Time : 12/04/2018 14:09 Operator: CQC
Sample : 108i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:28:16 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.90	173	4311	0.6665 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2590	0.8463 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

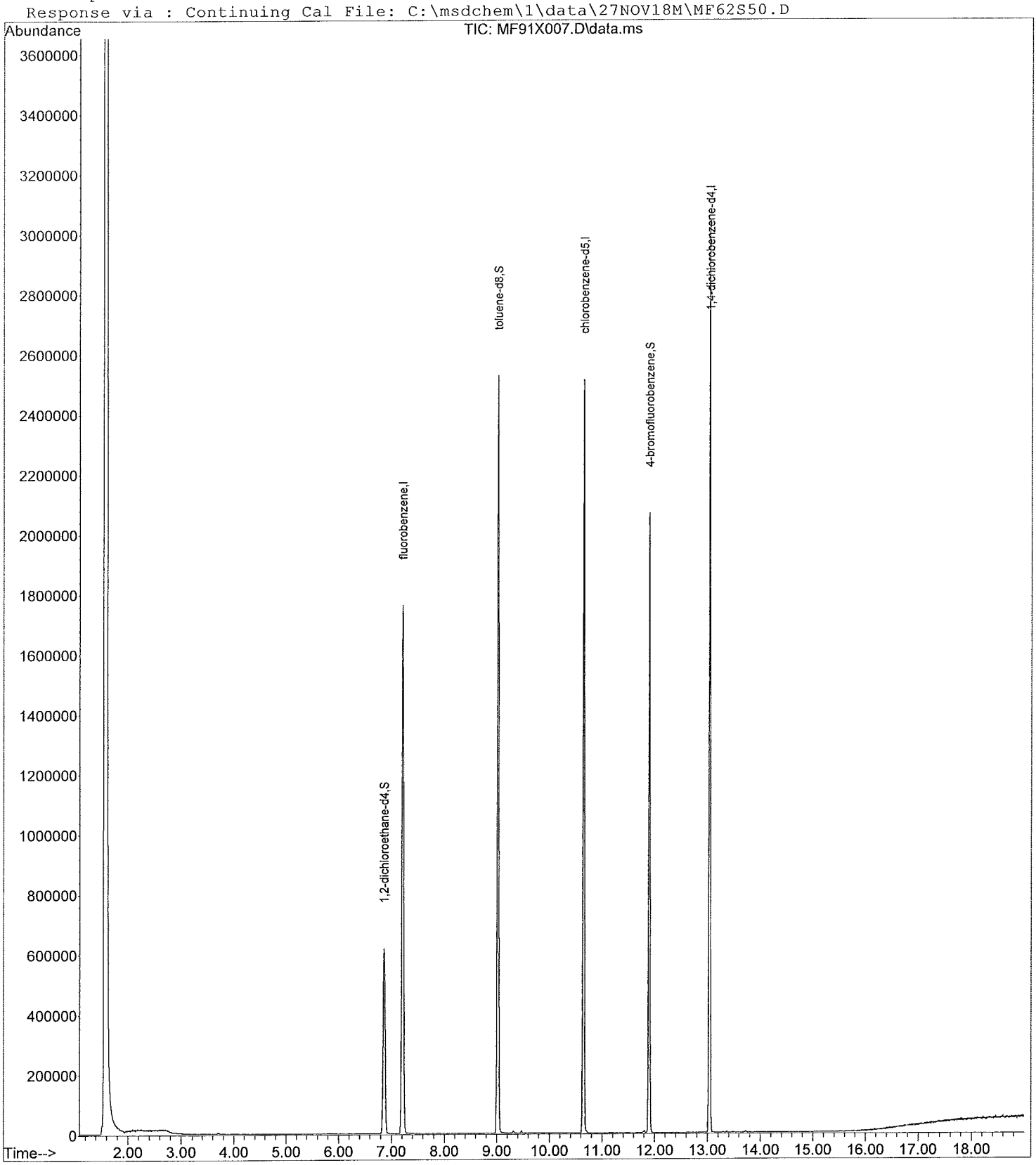
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X007.D Vial: 7
Acq Time : 12/04/2018 14:33 Operator: CQC
Sample : 108d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:52:22 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X007.D Vial: 7
Acq Time : 12/04/2018 14:33 Operator: CQC
Sample : 108d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:52:22 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	2025895	50.0000 ug/Kg	115.18
42) chlorobenzene-d5	10.65	117	1650238	50.0000 ug/Kg	109.54
61) 1,4-dichlorobenzene-d4	13.04	152	872584	50.0000 ug/Kg	104.05
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	589024	49.7844 ug/Kg	99.57%
43) toluene-d8	9.02	98	1858202	49.8399 ug/Kg	99.68%
63) 4-bromofluorobenzene	11.90	95	720062	52.2503 ug/Kg	104.50%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	5854	2.6485 ug/Kg#	62
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	5854	1.1955 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	25093	1.8331 ug/Kg	76
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	13439	5.8898 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X007.D Vial: 7
Acq Time : 12/04/2018 14:33 Operator: CQC
Sample : 108d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 14:52:22 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	0.00	173		Not Detected	
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2709	0.9252 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

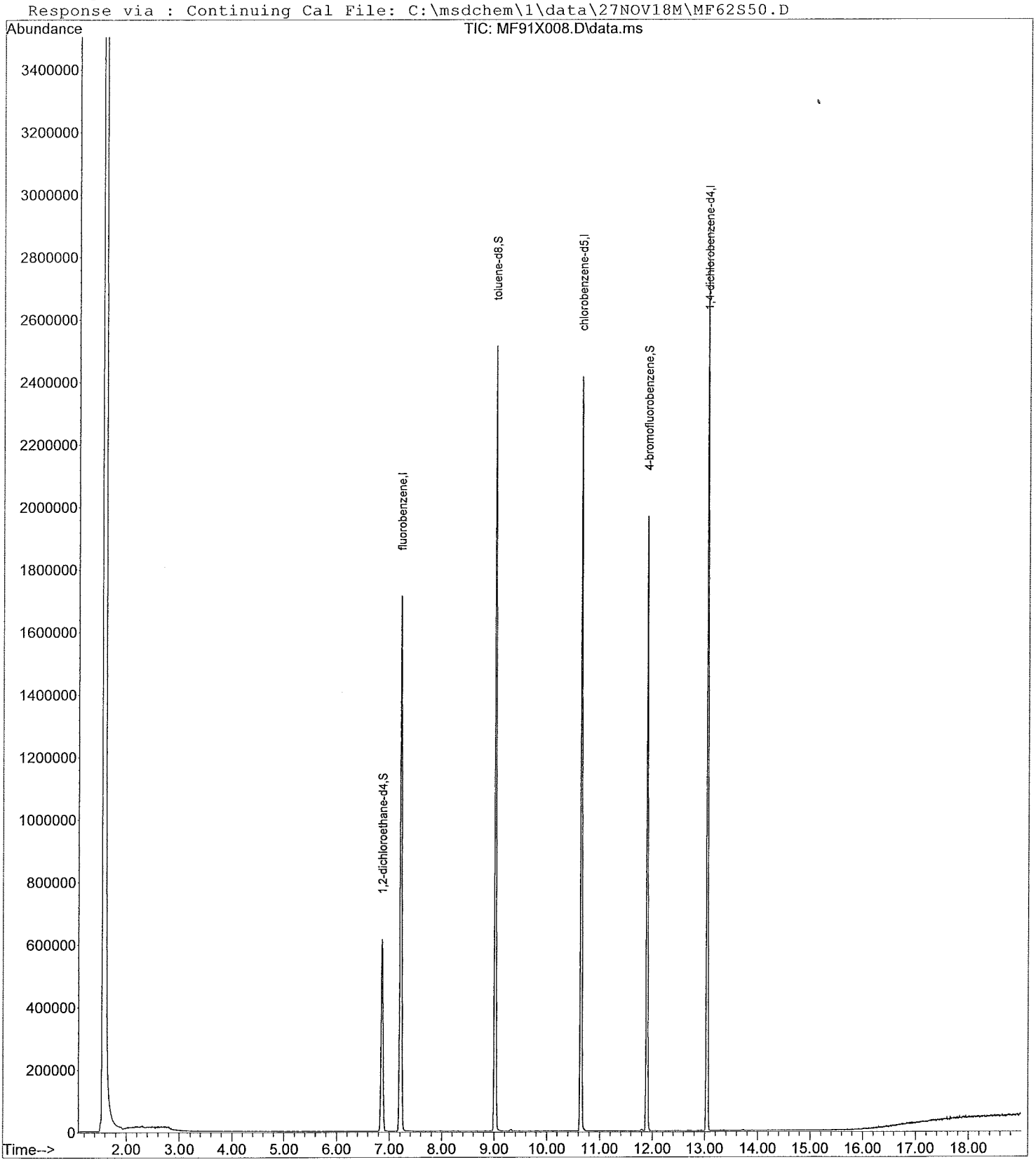
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X008.D Vial: 8
Acq Time : 12/04/2018 14:57 Operator: CQC
Sample : 109i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:16:22 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X008.D Vial: 8
Acq Time : 12/04/2018 14:57 Operator: CQC
Sample : 109i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:16:22 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1962232	50.0000 ug/Kg	111.57
42) chlorobenzene-d5	10.65	117	1589331	50.0000 ug/Kg	105.50
61) 1,4-dichlorobenzene-d4	13.04	152	861839	50.0000 ug/Kg	102.77
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	580176	50.6275 ug/Kg	101.26%
43) toluene-d8	9.02	98	1806694	50.3154 ug/Kg	100.63%
63) 4-bromofluorobenzene	11.90	95	694813	51.0468 ug/Kg	102.09%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.69	43	492	0.2298 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	0.00	43		Not Detected	
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24578	1.8538 ug/Kg	76
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	12721	5.7561 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X008.D Vial: 8
Acq Time : 12/04/2018 14:57 Operator: CQC
Sample : 109i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:16:22 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	4001	0.6546 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.05	110	2153	0.7445 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

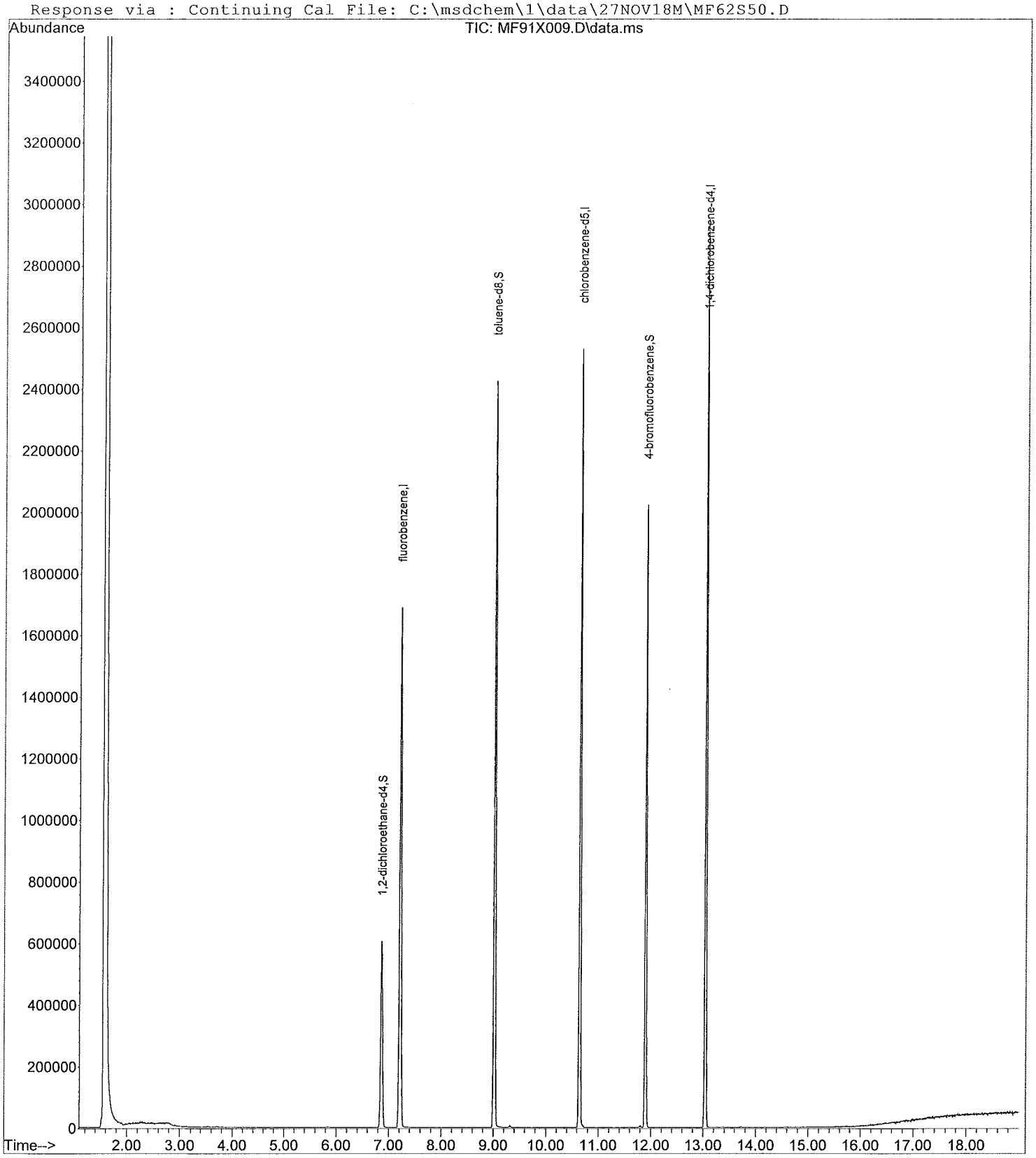
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X009.D Vial: 9
Acq Time : 12/04/2018 15:21 Operator: CQC
Sample : 109 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:40:30 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X009.D Vial: 9
Acq Time : 12/04/2018 15:21 Operator: CQC
Sample : 109 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:40:30 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1921249	50.0000 ug/Kg	109.24
42) chlorobenzene-d5	10.65	117	1597577	50.0000 ug/Kg	106.04
61) 1,4-dichlorobenzene-d4	13.04	152	849820	50.0000 ug/Kg	101.34
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	573909	51.1489 ug/Kg	102.30%
43) toluene-d8	9.02	98	1806898	50.0614 ug/Kg	100.12%
63) 4-bromofluorobenzene	11.90	95	697979	52.0046 ug/Kg	104.01%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	5247	2.5032 ug/Kg#	55
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.71	43	5247	1.1299 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24256	1.8685 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	13045	6.0286 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X009.D Vial: 9
Acq Time : 12/04/2018 15:21 Operator: CQC
Sample : 109 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 15:40:30 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.90	173	4133	0.6857 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.03	110	2409	0.8448 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

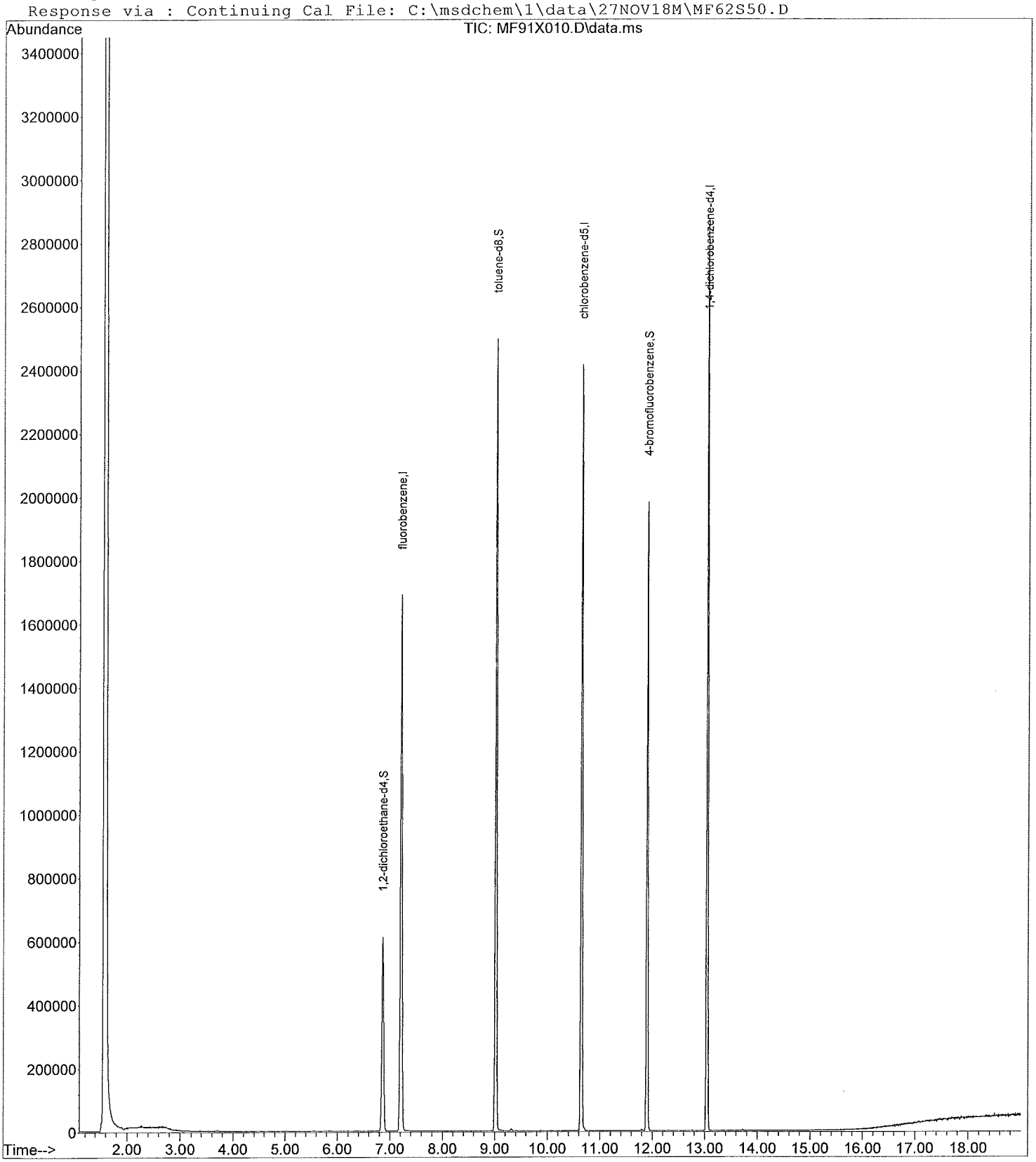
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X010.D Vial: 10
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : 110i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:04:44 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X010.D Vial: 10
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : 110i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:04:44 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1930695	50.0000 ug/Kg	109.77
42) chlorobenzene-d5	10.64	117	1595141	50.0000 ug/Kg	105.88
61) 1,4-dichlorobenzene-d4	13.04	152	840868	50.0000 ug/Kg	100.27
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	575389	51.0299 ug/Kg	102.06%
43) toluene-d8	9.02	98	1793381	49.7627 ug/Kg	99.53%
63) 4-bromofluorobenzene	11.90	95	693132	52.1933 ug/Kg	104.39%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	3631	1.7238 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.71	43	3631	0.7781 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24331	1.8651 ug/Kg	79
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	13579	6.2447 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X010.D Vial: 10
Acq Time : 12/04/2018 15:45 Operator: CQC
Sample : 110i Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:04:44 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.90	173	3866	0.6483 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2218	0.7861 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

