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Technical Report

prepared for:

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Stuart Knoop

Report Date: 10/14/2019
Client Project ID: 170396002
York Project (SDG) No.: 19J0144

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
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Report Date: 10/14/2019
Client Project ID: 170396002
York Project (SDG) No.: 19J0144

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Stuart Knoop

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on October 02, 2019 and listed below. The project was identified as your project: **170396002**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
19J0144-01	SB19_0-2	Soil	10/02/2019	10/02/2019
19J0144-02	SB19_8-9	Soil	10/02/2019	10/02/2019
19J0144-03	SB27_0-2	Soil	10/02/2019	10/02/2019
19J0144-04	SB27_6-8	Soil	10/02/2019	10/02/2019
19J0144-05	SB28_0-2	Soil	10/02/2019	10/02/2019
19J0144-06	SB28_5.5-7.5	Soil	10/02/2019	10/02/2019
19J0144-07	RITB04_100219	Water	10/02/2019	10/02/2019

General Notes for York Project (SDG) No.: 19J0144

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 10/14/2019

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.046	0.092	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	**2-Butanone**	**0.0028**	J	mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	**Acetone**	**0.0056**	J	mg/kg dry	0.0046	0.0092	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0087**	QL-02, J	mg/kg dry	0.0046	0.0092	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0023	0.0092	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-47-6	o-Xylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	**p- & m- Xylenes**	**0.0049**	J	mg/kg dry	0.0046	0.0092	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0023	0.0046	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0069	0.014	1	EPA 8260C	10/04/2019 06:52	10/04/2019 14:26	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*107 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*102 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.8 %*	*76-130*

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
191-24-2	Benzo(g,h,i)perylene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	**Fluoranthene**	**0.0934**		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	**Phenanthrene**	**0.114**		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	**Pyrene**	**0.0746**	J	mg/kg dry	0.0437	0.0872	2	EPA 8270D	10/07/2019 14:12	10/08/2019 10:32	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*56.7 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*50.4 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*59.1 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*61.0 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*61.8 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*62.3 %*	*24-116*

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00172	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:32	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*53.9 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*60.6 %*	*30-150*

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0174	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:27	SR
						Certifications:				

Surrogate Recoveries		Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*59.5 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*39.0 %*	*30-120*

Herbicides, 8151 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0209	1	EPA 8151A	10/07/2019 09:25	10/08/2019 12:36	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Surrogate Recoveries		Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (1*	*41.0 %*	*21-150*

Metals, NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		mg/kg dry	1.57	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**30.2**		mg/kg dry	2.62	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.052	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.315	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**21.9**		mg/kg dry	0.525	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**15.3**		mg/kg dry	2.10	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**37.2**		mg/kg dry	0.525	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**376**		mg/kg dry	0.525	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**22.9**		mg/kg dry	1.05	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_0-2 **York Sample ID:** 19J0144-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:45 pm	10/02/2019

Metals, NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7782-49-2	Selenium	ND		mg/kg dry	2.62	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.525	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**56.1**		mg/kg dry	2.62	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:47	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.0417**		mg/kg dry	0.0315	1	EPA 7473	10/08/2019 10:45	10/08/2019 11:20	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**95.3**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.525	1	EPA 7196A	10/08/2019 08:56	10/08/2019 22:37	MAO
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**21.9**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.047	0.093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	**2-Butanone**	**0.0052**	J, B	mg/kg dry	0.0023	0.0093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		mg/kg dry	0.0047	0.0093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0054**	J	mg/kg dry	0.0047	0.0093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0023	0.0093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-47-6	o-Xylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0047	0.0093	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0023	0.0047	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0070	0.014	1	EPA 8260C	10/07/2019 06:49	10/07/2019 18:18	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*99.0 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*99.3 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*97.1 %*	*76-130*

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
191-24-2	Benzo(g,h,i)perylene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		mg/kg dry	0.0471	0.0939	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:04	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*65.4 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*61.4 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*75.5 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*72.3 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*73.8 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*75.1 %*	*24-116*

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	* Perfluorobutanesulfonic acid (PFBS)	ND		ug/kg dry	0.782	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
						Certifications:				
307-24-4	* Perfluorohexanoic acid (PFHxA)	ND		ug/kg dry	0.782	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
						Certifications:				

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-85-9	* Perfluoroheptanoic acid (PFHpA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
3871-99-6	* Perfluorohexanesulfonic acid (PFHxS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
335-67-1	* Perfluorooctanoic acid (PFOA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
1763-23-1	* Perfluorooctanesulfonic acid (PFOS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
375-95-1	* Perfluorononanoic acid (PFNA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
335-76-2	* Perfluorodecanoic acid (PFDA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
2058-94-8	* Perfluoroundecanoic acid (PFUnA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
307-55-1	* Perfluorododecanoic acid (PFDoA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
72629-94-8	* Perfluorotridecanoic acid (PFTrDA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
376-06-7	* Perfluorotetradecanoic acid (PFTA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
2355-31-9	* N-MeFOSAA	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
2991-50-6	* N-EtFOSAA	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
2706-90-3	* Perfluoropentanoic acid (PFPeA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
754-91-6	* Perfluoro-1-octanesulfonamide (FOSA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
375-92-8	* Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
335-77-3	* Perfluoro-1-decanesulfonic acid (PFDS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
27619-97-2	* 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
39108-34-4	* 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT
375-22-4	* Perfluoro-n-butanoic acid (PFBA)	ND		ug/kg dry	0.782	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:31	KT

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*64.9 %*	*25-150*
Surrogate: M5PFHxA	*64.9 %*	*25-150*
Surrogate: M4PFHpA	*79.2 %*	*25-150*
Surrogate: M3PFHxS	*67.2 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic aci	*72.0 %*	*25-150*

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
	Surrogate: M6PFDA	*78.6 %*		*25-150*						
	Surrogate: M7PFUdA	*62.5 %*		*25-150*						
	Surrogate: Perfluoro-n-[1,2-13C2]dodecan	*59.9 %*		*25-150*						
	Surrogate: M2PFTeDA	*64.3 %*		*10-150*						
	Surrogate: Perfluoro-n-[13C4]butanoic aci	*66.9 %*		*25-150*						
	Surrogate: Perfluoro-1-[13C8]octanesulfon	*65.8 %*		*25-150*						
	Surrogate: Perfluoro-n-[13C5]pentanoic ac	*65.9 %*		*25-150*						
	Surrogate: Perfluoro-1-[13C8]octanesulfon	*57.8 %*		*10-150*						
	Surrogate: d3-N-MeFOSAA	*64.5 %*		*25-150*						
	Surrogate: d5-N-EtFOSAA	*70.0 %*		*25-150*						
	Surrogate: M2-6:2 FTS	*81.6 %*		*25-150*						
	Surrogate: M2-8:2 FTS	*99.0 %*		*25-150*						
	Surrogate: M9PFNA	*74.2 %*		*25-150*						

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00186	5	EPA 8081B	10/04/2019 13:53	10/09/2019 13:50	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*84.9 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*99.6 %*	*30-150*

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0188	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:41	SR
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*92.5 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*56.5 %*	*30-120*

Herbicides, 8151 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0227	1	EPA 8151A	10/07/2019 09:25	10/08/2019 12:47	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*83.6 %*	*21-150*

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Metals, NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	**Arsenic**	**1.93**		mg/kg dry	1.73	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**30.8**		mg/kg dry	2.89	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.058	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	**Cadmium**	**0.587**		mg/kg dry	0.347	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**22.1**		mg/kg dry	0.578	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**22.4**		mg/kg dry	2.31	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**30.5**		mg/kg dry	0.578	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**297**		mg/kg dry	0.578	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**19.3**		mg/kg dry	1.16	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.89	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.578	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**106**		mg/kg dry	2.89	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:56	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0347	1	EPA 7473	10/08/2019 10:45	10/08/2019 11:30	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	* **% Solids**	**86.5**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: SB19_8-9 **York Sample ID:** 19J0144-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:50 pm	10/02/2019

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.578	1	EPA 7196A	10/08/2019 08:56	10/08/2019 22:37	MAO
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	* **Chromium, Trivalent**	**22.1**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Analyzed by: Phoenix Environmental Laboratories, Inc. S

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/kg	75	1	SW8270D (SIM)	10/03/2019 00:00	10/04/2019 00:00	PHO
						Certifications:				

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.050	0.099	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	**2-Butanone**	**0.0045**	J	mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	**Acetone**	**0.011**		mg/kg dry	0.0050	0.0099	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0091**	J	mg/kg dry	0.0050	0.0099	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0025	0.0099	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	**p- & m- Xylenes**	**0.0052**	J	mg/kg dry	0.0050	0.0099	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0074	0.015	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:09	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*109 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*109 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*102 %*	*76-130*

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	**Anthracene**	**0.0666**	J	mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	**Benzo(a)anthracene**	**0.116**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	**Benzo(a)pyrene**	**0.102**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	**Benzo(b)fluoranthene**	**0.0821**	J	mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	**Benzo(g,h,i)perylene**	**0.0617**	J	mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	**Benzo(k)fluoranthene**	**0.0856**	J	mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	**Chrysene**	**0.112**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	**Fluoranthene**	**0.267**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.0554**	J	mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	**Phenanthrene**	**0.296**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	**Pyrene**	**0.227**		mg/kg dry	0.0440	0.0878	2	EPA 8270D	10/07/2019 14:12	10/08/2019 11:35	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*59.0 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*55.3 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*68.8 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*64.2 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*69.2 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*63.8 %*	*24-116*

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
959-98-8	Endosulfan I	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00171	5	EPA 8081B	10/04/2019 13:53	10/09/2019 14:08	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*76.2 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*89.3 %*	*30-150*

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0173	1	EPA 8082A	10/04/2019 13:53	10/09/2019 05:54	SR
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*88.0 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*60.0 %*	*30-120*

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Herbicides, 8151 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0211	1	EPA 8151A	10/07/2019 09:25	10/08/2019 12:57	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*102 %*	*21-150*

Metals, NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		mg/kg dry	1.59	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**36.4**		mg/kg dry	2.66	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.053	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.319	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**16.5**		mg/kg dry	0.531	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**16.8**		mg/kg dry	2.13	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**87.5**		mg/kg dry	0.531	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**1020**		mg/kg dry	0.531	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**35.8**		mg/kg dry	1.06	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.66	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.531	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**35.6**		mg/kg dry	2.66	1	EPA 6010D	10/03/2019 11:12	10/04/2019 14:58	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.162**		mg/kg dry	0.0319	1	EPA 7473	10/08/2019 10:45	10/08/2019 11:39	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Sample Information

Client Sample ID: SB27_0-2 **York Sample ID:** 19J0144-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:30 am	10/02/2019

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**94.1**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.531	1	EPA 7196A	10/08/2019 08:56	10/08/2019 22:37	MAO
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**16.5**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.053	0.11	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	**2-Butanone**	**0.0047**	J	mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	**Acetone**	**0.010**	J	mg/kg dry	0.0053	0.011	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0084**	J	mg/kg dry	0.0053	0.011	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0026	0.011	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	**p- & m- Xylenes**	**0.0056**	J	mg/kg dry	0.0053	0.011	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0026	0.0053	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0079	0.016	1	EPA 8260C	10/04/2019 06:55	10/05/2019 01:36	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*107 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*105 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*97.8 %*	*76-130*