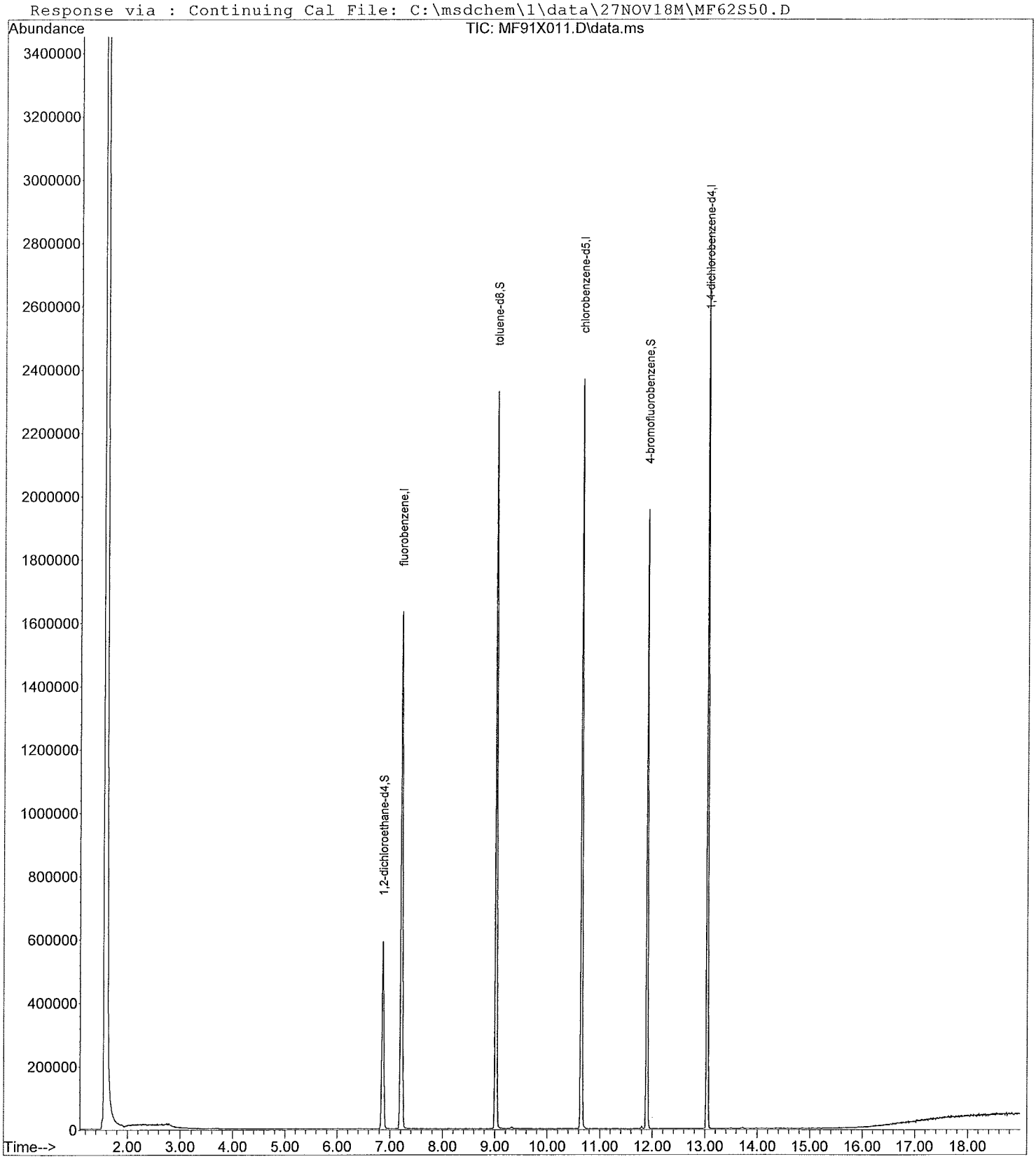
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X011.D Vial: 11
Acq Time : 12/04/2018 16:09 Operator: CQC
Sample : 110d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:28:50 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X011.D Vial: 11
Acq Time : 12/04/2018 16:09 Operator: CQC
Sample : 110d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:28:50 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1858661	50.0000 ug/Kg	105.68
42) chlorobenzene-d5	10.65	117	1526135	50.0000 ug/Kg	101.30
61) 1,4-dichlorobenzene-d4	13.04	152	824257	50.0000 ug/Kg	98.29
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	558137	51.4183 ug/Kg	102.84%
43) toluene-d8	9.02	98	1706900	49.5046 ug/Kg	99.01%
63) 4-bromofluorobenzene	11.90	95	670975	51.5431 ug/Kg	103.09%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	1815	0.8950 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	2334	0.5195 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	23409	1.8640 ug/Kg	76
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12395	5.9211 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X011.D Vial: 11
Acq Time : 12/04/2018 16:09 Operator: CQC
Sample : 110d Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:28:50 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.90	173	3332	0.5700 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	0.00	110		Not Detected	
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

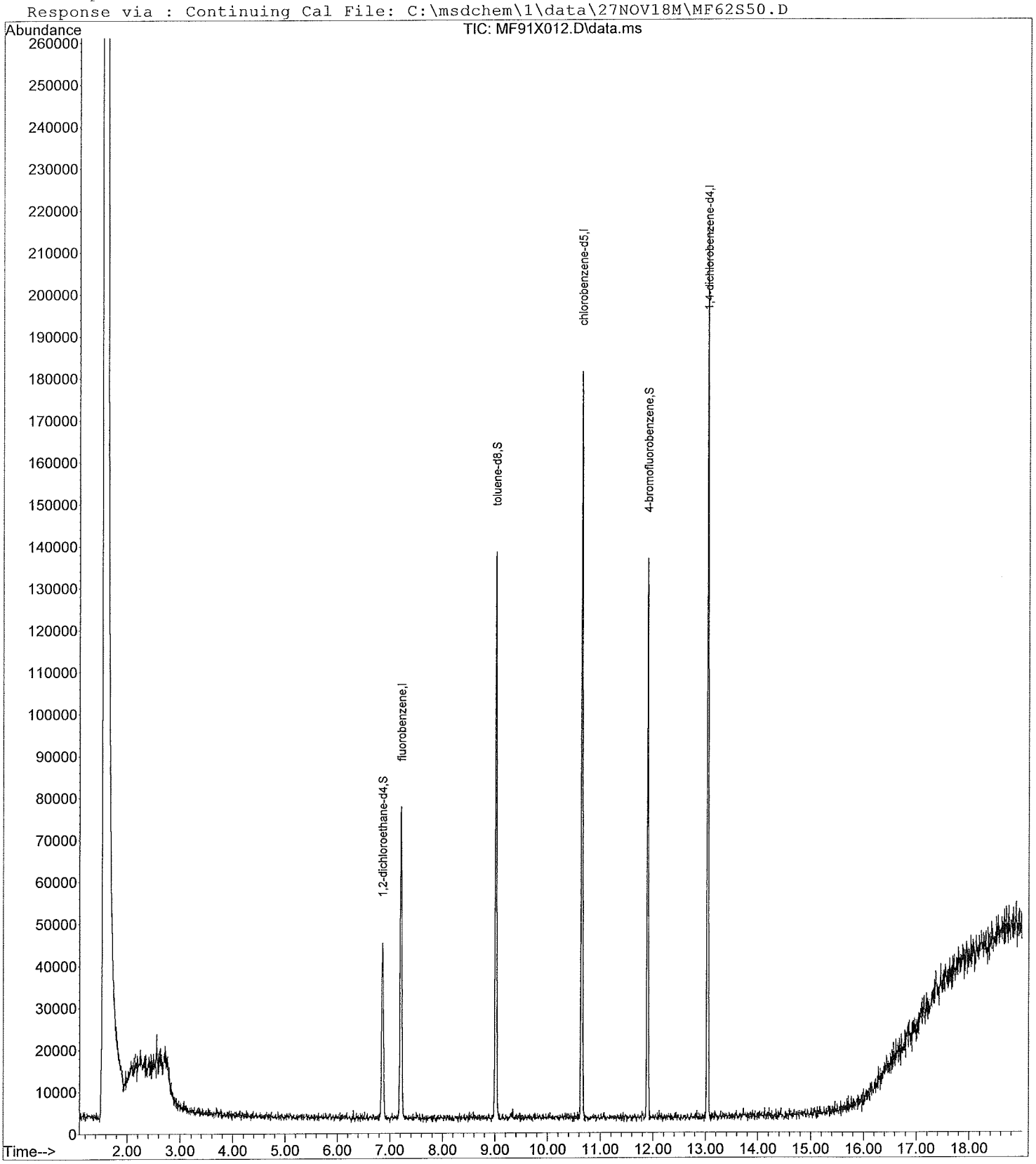
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X012.D Vial: 12
Acq Time : 12/04/2018 16:33 Operator: CQC
Sample : 104 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:53:03 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X012.D Vial: 12
Acq Time : 12/04/2018 16:33 Operator: CQC
Sample : 104 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:53:03 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	89033	50.0000 ug/Kg	5.06#
42) chlorobenzene-d5	10.65	117	119414	50.0000 ug/Kg	7.93#
61) 1,4-dichlorobenzene-d4	13.04	152	63957	50.0000 ug/Kg	7.63#
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	40767	78.4034 ug/Kg	156.81%#
43) toluene-d8	9.02	98	101668	37.6842 ug/Kg	75.37%
63) 4-bromofluorobenzene	11.90	95	48888	48.3995 ug/Kg	96.80%
Target Compounds					Qvalue
2) dichlorodifluoromethane	0.00	85		Not Detected	
3) chloromethane	2.08	50	226	0.4067 ug/Kg#	41
4) vinyl chloride	0.00	62		Not Detected	
5) bromomethane	2.24	94	561	1.9170 ug/Kg#	12
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	2.11	96	205	0.4678 ug/Kg#	1
11) freon 113	0.00	151		Not Detected	
12) acetone	3.69	43	1439	14.8142 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	2.92	41	234	0.3811 ug/Kg#	23
16) methyl acetate	3.69	43	1439	6.6869 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	2.11	96	205	0.4678 ug/Kg#	1
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	5.86	75	611	0.9321 ug/Kg#	32
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	0.00	62		Not Detected	
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	0.00	58		Not Detected	
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X012.D Vial: 12
Acq Time : 12/04/2018 16:33 Operator: CQC
Sample : 104 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 16:53:03 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	0.00	173		Not Detected	
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	0.00	110		Not Detected	
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

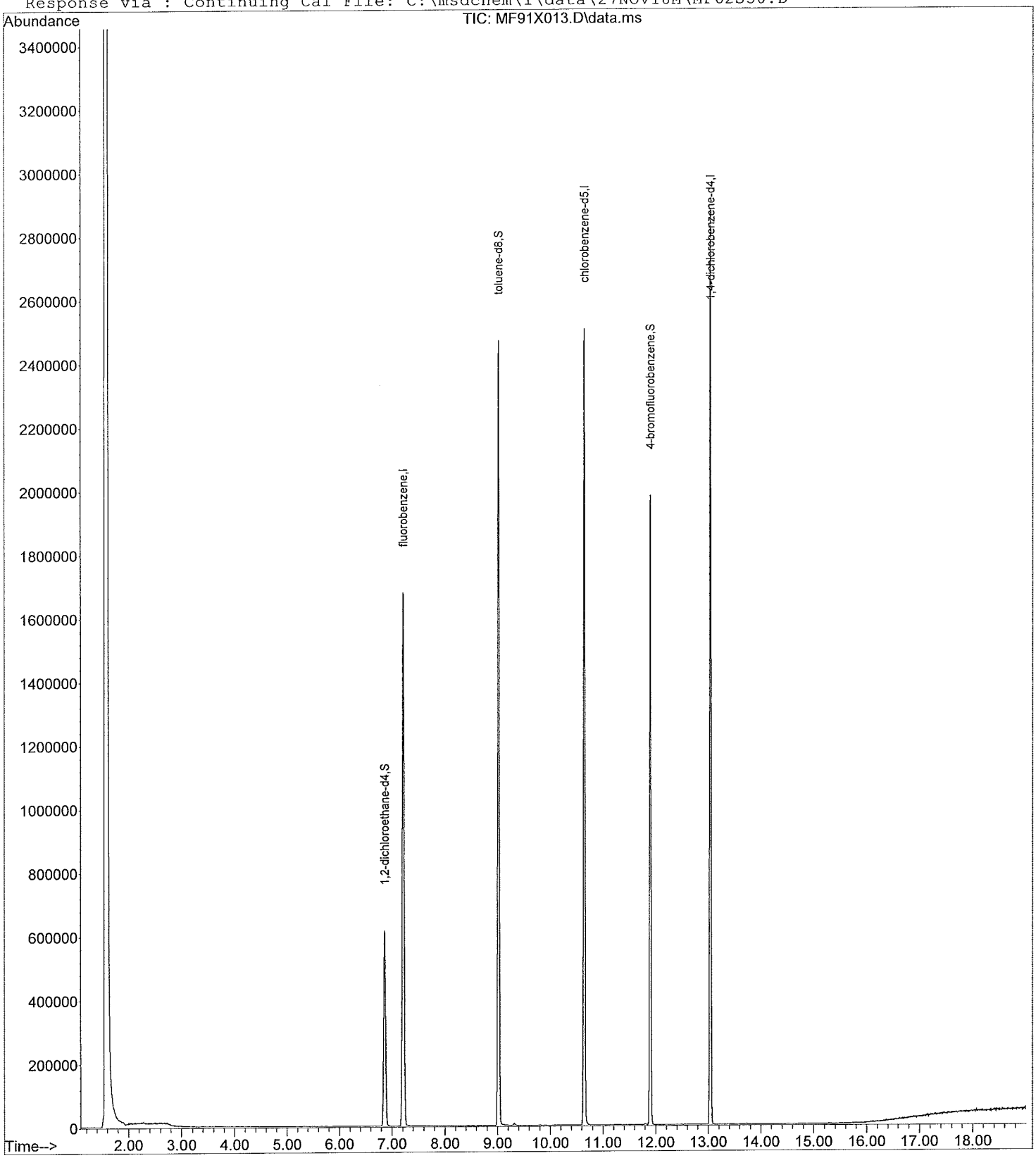
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X013.D Vial: 13
Acq Time : 12/04/2018 16:58 Operator: CQC
Sample : 103 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:17:14 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X013.D Vial: 13
Acq Time : 12/04/2018 16:58 Operator: CQC
Sample : 103 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:17:14 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1905508	50.0000 ug/Kg	108.34
42) chlorobenzene-d5	10.65	117	1585120	50.0000 ug/Kg	105.22
61) 1,4-dichlorobenzene-d4	13.04	152	825466	50.0000 ug/Kg	98.43
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	580342	52.1495 ug/Kg	104.30%
43) toluene-d8	9.02	98	1793631	50.0843 ug/Kg	100.17%
63) 4-bromofluorobenzene	11.90	95	686247	52.6390 ug/Kg	105.28%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	1129	0.5431 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	1129	0.2451 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24399	1.8951 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.01	58	12769	5.9498 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X013.D Vial: 13
Acq Time : 12/04/2018 16:58 Operator: CQC
Sample : 103 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:17:14 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	3709	0.6336 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2206	0.7964 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

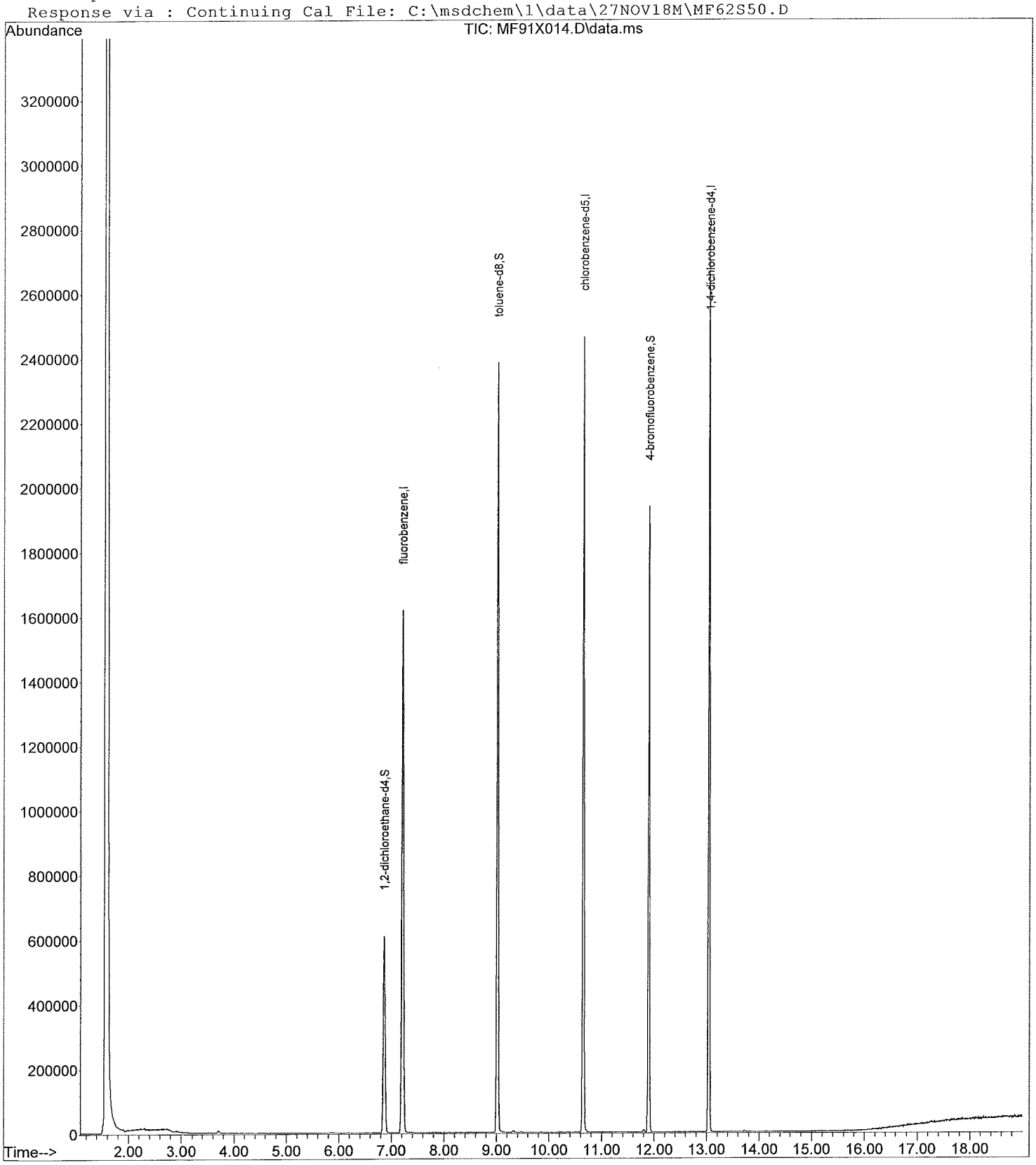
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X014.D Vial: 14
Acq Time : 12/04/2018 17:22 Operator: CQC
Sample : 105 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:41:19 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X014.D Vial: 14
Acq Time : 12/04/2018 17:22 Operator: CQC
Sample : 105 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:41:19 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1828844	50.0000 ug/Kg	103.98
42) chlorobenzene-d5	10.65	117	1546779	50.0000 ug/Kg	102.67
61) 1,4-dichlorobenzene-d4	13.04	152	807700	50.0000 ug/Kg	96.32
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	570892	53.4508 ug/Kg	106.90%
43) toluene-d8	9.02	98	1718672	49.1808 ug/Kg	98.36%
63) 4-bromofluorobenzene	11.89	95	670406	52.5550 ug/Kg	105.11%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.71	43	13876	6.9543 ug/Kg	91
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.71	43	13876	3.1391 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	5.87	75	5225	0.3881 ug/Kg#	32
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	23689	1.9170 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12463	6.0506 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	0.00	164		Not Detected	
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X014.D Vial: 14
Acq Time : 12/04/2018 17:22 Operator: CQC
Sample : 105 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 17:41:19 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	0.00	129		Not Detected	
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	4177	0.7292 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2083	0.7686 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

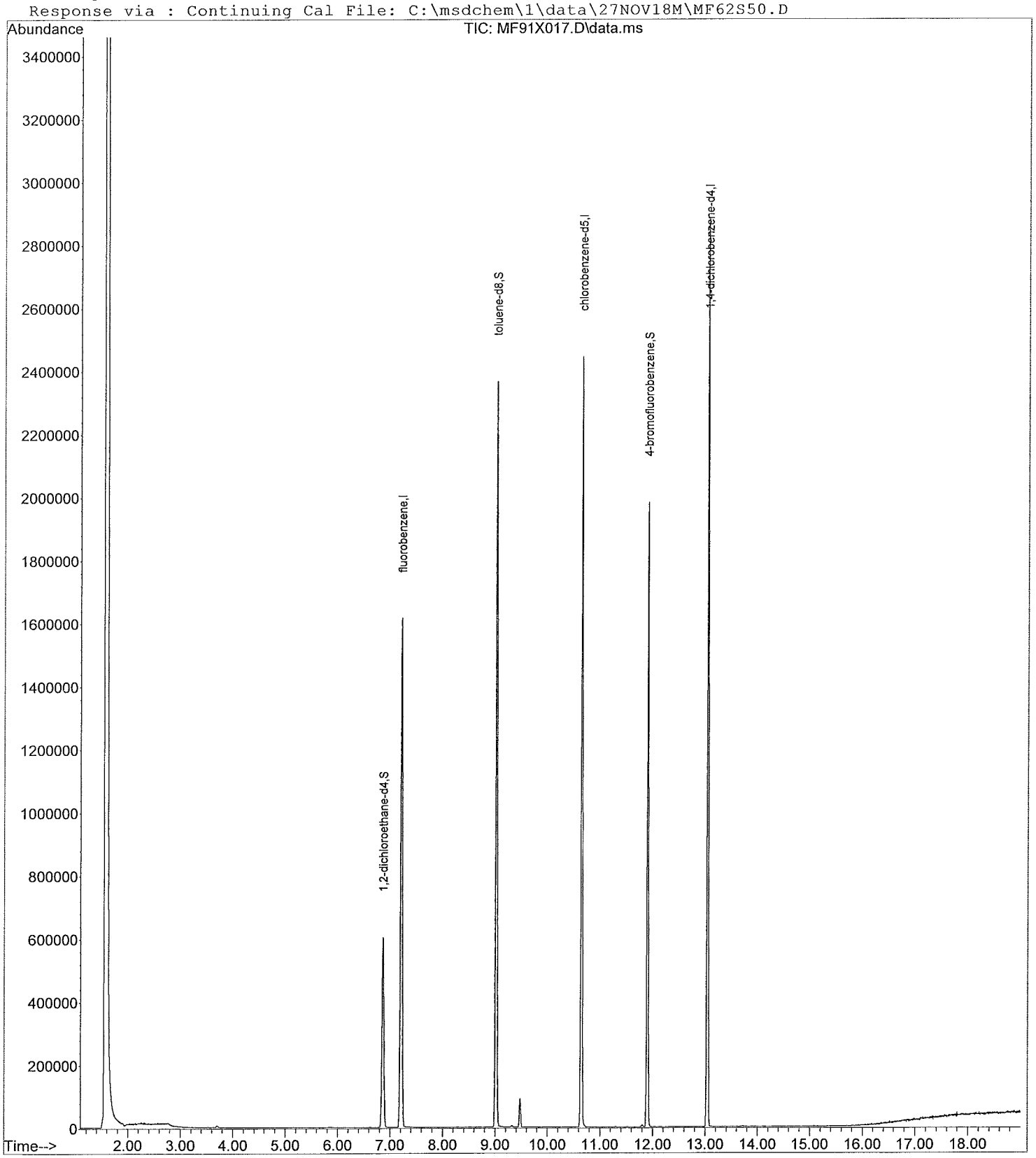
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X017.D Vial: 15
Acq Time : 12/04/2018 17:46 Operator: CQC
Sample : 101 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:05:25 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X017.D Vial: 15
Acq Time : 12/04/2018 17:46 Operator: CQC
Sample : 101 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:05:25 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1848026	50.0000 ug/Kg	105.07
42) chlorobenzene-d5	10.65	117	1553244	50.0000 ug/Kg	103.10
61) 1,4-dichlorobenzene-d4	13.04	152	819898	50.0000 ug/Kg	97.77
System Monitoring Compounds					%Recovery
32) 1,2-dichloroethane-d4	6.86	65	572470	53.0422 ug/Kg	106.08%
43) toluene-d8	9.02	98	1731176	49.3324 ug/Kg	98.66%
63) 4-bromofluorobenzene	11.90	95	671630	51.8677 ug/Kg	103.74%
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	
5) bromomethane	0.00	94		Not Detected	
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.70	43	8884	4.4063 ug/Kg	82
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.70	43	8884	1.9889 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	5.87	75	4673	0.3435 ug/Kg#	32
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	24002	1.9222 ug/Kg	78
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12438	5.9758 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	9.47	164	24470	2.4913 ug/Kg	97
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X017.D Vial: 15
Acq Time : 12/04/2018 17:46 Operator: CQC
Sample : 101 Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:05:25 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	9.48	129	23810	2.1659 ug/Kg#	25
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.89	173	4068	0.6996 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	2341	0.8509 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	1,2,3-trichlorobenzene	0.00	180		Not Detected	

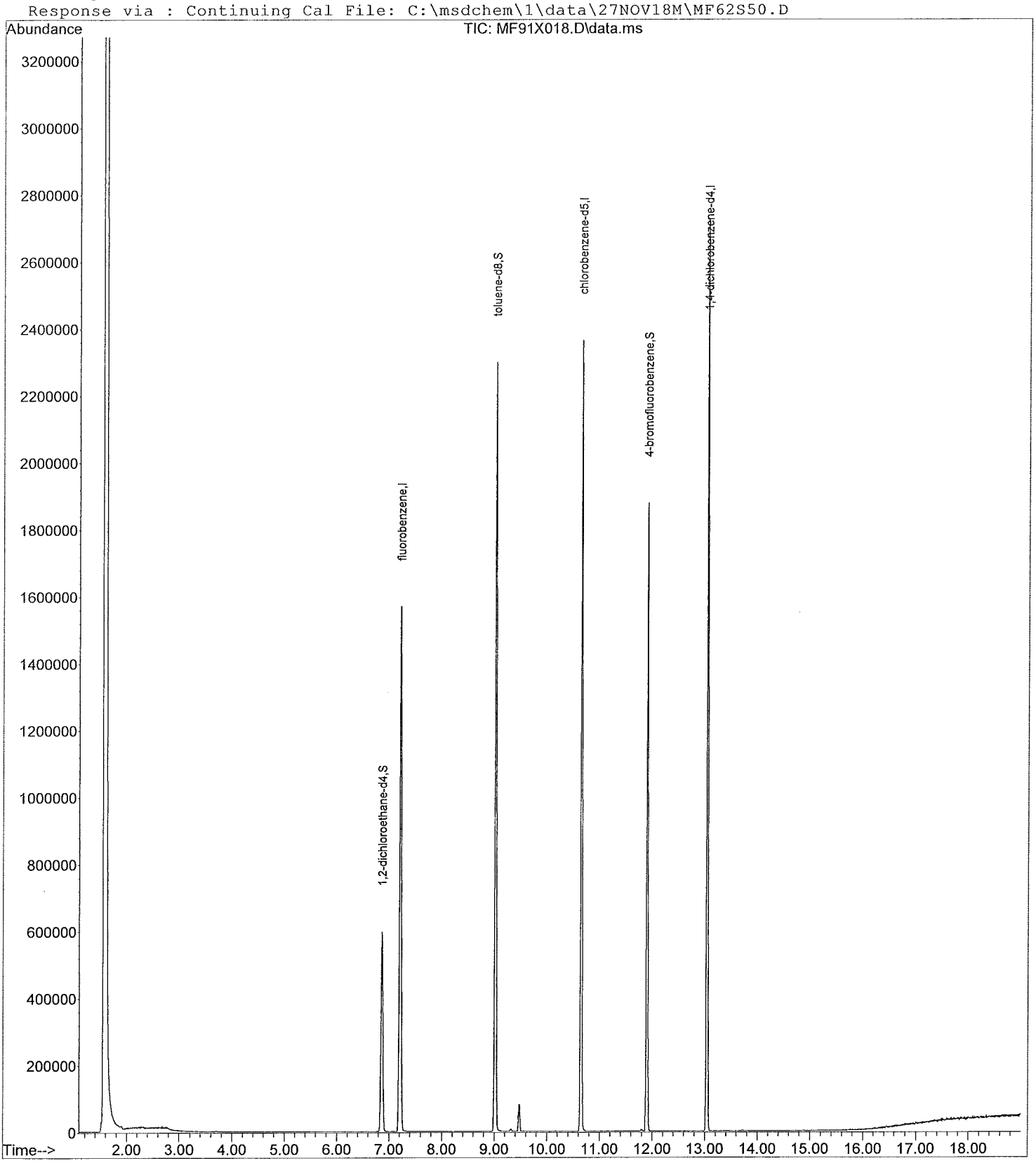
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X018.D Vial: 16
Acq Time : 12/04/2018 18:10 Operator: CQC
Sample : 101-y Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:29:23 2018 Results File: MSCREEN.RES

Method : C:\msdchem\1\methods\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:44 2018
Response via : Continuing Cal File: C:\msdchem\1\data\27NOV18M\MF62S50.D



Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X018.D Vial: 16
Acq Time : 12/04/2018 18:10 Operator: CQC
Sample : 101-y Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:29:23 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

Internal Standards	R.T.	QIon	Response	Conc Units	Area%
1) fluorobenzene	7.21	96	1799387	50.0000 ug/Kg	102.31
42) chlorobenzene-d5	10.65	117	1521309	50.0000 ug/Kg	100.98
61) 1,4-dichlorobenzene-d4	13.04	152	781980	50.0000 ug/Kg	93.25
System Monitoring Compounds					**%Recovery**
32) 1,2-dichloroethane-d4	6.86	65	553983	52.7168 ug/Kg	105.43%
43) toluene-d8	9.02	98	1679738	48.8714 ug/Kg	97.74%
63) 4-bromofluorobenzene	11.90	95	646086	52.3144 ug/Kg	104.63%
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	
5) bromomethane	2.23	94	1933	0.3268 ug/Kg#	12
6) chloroethane	0.00	64		Not Detected	
7) dichlorofluoromethane	0.00	67		Not Detected	
8) trichlorofluoromethane	0.00	101		Not Detected	
9) ethyl ether	0.00	59		Not Detected	
10) 1,1-dichloroethene	0.00	96		Not Detected	
11) freon 113	0.00	151		Not Detected	
12) acetone	3.69	43	929	0.4732 ug/Kg#	44
13) iodomethane	0.00	142		Not Detected	
14) carbon disulfide	0.00	76		Not Detected	
15) allyl chloride	0.00	41		Not Detected	
16) methyl acetate	3.69	43	929	0.2136 ug/Kg#	57
17) methylene chloride	0.00	84		Not Detected	
18) trans-1,2-dichloroethene	0.00	96		Not Detected	
19) methyl-t-butyl-ether	0.00	73		Not Detected	
20) 1,1-dichloroethane	0.00	63		Not Detected	
21) 2,2-dichloropropane	0.00	77		Not Detected	
22) cis-1,2-dichloroethene	0.00	96		Not Detected	
23) 2-butanone	0.00	72		Not Detected	
24) ethyl acetate	0.00	43		Not Detected	
25) bromochloromethane	0.00	128		Not Detected	
26) tetrahydrofuran	0.00	72		Not Detected	
27) chloroform	0.00	83		Not Detected	
28) 1,1,1-trichloroethane	0.00	97		Not Detected	
29) cyclohexane	0.00	56		Not Detected	
30) 1,1-dichloropropene	0.00	75		Not Detected	
31) carbon tetrachloride	0.00	117		Not Detected	
33) benzene	0.00	78		Not Detected	
34) 1,2-dichloroethane	7.21	62	22875	1.8815 ug/Kg	77
35) trichloroethene	0.00	130		Not Detected	
36) methylcyclohexane	0.00	83		Not Detected	
37) 1,2-dichloropropane	0.00	63		Not Detected	
38) dibromomethane	0.00	93		Not Detected	
39) bromodichloromethane	0.00	83		Not Detected	
40) cis-1,3-dichloropropene	0.00	75		Not Detected	
41) 4-methyl-2-pentanone	9.02	58	12204	6.0219 ug/Kg#	1
44) toluene	0.00	91		Not Detected	
45) trans-1,3-dichloropropene	0.00	75		Not Detected	
46) ethyl methacrylate	0.00	69		Not Detected	
47) 1,1,2-trichloroethane	0.00	97		Not Detected	
48) tetrachloroethene	9.48	164	21443	2.2290 ug/Kg	97
49) 1,3-dichloropropane	0.00	76		Not Detected	

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

Quantitation Report

Data File : C:\msdchem\1\data\04DEC18M\MF91X018.D Vial: 16
Acq Time : 12/04/2018 18:10 Operator: CQC
Sample : 101-y Inst : 5975-M
Misc : 1833368 C 1:10 Diltuion Multiplr: 1.00
MS Integration Params: RTEINT.P Column ID: Rtx-VMS

Quant Time: Dec 04 18:29:23 2018 Results File: MSCREEN.RES

Quant Method : C:\MSDCHEM\1\METHODS\MSCREEN.M (RTE Integrator)
Title : VOA COMPOUND LIST
Last Update : Tue Nov 27 14:33:45 2018
Response via : Continuing Cal C:\msdchem\1\data\27NOV18M\MF62S50.D
DataAcq Meth : MSCREEN.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
50)	2-hexanone	0.00	43		Not Detected	
51)	dibromochloromethane	9.48	129	21180	1.9671 ug/Kg#	25
52)	1,2-dibromoethane	0.00	107		Not Detected	
53)	chlorobenzene	0.00	112		Not Detected	
54)	1-chlorohexane	0.00	93		Not Detected	
55)	1,1,1,2-tetrachloroethane	0.00	131		Not Detected	
56)	ethylbenzene	0.00	106		Not Detected	
57)	m,p-xylene	0.00	106		Not Detected	
58)	o-xylene	0.00	106		Not Detected	
59)	styrene	0.00	104		Not Detected	
60)	isopropylbenzene	0.00	105		Not Detected	
62)	bromoform	11.90	173	3205	0.5779 ug/Kg#	1
64)	bromobenzene	0.00	156		Not Detected	
65)	1,1,2,2-tetrachloroethane	0.00	83		Not Detected	
66)	1,2,3-trichloropropane	13.04	110	1792	0.6829 ug/Kg#	1
67)	trans-1,4-dichloro-2-buten	0.00	88		Not Detected	
68)	pentachloroethane	0.00	167		Not Detected	
69)	n-propylbenzene	0.00	91		Not Detected	
70)	2-chlorotoluene	0.00	126		Not Detected	
71)	4-chlorotoluene	0.00	126		Not Detected	
72)	1,3,5-trimethylbenzene	0.00	105		Not Detected	
73)	tert-butylbenzene	0.00	119		Not Detected	
74)	1,2,4-trimethylbenzene	0.00	105		Not Detected	
75)	sec-butylbenzene	0.00	105		Not Detected	
76)	p-isopropyltoluene	0.00	119		Not Detected	
77)	1,3-dichlorobenzene	0.00	146		Not Detected	
78)	1,4-dichlorobenzene	0.00	146		Not Detected	
79)	1,2-dichlorobenzene	0.00	146		Not Detected	
80)	n-butylbenzene	0.00	91		Not Detected	
81)	1,2-dibromo-3-chloropropan	0.00	75		Not Detected	
82)	1,2,4-trichlorobenzene	0.00	180		Not Detected	
83)	hexachlorobutadiene	0.00	225		Not Detected	
84)	naphthalene	0.00	128		Not Detected	
85)	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 5POINTS SDG TV1130 Fraction VOA-TRACE

DELIVERABLES CHECK - All forms are present and have been checked for completeness and accuracy. All raw data such as quantitation reports and chromatograms are included and are in the correct order.

Signature _____ Date 12/11/18

CHEMIST CHECK or PEER REVIEW – The entire data package has been reviewed for completeness and accuracy, including a deliverables check as well as review of the QC data. Target compounds reported have been verified against the retention time windows for both columns. All target compounds present are reported on the Form I and the reported values are correct.

Signature _____ Date 12·13·18

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 exception of items specifically mentioned in the narrative. All documents necessary for the case file are included.

Signature _____ Date 12·13·18

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, Air bills, etc.) are also included.

Signature _____ Date 12/17/2018

GC/MS QC Checklist

Method: VOA-TRACE Instrument: 5975-F Analysis Date: 12/6/18

[✓] **1. Tune pass all acceptance criteria.**
- a. All abundances were within appropriate method limits
- b. Area of primary ion was as expected.

[✓] **2. Calibration curve, ICV, and Continuing Calibration all passed acceptance criteria.**
- a. Curve - All compounds of interest calibrated and within appropriate method limits.
- b. All reference spectra updated to new calibration.
- c. Appropriate curve fit was set up and documented.
- d. ICV passed appropriate method limits.
- e. Continuing Calibration passed appropriate method limits.