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	**Acenaphthene**	**0.257**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	**Anthracene**	**0.513**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	**Benzo(a)anthracene**	**0.592**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	**Benzo(a)pyrene**	**0.465**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	**Benzo(b)fluoranthene**	**0.352**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	**Benzo(g,h,i)perylene**	**0.171**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	**Benzo(k)fluoranthene**	**0.363**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	**Chrysene**	**0.491**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	**Dibenzo(a,h)anthracene**	**0.0599**	J	mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	**Dibenzofuran**	**0.224**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	**Fluoranthene**	**1.34**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	**Fluorene**	**0.294**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.203**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	**Naphthalene**	**0.274**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	**Phenanthrene**	**1.80**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	**Pyrene**	**1.06**		mg/kg dry	0.0495	0.0987	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:17	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*59.8 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*58.5 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*70.3 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*64.8 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*70.6 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*66.7 %*	*24-116*

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	* Perfluorobutanesulfonic acid (PFBS)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
307-24-4	* Perfluorohexanoic acid (PFHxA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
375-85-9	* Perfluoroheptanoic acid (PFHpA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
3871-99-6	* Perfluorohexanesulfonic acid (PFHxS)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
335-67-1	* Perfluorooctanoic acid (PFOA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
1763-23-1	* Perfluorooctanesulfonic acid (PFOS)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
375-95-1	* Perfluorononanoic acid (PFNA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
335-76-2	* Perfluorodecanoic acid (PFDA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
2058-94-8	* Perfluoroundecanoic acid (PFUnA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				
307-55-1	* Perfluorododecanoic acid (PFDoA)	ND		ug/kg dry	0.846	1	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
						Certifications:				

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72629-94-8	* Perfluorotridecanoic acid (PFTrDA)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
376-06-7	* Perfluorotetradecanoic acid (PFTA)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
2355-31-9	* N-MeFOSAA	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
2991-50-6	* N-EtFOSAA	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
2706-90-3	* Perfluoropentanoic acid (PFPeA)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
754-91-6	* Perfluoro-1-octanesulfonamide (FOSA)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
375-92-8	* Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
335-77-3	* Perfluoro-1-decanesulfonic acid (PFDS)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
27619-97-2	* 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
39108-34-4	* 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT
375-22-4	* Perfluoro-n-butanoic acid (PFBA)	ND		ug/kg dry	0.846	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 22:58	KT

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*63.4 %*	*25-150*
Surrogate: M5PFHxA	*65.8 %*	*25-150*
Surrogate: M4PFHpA	*76.9 %*	*25-150*
Surrogate: M3PFHxS	*65.0 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic aci	*72.3 %*	*25-150*
Surrogate: M6PFDA	*69.7 %*	*25-150*
Surrogate: M7PFUdA	*60.5 %*	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecan	*58.2 %*	*25-150*
Surrogate: M2PFTeDA	*64.8 %*	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic aci	*65.4 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*60.6 %*	*25-150*
Surrogate: Perfluoro-n-[13C5]pentanoic ac	*65.0 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*53.2 %*	*10-150*
Surrogate: d3-N-MeFOSAA	*64.5 %*	*25-150*
Surrogate: d5-N-EtFOSAA	*70.2 %*	*25-150*
Surrogate: M2-6:2 FTS	*86.5 %*	*25-150*
Surrogate: M2-8:2 FTS	*105 %*	*25-150*
Surrogate: M9PFNA	*73.4 %*	*25-150*

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00194	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:22	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*71.0 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*104 %*	*30-150*

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0196	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:05	SR
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*88.0 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*63.0 %*	*30-120*

Herbicides, 8151 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0237	1	EPA 8151A	10/07/2019 09:25	10/08/2019 13:08	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*60.2 %*	*21-150*

Metals, NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		mg/kg dry	1.79	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**24.8**		mg/kg dry	2.99	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.060	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	Cadmium	ND		mg/kg dry	0.358	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**24.7**		mg/kg dry	0.597	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**15.1**		mg/kg dry	2.39	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Metals, NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	**Lead**	**16.1**		mg/kg dry	0.597	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**285**		mg/kg dry	0.597	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**19.9**		mg/kg dry	1.19	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.99	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.597	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**51.4**		mg/kg dry	2.99	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:01	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0358	1	EPA 7473	10/08/2019 10:45	10/08/2019 11:48	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**83.7**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.597	1	EPA 7196A	10/08/2019 08:56	10/08/2019 22:37	MAO
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**24.7**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Analyzed by: **Phoenix Environmental Laboratories, Inc. S**

Sample Information

Client Sample ID: SB27_6-8 **York Sample ID:** 19J0144-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 10:35 am	10/02/2019

Analyzed by: Phoenix Environmental Laboratories, Inc. S

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB) **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/kg	77	1	SW8270D (SIM)	10/03/2019 00:00	10/04/2019 00:00	PHO
						Certifications:				

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375 **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.051	0.10	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	**2-Butanone**	**0.0048**	J	mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	**Acetone**	**0.016**		mg/kg dry	0.0051	0.010	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0065**	J	mg/kg dry	0.0051	0.010	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0025	0.010	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	**p- & m- Xylenes**	**0.0053**	J	mg/kg dry	0.0051	0.010	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0025	0.0051	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0076	0.015	1	EPA 8260C	10/04/2019 06:55	10/05/2019 02:02	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*105 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*113 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*105 %*	*76-130*

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	**Acenaphthene**	**0.0577**	J	mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	**Anthracene**	**0.134**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	**Benzo(a)anthracene**	**0.219**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	**Benzo(a)pyrene**	**0.184**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	**Benzo(b)fluoranthene**	**0.140**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	**Benzo(g,h,i)perylene**	**0.0876**	J	mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	**Benzo(k)fluoranthene**	**0.144**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	**Chrysene**	**0.197**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	**Dibenzofuran**	**0.0498**	J	mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	**Fluoranthene**	**0.461**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	**Fluorene**	**0.0541**	J	mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
193-39-5	**Indeno(1,2,3-cd)pyrene**	**0.0826**	J	mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	**Phenanthrene**	**0.522**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	**Pyrene**	**0.360**		mg/kg dry	0.0446	0.0891	2	EPA 8270D	10/04/2019 13:58	10/07/2019 13:48	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*45.7 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*44.4 %*	*23-114*

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*55.1 %*			*22-108*						
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*52.2 %*			*21-113*						
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*55.8 %*			*19-110*						
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*53.0 %*			*24-116*						

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-84-6	alpha-BHC	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00177	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:40	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*84.6 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*115 %*	*30-150*

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0179	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:18	SR
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*103 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*77.0 %*	*30-120*

Herbicides, 8151 NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0215	1	EPA 8151A	10/07/2019 09:25	10/08/2019 14:12	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*95.0 %*	*21-150*

Metals, NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		mg/kg dry	1.62	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**43.1**		mg/kg dry	2.71	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.054	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Metals, NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-43-9	Cadmium	ND		mg/kg dry	0.325	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**13.7**		mg/kg dry	0.541	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**28.9**		mg/kg dry	2.16	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**227**		mg/kg dry	0.541	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**561**		mg/kg dry	0.541	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**15.7**		mg/kg dry	1.08	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.71	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.541	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**35.0**		mg/kg dry	2.71	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:03	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.0656**		mg/kg dry	0.0325	1	EPA 7473	10/08/2019 10:45	10/08/2019 11:57	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**92.4**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.541	1	EPA 7196A	10/08/2019 08:56	10/08/2019 22:37	MAO
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: SB28_0-2 **York Sample ID:** 19J0144-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:00 pm	10/02/2019

Chromium, Trivalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	* **Chromium, Trivalent**	**13.7**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.047	0.095	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	**Acetone**	**0.0053**	J	mg/kg dry	0.0047	0.0095	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-66-3	Chloroform	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	**Methylene chloride**	**0.0076**	QL-02, J	mg/kg dry	0.0047	0.0095	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0024	0.0095	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-47-6	o-Xylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	**p- & m- Xylenes**	**0.0050**	J	mg/kg dry	0.0047	0.0095	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0024	0.0047	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0071	0.014	1	EPA 8260C	10/04/2019 06:52	10/04/2019 16:45	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*103 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*103 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.9 %*	*76-130*

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
83-32-9	Acenaphthene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
207-08-9	Benzo(k)fluoranthene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
218-01-9	Chrysene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
53-70-3	Dibenzo(a,h)anthracene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
206-44-0	Fluoranthene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
86-73-7	Fluorene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	NELAC-NY10854,NJDEP,PADEP			
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
193-39-5	Indeno(1,2,3-cd)pyrene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
91-20-3	Naphthalene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
85-01-8	Phenanthrene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
108-95-2	Phenol	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		mg/kg dry	0.0448	0.0894	2	EPA 8270D	10/04/2019 13:58	10/07/2019 14:20	SR
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*53.2 %*	*20-108*

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Semi-Volatiles, 8270 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
4165-62-2	*Surrogate: SURR: Phenol-d5*	*52.6 %*			*23-114*						
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*61.6 %*			*22-108*						
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*54.2 %*			*21-113*						
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*58.7 %*			*19-110*						
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*53.8 %*			*24-116*						

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
375-73-5	* Perfluorobutanesulfonic acid (PFBS)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
307-24-4	* Perfluorohexanoic acid (PFHxA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
375-85-9	* Perfluoroheptanoic acid (PFHpA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
3871-99-6	* Perfluorohexanesulfonic acid (PFHxS)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
335-67-1	* Perfluorooctanoic acid (PFOA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
1763-23-1	* Perfluorooctanesulfonic acid (PFOS)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
375-95-1	* Perfluorononanoic acid (PFNA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
335-76-2	* Perfluorodecanoic acid (PFDA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
2058-94-8	* Perfluoroundecanoic acid (PFUnA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
307-55-1	* Perfluorododecanoic acid (PFDoA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
72629-94-8	* Perfluorotridecanoic acid (PFTrDA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
376-06-7	* Perfluorotetradecanoic acid (PFTA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
2355-31-9	* N-MeFOSAA	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
2991-50-6	* N-EtFOSAA	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
2706-90-3	* Perfluoropentanoic acid (PFPeA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
754-91-6	* Perfluoro-1-octanesulfonamide (FOSA)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
375-92-8	* Perfluoro-1-heptanesulfonic acid (PFHpS)	ND		ug/kg dry	0.762	1 Certifications:	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

PFAS, NYSDEC Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: SPE PFAS Extraction-Soil-EPA 537m

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
335-77-3	* Perfluoro-1-decanesulfonic acid (PFDS)	ND		ug/kg dry	0.762	1	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
						Certifications:				
27619-97-2	* 1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND		ug/kg dry	0.762	1	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
						Certifications:				
39108-34-4	* 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND		ug/kg dry	0.762	1	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
						Certifications:				
375-22-4	* Perfluoro-n-butanoic acid (PFBA)	ND		ug/kg dry	0.762	1	EPA 537m	10/03/2019 13:31	10/04/2019 23:25	KT
						Certifications:				

Surrogate Recoveries	Result	Acceptance Range
Surrogate: M3PFBS	*65.8 %*	*25-150*
Surrogate: M5PFHxA	*69.2 %*	*25-150*
Surrogate: M4PFHpA	*87.6 %*	*25-150*
Surrogate: M3PFHxS	*67.0 %*	*25-150*
Surrogate: Perfluoro-n-[13C8]octanoic aci	*70.2 %*	*25-150*
Surrogate: M6PFDA	*64.5 %*	*25-150*
Surrogate: M7PFUdA	*63.4 %*	*25-150*
Surrogate: Perfluoro-n-[1,2-13C2]dodecan	*60.2 %*	*25-150*
Surrogate: M2PFTeDA	*62.7 %*	*10-150*
Surrogate: Perfluoro-n-[13C4]butanoic aci	*69.8 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*65.6 %*	*25-150*
Surrogate: Perfluoro-n-[13C5]pentanoic ac	*67.7 %*	*25-150*
Surrogate: Perfluoro-1-[13C8]octanesulfon	*56.4 %*	*10-150*
Surrogate: d3-N-MeFOSAA	*67.3 %*	*25-150*
Surrogate: d5-N-EtFOSAA	*73.2 %*	*25-150*
Surrogate: M2-6:2 FTS	*80.0 %*	*25-150*
Surrogate: M2-8:2 FTS	*103 %*	*25-150*
Surrogate: M9PFNA	*76.9 %*	*25-150*