[NA] **3. Laboratory Control Spikes passed all acceptance criteria.**
- a. Internal Standards pass appropriate QC limits.
- b. Surrogates/DMCs pass appropriate QC limits.
- c. All spiked target compounds passed appropriate QC limits.

[NA] **4. RLVS passed all acceptance criteria.**
- a. All analytes of interest were detected at or above 1/2 the reporting limit.

[✓] **5. Method Blank passed all acceptance criteria.**
- a. Internal Standards pass appropriate method limits.
- b. Surrogates/DMCs pass appropriate method limits.
- c. No target compounds above the reporting limits.
- d. No TIC's above 10% of ISTD.

[✓] **6. Each sample passed Internal Standard, Surrogate/DMC, and Dilution Criteria.**
- a. Internal Standards pass appropriate QC limits.
- b. Surrogates/DMCs pass appropriate QC limits.
- c. All target compounds are appropriately identified.
- d. All identified target compounds are within the range of the curve.
- e. All dilutions have been performed as per method/SOP requirements.
- f. All diluted results match undiluted results.
- g. All requested TICs are searched and identified.
- h. All appropriate instrument blanks were analyzed after high level samples (VOAs).
- i. All samples analyzed within the appropriate methods analytical clock.

[NA] **7. MS/MSD were analyzed and reviewed.**
- a. Spiked compounds were within QC Limits.
- b. If any QC out, was it due to an obvious mis-spike or instrument issue.

[✓] **8. Ending Calibration was performed and passed all acceptance criteria.**
- a. Calibration passed appropriate method limits.
- b. Calibration was analyzed within the appropriate methods analytical clock.

Comments: _____

Analyst Signature: [signature] Date: 12/7/18

GC/MS QC Checklist

Method: VOA-TRACE Instrument: 5975-E Analysis Date: 12/6/18

☑ **1. Tune pass all acceptance criteria.**
- a. All abundances were within appropriate method limits
- b. Area of primary ion was as expected.

☑ **2. Calibration curve, ICV, and Continuing Calibration all passed acceptance criteria.**
- a. Curve - All compounds of interest calibrated and within appropriate method limits.
- b. All reference spectra updated to new calibration.
- c. Appropriate curve fit was set up and documented.
- d. ICV passed appropriate method limits.
- e. Continuing Calibration passed appropriate method limits.

NA **3. Laboratory Control Spikes passed all acceptance criteria.**
- a. Internal Standards pass appropriate QC limits.
- b. Surrogates/DMCs pass appropriate QC limits.
- c. All spiked target compounds passed appropriate QC limits.

NA **4. RLVS passed all acceptance criteria.**
- a. All analytes of interest were detected at or above 1/2 the reporting limit.

☑ **5. Method Blank passed all acceptance criteria.**
- a. Internal Standards pass appropriate method limits.
- b. Surrogates/DMCs pass appropriate method limits.
- c. No target compounds above the reporting limits.
- d. No TIC's above 10% of ISTD.

☑ **6. Each sample passed Internal Standard, Surrogate/DMC, and Dilution Criteria.**
- a. Internal Standards pass appropriate QC limits.
- b. Surrogates/DMCs pass appropriate QC limits.
- c. All target compounds are appropriately identified.
- d. All identified target compounds are within the range of the curve.
- e. All dilutions have been performed as per method/SOP requirements.
- f. All diluted results match undiluted results.
- g. All requested TICs are searched and identified.
- h. All appropriate instrument blanks were analyzed after high level samples (VOAs).
- i. All samples analyzed within the appropriate methods analytical clock.

☑ **7. MS/MSD were analyzed and reviewed.**
- a. Spiked compounds were within QC Limits.
- b. If any QC out, was it due to an obvious mis-spike or instrument issue.

☑ **8. Ending Calibration was performed and passed all acceptance criteria.**
- a. Calibration passed appropriate method limits.
- b. Calibration was analyzed within the appropriate methods analytical clock.

Comments: _____

Analyst Signature: _____ Date: 12/7/18

5.6 GC/MS Technical Review

Note: It is the peer reviewer's responsibility to ensure that appropriate criteria are used as defined in the HORIZON PROFILE. The evaluation criteria are prioritized as per Section 2.2 of this SOP. These items must be checked for all projects. The following checklist will be completed by both the analyst and the peer reviewer and scanned into the HBN folder with the raw data.

GC/MS Technical Review Criteria Batch(es)/SDG: 228797 / TV1130-5POINTS Sample Set IDs if Applicable: 18333608	Analyst Initials	Reviewer Initials
GC/MS Tuning passed criteria (BFB or DFTPP)	SS	CR
Calibration standards analyzed and meets criteria	SS	CR
Standards traceability checked and meets criteria	SS	CR
Standard curve coefficient evaluated and meets criteria	SS	CR
ICVs analyzed and meet acceptance criteria	SS	CR
CCVs analyzed and meet acceptance criteria	SS	CR
Review of spectral assignments	SS	CR
Relative Retention Time checked	SS	CR
Internal Standards checked	SS	CR
Surrogate recoveries checked and appropriately addressed	SS	CR
Sample Frequency – Analyzed within appropriate tune window	SS	CR
Method Preparation Blanks analyzed and meet acceptance criteria	SS	CR
MSs, MSDs, and/or MDs analyzed and calculations checked; applicable flags applied on QC reports; LCSs analyzed and meet acceptance criteria when performed	SS	CR
RLVS analyzed	SS	CR
Preparation and analysis hold times met	SS	CR
Preparation deviations and re-preparations noted when performed	SS	CR
Analysis deviations and re-analyses noted when performed	SS	CR
Sample dilution factors noted on reports	SS	CR
Electronic records in HBN transcription accuracy and completeness checked	SS	CR
Preparation and analysis calculations checked	SS	CR
NCRs are completed as necessary NC/CAR#_____	SS	CR
Report forms are complete and accurate	SS	CR
Manual integrations checked	SS	CR

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131 Task 4	Split:	Workorder ID: 1833368	Level: EPACLP_PDF
Client: AECOM [5POINTS/TV1130]		Account: 8201	Type: 40AGVOA
Comments:			Preservatives: HCL

Item	Collect Date/Time	Sample ID	pH	Lab ID	QC	Matrix		Containers ID(s)	Containers Count	Requested Analysis: EPA-CLP VOA Trace, Water
1		TB-112918	1	1833368001	TRIPBK	Water	1:1	A,B	2	A
2	11/29/2018 08:35	5P-MW107I-145	1	1833368002		Water	1:1	A,B,C	3	A
3	11/29/2018 08:50	5P-MW107D-200	1	1833368003		Water	1:1	A,B,C	3	A
4	11/29/2018 09:20	5P-MW106I-145	1	1833368004		Water	1:1	A,B,C	3	A
5	11/29/2018 09:35	5P-MW106D195	1	1833368005		Water	1:1	A,B,C	3	A
6	11/29/2018 09:50	5P-MW108I-149	1	1833368006		Water	1:1	A,B,C	3	A
7	11/29/2018 10:05	5P-MW108D-214	1	1833368007		Water	1:1	A,B,C	3	A
8	11/29/2018 10:35	5P-MW109I-169	1	1833368008		Water	1:1	A,B,C	3	A
9	11/29/2018 10:50	5P-MW109-230 20 11/29/18	1	1833368009		Water	1:1	A,B,C	3	A
10	11/29/2018 11:05	5P-MW110I-208	1	1833368010		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
Edwards, Meredith D.	11/29/2018 14:02	ALS Sample Receiving	Sample Login
Meredith Edwards	11/29/2018 14:02	Storage	Storage
Storage R2	11-4-18 0729	[signature]	[illegible] 2-61-18

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

Thu, 11/29/18 2:48 PM

ALSCOCV3.1

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131 Task 4	Split:	Workorder ID: 1833368	Level: EPACLP_PDF	Requested Analysis
Client: AECOM [5POINTS/TV1130]		Account: 8201	Type: 40AGVOA	
Comments:			Preservatives: HCL	

Item	Collect Date/Time	Sample ID	pH	Lab ID	QC	Matrix		Containers ID(s)	Count	EPA-CLP VOA Trace, Water				tetra							
11	11/29/2018 11:15	5P-MW110D-301	1	1833368011		Water	1:1	A,B,C	3	A											
12	11/29/2018 11:35	5P-MW104-120	1	1833368012		Water	1:1	A,B,C	3	A											
13	11/29/2018 11:50	5P-MW103-122	1	1833368013		Water	1:1	A,B,C	3	A											
14	11/29/2018 12:05	5P-MW105-147	1	1833368014		Water	1:1	A,B,C	3	A											
15	11/29/2018 12:05	5P-MW105-147MS	1	1833368015	MS	Water	1:1	A,B,C	3	A											
16	11/29/2018 12:05	5P-MW105-147MSD	1	1833368016	MSD	Water	1:1	A,B,C	3	A											
17	11/29/2018 12:40	5P-MW101-162	1	1833368017		Water	1:5, 1:1	A,B,C	3	A				25							
18	11/29/2018 12:50	5P-MW101-162-Y	1	1833368018		Water	1:5, 1:1	A,B,C	3	A				23							
19																					
20																					

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Edwards, Meredith D.	11/29/2018 14:02	ALS Sample Receiving	Sample Login
Meredith Edwards	11/29/2018 1450	Stonge	Stonge
Stonge R2 ce	12-4-18 0729		Cindy/Stay R-6/4c cw

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

Thu, 11/29/18 2:48 PM

ALSCOCV3.1

00382

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: 60546131 Task 4 | Split: | Workorder ID: 1833368 | Level: EPACLP_PDF

Client: AECOM [5POINTS/TV1130] | Account: 8201 | Type: 40AGVOA

Comments:

Preservatives: HCL

Requested Analysis: EPA-CLP VOA Trace, Water

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	EPA-CLP VOA Trace, Water
1		TB-112918	1833368001	TRIPBK	Water	A,B	2	A
2	11/29/2018 08:35	5P-MW107I-145	1833368002		Water	A,B,C	3	A
3	11/29/2018 08:50	5P-MW107D-200	1833368003		Water	A,B,C	3	A
4	11/29/2018 09:20	5P-MW106I-145	1833368004		Water	A,B,C	3	A
5	11/29/2018 09:35	5P-MW106D195	1833368005		Water	A,B,C	3	A
6	11/29/2018 09:50	5P-MW108I-149	1833368006		Water	A,B,C	3	A
7	11/29/2018 10:05	5P-MW108D-214	1833368007		Water	A,B,C	3	A
8	11/29/2018 10:35	5P-MW109I-169	1833368008		Water	A,B,C	3	A
9	11/29/2018 10:50	5P-MW109D-230	1833368009		Water	A,B,C	3	A
10	11/29/2018 11:05	5P-MW110I-208	1833368010		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
Edwards, Meredith D.	11/29/2018 14:02	ALS Sample Receiving	Sample Login
[signature]	11/29/2018 14:02	[signature]	Storage
Storage R2	12-4-18 0729	[signature]	[illegible]

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

00383

Thu, 11/29/18 2:48 PM

ALSCOCV3.1

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: 60546131 Task 4	Split:	Workorder ID: 1833368	Level: EPACLP_PDF	Requested Analysis
Client: AECOM [5POINTS/TV1130]		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
11	11/29/2018 11:15	5P-MW110D-301	1833368011		Water	A,B,C	3	A
12	11/29/2018 11:35	5P-MW104-120	1833368012		Water	A,B,C	3	A
13	11/29/2018 11:50	5P-MW103-122	1833368013		Water	A,B,C	3	A
14	11/29/2018 12:05	5P-MW105-147	1833368014		Water	A,B,C	3	A
15	11/29/2018 12:05	5P-MW105-147MS	1833368015	MS	Water	A,B,C	3	A
16	11/29/2018 12:05	5P-MW105-147MSD	1833368016	MSD	Water	A,B,C	3	A
17	11/29/2018 12:40	5P-MW101-162	1833368017		Water	A,B,C	3	A
18	11/29/2018 12:50	5P-MW101-162-Y	1833368018		Water	A,B,C	3	A
19								
20								

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Edwards, Meredith D.	11/29/2018 14:02	ALS Sample Receiving	Sample Login
Meredith Edwards	11/29/2018 1450	Storage 2	Storage
Storage R2	12-4-18 0729		Wendy / Storage R-6146

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

Thu, 11/29/18 2:48 PM

ALSCOCV3.1

AECOM

Attachment 3

Data Validation Report

FIVE POINTS PCE PLUME SITE
QC Sample Evaluation

Data Package Number (Work Order): TV1130 (1833368)
Sampling Event Dates: November 29, 2018
Sample-specific Parameter Review/Laboratory Performance Parameters: Yes
Full Validation (e.g. result recalculation): No
Data Reviewer: Brian Rothmeyer, URS Chemist
Date Completed: December 31, 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-112918	TB	1833368001	Water	X
5P-MW1071-145	SA	1833368002	Water	X
5P-MW107D-200	SA	1833368003	Water	X
5P-MW106I-145	SA	1833368004	Water	X
5P-MW106D195	SA	1833368005	Water	X
5P-MW108I-149	SA	1833368006	Water	X
5P-MW108D-214	SA	1833368007	Water	X
5P-MW109I-169	SA	1833368008	Water	X
5P-MW109D-230	SA	1833368009	Water	X
5P-MW110I-208	SA	1833368010	Water	X
5P-MW110D-301	SA	1833368011	Water	X
5P-MW104-120	SA	1833368012	Water	X
5P-MW103-122	SA	1833368013	Water	X
5P-MW105-147	SA	1833368014	Water	X^m
5P-MW101-162	SA	1833368017	Water	X
5P-MW101-162-Y	FD	1833368018	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 1833368015 and 1833368016 were the matrix spike/ matrix spike duplicate (MS/MSD) performed on sample 1833368014 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 sampler inadvertently did not document the time the samples were relinquished to the laboratory on the COC. As the samples were hand-delivered to the laboratory and the laboratory documented the date and time the sample were received, no further action was required and qualification was not 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-MW105-147 (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 laboratory acceptance limits or met the criteria listed in Table 1 of the QAPP. The laboratory noted that the RPD for the MS/MSD performed for sample 5P-MW105-147 was outside the laboratory control limits for trichloroethene and benzene; however, the RPD was within the criteria listed in Table 1 of the QAPP. Therefore, qualification was not considered necessary. The MS/MSD spike solution used by the laboratory for volatile organic compounds (VOC) analysis contained the minimum

Review Parameter	Criteria Met?	Comment
		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. 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-112918 • Field Duplicate 5P-MW101-162/5P-MW101-162-Y • Equipment Blank NA	No	**Trip Blank (VOCs Only)** With the exceptions listed in Table 2, 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-MW101-162 and 5P-MW101-162-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.

Review Parameter	Criteria Met?	Comment
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). The TIC analyte, 2-ethyl -1-hexanol, was qualitatively identified (Qual) in samples 5P-MW101-162 and 5P-MW101-162-Y (Qual = 72% and 78% respectively). Therefore, as the qualitative values were less than 85%, the associated 2-ethyl -1-hexanol results were qualified as estimated (NJ ID-I). The TIC analyte, 2-methyl-furan, was qualitatively identified in sample 5P-MW105-147 (Qual = 94%). Therefore, as the qualitative value was greater than 85%, the associated 2-methyl-furan result for sample 5P-MW105-147 was qualified as estimated (J ID-I).
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

Review Parameter	Criteria Met?	Comment
		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
Qual – Qualitatively Identified
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-MW110I-208 5P-MW110D-301 5P-MW104-120 5P-MW103-122 5P-MW105-147 5P-MW101-162 5P-MW101-162-Y 5P-MW101-162 (DL) 5P-MW101-162-Y (DL)	Chloroform	0.25 µg/L	The associated sample results were reported as non-detect and qualification was not considered necessary.
VBLKT1 5P-MW1071-145 5P-MW107D-200 5P-MW106I-145 5P-MW106D195 5P-MW108I-149 5P-MW108D-214 5P-MW109I-169 5P-MW109D-230		0.24 µg/L	

µg/L – Microgram per Liter
DL – Dilution
VBLK – Volatile Method Blank
VOCs – Volatile Organic Compounds

Table 2: Trip Blank Outliers and Resultant Data Qualification

Associated Samples	Analyte	Concentration	Qualification
VOCs			
TB-112918 5P-MW1071-145 5P-MW107D-200 5P-MW106I-145 5P-MW106D195 5P-MW108I-149 5P-MW108D-214 5P-MW109I-169 5P-MW109D-230 5P-MW110I-208 5P-MW110D-301 5P-MW104-120 5P-MW103-122 5P-MW105-147 5P-MW101-162 5P-MW101-162-Y 5P-MW101-162 (DL) 5P-MW101-162-Y (DL)	Chloromethane	2.1 µg/L	The associated sample results reported at concentrations <5x the concentration of the blank contamination were qualified as non-detect (U TB-I) at the reported concentration for results reported at concentrations greater than the RL (0.50 µg/L) or the RL for results reported at concentrations less than the RL (0.50 µg/L).
	Bromomethane	0.31 µg/L	
	Acetone	19 µg/L	The associated sample results reported at concentrations <10x the concentration of the blank contamination were qualified as non-detect (U TB-I) at the reported concentration for results reported at concentrations greater than the RL (5 µg/L) or the RL for results reported at concentrations less than the RL (5 µg/L).

< - Less Than
DL – Dilution
U – Non-detect
µg/L – Microgram per Liter
RL – Reporting Limit
VOCs – Volatile Organic Compounds
I – Indeterminate Bias
TB – Trip Blank

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

EPA SAMPLE NO.
TB-112918

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC35E001
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/07/2018
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	2.1	
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane J SQL-I	0.31	J
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	19.	
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 12/31/18

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

EPA SAMPLE NO.

TB-112918

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC35E001
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/07/2018
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

BRL 12/31/18

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

EPA SAMPLE NO.
TB-112918

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368001
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC35E001
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/07/2018
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 12/31/18

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

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368002
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A002
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.96	
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 TB-I	23.	
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 12/31/18

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

EPA SAMPLE NO.
5P-MW107I-145

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368002
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB78A002
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	0.16	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)
Lab Code: ALS Case No.: 5POINTS
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: 97756
MA No.: SDG No.: TV1130
Level: TRACE
Lab Sample ID: 1833368002
Lab File ID: FB78A002
Date Received: 11/29/2018
Date Extracted:
Date Analyzed: 12/06/2018
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-MW107D-200

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A003
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.94	
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 TB-I	5.0 ~~4.8~~	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

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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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368003
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB78A003
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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-MW107D-200

Lab Name: ALS Environmental (SLC)
Lab Code: ALS Case No.: 5POINTS
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: 97756
MA No.: SDG No.: TV1130
Level: TRACE
Lab Sample ID: 1833368003
Lab File ID: FB78A003
Date Received: 11/29/2018
Date Extracted:
Date Analyzed: 12/06/2018
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.

BR 12/31/18

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

EPA SAMPLE NO.
5P-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.56	
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 TB-I	6.4	
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-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.45	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-MW106I-145

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368004
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB79A004
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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.