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-55-9	4,4'-DDE	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-29-3	4,4'-DDT	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
309-00-2	Aldrin	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Pesticides, 8081 NYSDEC Part 375 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
319-84-6	alpha-BHC	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
5103-71-9	alpha-Chlordane	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	NELAC-NY10854,NJDEP			
319-85-7	beta-BHC	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
319-86-8	delta-BHC	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
60-57-1	Dieldrin	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
959-98-8	Endosulfan I	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
33213-65-9	Endosulfan II	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854			
1031-07-8	Endosulfan sulfate	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
72-20-8	Endrin	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
58-89-9	gamma-BHC (Lindane)	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
76-44-8	Heptachlor	ND		mg/kg dry	0.00179	5	EPA 8081B	10/04/2019 13:49	10/08/2019 23:58	CM
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*60.9 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*94.1 %*	*30-150*

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP			
37324-23-5	Aroclor 1262	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Polychlorinated Biphenyls (PCB), 8082 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11100-14-4	Aroclor 1268	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:	NELAC-NY10854,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0181	1	EPA 8082A	10/04/2019 13:49	10/07/2019 18:32	SR
						Certifications:				

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*87.5 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*65.5 %*	*30-120*

Herbicides, 8151 NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-72-1	2,4,5-TP (Silvex)	ND		mg/kg dry	0.0218	1	EPA 8151A	10/07/2019 09:25	10/08/2019 10:38	SR
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (I*	*72.4 %*	*21-150*

Metals, NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-38-2	Arsenic	ND		mg/kg dry	1.65	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-39-3	**Barium**	**23.8**		mg/kg dry	2.74	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-41-7	Beryllium	ND		mg/kg dry	0.055	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-43-9	**Cadmium**	**0.383**		mg/kg dry	0.329	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-47-3	**Chromium**	**39.3**		mg/kg dry	0.548	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-50-8	**Copper**	**25.1**		mg/kg dry	2.19	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-92-1	**Lead**	**32.0**		mg/kg dry	0.548	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7439-96-5	**Manganese**	**341**		mg/kg dry	0.548	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-02-0	**Nickel**	**28.0**		mg/kg dry	1.10	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7782-49-2	Selenium	ND		mg/kg dry	2.74	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-22-4	Silver	ND		mg/kg dry	0.548	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB28_5.5-7.5 **York Sample ID:** 19J0144-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Soil	October 2, 2019 12:05 pm	10/02/2019

Metals, NYSDEC Part 375

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-66-6	**Zinc**	**63.4**		mg/kg dry	2.74	1	EPA 6010D	10/03/2019 11:12	10/04/2019 15:05	KML
						Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0329	1	EPA 7473	10/08/2019 10:45	10/08/2019 12:06	SY
						Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP			

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	* **% Solids**	**91.2**		%	0.100	1	SM 2540G	10/08/2019 20:28	10/09/2019 10:07	TJM
						Certifications:	CTDOH			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.548	1	EPA 7196A	10/09/2019 08:45	10/09/2019 15:40	MSP
						Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	* **Chromium, Trivalent**	**39.3**		mg/kg	0.500	1	Calculation	10/09/2019 12:39	10/09/2019 17:59	PAM
						Certifications:				

Analyzed by: Phoenix Environmental Laboratories, Inc. S

Semi-Volatiles, 1,4-Dioxane by 8270-SIM (SUB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
123-91-1	1,4-Dioxane	ND		ug/kg	75	1	SW8270D (SIM)	10/03/2019 00:00	10/04/2019 00:00	PHO
						Certifications:				

Sample Information

Client Sample ID: RITB04_100219 **York Sample ID:** 19J0144-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Water	October 2, 2019 12:00 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-34-3	1,1-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
107-06-2	1,2-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
123-91-1	1,4-Dioxane	ND		ug/L	40.0	80.0	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
78-93-3	2-Butanone	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-64-1	Acetone	ND		ug/L	1.00	2.00	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
71-43-2	Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
56-23-5	Carbon tetrachloride	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-90-7	Chlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
67-66-3	Chloroform	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
100-41-4	Ethyl Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-09-2	Methylene chloride	ND		ug/L	1.00	2.00	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
91-20-3	Naphthalene	ND		ug/L	1.00	2.00	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
104-51-8	n-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
103-65-1	n-Propylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			

Sample Information

Client Sample ID: RITB04_100219 **York Sample ID:** 19J0144-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19J0144	170396002	Water	October 2, 2019 12:00 am	10/02/2019

Volatiles, 8260 NYSDEC Part 375

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-47-6	o-Xylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
179601-23-1	p- & m- Xylenes	ND		ug/L	0.500	1.00	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP			
135-98-8	sec-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
98-06-6	tert-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
127-18-4	Tetrachloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
108-88-3	Toluene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
79-01-6	Trichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
75-01-4	Vinyl Chloride	ND		ug/L	0.200	0.500	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP			
1330-20-7	Xylenes, Total	ND		ug/L	0.600	1.50	1	EPA 8260C	10/09/2019 06:01	10/10/2019 02:04	LLJ
							Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP			

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*104 %*	*70-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*99.6 %*	*70-130*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.7 %*	*70-130*

Case Narrative

Client: Langan Engineering & Environmental Services (NYC)
Client Project ID: 170396002
Prepared for: Stuart Knoop

Introduction

This Case Narrative applies only to the samples submitted to our laboratory on **10/02/2019 19:36** as detailed on the chain-of-custody form.

The 7 sample(s) were received intact in a custody-sealed cooler unless otherwise noted. Upon receipt, cooler temperature(s) was determined using a NIST traceable digital infrared thermometer. The cooler temperature was acceptable (≤ 6°C) and documented as:

Cooler	Temp C°
Default Cooler	**1.3**

Chain-of-custody was maintained from receipt through analysis in the laboratory.

Methodology

All preparation and analyses were conducted according to the appropriate EPA methods detailed in the report.

Sample and Analysis Qualifiers

Laboratory ID	Sample Name	Matrix
19J0144-01	SB19_0-2	Soil
19J0144-02	SB19_8-9	Soil
19J0144-03	SB27_0-2	Soil
19J0144-04	SB27_6-8	Soil
19J0144-05	SB28_0-2	Soil
19J0144-06	SB28_5.5-7.5	Soil
19J0144-07	RITB04_100219	Water

QC Sample Non-Conformances

Any QC sample non-conformances (CCV, LCS, DUP, MS) are detailed in the data package and in the attached tables.

No other problems were encountered during analysis.

York Project/SDG no.: 19J0144 Statement

We certify that these data are in compliance with SOP requirements both technically and for completeness for other than the conditions stated above. Release of the data contained in the hard copy report and any electronic deliverables has been authorized by the Laboratory Manager as verified by the signature on this laboratory report.

Approved by: *Ben Gulizia*
Laboratory Director

Date: 10/14/2019

York Analytical Laboratories, Inc.

Formulae Used for Sample Calculations

VOLATILE ORGANICS

1. Volatiles in Air-ppbv

Cx (ppbv) = Compound concentration, ppbv (parts per billion by volume)

$$Cx = \frac{(Ax)(Cis)(DF)}{(Ais)(RRF)}$$

2. Volatiles in Air-ug/m³

Cx (ug/m³)= Compound concentration in ug/m³

$$Cx\ (ug/m^3) = \frac{(ppbv \times Molecular\ wt.)}{(24.040)}$$

3. Volatile Organics (water and soil), ug/L or ug/kg

Soils/Waters

$$Cx = \frac{(Ax)(IS)(DF)}{(Ais)(RRF)(V)(\%\ solids)}$$

Medium Level Soils

$$Cx = \frac{(Ax)(IS)(VT)(1000)(DF)}{(Ais)(RRF)(VA)(V)(\%\ solids)}$$

4. Semi-Volatiles (waters and soils)

$$Cx = \frac{(Ax)(IS)(VE)(DF)}{(Ais)(RRF)(Volume\ injected,\ uL)(V)(\%\ solids)}$$

5. Pesticides/PCB (waters and soils), DRO, CTETPH

$$Cx = \frac{(Ax)(VE)(DF)}{(CF)(Volume\ injected,\ uL)(V)(\%\ solids)}$$

WHERE:

Cx = concentration of analyte as ug/L or ug/kg
Ax = Area of the characteristic ion for the compound to be measured, counts.
Ais = Area of the characteristic ion for the specific internal standard, counts.
IS = Concentration of the internal standard spiking mixture, ng
RRF = Mean relative response factor from the initial calibration.
DF = Dilution factor calculated as described in section 2. If no dilution is performed, DF= 1
V = Volume for liquids in mL, weight for soils/solids in grams.
VA = volume of MeOH aliquot for medium level soils

VE = final volume of concentrated extract
VT = volume of MeOH for volatiles medium level soils
CF = calibration factor for external calibration used in GC pest/pcb
Cis = Concentration of the internal standard spiking mixture, ppbv

Case Narrative Non-Conformance Summary

Laboratory:	York Analytical Laboratories, Inc.	Client:	Langan Engineering & Environmental Services (
Project:	170396002	Lab Project No:	19J0144
Laboratory Sample ID(s):	19J0144-01 - 19J0144-07	Sampling Date(s):	10/02/2019 - 10/02/2019
Review Date(s):	10/14/2019 - 10/14/2019	Laboratory Reviewer(s):	JD

QC Sample Nonconformances

Batch ID: BJ90131 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
BJ90131-BS1	Methylene chloride - 75-09-2	69.3 ug/L	LCS	139	70-130	High Bias		30		
BJ90131-BS1	sec-Butylbenzene - 135-98-8	63.9 ug/L	LCS	128	83-125	High Bias		30		
BJ90131-BSD1	Methylene chloride - 75-09-2	68.5 ug/L	LCS Dup	137	70-130	High Bias	1.16	30		
BJ90131-BSD1	sec-Butylbenzene - 135-98-8	64.6 ug/L	LCS Dup	129	83-125	High Bias	1.18	30		

Batch ID: BJ90132 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
BJ90132-BS1	Naphthalene - 91-20-3	37.8 ug/L	LCS	75.6	86-141	Low Bias		30		
BJ90132-BS1	tert-Butylbenzene - 98-06-6	37.9 ug/L	LCS	75.8	80-127	Low Bias		30		
BJ90132-BSD1	Naphthalene - 91-20-3	41.9 ug/L	LCS Dup	83.7	86-141	Low Bias	10.1	30		

Batch ID: BJ90136 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
BJ90136-BLK1	2-Butanone - 78-93-3	0.0063 mg/kg '	Blank		-					
BJ90136-BS1	1,1-Dichloroethylene - 75-35-4	33.3 ug/L	LCS	66.6	70-130	Low Bias		30		
BJ90136-BS1	1,2,4-Trimethylbenzene - 95-63-6	41.4 ug/L	LCS	82.9	84-125	Low Bias		30		
BJ90136-BS1	Vinyl Chloride - 75-01-4	32.1 ug/L	LCS	64.1	70-130	Low Bias		30		
BJ90136-BSD1	1,4-Dioxane - 123-91-1	1210 ug/L	LCS Dup	115	40-160		45.9	30	Non-dir.	