BC 12/31/18

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

EPA SAMPLE NO.
5P-MW106D195

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB80A005
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 4 TB-I	0.79	
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 TB-I	7.9	
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-MW106D195

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368005
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB80A005
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	1.8	
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-MW106D195

Lab Name: ALS Environmental (SLC)
Lab Code: ALS Case No.: 5POINTS
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: 97756
MA No.: SDG No.: TV1130
Level: TRACE
Lab Sample ID: 1833368005
Lab File ID: FB80A005
Date Received: 11/29/2018
Date Extracted:
Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB81A006
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.26~~	J
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 TB-I	35.	
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-MW108I-149

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB81A006
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.65	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368006
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB81A006
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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-MW108D-214

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB82A007
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.47~~	J
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 TB-I	43.	
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB82A007
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	3.0	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368007
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB82A007
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB83A008
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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 U TB-I	0.63	
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 TB-I	14.	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB83A008
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.57	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368008
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB83A008
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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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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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: FB84A009
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.44~~	J
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 TB-I	5.0 ~~4.8~~	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

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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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB84A009
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.40	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-MW109D-230

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368009
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: FB84A009
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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 12/31/18

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

EPA SAMPLE NO.
5P-MW110I-208

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC09A010
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.61	
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane U TB-I	0.50 ~~0.19~~	J
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 TB-I	17.	
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: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC09A010
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368010
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC09A010
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
Extract Concentrated:(Y/N) Date Analyzed: 12/06/2018
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-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.37~~	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane U TB-I	0.50 ~~0.10~~	J
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 TB-I	11.	
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-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.39	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-MW110D-301

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368011
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC10A011
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.47~~	J
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane U TB-I	0.50 ~~0.13~~	J
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 TB-I	6.6	
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

AOR 12/31/18

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

EPA SAMPLE NO.
5P-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	3.4	
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-MW104-120

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368012
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC11A012
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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-MW103-122

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC12A013
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.39~~	J
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 TB-I	12.	
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-MW103-122

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368013
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC12A013
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	0.19	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-MW103-122

Lab Name: ALS Environmental (SLC)
Lab Code: ALS Case No.: 5POINTS
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: 97756
MA No.: SDG No.: TV1130
Level: TRACE
Lab Sample ID: 1833368013
Lab File ID: EC12A013
Date Received: 11/29/2018
Date Extracted:
Date Analyzed: 12/06/2018
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					
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14					
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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-MW105-147

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC13A014
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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 U TB-I	0.57	
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 TB-I	22.	
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-MW105-147

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368014
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC13A014
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	1.1	
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-MW105-147

Lab Name: ALS Environmental (SLC)
Lab Code: ALS Case No.: 5POINTS
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: 97756
MA No.: SDG No.: TV1130
Level: TRACE
Lab Sample ID: 1833368014
Lab File ID: EC13A014
Date Received: 11/29/2018
Date Extracted:
Date Analyzed: 12/06/2018
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	534-22-5	Furan, 2-methyl- J ID-I	4.77	1.6	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
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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-MW101-162

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC18A017
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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 U TB-I	0.57	
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 TB-I	5.0 ~~4.6~~	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 J SQL-I	0.20	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-MW101-162

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC18A017
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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	~~26.~~	~~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-MW101-162

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC18A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		Unknown 1-Hexanol, 2-ethyl- NJ ID-I	13.32	0.82	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
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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-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane DNR	2.5	U
74-87-3	Chloromethane 4 TB-I	2.5 ~~0.58~~	JD
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone 4 TB-I	25 ~~16.~~	JD
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25.	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U
108-87-2	Methylcyclohexane	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
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	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-Pentanone	25.	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	23.	D
591-78-6	2-Hexanone DNR	25.	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

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

EPA SAMPLE NO.

5P-MW101-162DL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368017DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC16A017
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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: 5.0
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 12/31/18

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

EPA SAMPLE NO.
5P-MW101-162-Y

Lab Name: ALS Environmental (SLC) Contract: 97756
Lab Code: ALS Case No.: 5POINTS MA No.: SDG No.: TV1130
Analytical Method: Trace VOA Level: TRACE
Matrix: WATER Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL Lab File ID: EC19A018
% Solids: Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm) Date Extracted:
GC Column: ID: (mm) Date Analyzed: 12/06/2018
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 U TB-I	0.50 ~~0.24~~	J
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 TB-I	6.4	
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	0.20	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-MW101-162-Y

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC19A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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	~~25.~~	~~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-MW101-162-Y

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC19A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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		Unknown 1-Hexanol, 2-ethyl- NJ ID-I	13.32	0.52	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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24					
25					
26					
27					
28					
29					
30					
	E966796[1]	Total Alkanes	N/A		

[1] EPA-designated Registry Number.

BL 12/31/18

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

EPA SAMPLE NO.
5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC17A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
Cleanup Types:
Cleanup Factor:
Concentration Units (ug/L, mg/L, ug/kg): ug/L

CAS NO.	ANALYTE	CONCENTRATION	Q
75-71-8	Dichlorodifluoromethane DNR	2.5	U
74-87-3	Chloromethane	2.5	U
75-01-4	Vinyl chloride	2.5	U
74-83-9	Bromomethane	2.5	U
75-00-3	Chloroethane	2.5	U
75-69-4	Trichlorofluoromethane	2.5	U
75-35-4	1,1-Dichloroethene	2.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	2.5	U
67-64-1	Acetone	25.	U
75-15-0	Carbon disulfide	2.5	U
79-20-9	Methyl acetate	2.5	U
75-09-2	Methylene chloride	2.5	U
156-60-5	trans-1,2-Dichloroethene	2.5	U
1634-04-4	Methyl tert-butyl ether	2.5	U
75-34-3	1,1-Dichloroethane	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.5	U
78-93-3	2-Butanone	25.	U
74-97-5	Bromochloromethane	2.5	U
67-66-3	Chloroform	2.5	U
71-55-6	1,1,1-Trichloroethane	2.5	U
110-82-7	Cyclohexane	2.5	U
56-23-5	Carbon tetrachloride	2.5	U
71-43-2	Benzene	2.5	U
107-06-2	1,2-Dichloroethane	2.5	U
79-01-6	Trichloroethene	2.5	U
108-87-2	Methylcyclohexane	2.5	U

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

EPA SAMPLE NO.
5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC17A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
GC Column: ID: (mm)
Date Analyzed: 12/06/2018
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: 5.0
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	2.5	U
75-27-4	Bromodichloromethane	2.5	U
10061-01-5	cis-1,3-Dichloropropene	2.5	U
108-10-1	4-Methyl-2-Pentanone	25.	U
108-88-3	Toluene	2.5	U
10061-02-6	trans-1,3-Dichloropropene	2.5	U
79-00-5	1,1,2-Trichloroethane	2.5	U
127-18-4	Tetrachloroethene	21.	D
591-78-6	2-Hexanone DNR	25.	U
124-48-1	Dibromochloromethane	2.5	U
106-93-4	1,2-Dibromoethane	2.5	U
108-90-7	Chlorobenzene	2.5	U
100-41-4	Ethylbenzene	2.5	U
95-47-6	o-Xylene	2.5	U
179601-23-1	m,p-Xylene	2.5	U
100-42-5	Styrene	2.5	U
75-25-2	Bromoform	2.5	U
98-82-8	Isopropylbenzene	2.5	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	U
541-73-1	1,3-Dichlorobenzene	2.5	U
106-46-7	1,4-Dichlorobenzene	2.5	U
95-50-1	1,2-Dichlorobenzene	2.5	U
96-12-8	1,2-Dibromo-3-chloropropane	2.5	U
120-82-1	1,2,4-Trichlorobenzene	2.5	U
87-61-6	1,2,3-Trichlorobenzene	2.5	U

AOL 12/31/18

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

EPA SAMPLE NO.

5P-MW101-162-YDL

Lab Name: ALS Environmental (SLC)
Contract: 97756
Lab Code: ALS Case No.: 5POINTS
MA No.: SDG No.: TV1130
Analytical Method: Trace VOA
Level: TRACE
Matrix: WATER
Lab Sample ID: 1833368018DL
Sample wt/vol: 25.0 (g/mL) mL
Lab File ID: EC17A018
% Solids:
Date Received: 11/29/2018
GC Column: RTX-VMS ID: 0.25 (mm)
Date Extracted:
Extract Concentrated:(Y/N)
Date Analyzed: 12/06/2018
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: 5.0
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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AECOM

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
8/27/2018	8/29/2018	NA		NA	NA		NA	158.5	4243.03	23	123.1	4240.80	NA	120.27	4239.70	<0.50
11/27/2018	11/29/2018	NA		NA	NA		NA	158.12	4243.41	21	121.84	4242.06	NA	118.57	4243.41	<0.50

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
8/27/2018	8/29/2018	53.22	4254.05	NA	70.77	4236.12	0.26	70.93	4236.02	0.29	51.5	4232.959	0.48	52.8	4231.668	3
11/27/2018	11/29/2018	56.85	4250.42	NA	67.82	4239.07	0.16	68.21	4238.74	1.2	47.17	4237.29	0.65	48.13	4236.34	3

WTE=Water Table Elevation
DTW=Depth to Water

Attachment 4 - Well Hydrographs
Five Points PCE Plume Site
PCE Concentrations and Water Table Elevations

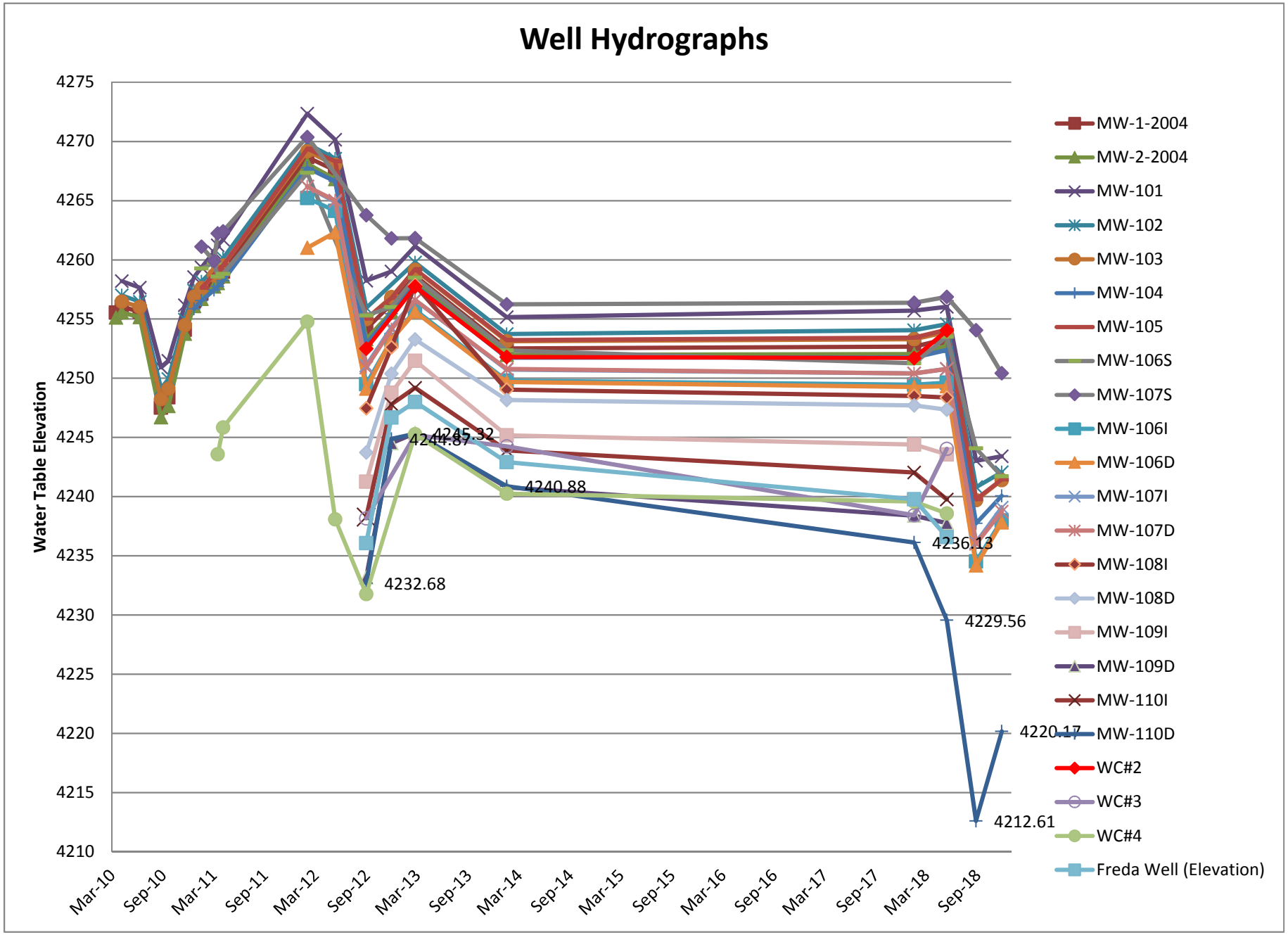
DTW	Sample	MW-104			MW-105			MW-106S			MW-106I			MW-106D		
Date	Date	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L	DTW (ft)	WTE (ft)	PCE ug/L
3/16/2010	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/6/2010	4/6/2010	NA	NA	NA	NA	NA	NA	NA	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
8/27/2018	8/29/2018	101.72	4237.75	5.3	144.91	4239.78	2.1	61.1	4244.08	NA	70.63	4234.53	1.8	70.98	4234.19	2.3
11/27/2018	11/29/2018	99.4	4240.07	3.4	143.23	4241.46	1.1	63.46	4241.72	NA	67.17	4237.99	0.45	67.35	4237.82	1.8

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
8/27/2018	8/29/2018	58	4226.391	1.5	67.96	4216.46	0.36	45.78	4223.679	<0.50	56.86	4212.611	0.56
11/27/2018	11/29/2018	51.9	4332.49	0.57	59.46	4224.96	0.4	38.45	4231.01	<0.50	49.3	4220.17	0.39

WTE=Water Table Elevation
DTW=Depth to Water

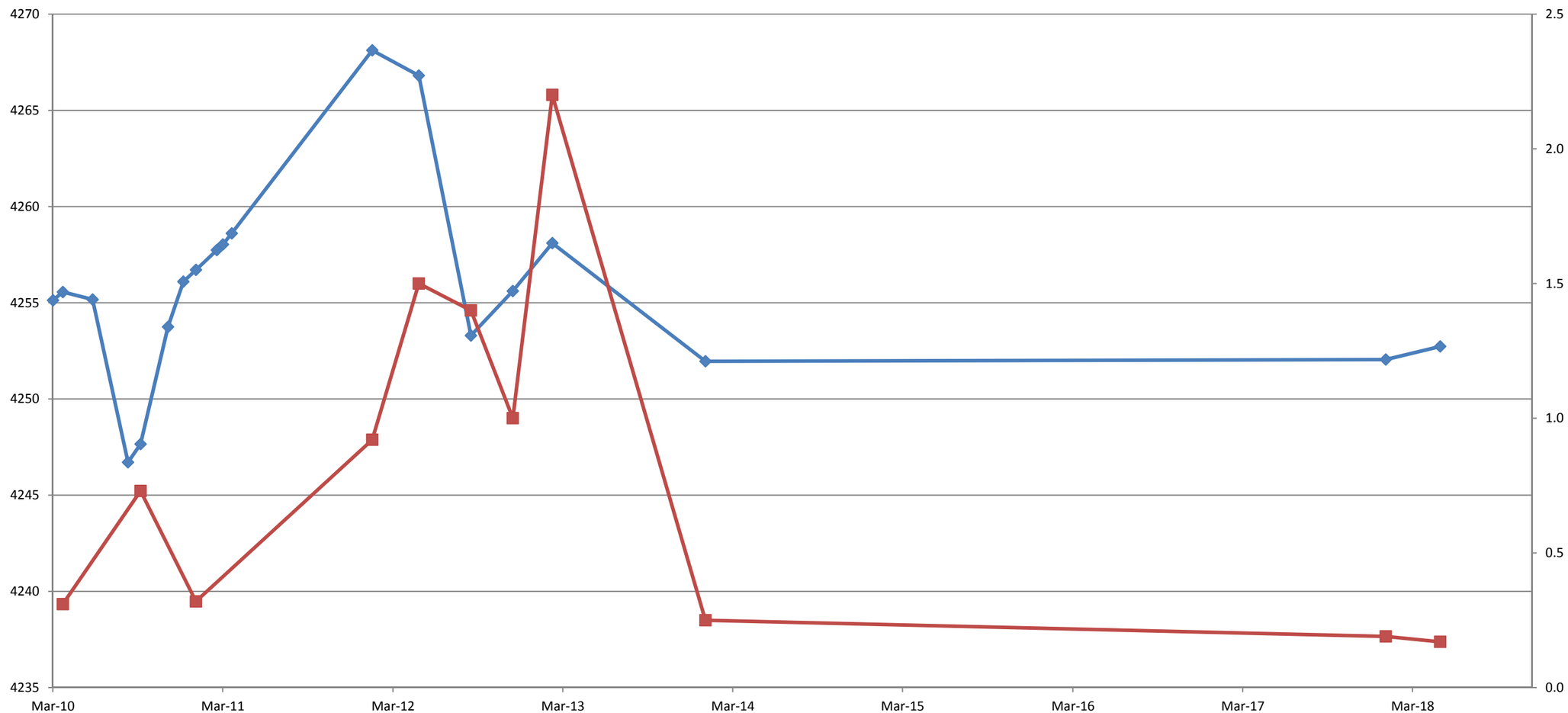
Attachment 4 - Well Hydrographs
Five Points PCE Plume Site
Survey Data