Batch ID: Y9J0834 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0834-CCV1	Tetrachloroethylene - 127-18-4	67.4 ug/L	Calibration Check	135	80-120	High Bias				

Batch ID: Y9J0915 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0915-CCV1	1,1-Dichloroethylene - 75-35-4	34.0 ug/L	Calibration Check	68.1	80-120	Low Bias				
Y9J0915-CCV1	1,4-Dioxane - 123-91-1	770 ug/L	Calibration Check	77.0	80-120	Low Bias				
Y9J0915-CCV1	Acetone - 67-64-1	37.7 ug/L	Calibration Check	75.5	80-120	Low Bias				
Y9J0915-CCV1	Vinyl Chloride - 75-01-4	35.1 ug/L	Calibration Check	70.1	80-120	Low Bias				

Batch ID: Y9J0432 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0432-SCV1	2,4-Dinitrophenol - 51-28-5	44.5 ug/mL	Secondary Cal Check	148	70-130	High Bias				
Y9J0432-SCV1	4,6-Dinitro-2-methylphenol - 534-52-1	44.1 ug/mL	Secondary Cal Check	147	70-130	High Bias				

Batch ID: Y9J0808 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0808-CCV1	2,4-Dinitrophenol - 51-28-5	64.6 ug/mL	Calibration Check	215	80-120	High Bias				
Y9J0808-CCV1	2,4-Dinitrotoluene - 121-14-2	38.1 ug/mL	Calibration Check	127	80-120	High Bias				
Y9J0808-CCV1	2-Nitroaniline - 88-74-4	36.9 ug/mL	Calibration Check	123	80-120	High Bias				
Y9J0808-CCV1	2-Nitrophenol - 88-75-5	40.9 ug/mL	Calibration Check	136	80-120	High Bias				
Y9J0808-CCV1	4,6-Dinitro-2-methylphenol - 534-52-1	63.5 ug/mL	Calibration Check	212	80-120	High Bias				
Y9J0808-CCV1	Atrazine - 1912-24-9	21.9 ug/mL	Calibration Check	72.9	80-120	Low Bias				
Y9J0808-CCV1	Benzaldehyde - 100-52-7	19.8 ug/mL	Calibration Check	66.2	80-120	Low Bias				
Y9J0808-CCV1	Benzidine - 92-87-5	22.6 ug/mL	Calibration Check	75.2	80-120	Low Bias				
Y9J0808-CCV1	Benzoic acid - 65-85-0	36.5 ug/mL	Calibration Check	122	80-120	High Bias				
Y9J0808-CCV1	Dimethyl phthalate - 131-11-3	23.5 ug/mL	Calibration Check	78.3	80-120	Low Bias				
Y9J0808-CCV1	Di-n-octyl phthalate - 117-84-0	37.5 ug/mL	Calibration Check	125	80-120	High Bias				
Y9J0808-CCV1	Pentachlorophenol - 87-86-5	39.8 ug/mL	Calibration Check	132	80-120	High Bias				
Y9J0808-CCV1	Parathion - 56-38-2	50.3 ug/mL	Calibration Check	168	80-120	High Bias				

Batch ID: Y9J0832 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0832-CCV1	2,4-Dinitrophenol - 51-28-5	71.0 ug/mL	Calibration Check	237	80-120	High Bias				
Y9J0832-CCV1	2,4-Dinitrotoluene - 121-14-2	40.1 ug/mL	Calibration Check	134	80-120	High Bias				
Y9J0832-CCV1	2,6-Dinitrotoluene - 606-20-2	38.0 ug/mL	Calibration Check	127	80-120	High Bias				
Y9J0832-CCV1	2-Nitroaniline - 88-74-4	37.5 ug/mL	Calibration Check	125	80-120	High Bias				
Y9J0832-CCV1	2-Nitrophenol - 88-75-5	40.4 ug/mL	Calibration Check	135	80-120	High Bias				
Y9J0832-CCV1	4,6-Dinitro-2-methylphenol - 534-52-1	67.7 ug/mL	Calibration Check	226	80-120	High Bias				
Y9J0832-CCV1	4-Nitrophenol - 100-02-7	37.0 ug/mL	Calibration Check	123	80-120	High Bias				
Y9J0832-CCV1	Benzaldehyde - 100-52-7	19.5 ug/mL	Calibration Check	65.1	80-120	Low Bias				
Y9J0832-CCV1	Benzidine - 92-87-5	20.9 ug/mL	Calibration Check	69.8	80-120	Low Bias				
Y9J0832-CCV1	Benzoic acid - 65-85-0	40.2 ug/mL	Calibration Check	134	80-120	High Bias				
Y9J0832-CCV1	Dimethyl phthalate - 131-11-3	23.9 ug/mL	Calibration Check	79.6	80-120	Low Bias				
Y9J0832-CCV1	Di-n-octyl phthalate - 117-84-0	36.0 ug/mL	Calibration Check	120	80-120	High Bias				
Y9J0832-CCV1	Hexachlorocyclopentadiene - 77-47-4	36.1 ug/mL	Calibration Check	120	80-120	High Bias				
Y9J0832-CCV1	Pentachlorophenol - 87-86-5	38.0 ug/mL	Calibration Check	127	80-120	High Bias				
Y9J0832-CCV1	Parathion - 56-38-2	52.0 ug/mL	Calibration Check	173	80-120	High Bias				

Batch ID: Y9J0910 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0910-CCV1	2,4-Dinitrophenol - 51-28-5	46.2 ug/mL	Calibration Check	154	80-120	High Bias				
Y9J0910-CCV1	4,6-Dinitro-2-methylphenol - 534-52-1	43.4 ug/mL	Calibration Check	145	80-120	High Bias				
Y9J0910-CCV1	Atrazine - 1912-24-9	20.3 ug/mL	Calibration Check	67.6	80-120	Low Bias				
Y9J0910-CCV1	Benzaldehyde - 100-52-7	20.0 ug/mL	Calibration Check	66.6	80-120	Low Bias				
Y9J0910-CCV1	Benzidine - 92-87-5	15.6 ug/mL	Calibration Check	52.1	80-120	Low Bias				
Y9J0910-CCV1	Di-n-octyl phthalate - 117-84-0	37.6 ug/mL	Calibration Check	125	80-120	High Bias				
Y9J0910-CCV1	Pentachlorophenol - 87-86-5	38.0 ug/mL	Calibration Check	127	80-120	High Bias				
Y9J0910-CCV1	Parathion - 56-38-2	40.7 ug/mL	Calibration Check	136	80-120	High Bias				

Batch ID: Y9I2404 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9I2404-PEM1	4,4'-DDT - 50-29-3	464 ng/mL	Performance Mix	232	0-200	High Bias				

Batch ID: Y9J0822 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0822-CCV1	Surrogate: Decachlorobiphenyl	116 ng/mL	Surrogate	72.3	80-120	Low Bias				
Y9J0822-CCV2	Surrogate: Decachlorobiphenyl	161 ng/mL	Surrogate	161	80-120	High Bias				
Y9J0822-CCV2	Surrogate: Tetrachloro-m-xylene	36.0 ng/mL	Surrogate	36.0	80-120	Low Bias				
Y9J0822-CCV3	Surrogate: Decachlorobiphenyl	704 ng/mL	Surrogate	352	80-120	High Bias				
Y9J0822-CCV3	Surrogate: Tetrachloro-m-xylene	619 ng/mL	Surrogate	310	80-120	High Bias				

Batch ID: Y9J0912 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0912-CCV4	Surrogate: Decachlorobiphenyl	108 ng/mL	Surrogate	67.2	80-120	Low Bias				
Y9J0912-CCV5	Surrogate: Decachlorobiphenyl	123 ng/mL	Surrogate	76.7	80-120	Low Bias				
Y9J0912-CCV6	Surrogate: Decachlorobiphenyl	107 ng/mL	Surrogate	66.7	80-120	Low Bias				
Y9J0912-CCV7	Surrogate: Decachlorobiphenyl	117 ng/mL	Surrogate	73.1	80-120	Low Bias				

Batch ID: Y9J1109 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J1109-CCV2	Surrogate: Decachlorobiphenyl	218 ng/mL	Surrogate	218	80-120	High Bias				
Y9J1109-CCV2	Surrogate: Tetrachloro-m-xylene	40.0 ng/mL	Surrogate	40.0	80-120	Low Bias				
Y9J1109-CCV3	Surrogate: Decachlorobiphenyl	807 ng/mL	Surrogate	404	80-120	High Bias				
Y9J1109-CCV3	Surrogate: Tetrachloro-m-xylene	672 ng/mL	Surrogate	336	80-120	High Bias				
Y9J1109-CCV5	4,4'-DDT - 50-29-3	73.2 ng/mL	Calibration Check	146	80-120	High Bias				
Y9J1109-CCV5	Surrogate: Decachlorobiphenyl	103 ng/mL	Surrogate	64.6	80-120	Low Bias				
Y9J1109-CCV6	Surrogate: Decachlorobiphenyl	109 ng/mL	Surrogate	67.9	80-120	Low Bias				
Y9J1109-CCV7	4,4'-DDD - 72-54-8	63.8 ng/mL	Calibration Check	128	80-120	High Bias				
Y9J1109-CCV7	alpha-BHC - 319-84-6	61.6 ng/mL	Calibration Check	123	80-120	High Bias				
Y9J1109-CCV7	Surrogate: Tetrachloro-m-xylene	208 ng/mL	Surrogate	130	80-120	High Bias				
Y9J1109-CCV8	4,4'-DDT - 50-29-3	37.4 ng/mL	Calibration Check	74.7	80-120	Low Bias				
Y9J1109-CCV8	Surrogate: Tetrachloro-m-xylene	205 ng/mL	Surrogate	128	80-120	High Bias				

Batch ID: Y9J0848 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0848-CCV2	2,4,5-TP (Silvex) - 93-72-1	0.126 ug/mL	Calibration Check	126	80-120	High Bias				
Y9J0848-CCV2	Surrogate: 2,4-Dichlorophenylacetic	0.855 ug/mL	Surrogate	214	0-200	High Bias				
Y9J0848-CCV3	2,4,5-TP (Silvex) - 93-72-1	0.124 ug/mL	Calibration Check	124	80-120	High Bias				
Y9J0848-CCV3	Surrogate: 2,4-Dichlorophenylacetic	0.840 ug/mL	Surrogate	210	0-200	High Bias				
Y9J0848-CCV4	2,4,5-TP (Silvex) - 93-72-1	0.121 ug/mL	Calibration Check	121	80-120	High Bias				
Y9J0848-CCV4	Surrogate: 2,4-Dichlorophenylacetic	0.824 ug/mL	Surrogate	206	0-200	High Bias				
Y9J0848-CCV6	Surrogate: 2,4-Dichlorophenylacetic	0.807 ug/mL	Surrogate	202	0-200	High Bias				

Batch ID: BJ90216 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
BJ90216-MS1	Beryllium - 7440-41-7	0.818 mg/kg dr	Matrix Spike (SB28_5.5-7.5)	14.9	75-125	Low Bias				
BJ90216-MS1	Chromium - 7440-47-3	50.8 mg/kg dry	Matrix Spike (SB28_5.5-7.5)	52.3	75-125	Low Bias				
BJ90216-MS1	Lead - 7439-92-1	125 mg/kg dry	Matrix Spike (SB28_5.5-7.5)	170	75-125	High Bias				
BJ90216-MS1	Silver - 7440-22-4	2.65 mg/kg dry	Matrix Spike (SB28_5.5-7.5)	48.4	75-125	Low Bias				
BJ90216-PS1	Silver - 7440-22-4	0.011 ug/mL	Post Spike (SB28_5.5-7.5)	22.6	75-125	Low Bias				

Batch ID: Y9J0406 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0406-CRL1	Lead - 7439-92-1	0.007 ug/mL	Instrument RL Check	134	70-130	High Bias				
Y9J0406-CRL1	Zinc - 7440-66-6	0.062 ug/mL	Instrument RL Check	249	70-130	High Bias				
Y9J0406-CRL2	Arsenic - 7440-38-2	0.003 ug/mL	Instrument RL Check	37.4	70-130	Low Bias				
Y9J0406-CRL2	Zinc - 7440-66-6	0.063 ug/mL	Instrument RL Check	502	70-130	High Bias				
Y9J0406-ICV1	Cadmium - 7440-43-9	0.112 ug/mL	Initial Cal Check	89.2	90-110	Low Bias				
Y9J0406-ICV1	Lead - 7439-92-1	0.225 ug/mL	Initial Cal Check	89.9	90-110	Low Bias				

Batch ID: Y9J0706 **Affected Samples:** **See Batch Summary**

QC Sample ID	Analyte - CAS No.	Result	Type of QC Nonconformance	%REC	%REC Limits	Bias	RPD	RPD Limit	Bias	Notes
Y9J0706-CRL1	Arsenic - 7440-38-2	0.010 ug/mL	Instrument RL Check	69.3	70-130	Low Bias				
Y9J0706-CRL2	Selenium - 7782-49-2	0.007 ug/mL	Instrument RL Check	59.6	70-130	Low Bias				
Y9J0706-CRL2	Zinc - 7440-66-6	0.048 ug/mL	Instrument RL Check	384	70-130	High Bias				
Y9J0706-SRD4	Nickel - 7440-02-0	32.6 mg/kg dry	Serial Dilution (SB28_5.5-7.5)		-		16.1	10	Non-dir.	