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	-	-	-	-	-	-

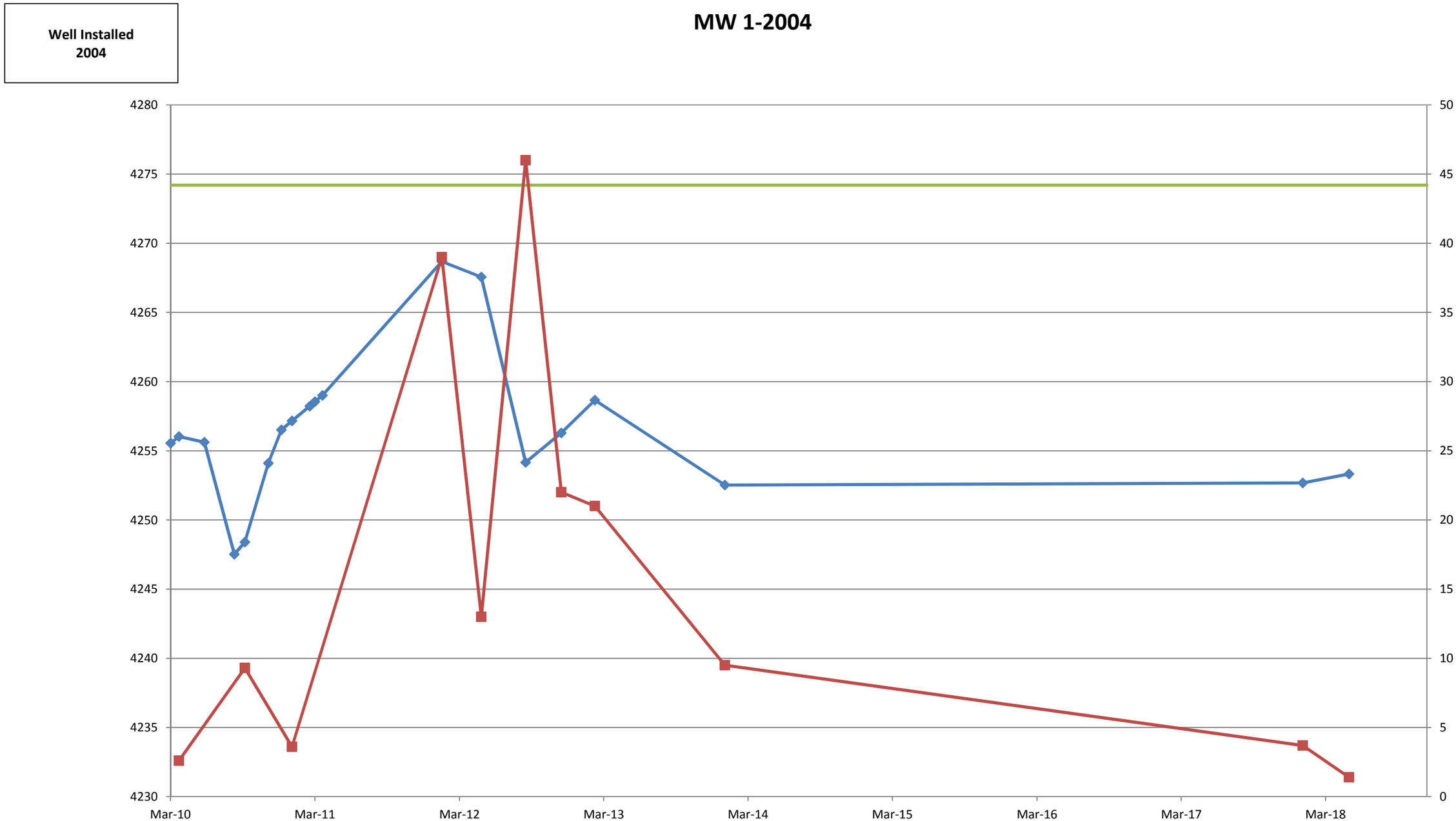

Well Hydrographs
Water Table Elevation
4275
4270
4265
4260
4255
4250
4245
4240
4235
4230
4225
4220
4215
4210
Mar-10
Sep-10
Mar-11
Sep-11
Mar-12
Sep-12
Mar-13
Sep-13
Mar-14
Sep-14
Mar-15
Sep-15
Mar-16
Sep-16
Mar-17
Sep-17
Mar-18
Sep-18
4245.32
4244.87
4240.88
4236.13
4232.68
4229.56
4220.17
4212.61
MW-1-2004
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)

Well Installed
2004

MW 2-2004



	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	Aug-18	Nov-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		



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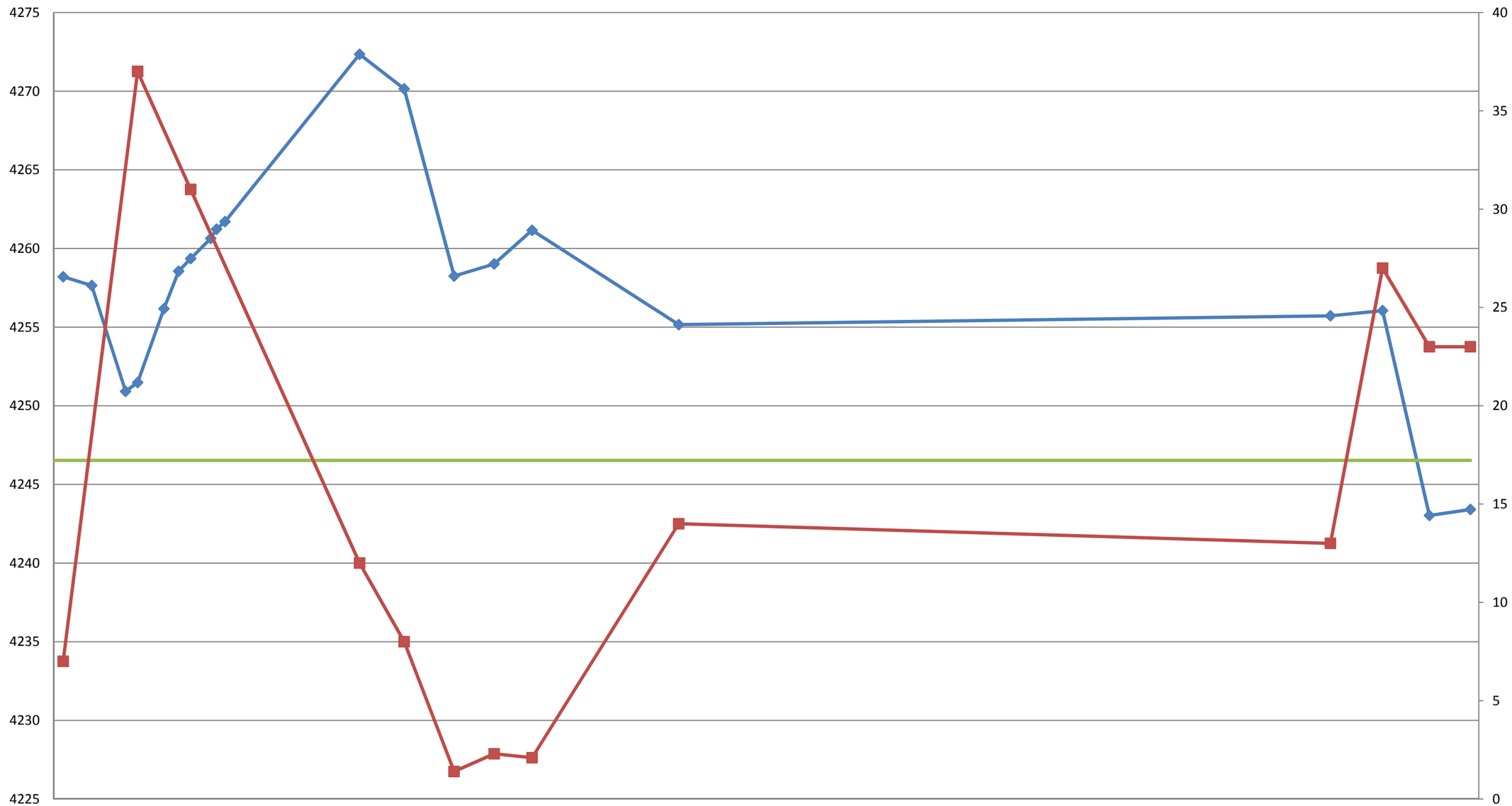
Water Table Elevation (ft)	4255.55	4256.03	4255.62	4247.52	4248.40	4254.10	4256.52	4257.16	4258.22	4258.55	4259.00	4268.68	4267.56	4254.16	4256.29	4258.66	4252.52	4252.68	4253.32		
Top of Screen (Ft)	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	4274.2	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		



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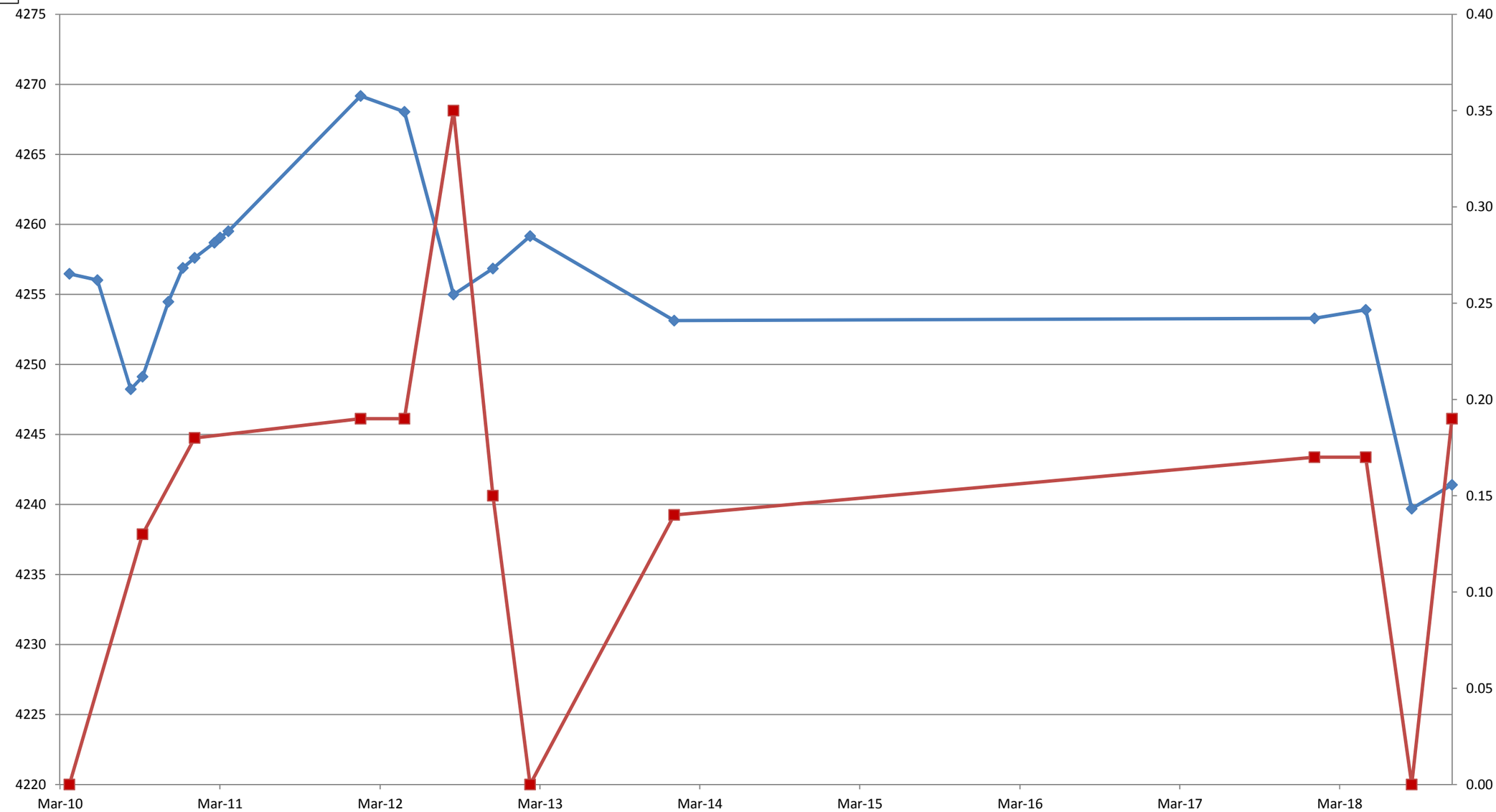
Water Table Elevation (ft)		4258.21	4257.65	4250.92	4251.48	4256.17	4258.56	4259.36	4260.64	4261.23	4261.71	4272.35	4270.15	4258.25	4259.02	4261.16	4255.16	4255.72	4256.05	4243.03	4243.41
Top of Screen (Ft)	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5	4246.5
PCE Conc. (ug/L)		7			37			31				12	8	1.4	2.3	2.1	14	13	27	23	23



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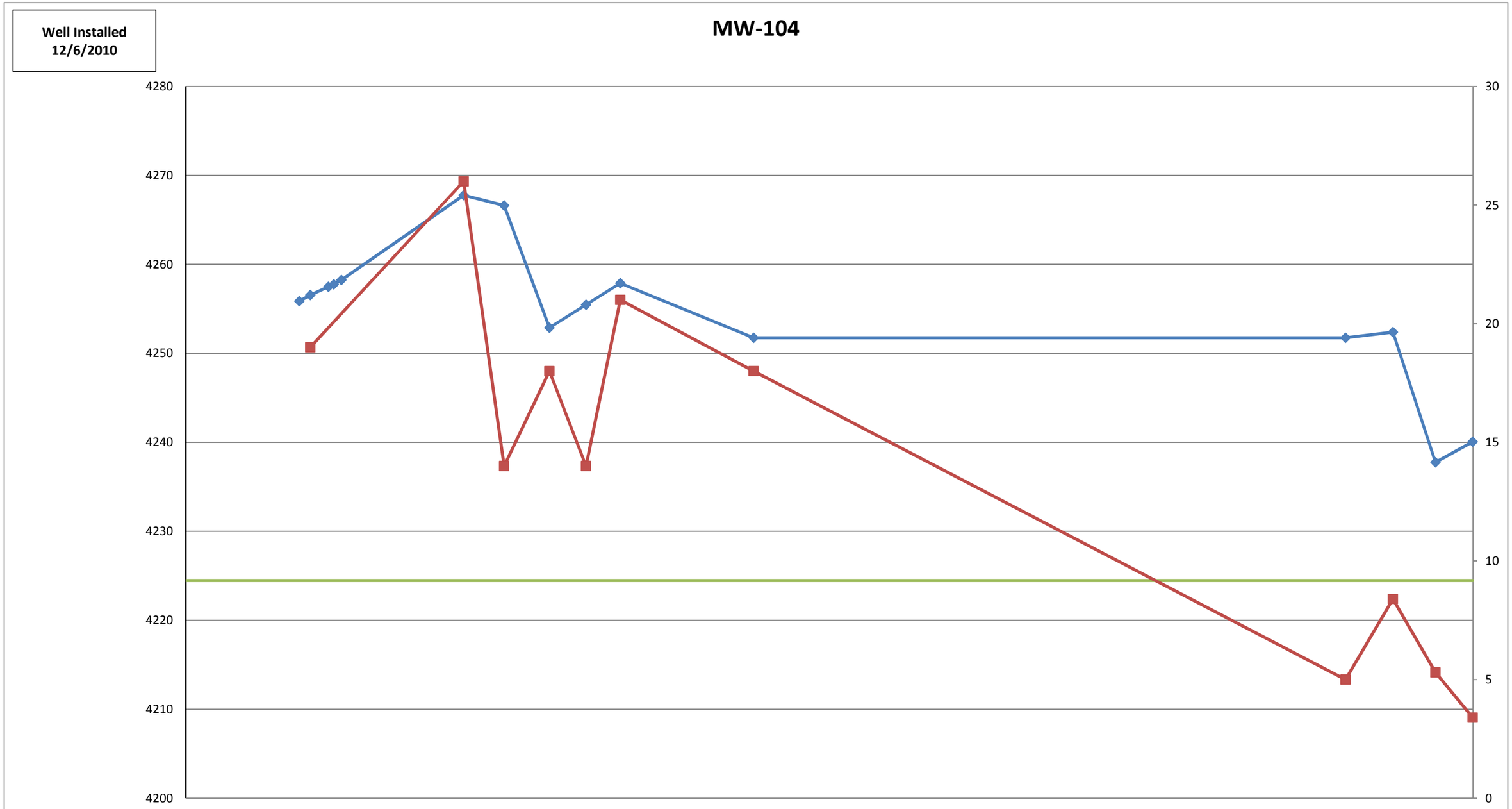
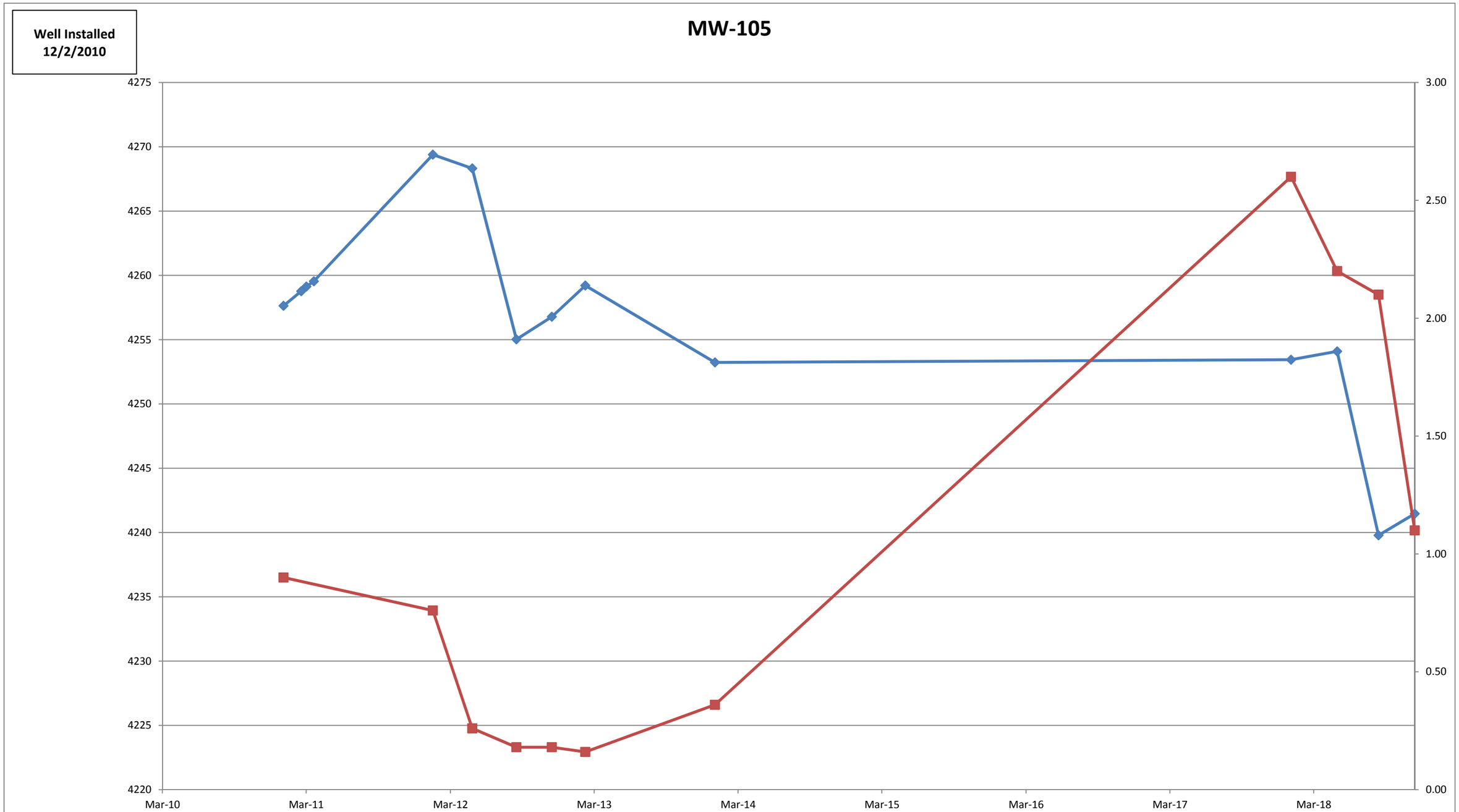
Water Table Elevation (ft)		4256.47	4256.02	4248.23	4249.12	4254.47	4256.89	4257.61	4258.69	4259.06	4259.51	4269.17	4268.04	4254.99	4256.85	4259.16	4253.13	4253.29	4253.90	4239.70	4241.40
PCE Conc. (ug/L)		0.00			0.13			0.18				0.19	0.19	0.35	0.15	0.00	0.14	0.17	0.17	0.00	0.19



	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	Aug-18	Nov-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	4237.75	4240.07
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	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	5.30	3.40



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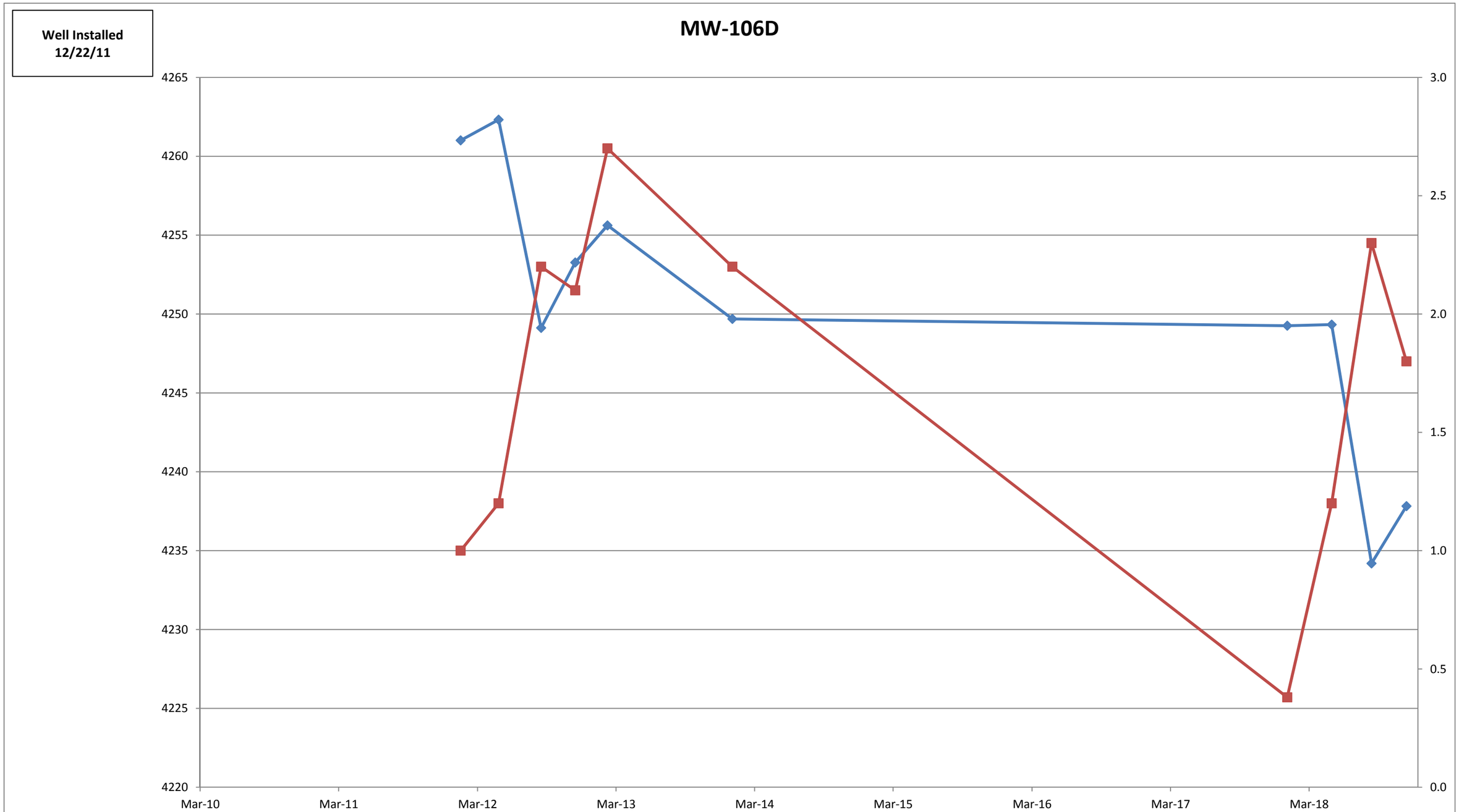
Water Table Elevation (ft)								4257.63	4258.77	4259.13	4259.54	4269.39	4268.32	4255.02	4256.78	4259.21	4253.23	4253.44	4254.09	4239.78	4241.46
PCE Conc. (ug/L)								0.90				0.76	0.26	0.18	0.18	0.16	0.36	2.60	2.20	2.10	1.10



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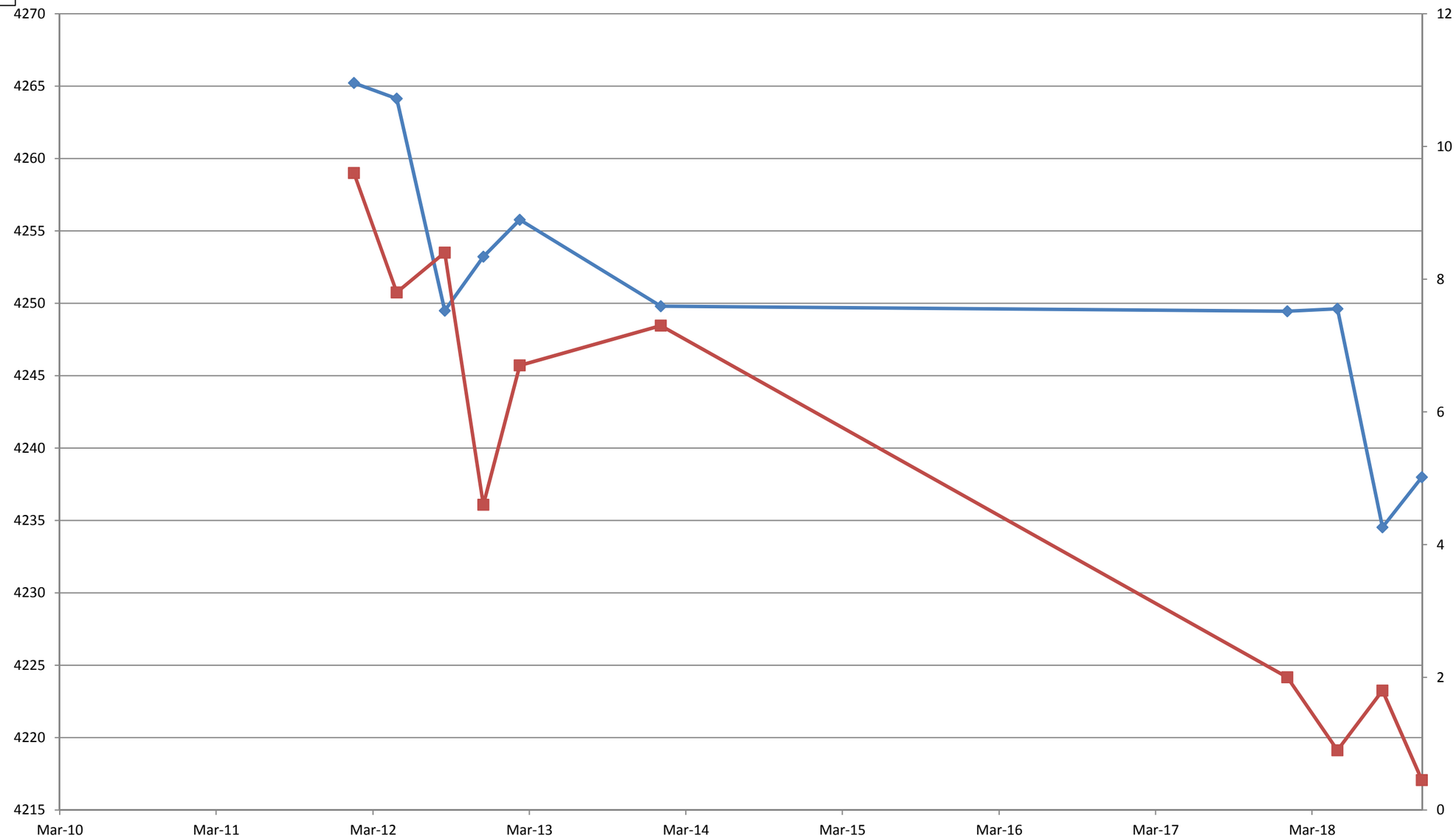
Water Table Elevation (ft)												4261.01	4262.32	4249.12	4253.27	4255.62	4249.69	4249.26	4249.33	4234.19	4237.82
PCE Conc. (ug/L)												1.00	1.20	2.20	2.10	2.70	2.20	0.38	1.20	2.30	1.80

Well Installed
12/22/11

MW-106I



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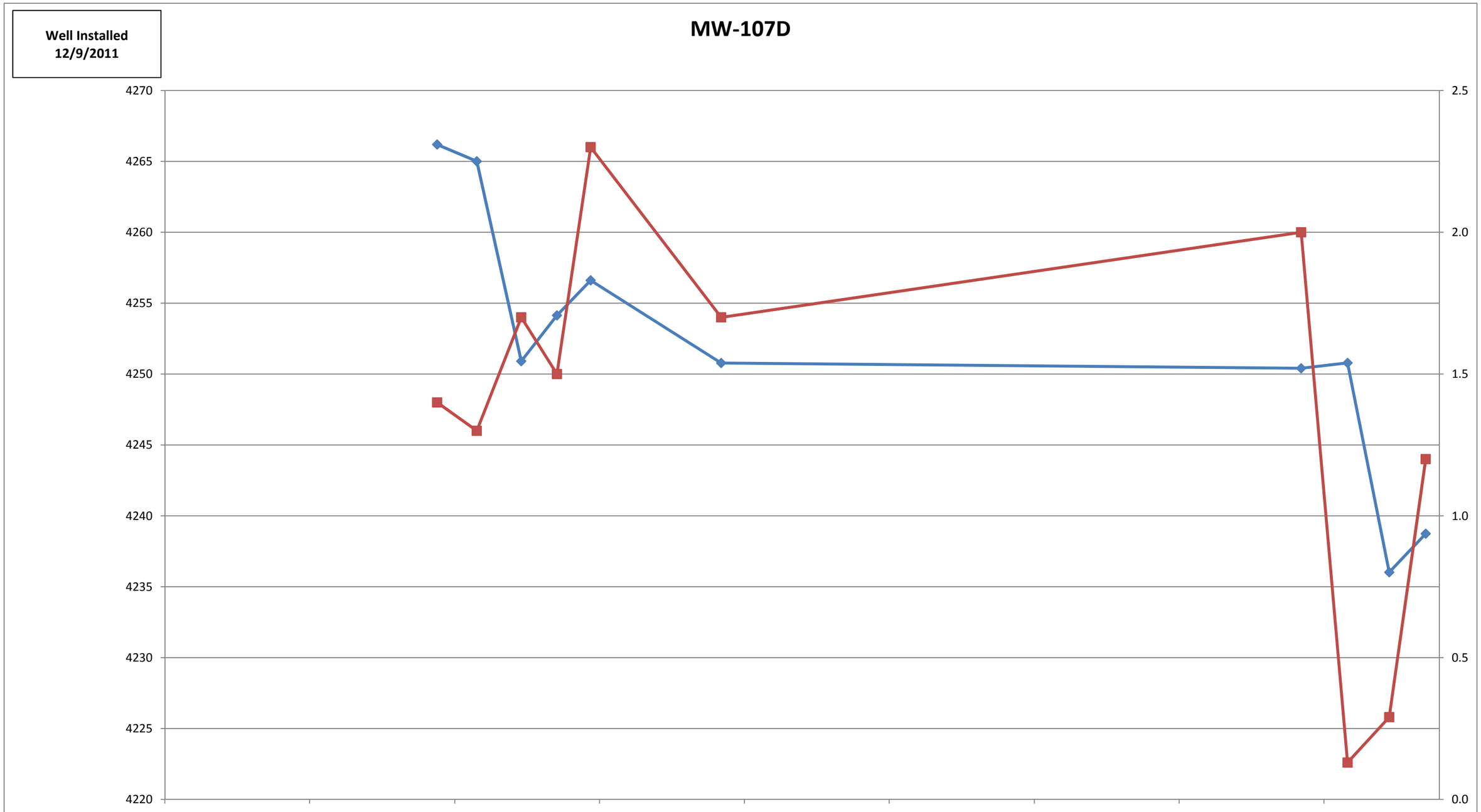
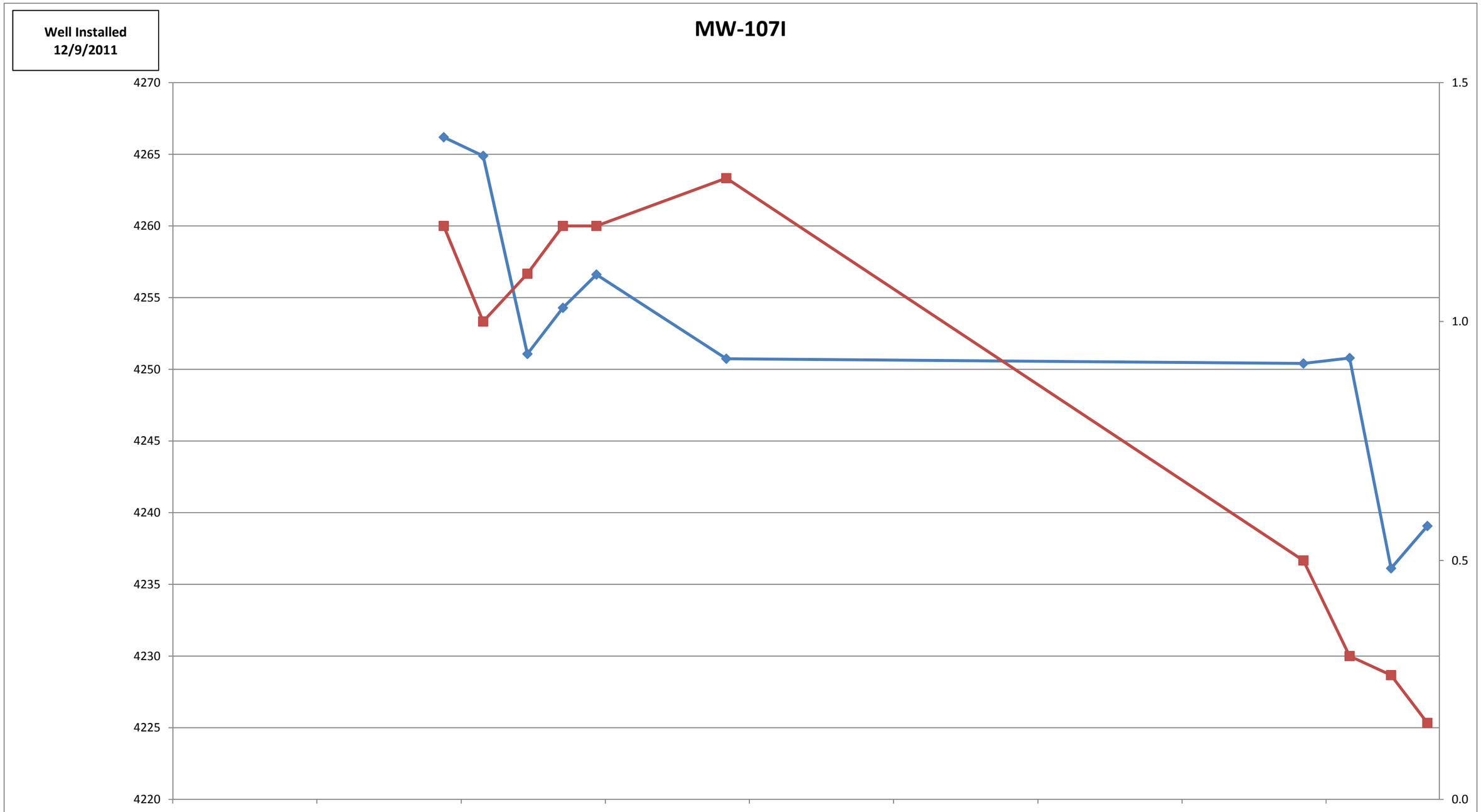
Water Table Elevation (ft)												4265.22	4264.14	4249.49	4253.22	4255.77	4249.80	4249.45	4249.62	4234.53	4237.99
PCE Conc. (ug/L)												9.60	7.80	8.40	4.60	6.70	7.30	2.00	0.90	1.80	0.45

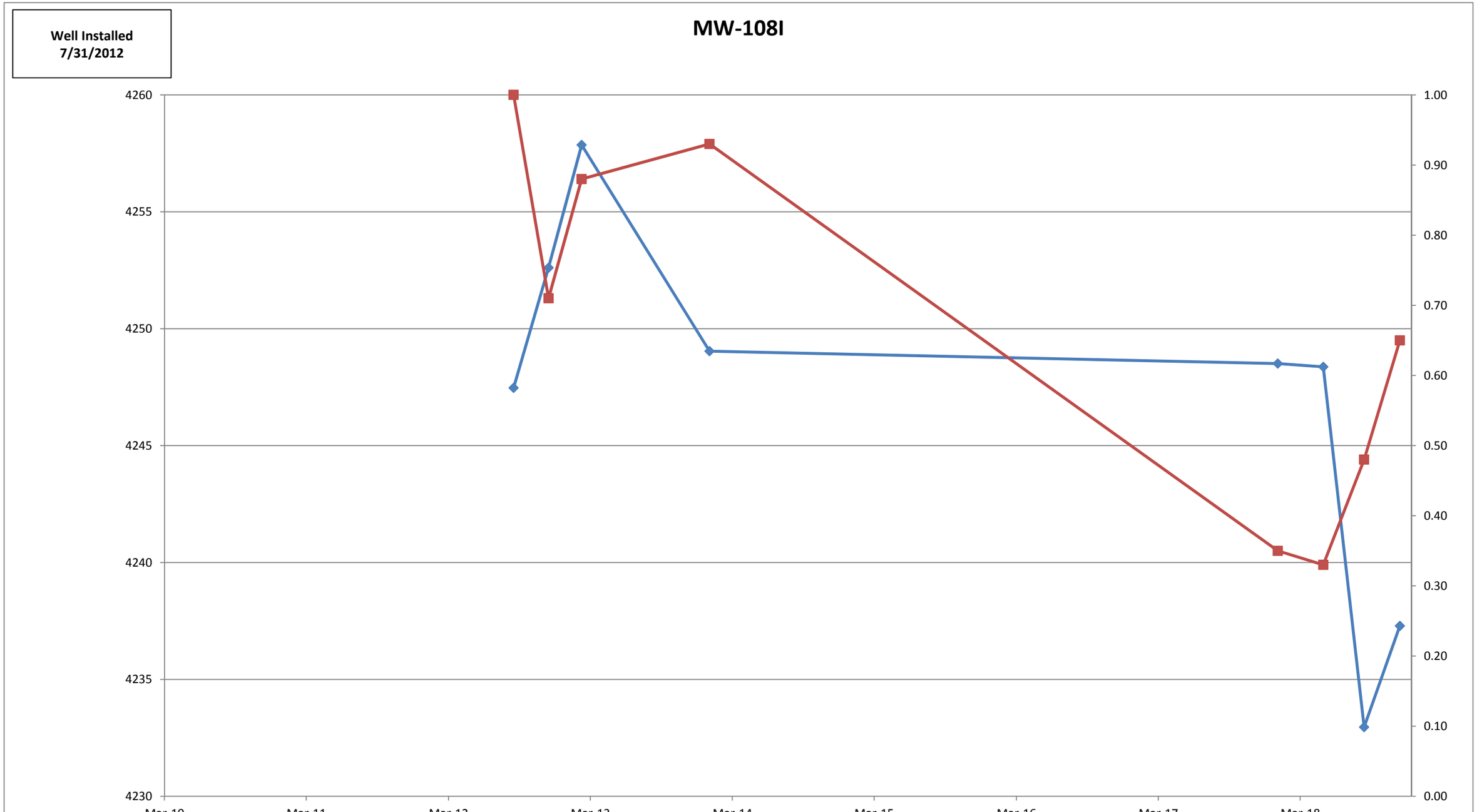


	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18	Aug-18	Nov-18
Water Table Elevation (ft)												4266.19	4265.01	4250.91	4254.14	4256.61	4250.78	4250.41	4250.79	4236.02	4238.74
PCE Conc. (ug/L)												1.40	1.30	1.70	1.50	2.30	1.70	2.00	0.13	0.29	1.20