Batch ID: BJ90131 **General Method:** Volatile Organic Compounds by GC/MS

YORK Sample ID	Client Sample ID
19J0144-01	SB19_0-2
19J0144-06	SB28_5.5-7.5
BJ90131-BLK1	Blank
BJ90131-BS1	LCS
BJ90131-BSD1	LCS Dup

Batch ID: BJ90132 **General Method:** Volatile Organic Compounds by GC/MS

YORK Sample ID	Client Sample ID
19J0144-03	SB27_0-2
19J0144-04	SB27_6-8
19J0144-05	SB28_0-2
BJ90132-BLK1	Blank
BJ90132-BLK2	Blank
BJ90132-BS1	LCS
BJ90132-BSD1	LCS Dup

Batch ID: BJ90136 **General Method:** Volatile Organic Compounds by GC/MS

YORK Sample ID	Client Sample ID
19J0144-02	SB19_8-9
BJ90136-BLK1	Blank
BJ90136-BS1	LCS
BJ90136-BSD1	LCS Dup

Batch ID: BJ90216 **General Method:** Metals by ICP

YORK Sample ID	Client Sample ID
19J0144-01	SB19_0-2
19J0144-02	SB19_8-9
19J0144-03	SB27_0-2
19J0144-04	SB27_6-8
19J0144-05	SB28_0-2
19J0144-06	SB28_5.5-7.5
BJ90216-BLK1	Blank
BJ90216-DUP1	Duplicate
BJ90216-MS1	Matrix Spike
BJ90216-PS1	Post Spike
BJ90216-SRM1	Reference

No Sample Nonconformances Found

Notes: Other nonconformances, if any, are detailed in the Data Quality Assessment worksheets.

For multiple surrogate analyses such as semi-volatiles, volatiles, etc, single surrogate excursions do not necessarily indicate a bias in the sample. Samples with multiple surrogate excursions may exhibit a bias in the results.

Definitions:
LCS - Laboratory Control Sample
LCS dup - Laboratory Control Sample Duplicate
MS - Matrix Spike
MSD - Matrix Spike Duplicate
BS - Blank Spike also called LCS
BSD - Blank Spike Duplicate also called LCS dup
SRM - Standard Reference Material
DUP - Duplicate

QC DATA QUALIFIERS

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0848-CCV4	Herbicides, 8151 NYSDEC Part 375	2,4-Dichlorophenylacetic acid (DCAA)	S-08	The recovery of this surrogate was outside of QC limits.
Y9J0848-CCV3	Herbicides, 8151 NYSDEC Part 375	2,4,5-TP (Silvex)	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0848-CCV4	Herbicides, 8151 NYSDEC Part 375	2,4,5-TP (Silvex)	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0848-CCV3	Herbicides, 8151 NYSDEC Part 375	2,4-Dichlorophenylacetic acid (DCAA)	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0848-CCV2	Herbicides, 8151 NYSDEC Part 375	2,4,5-TP (Silvex)	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0406-ICV1	Metals, NYSDEC Part 375	Lead	M-ICV2	The recovery for this element in the ICV was outside the 90-110% recovery criteria.
Y9J0406-ICV1	Metals, NYSDEC Part 375	Cadmium	M-ICV2	The recovery for this element in the ICV was outside the 90-110% recovery criteria.
Y9J0406-CRL2	Metals, NYSDEC Part 375	Zinc	M-CRL	The RL check for this element recovered outside of control limits.
Y9J0406-CRL2	Metals, NYSDEC Part 375	Arsenic	M-CRL	The RL check for this element recovered outside of control limits.
Y9J0406-CRL1	Metals, NYSDEC Part 375	Lead	M-CRL	The RL check for this element recovered outside of control limits.
Y9J0406-CRL1	Metals, NYSDEC Part 375	Zinc	M-CRL	The RL check for this element recovered outside of control limits.

LabID	Analysis	Analyte	Qualifier	Definition

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,4-Dinitrotoluene	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,4-Dinitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Parathion	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Pentachlorophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2-Nitroaniline	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzaldehyde	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Dimethyl phthalate	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	4-Nitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	4,6-Dinitro-2-methylphenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,6-Dinitrotoluene	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,4-Dinitrotoluene	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2-Nitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2-Nitroaniline	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,4-Dinitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzoic acid	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Di-n-octyl phthalate	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0832-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzidine	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2-Nitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Parathion	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzidine	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzaldehyde	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Atrazine	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	4,6-Dinitro-2-methylphenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	2,4-Dinitrophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	4,6-Dinitro-2-methylphenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Parathion	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Dimethyl phthalate	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzoic acid	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Di-n-octyl phthalate	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Atrazine	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzidine	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0910-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Pentachlorophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Benzaldehyde	CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
Y9J0808-CCV1	Semi-Volatiles, 8270 NYSDEC Part 375	Pentachlorophenol	CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.

LabID	Analysis	Analyte	Qualifier	Definition
BJ90131-BSD1	Volatiles, 8260 NYSDEC Part 375	sec-Butylbenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BSD1	Volatiles, 8260 NYSDEC Part 375	Toluene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90132-BLK1	Volatiles, 8260 NYSDEC Part 375	p- & m- Xylenes	J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
BJ90132-BS1	Volatiles, 8260 NYSDEC Part 375	1,4-Dichlorobenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BS1	Volatiles, 8260 NYSDEC Part 375	Toluene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90132-BS1	Volatiles, 8260 NYSDEC Part 375	Naphthalene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.

LabID	Analysis	Analyte	Qualifier	Definition
BJ90132-BS1	Volatiles, 8260 NYSDEC Part 375	tert-Butylbenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90132-BLK2	Volatiles, 8260 NYSDEC Part 375	p- & m- Xylenes	J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
BJ90131-BSD1	Volatiles, 8260 NYSDEC Part 375	Methylene chloride	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BSD1	Volatiles, 8260 NYSDEC Part 375	o-Xylene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BS1	Volatiles, 8260 NYSDEC Part 375	Methylene chloride	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BS1	Volatiles, 8260 NYSDEC Part 375	sec-Butylbenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90132-BS1	Volatiles, 8260 NYSDEC Part 375	Tetrachloroethylene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	Toluene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BS1	Volatiles, 8260 NYSDEC Part 375	o-Xylene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.

LabID	Analysis	Analyte	Qualifier	Definition
BJ90131-BS1	Volatiles, 8260 NYSDEC Part 375	Ethyl Benzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90131-BSD1	Volatiles, 8260 NYSDEC Part 375	Ethyl Benzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	Vinyl Chloride	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
Y9J0834-CCV1	Volatiles, 8260 NYSDEC Part 375	Tetrachloroethylene	CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
BJ90131-BLK1	Volatiles, 8260 NYSDEC Part 375	p- & m- Xylenes	J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
Y9J0915-CCV1	Volatiles, 8260 NYSDEC Part 375	1,1-Dichloroethylene	CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
Y9J0915-CCV1	Volatiles, 8260 NYSDEC Part 375	1,4-Dioxane	CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
Y9J0915-CCV1	Volatiles, 8260 NYSDEC Part 375	Acetone	CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
Y9J0915-CCV1	Volatiles, 8260 NYSDEC Part 375	Vinyl Chloride	CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).

LabID	Analysis	Analyte	Qualifier	Definition
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	p- & m- Xylenes	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BSD1	Volatiles, 8260 NYSDEC Part 375	2-Butanone	B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.
BJ90132-BSD1	Volatiles, 8260 NYSDEC Part 375	Naphthalene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	o-Xylene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	Ethyl Benzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	2-Butanone	B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	1,2-Dichlorobenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	Chlorobenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	1,2,4-Trimethylbenzene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.

LabID	Analysis	Analyte	Qualifier	Definition
BJ90136-BS1	Volatiles, 8260 NYSDEC Part 375	1,1-Dichloroethylene	QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
BJ90136-BSD1	Volatiles, 8260 NYSDEC Part 375	1,4-Dioxane	QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

Analytical Batch Summary

Batch ID: 10/4/2019 **Preparation Method:** EPA 3535A **Prepared By:**

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-02	SB19_8-9	10/03/19
19J0144-04	SB27_6-8	10/03/19
19J0144-06	SB28_5.5-7.5	10/03/19

Batch ID: BJ90131 **Preparation Method:** EPA 5035A **Prepared By:** TMP

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/04/19
19J0144-06	SB28_5.5-7.5	10/04/19
BJ90131-BLK1	Blank	10/04/19
BJ90131-BS1	LCS	10/04/19
BJ90131-BSD1	LCS Dup	10/04/19

Batch ID: BJ90132 **Preparation Method:** EPA 5035A **Prepared By:** TMP

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-03	SB27_0-2	10/04/19
19J0144-04	SB27_6-8	10/04/19
19J0144-05	SB28_0-2	10/04/19
BJ90132-BLK1	Blank	10/04/19
BJ90132-BLK2	Blank	10/04/19
BJ90132-BS1	LCS	10/04/19
BJ90132-BSD1	LCS Dup	10/04/19

Batch ID: BJ90136 **Preparation Method:** EPA 5035A **Prepared By:** TMP

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-02	SB19_8-9	10/07/19
BJ90136-BLK1	Blank	10/07/19
BJ90136-BS1	LCS	10/07/19
BJ90136-BSD1	LCS Dup	10/07/19

Batch ID: BJ90216 **Preparation Method:** EPA 3050B **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/03/19
19J0144-02	SB19_8-9	10/03/19
19J0144-03	SB27_0-2	10/03/19
19J0144-04	SB27_6-8	10/03/19
19J0144-05	SB28_0-2	10/03/19
19J0144-06	SB28_5.5-7.5	10/03/19
BJ90216-BLK1	Blank	10/03/19
BJ90216-DUP1	Duplicate	10/03/19

BJ90216-MS1	Matrix Spike	10/03/19
BJ90216-PS1	Post Spike	10/03/19
BJ90216-SRM1	Reference	10/03/19

Batch ID: BJ90227 **Preparation Method:** SPE PFAS Extraction-Soil-EPA 537m **Prepared By:** WL