	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	Aug-18	Nov-18
Water Table Elevation (ft)												4266.19	4264.89	4251.07	4254.29	4256.61	4250.74	4250.41	4250.79	4236.12	4239.07
PCE Conc. (ug/L)												1.20	1.00	1.10	1.20	1.20	1.30	0.50	0.30	0.26	0.16

	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	Aug-18	Nov-18
Water Table Elevation (ft)														4243.73	4250.39	4253.28	4248.16	4247.71	4247.34	4231.67	4236.34
PCE Conc. (ug/L)														7.20	4.70	6.50	5.90	3.00	1.70	3.00	3.00



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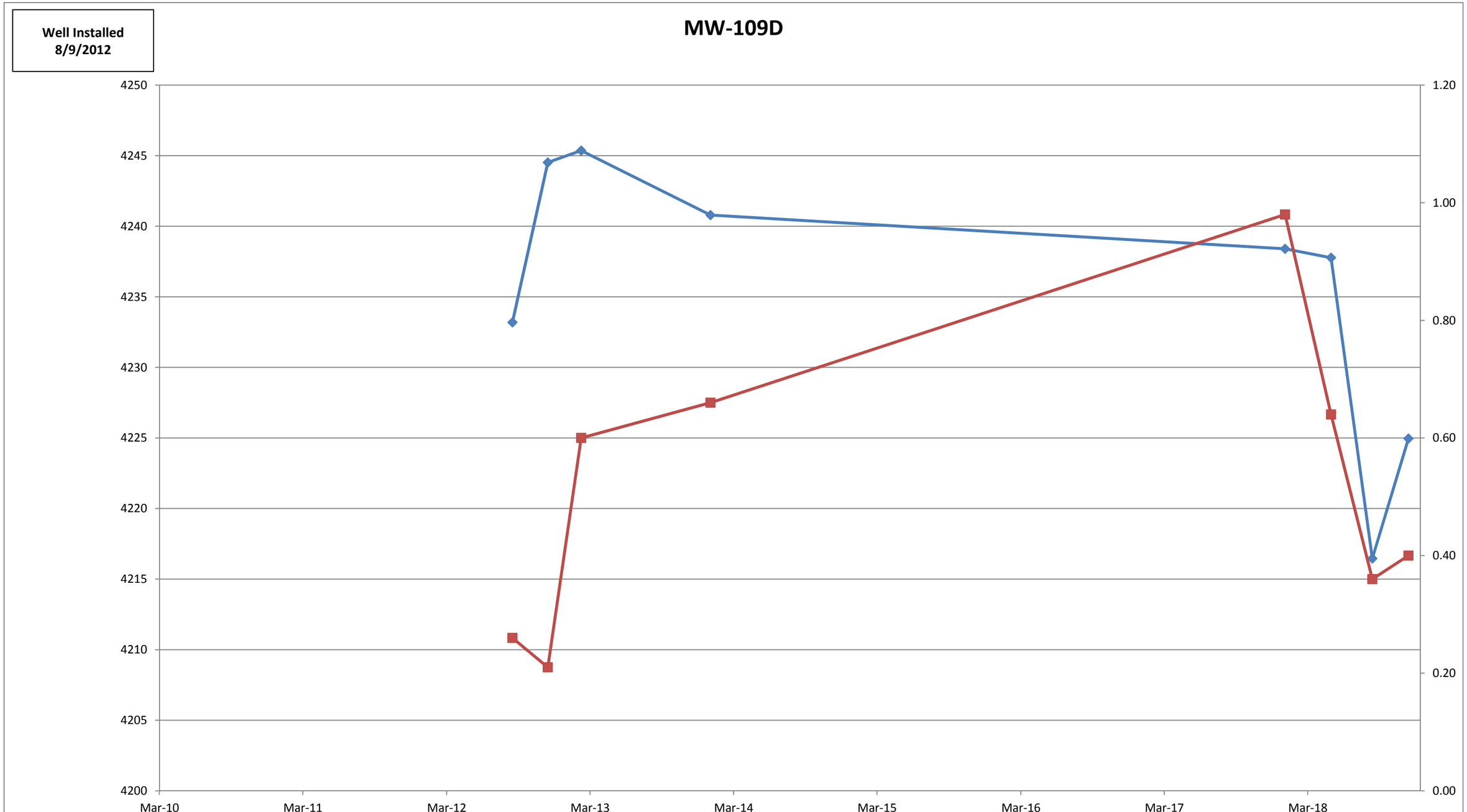
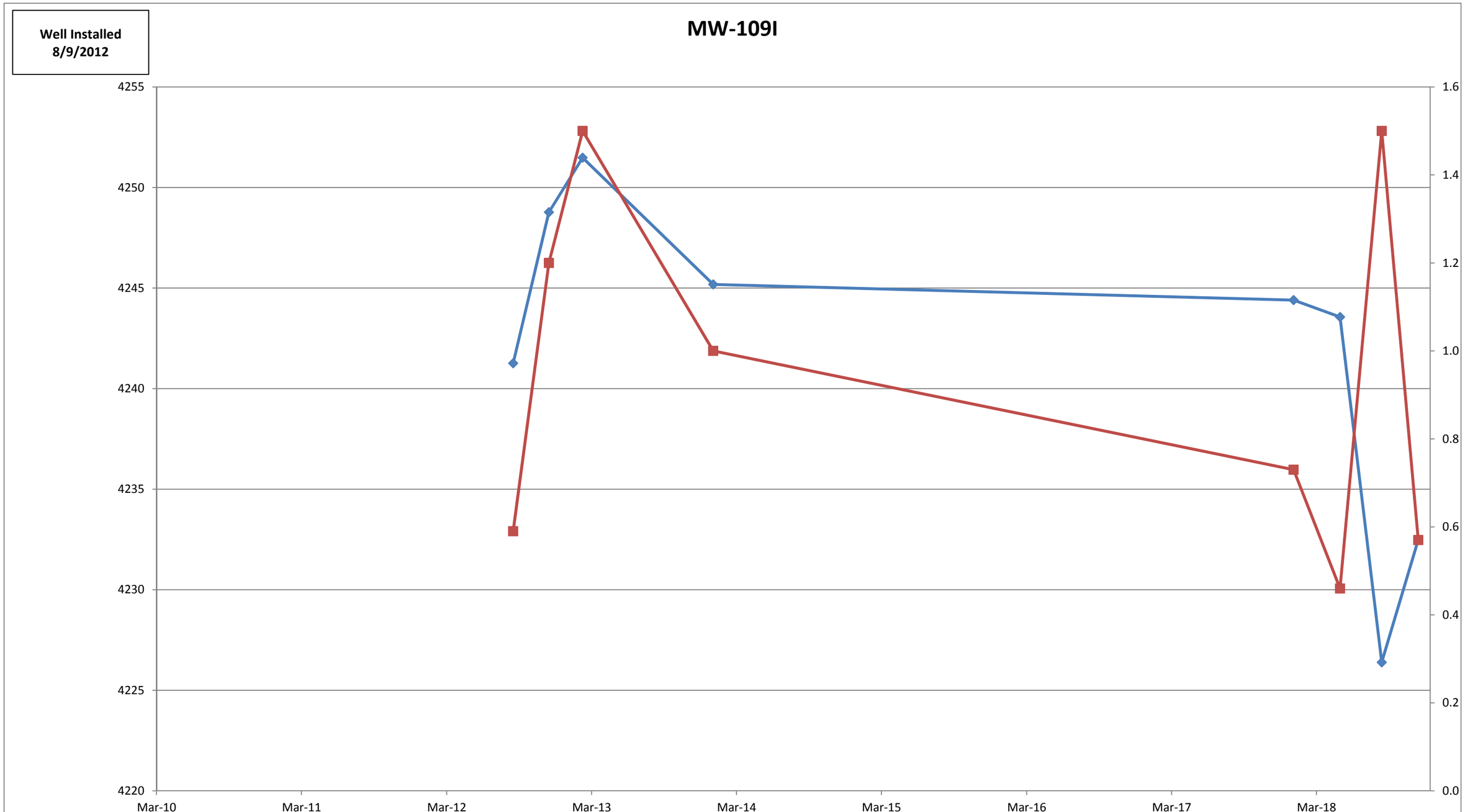
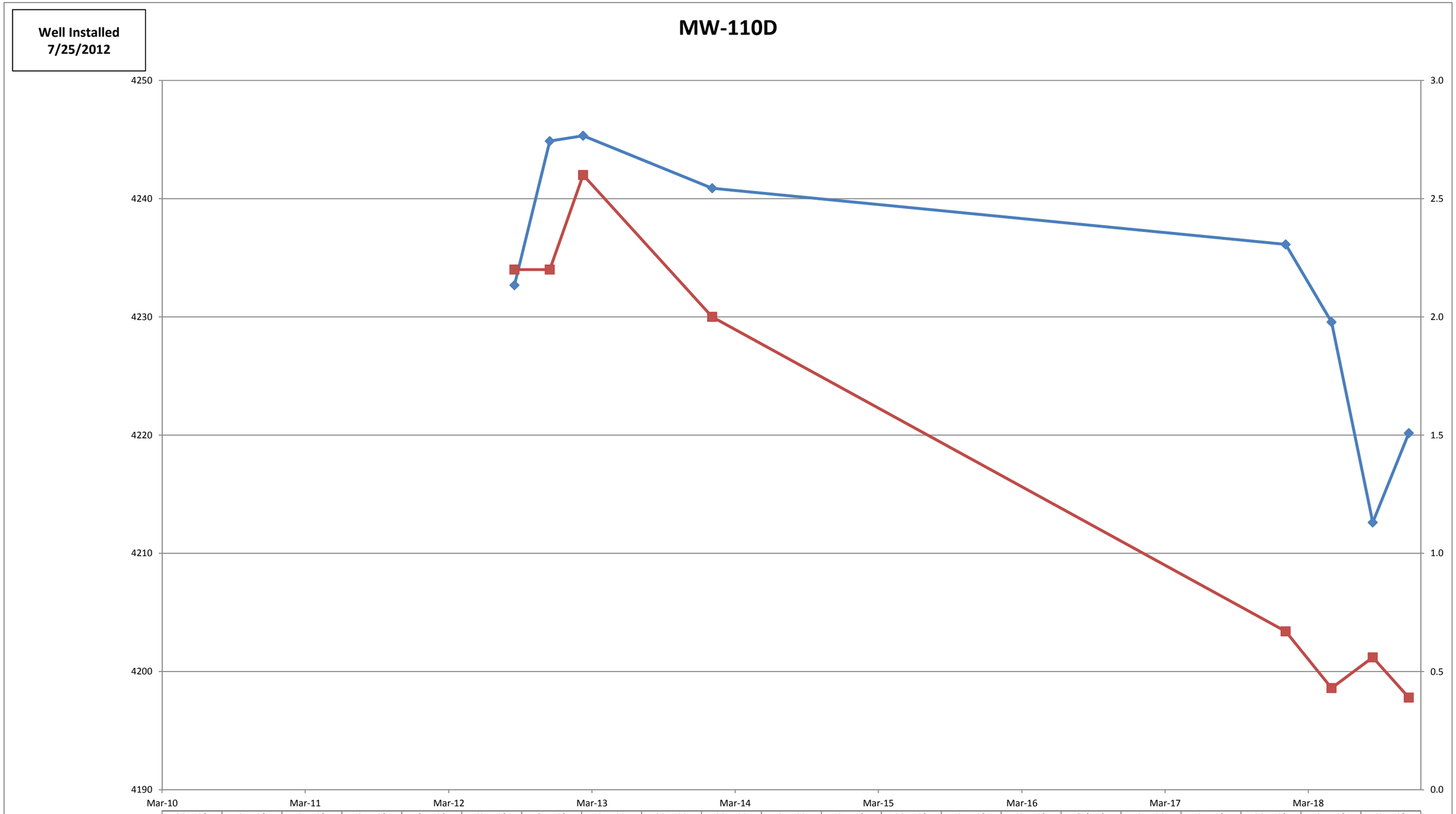
Water Table Elevation (ft)														4247.47	4252.61	4257.86	4249.04	4248.51	4248.37	4232.96	4237.29
PCE Conc. (ug/L)														1.00	0.71	0.88	0.93	0.35	0.33	0.48	0.65



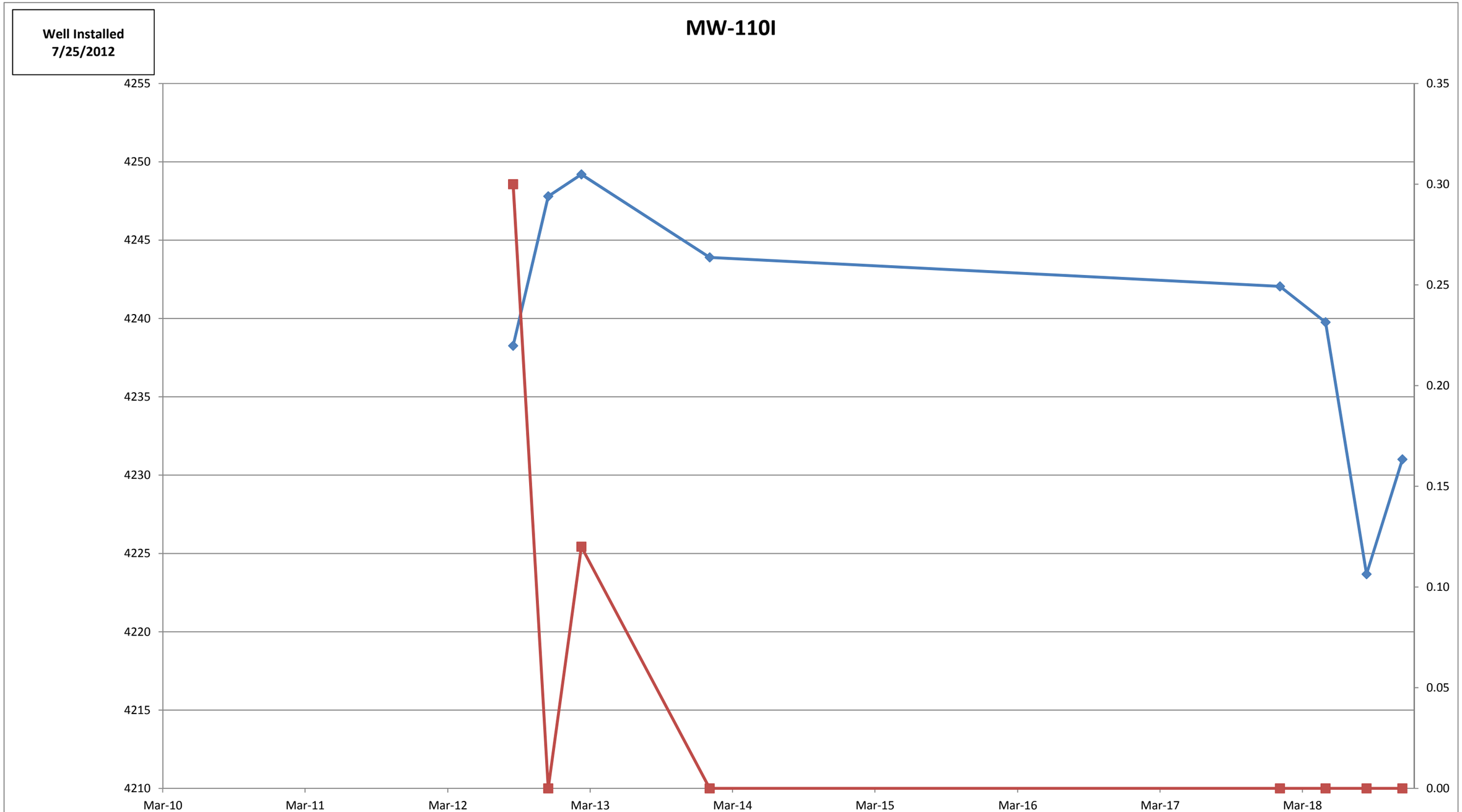
	Mar-10	Apr-10	Jun-10	Aug-10	Sep-10	Nov-10	Dec-10	Jan-11	Mar-11	Mar-11	Apr-11	Jan-12	May-12	Aug-12	Nov-12	Feb-13	Jan-14	Jan-18	May-18	Aug-18	Nov-18
Water Table Elevation (ft)														4233.19	4244.52	4245.36	4240.79	4238.40	4237.77	4216.46	4224.96
PCE Conc. (ug/L)														0.26	0.21	0.60	0.66	0.98	0.64	0.36	0.40



	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	Aug-18	Nov-18
Water Table Elevation (ft)														4241.26	4248.77	4251.48	4245.18	4244.40	4243.56	4226.39	4232.49
PCE Conc. (ug/L)														0.59	1.20	1.50	1.00	0.73	0.46	1.50	0.57



	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	Aug-18	Nov-18
Water Table Elevation (ft)														4232.68	4244.87	4245.32	4240.88	4236.13	4229.56	4212.61	4220.17
PCE Conc. (ug/L)														2.20	2.20	2.60	2.00	0.67	0.43	0.56	0.39



	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	Aug-18	Nov-18
Water Table Elevation (ft)														4238.26	4247.80	4249.20	4243.90	4242.05	4239.76	4223.68	4231.01
PCE Conc. (ug/L)														0.30	0.00	0.12	0.00	0.00	0.00	0.00	0.00