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-02	SB19_8-9	10/03/19
19J0144-04	SB27_6-8	10/03/19
19J0144-06	SB28_5.5-7.5	10/03/19
BJ90227-BLK1	Blank	10/03/19
BJ90227-BS1	LCS	10/03/19

Batch ID: BJ90321 **Preparation Method:** EPA 3550C **Prepared By:** DKC

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-04	SB27_6-8	10/04/19
19J0144-04	SB27_6-8	10/04/19
19J0144-05	SB28_0-2	10/04/19
19J0144-05	SB28_0-2	10/04/19
19J0144-06	SB28_5.5-7.5	10/04/19
19J0144-06	SB28_5.5-7.5	10/04/19
BJ90321-BLK1	Blank	10/04/19
BJ90321-BLK2	Blank	10/04/19
BJ90321-BS1	LCS	10/04/19
BJ90321-BS2	LCS	10/04/19

Batch ID: BJ90322 **Preparation Method:** EPA 3550C **Prepared By:** ZTS

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/04/19
19J0144-01	SB19_0-2	10/04/19
19J0144-02	SB19_8-9	10/04/19
19J0144-02	SB19_8-9	10/04/19
19J0144-03	SB27_0-2	10/04/19
19J0144-03	SB27_0-2	10/04/19
BJ90322-BLK1	Blank	10/04/19
BJ90322-BLK2	Blank	10/04/19
BJ90322-BS1	LCS	10/04/19
BJ90322-BS2	LCS	10/04/19

Batch ID: BJ90324 **Preparation Method:** EPA 3550C **Prepared By:** CLS2

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-04	SB27_6-8	10/04/19
19J0144-05	SB28_0-2	10/04/19
19J0144-06	SB28_5.5-7.5	10/04/19
BJ90324-BLK1	Blank	10/04/19
BJ90324-BS1	LCS	10/04/19

Batch ID: BJ90361 **Preparation Method:** EPA 3550B/8151A **Prepared By:** CTD

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/07/19
19J0144-02	SB19_8-9	10/07/19
19J0144-03	SB27_0-2	10/07/19
19J0144-04	SB27_6-8	10/07/19
19J0144-05	SB28_0-2	10/07/19
19J0144-06	SB28_5.5-7.5	10/07/19
BJ90361-BLK1	Blank	10/07/19
BJ90361-BS1	LCS	10/07/19
BJ90361-MS1	Matrix Spike	10/07/19
BJ90361-MSD1	Matrix Spike Dup	10/07/19

Batch ID: BJ90406 **Preparation Method:** EPA 3550C **Prepared By:** CLS2

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/07/19
19J0144-02	SB19_8-9	10/07/19
19J0144-03	SB27_0-2	10/07/19
BJ90406-BLK1	Blank	10/07/19
BJ90406-BS1	LCS	10/07/19

Batch ID: BJ90452 **Preparation Method:** EPA SW846-3060 **Prepared By:** MSP

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/08/19
19J0144-02	SB19_8-9	10/08/19
19J0144-03	SB27_0-2	10/08/19
19J0144-04	SB27_6-8	10/08/19
19J0144-05	SB28_0-2	10/08/19
BJ90452-BLK1	Blank	10/08/19
BJ90452-SRM1	Reference	10/08/19

Batch ID: BJ90473 **Preparation Method:** EPA 7473 soil **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/08/19
19J0144-02	SB19_8-9	10/08/19
19J0144-03	SB27_0-2	10/08/19
19J0144-04	SB27_6-8	10/08/19
19J0144-05	SB28_0-2	10/08/19
19J0144-06	SB28_5.5-7.5	10/08/19
BJ90473-BLK1	Blank	10/08/19
BJ90473-SRM1	Reference	10/08/19

Batch ID: BJ90520 **Preparation Method:** % Solids Prep **Prepared By:** MAO

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/08/19
19J0144-02	SB19_8-9	10/08/19
19J0144-03	SB27_0-2	10/08/19
19J0144-04	SB27_6-8	10/08/19
19J0144-05	SB28_0-2	10/08/19
19J0144-06	SB28_5.5-7.5	10/08/19

Batch ID: BJ90530 **Preparation Method:** EPA SW846-3060 **Prepared By:** MSP

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-06	SB28_5.5-7.5	10/09/19
BJ90530-BLK1	Blank	10/09/19
BJ90530-SRM1	Reference	10/09/19

Batch ID: BJ90573 **Preparation Method:** Analysis Preparation **Prepared By:** PAM

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-01	SB19_0-2	10/09/19
19J0144-02	SB19_8-9	10/09/19
19J0144-03	SB27_0-2	10/09/19
19J0144-04	SB27_6-8	10/09/19
19J0144-05	SB28_0-2	10/09/19
19J0144-06	SB28_5.5-7.5	10/09/19

Batch ID: BJ90578 **Preparation Method:** EPA 5030B **Prepared By:** LLJ

YORK Sample ID	Client Sample ID	Preparation Date
19J0144-07	RITB04_100219	10/09/19
BJ90578-BLK1	Blank	10/09/19
BJ90578-BS1	LCS	10/09/19
BJ90578-BSD1	LCS Dup	10/09/19

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90131 - EPA 5035A											
Blank (BJ90131-BLK1)											
Prepared & Analyzed: 10/04/2019											
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Benzene	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroform	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
Naphthalene	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	0.0052	0.010	"								
sec-Butylbenzene	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.2*		*ug/L*	*50.0*		*102*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.9*		*"*	*50.0*		*102*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.5*		*"*	*50.0*		*94.9*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90131 - EPA 5035A											
LCS (BJ90131-BS1)								Prepared & Analyzed: 10/04/2019			
1,1,1-Trichloroethane	57.8		ug/L	50.0		116	70-130			30	
1,1-Dichloroethane	59.9		"	50.0		120	70-130			30	
1,1-Dichloroethylene	60.4		"	50.0		121	70-130			30	
1,2,4-Trimethylbenzene	59.5		"	50.0		119	84-125			30	
1,2-Dichlorobenzene	60.2		"	50.0		120	70-130			30	
1,2-Dichloroethane	62.5		"	50.0		125	70-130			30	
1,3,5-Trimethylbenzene	60.3		"	50.0		121	82-126			30	
1,3-Dichlorobenzene	57.6		"	50.0		115	70-130			30	
1,4-Dichlorobenzene	57.2		"	50.0		114	70-130			30	
1,4-Dioxane	1210		"	1050		115	40-160			30	
2-Butanone	63.4		"	50.0		127	40-160			30	
Acetone	52.8		"	50.0		106	40-160			30	
Benzene	63.2		"	50.0		126	70-130			30	
Carbon tetrachloride	57.4		"	50.0		115	70-130			30	
Chlorobenzene	59.9		"	50.0		120	70-130			30	
Chloroform	59.4		"	50.0		119	70-130			30	
cis-1,2-Dichloroethylene	61.6		"	50.0		123	70-130			30	
Ethyl Benzene	63.6		"	50.0		127	70-130			30	
Methyl tert-butyl ether (MTBE)	63.2		"	50.0		126	70-130			30	
Methylene chloride	69.3		"	50.0		139	70-130	High Bias		30	
Naphthalene	52.5		"	50.0		105	86-141			30	
n-Butylbenzene	62.3		"	50.0		125	80-130			30	
n-Propylbenzene	61.2		"	50.0		122	74-136			30	
o-Xylene	61.9		"	50.0		124	70-130			30	
p- & m- Xylenes	118		"	100		118	70-130			30	
sec-Butylbenzene	63.9		"	50.0		128	83-125	High Bias		30	
tert-Butylbenzene	51.3		"	50.0		103	80-127			30	
Tetrachloroethylene	53.5		"	50.0		107	70-130			30	
Toluene	63.1		"	50.0		126	70-130			30	
trans-1,2-Dichloroethylene	62.4		"	50.0		125	70-130			30	
Trichloroethylene	59.4		"	50.0		119	70-130			30	
Vinyl Chloride	63.4		"	50.0		127	70-130			30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.2*		*"*	*50.0*		*102*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.3*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.4*		*"*	*50.0*		*96.8*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90131 - EPA 5035A											
LCS Dup (BJ90131-BSD1)							Prepared & Analyzed: 10/04/2019				
1,1,1-Trichloroethane	56.6		ug/L	50.0		113	70-130		2.10	30	
1,1-Dichloroethane	60.0		"	50.0		120	70-130		0.283	30	
1,1-Dichloroethylene	60.1		"	50.0		120	70-130		0.581	30	
1,2,4-Trimethylbenzene	59.9		"	50.0		120	84-125		0.636	30	
1,2-Dichlorobenzene	59.9		"	50.0		120	70-130		0.416	30	
1,2-Dichloroethane	60.2		"	50.0		120	70-130		3.73	30	
1,3,5-Trimethylbenzene	60.4		"	50.0		121	82-126		0.298	30	
1,3-Dichlorobenzene	58.2		"	50.0		116	70-130		0.950	30	
1,4-Dichlorobenzene	57.8		"	50.0		116	70-130		1.06	30	
1,4-Dioxane	1200		"	1050		115	40-160		0.505	30	
2-Butanone	58.5		"	50.0		117	40-160		8.04	30	
Acetone	50.5		"	50.0		101	40-160		4.45	30	
Benzene	62.5		"	50.0		125	70-130		1.23	30	
Carbon tetrachloride	57.7		"	50.0		115	70-130		0.504	30	
Chlorobenzene	59.9		"	50.0		120	70-130		0.117	30	
Chloroform	58.4		"	50.0		117	70-130		1.80	30	
cis-1,2-Dichloroethylene	61.2		"	50.0		122	70-130		0.684	30	
Ethyl Benzene	63.9		"	50.0		128	70-130		0.502	30	
Methyl tert-butyl ether (MTBE)	60.8		"	50.0		122	70-130		4.02	30	
Methylene chloride	68.5		"	50.0		137	70-130	High Bias	1.16	30	
Naphthalene	51.8		"	50.0		104	86-141		1.27	30	
n-Butylbenzene	61.2		"	50.0		122	80-130		1.75	30	
n-Propylbenzene	62.0		"	50.0		124	74-136		1.18	30	
o-Xylene	61.8		"	50.0		124	70-130		0.0808	30	
p- & m- Xylenes	118		"	100		118	70-130		0.0594	30	
sec-Butylbenzene	64.6		"	50.0		129	83-125	High Bias	1.18	30	
tert-Butylbenzene	52.2		"	50.0		104	80-127		1.64	30	
Tetrachloroethylene	53.5		"	50.0		107	70-130		0.0747	30	
Toluene	63.0		"	50.0		126	70-130		0.206	30	
trans-1,2-Dichloroethylene	61.9		"	50.0		124	70-130		0.692	30	
Trichloroethylene	59.6		"	50.0		119	70-130		0.370	30	
Vinyl Chloride	62.0		"	50.0		124	70-130		2.17	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.8*		*"*	*50.0*		*99.6*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.4*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.6*		*"*	*50.0*		*97.1*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90132 - EPA 5035A											
Blank (BJ90132-BLK1)											
Prepared & Analyzed: 10/04/2019											
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Benzene	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroform	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
Naphthalene	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	0.0053	0.010	"								
sec-Butylbenzene	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.1*		*ug/L*	*50.0*		*102*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.3*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.6*		*"*	*50.0*		*95.3*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90132 - EPA 5035A											
Blank (BJ90132-BLK2)											
Prepared: 10/04/2019 Analyzed: 10/05/2019											
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Benzene	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroform	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
Naphthalene	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	0.0052	0.010	"								
sec-Butylbenzene	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.3*		*ug/L*	*50.0*		*103*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.4*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.2*		*"*	*50.0*		*96.4*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90132 - EPA 5035A											
LCS (BJ90132-BS1)								Prepared & Analyzed: 10/04/2019			
1,1,1-Trichloroethane	42.0		ug/L	50.0		84.1	70-130			30	
1,1-Dichloroethane	44.5		"	50.0		88.9	70-130			30	
1,1-Dichloroethylene	44.6		"	50.0		89.3	70-130			30	
1,2,4-Trimethylbenzene	43.8		"	50.0		87.5	84-125			30	
1,2-Dichlorobenzene	45.2		"	50.0		90.5	70-130			30	
1,2-Dichloroethane	45.9		"	50.0		91.9	70-130			30	
1,3,5-Trimethylbenzene	44.8		"	50.0		89.7	82-126			30	
1,3-Dichlorobenzene	42.0		"	50.0		84.1	70-130			30	
1,4-Dichlorobenzene	41.7		"	50.0		83.5	70-130			30	
1,4-Dioxane	951		"	1050		90.6	40-160			30	
2-Butanone	47.8		"	50.0		95.7	40-160			30	
Acetone	41.8		"	50.0		83.6	40-160			30	
Benzene	46.3		"	50.0		92.5	70-130			30	
Carbon tetrachloride	39.9		"	50.0		79.8	70-130			30	
Chlorobenzene	44.1		"	50.0		88.3	70-130			30	
Chloroform	43.5		"	50.0		87.0	70-130			30	
cis-1,2-Dichloroethylene	44.3		"	50.0		88.7	70-130			30	
Ethyl Benzene	47.4		"	50.0		94.7	70-130			30	
Methyl tert-butyl ether (MTBE)	46.2		"	50.0		92.3	70-130			30	
Methylene chloride	51.1		"	50.0		102	70-130			30	
Naphthalene	37.8		"	50.0		75.6	86-141	Low Bias		30	
n-Butylbenzene	47.1		"	50.0		94.3	80-130			30	
n-Propylbenzene	44.8		"	50.0		89.5	74-136			30	
o-Xylene	45.5		"	50.0		91.0	70-130			30	
p- & m- Xylenes	84.9		"	100		84.9	70-130			30	
sec-Butylbenzene	47.3		"	50.0		94.6	83-125			30	
tert-Butylbenzene	37.9		"	50.0		75.8	80-127	Low Bias		30	
Tetrachloroethylene	39.2		"	50.0		78.5	70-130			30	
Toluene	46.2		"	50.0		92.4	70-130			30	
trans-1,2-Dichloroethylene	46.6		"	50.0		93.1	70-130			30	
Trichloroethylene	44.5		"	50.0		89.0	70-130			30	
Vinyl Chloride	48.7		"	50.0		97.4	70-130			30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.5*		*"*	*50.0*		*101*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.6*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.2*		*"*	*50.0*		*94.3*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90132 - EPA 5035A											
LCS Dup (BJ90132-BSD1)							Prepared & Analyzed: 10/04/2019				
1,1,1-Trichloroethane	47.8		ug/L	50.0		95.6	70-130		12.9	30	
1,1-Dichloroethane	45.3		"	50.0		90.7	70-130		1.96	30	
1,1-Dichloroethylene	46.0		"	50.0		92.1	70-130		3.11	30	
1,2,4-Trimethylbenzene	47.8		"	50.0		95.5	84-125		8.70	30	
1,2-Dichlorobenzene	50.4		"	50.0		101	70-130		10.7	30	
1,2-Dichloroethane	52.4		"	50.0		105	70-130		13.1	30	
1,3,5-Trimethylbenzene	49.4		"	50.0		98.9	82-126		9.72	30	
1,3-Dichlorobenzene	46.5		"	50.0		92.9	70-130		9.99	30	
1,4-Dichlorobenzene	46.5		"	50.0		93.0	70-130		10.8	30	
1,4-Dioxane	1070		"	1050		102	40-160		11.4	30	
2-Butanone	50.0		"	50.0		100	40-160		4.38	30	
Acetone	42.0		"	50.0		84.1	40-160		0.573	30	
Benzene	52.0		"	50.0		104	70-130		11.6	30	
Carbon tetrachloride	46.0		"	50.0		92.0	70-130		14.2	30	
Chlorobenzene	50.0		"	50.0		100	70-130		12.5	30	
Chloroform	49.6		"	50.0		99.3	70-130		13.1	30	
cis-1,2-Dichloroethylene	47.2		"	50.0		94.4	70-130		6.31	30	
Ethyl Benzene	53.4		"	50.0		107	70-130		12.0	30	
Methyl tert-butyl ether (MTBE)	48.1		"	50.0		96.3	70-130		4.20	30	
Methylene chloride	53.7		"	50.0		107	70-130		4.85	30	
Naphthalene	41.9		"	50.0		83.7	86-141	Low Bias	10.1	30	
n-Butylbenzene	51.3		"	50.0		103	80-130		8.43	30	
n-Propylbenzene	49.8		"	50.0		99.5	74-136		10.5	30	
o-Xylene	51.9		"	50.0		104	70-130		13.1	30	
p- & m- Xylenes	96.7		"	100		96.7	70-130		13.0	30	
sec-Butylbenzene	52.7		"	50.0		105	83-125		10.9	30	
tert-Butylbenzene	42.5		"	50.0		85.1	80-127		11.5	30	
Tetrachloroethylene	44.5		"	50.0		88.9	70-130		12.5	30	
Toluene	52.9		"	50.0		106	70-130		13.5	30	
trans-1,2-Dichloroethylene	47.6		"	50.0		95.1	70-130		2.15	30	
Trichloroethylene	49.8		"	50.0		99.7	70-130		11.3	30	
Vinyl Chloride	54.9		"	50.0		110	70-130		12.0	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.0*		*"*	*50.0*		*99.9*	*77-125*				
Surrogate: SURR: Toluene-d8	*50.5*		*"*	*50.0*		*101*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.4*		*"*	*50.0*		*94.7*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90136 - EPA 5035A											
Blank (BJ90136-BLK1)											
Prepared & Analyzed: 10/07/2019											
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	0.0063	0.0050	"								
Acetone	ND	0.010	"								
Benzene	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroform	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
Naphthalene	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
sec-Butylbenzene	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.1*		*ug/L*	*50.0*		*100*	*77-125*				
Surrogate: SURR: Toluene-d8	*49.3*		*"*	*50.0*		*98.7*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.7*		*"*	*50.0*		*95.4*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90136 - EPA 5035A											
LCS (BJ90136-BS1)								Prepared & Analyzed: 10/07/2019			
1,1,1-Trichloroethane	45.8		ug/L	50.0		91.6	70-130			30	
1,1-Dichloroethane	42.8		"	50.0		85.7	70-130			30	
1,1-Dichloroethylene	33.3		"	50.0		66.6	70-130	Low Bias		30	
1,2,4-Trimethylbenzene	41.4		"	50.0		82.9	84-125	Low Bias		30	
1,2-Dichlorobenzene	42.2		"	50.0		84.4	70-130			30	
1,2-Dichloroethane	41.2		"	50.0		82.5	70-130			30	
1,3,5-Trimethylbenzene	41.7		"	50.0		83.3	82-126			30	
1,3-Dichlorobenzene	42.5		"	50.0		85.0	70-130			30	
1,4-Dichlorobenzene	43.6		"	50.0		87.1	70-130			30	
1,4-Dioxane	759		"	1050		72.3	40-160			30	
2-Butanone	49.1		"	50.0		98.2	40-160			30	
Acetone	29.0		"	50.0		57.9	40-160			30	
Benzene	44.0		"	50.0		88.1	70-130			30	
Carbon tetrachloride	43.7		"	50.0		87.4	70-130			30	
Chlorobenzene	42.9		"	50.0		85.9	70-130			30	
Chloroform	45.0		"	50.0		90.0	70-130			30	
cis-1,2-Dichloroethylene	43.4		"	50.0		86.8	70-130			30	
Ethyl Benzene	41.0		"	50.0		82.0	70-130			30	
Methyl tert-butyl ether (MTBE)	45.1		"	50.0		90.2	70-130			30	
Methylene chloride	45.4		"	50.0		90.8	70-130			30	
Naphthalene	45.6		"	50.0		91.1	86-141			30	
n-Butylbenzene	42.0		"	50.0		83.9	80-130			30	
n-Propylbenzene	39.1		"	50.0		78.1	74-136			30	
o-Xylene	40.1		"	50.0		80.2	70-130			30	
p- & m- Xylenes	79.6		"	100		79.6	70-130			30	
sec-Butylbenzene	43.4		"	50.0		86.7	83-125			30	
tert-Butylbenzene	42.3		"	50.0		84.6	80-127			30	
Tetrachloroethylene	44.2		"	50.0		88.4	70-130			30	
Toluene	40.1		"	50.0		80.3	70-130			30	
trans-1,2-Dichloroethylene	43.6		"	50.0		87.2	70-130			30	
Trichloroethylene	42.9		"	50.0		85.9	70-130			30	
Vinyl Chloride	32.1		"	50.0		64.1	70-130	Low Bias		30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.5*		*"*	*50.0*		*99.0*	*77-125*				
Surrogate: SURR: Toluene-d8	*49.2*		*"*	*50.0*		*98.4*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.2*		*"*	*50.0*		*96.3*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90136 - EPA 5035A											
LCS Dup (BJ90136-BSD1)							Prepared & Analyzed: 10/07/2019				
1,1,1-Trichloroethane	60.5		ug/L	50.0		121	70-130		27.7	30	
1,1-Dichloroethane	53.8		"	50.0		108	70-130		22.7	30	
1,1-Dichloroethylene	41.3		"	50.0		82.5	70-130		21.3	30	
1,2,4-Trimethylbenzene	54.4		"	50.0		109	84-125		27.1	30	
1,2-Dichlorobenzene	55.1		"	50.0		110	70-130		26.5	30	
1,2-Dichloroethane	54.7		"	50.0		109	70-130		28.1	30	
1,3,5-Trimethylbenzene	54.7		"	50.0		109	82-126		27.1	30	
1,3-Dichlorobenzene	55.4		"	50.0		111	70-130		26.5	30	
1,4-Dichlorobenzene	56.9		"	50.0		114	70-130		26.6	30	
1,4-Dioxane	1210		"	1050		115	40-160		45.9	30	Non-dir.
2-Butanone	60.4		"	50.0		121	40-160		20.6	30	
Acetone	34.4		"	50.0		68.9	40-160		17.3	30	
Benzene	58.3		"	50.0		117	70-130		27.9	30	
Carbon tetrachloride	56.6		"	50.0		113	70-130		25.8	30	
Chlorobenzene	55.8		"	50.0		112	70-130		26.1	30	
Chloroform	57.7		"	50.0		115	70-130		24.7	30	
cis-1,2-Dichloroethylene	54.5		"	50.0		109	70-130		22.7	30	
Ethyl Benzene	54.0		"	50.0		108	70-130		27.5	30	
Methyl tert-butyl ether (MTBE)	56.2		"	50.0		112	70-130		21.8	30	
Methylene chloride	55.3		"	50.0		111	70-130		19.7	30	
Naphthalene	58.7		"	50.0		117	86-141		25.3	30	
n-Butylbenzene	55.1		"	50.0		110	80-130		27.1	30	
n-Propylbenzene	52.2		"	50.0		104	74-136		28.7	30	
o-Xylene	52.9		"	50.0		106	70-130		27.5	30	
p- & m- Xylenes	104		"	100		104	70-130		26.7	30	
sec-Butylbenzene	57.9		"	50.0		116	83-125		28.7	30	
tert-Butylbenzene	56.0		"	50.0		112	80-127		27.9	30	
Tetrachloroethylene	58.7		"	50.0		117	70-130		28.2	30	
Toluene	52.6		"	50.0		105	70-130		26.8	30	
trans-1,2-Dichloroethylene	56.1		"	50.0		112	70-130		25.0	30	
Trichloroethylene	56.5		"	50.0		113	70-130		27.2	30	
Vinyl Chloride	39.5		"	50.0		78.9	70-130		20.7	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.3*		*"*	*50.0*		*98.6*	*77-125*				
Surrogate: SURR: Toluene-d8	*49.3*		*"*	*50.0*		*98.7*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.5*		*"*	*50.0*		*97.1*	*76-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90578 - EPA 5030B											
Blank (BJ90578-BLK1)											
Prepared: 10/09/2019 Analyzed: 10/10/2019											
1,1,1-Trichloroethane	ND	0.500	ug/L								
1,1-Dichloroethane	ND	0.500	"								
1,1-Dichloroethylene	ND	0.500	"								
1,2,4-Trimethylbenzene	ND	0.500	"								
1,2-Dichlorobenzene	ND	0.500	"								
1,2-Dichloroethane	ND	0.500	"								
1,3,5-Trimethylbenzene	ND	0.500	"								
1,3-Dichlorobenzene	ND	0.500	"								
1,4-Dichlorobenzene	ND	0.500	"								
1,4-Dioxane	ND	80.0	"								
2-Butanone	ND	0.500	"								
Acetone	ND	2.00	"								
Benzene	ND	0.500	"								
Carbon tetrachloride	ND	0.500	"								
Chlorobenzene	ND	0.500	"								
Chloroform	ND	0.500	"								
cis-1,2-Dichloroethylene	ND	0.500	"								
Ethyl Benzene	ND	0.500	"								
Methyl tert-butyl ether (MTBE)	ND	0.500	"								
Methylene chloride	ND	2.00	"								
Naphthalene	ND	2.00	"								
n-Butylbenzene	ND	0.500	"								
n-Propylbenzene	ND	0.500	"								
o-Xylene	ND	0.500	"								
p- & m- Xylenes	ND	1.00	"								
sec-Butylbenzene	ND	0.500	"								
tert-Butylbenzene	ND	0.500	"								
Tetrachloroethylene	ND	0.500	"								
Toluene	ND	0.500	"								
trans-1,2-Dichloroethylene	ND	0.500	"								
Trichloroethylene	ND	0.500	"								
Vinyl Chloride	ND	0.500	"								
Xylenes, Total	ND	1.50	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*10.0*		*"*	*10.0*		*100*	*70-130*				
Surrogate: SURR: Toluene-d8	*9.88*		*"*	*10.0*		*98.8*	*70-130*				
Surrogate: SURR: p-Bromofluorobenzene	*10.0*		*"*	*10.0*		*100*	*70-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90578 - EPA 5030B											
LCS (BJ90578-BS1)							Prepared & Analyzed: 10/09/2019				
1,1,1-Trichloroethane	9.44		ug/L	10.0		94.4	70-130			20	
1,1-Dichloroethane	9.84		"	10.0		98.4	70-130			20	
1,1-Dichloroethylene	9.71		"	10.0		97.1	70-130			20	
1,2,4-Trimethylbenzene	9.42		"	10.0		94.2	82-132			20	
1,2-Dichlorobenzene	9.36		"	10.0		93.6	70-130			20	
1,2-Dichloroethane	9.38		"	10.0		93.8	70-130			20	
1,3,5-Trimethylbenzene	9.54		"	10.0		95.4	80-131			30	
1,3-Dichlorobenzene	9.16		"	10.0		91.6	70-130			20	
1,4-Dichlorobenzene	9.18		"	10.0		91.8	70-130			20	
1,4-Dioxane	210		"	210		99.8	40-160			20	
2-Butanone	8.27		"	10.0		82.7	40-160			20	
Acetone	7.96		"	10.0		79.6	40-160			20	
Benzene	10.5		"	10.0		105	70-130			20	
Carbon tetrachloride	9.47		"	10.0		94.7	70-130			20	
Chlorobenzene	9.75		"	10.0		97.5	70-130			20	
Chloroform	9.56		"	10.0		95.6	70-130			20	
cis-1,2-Dichloroethylene	9.41		"	10.0		94.1	70-130			20	
Ethyl Benzene	10.4		"	10.0		104	70-130			20	
Methyl tert-butyl ether (MTBE)	10.4		"	10.0		104	70-130			20	
Methylene chloride	10.8		"	10.0		108	70-130			20	
Naphthalene	9.02		"	10.0		90.2	70-147			30	
n-Butylbenzene	9.59		"	10.0		95.9	79-132			30	
n-Propylbenzene	9.75		"	10.0		97.5	78-133			30	
o-Xylene	9.95		"	10.0		99.5	70-130			20	
p- & m- Xylenes	17.8		"	20.0		89.2	70-130			20	
sec-Butylbenzene	10.0		"	10.0		100	79-137			30	
tert-Butylbenzene	7.82		"	10.0		78.2	77-138			30	
Tetrachloroethylene	8.61		"	10.0		86.1	70-130			20	
Toluene	10.2		"	10.0		102	70-130			20	
trans-1,2-Dichloroethylene	9.78		"	10.0		97.8	70-130			20	
Trichloroethylene	9.33		"	10.0		93.3	70-130			20	
Vinyl Chloride	10.9		"	10.0		109	70-130			20	
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.78*		*"*	*10.0*		*97.8*	*70-130*				
Surrogate: SURR: Toluene-d8	*9.85*		*"*	*10.0*		*98.5*	*70-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.77*		*"*	*10.0*		*97.7*	*70-130*				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90578 - EPA 5030B											
LCS Dup (BJ90578-BSD1)								Prepared: 10/09/2019 Analyzed: 10/10/2019			
1,1,1-Trichloroethane	9.84		ug/L	10.0		98.4	70-130		4.15	20	
1,1-Dichloroethane	10.2		"	10.0		102	70-130		3.59	20	
1,1-Dichloroethylene	10.3		"	10.0		103	70-130		5.70	20	
1,2,4-Trimethylbenzene	9.57		"	10.0		95.7	82-132		1.58	20	
1,2-Dichlorobenzene	9.56		"	10.0		95.6	70-130		2.11	20	
1,2-Dichloroethane	9.79		"	10.0		97.9	70-130		4.28	20	
1,3,5-Trimethylbenzene	9.88		"	10.0		98.8	80-131		3.50	30	
1,3-Dichlorobenzene	9.26		"	10.0		92.6	70-130		1.09	20	
1,4-Dichlorobenzene	9.28		"	10.0		92.8	70-130		1.08	20	
1,4-Dioxane	217		"	210		103	40-160		3.47	20	
2-Butanone	8.47		"	10.0		84.7	40-160		2.39	20	
Acetone	8.40		"	10.0		84.0	40-160		5.38	20	
Benzene	11.0		"	10.0		110	70-130		4.38	20	
Carbon tetrachloride	9.84		"	10.0		98.4	70-130		3.83	20	
Chlorobenzene	9.94		"	10.0		99.4	70-130		1.93	20	
Chloroform	9.84		"	10.0		98.4	70-130		2.89	20	
cis-1,2-Dichloroethylene	9.77		"	10.0		97.7	70-130		3.75	20	
Ethyl Benzene	10.7		"	10.0		107	70-130		2.46	20	
Methyl tert-butyl ether (MTBE)	10.6		"	10.0		106	70-130		2.29	20	
Methylene chloride	11.2		"	10.0		112	70-130		3.55	20	
Naphthalene	9.35		"	10.0		93.5	70-147		3.59	30	
n-Butylbenzene	9.81		"	10.0		98.1	79-132		2.27	30	
n-Propylbenzene	9.99		"	10.0		99.9	78-133		2.43	30	
o-Xylene	10.2		"	10.0		102	70-130		2.29	20	
p- & m- Xylenes	18.3		"	20.0		91.6	70-130		2.71	20	
sec-Butylbenzene	10.3		"	10.0		103	79-137		2.75	30	
tert-Butylbenzene	7.98		"	10.0		79.8	77-138		2.03	30	
Tetrachloroethylene	8.78		"	10.0		87.8	70-130		1.96	20	
Toluene	10.5		"	10.0		105	70-130		3.29	20	
trans-1,2-Dichloroethylene	10.3		"	10.0		103	70-130		4.79	20	
Trichloroethylene	9.65		"	10.0		96.5	70-130		3.37	20	
Vinyl Chloride	11.8		"	10.0		118	70-130		7.40	20	
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.94*		*"*	*10.0*		*99.4*	*70-130*				
Surrogate: SURR: Toluene-d8	*9.85*		*"*	*10.0*		*98.5*	*70-130*				
Surrogate: SURR: p-Bromofluorobenzene	*9.76*		*"*	*10.0*		*97.6*	*70-130*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90324 - EPA 3550C											
Blank (BJ90324-BLK1)											
Prepared: 10/04/2019 Analyzed: 10/07/2019											
2-Methylphenol	ND	0.0416	mg/kg wet								
3- & 4-Methylphenols	ND	0.0416	"								
Acenaphthene	ND	0.0416	"								
Acenaphthylene	ND	0.0416	"								
Anthracene	ND	0.0416	"								
Benzo(a)anthracene	ND	0.0416	"								
Benzo(a)pyrene	ND	0.0416	"								
Benzo(b)fluoranthene	ND	0.0416	"								
Benzo(g,h,i)perylene	ND	0.0416	"								
Benzo(k)fluoranthene	ND	0.0416	"								
Chrysene	ND	0.0416	"								
Dibenzo(a,h)anthracene	ND	0.0416	"								
Dibenzofuran	ND	0.0416	"								
Fluoranthene	ND	0.0416	"								
Fluorene	ND	0.0416	"								
Hexachlorobenzene	ND	0.0416	"								
Indeno(1,2,3-cd)pyrene	ND	0.0416	"								
Naphthalene	ND	0.0416	"								
Pentachlorophenol	ND	0.0416	"								
Phenanthrene	ND	0.0416	"								
Phenol	ND	0.0416	"								
Pyrene	ND	0.0416	"								
Surrogate: SURR: 2-Fluorophenol	*1.02*		"	*1.66*		*61.7*	*20-108*				
Surrogate: SURR: Phenol-d5	*0.993*		"	*1.66*		*59.8*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.606*		"	*0.831*		*72.9*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.555*		"	*0.831*		*66.8*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.17*		"	*1.66*		*70.5*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.578*		"	*0.831*		*69.6*	*24-116*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90324 - EPA 3550C											
LCS (BJ90324-BS1)								Prepared: 10/04/2019 Analyzed: 10/07/2019			
2-Methylphenol	0.469	0.0416	mg/kg wet	0.831		56.5	10-136				
3- & 4-Methylphenols	0.431	0.0416	"	0.831		51.8	29-103				
Acenaphthene	0.522	0.0416	"	0.831		62.8	30-121				
Acenaphthylene	0.506	0.0416	"	0.831		60.9	30-115				
Anthracene	0.586	0.0416	"	0.831		70.5	34-118				
Benzo(a)anthracene	0.587	0.0416	"	0.831		70.6	32-122				
Benzo(a)pyrene	0.573	0.0416	"	0.831		69.0	29-133				
Benzo(b)fluoranthene	0.609	0.0416	"	0.831		73.3	25-133				
Benzo(g,h,i)perylene	0.579	0.0416	"	0.831		69.8	10-143				
Benzo(k)fluoranthene	0.541	0.0416	"	0.831		65.1	25-128				
Chrysene	0.559	0.0416	"	0.831		67.3	32-123				
Dibenzo(a,h)anthracene	0.584	0.0416	"	0.831		70.3	10-136				
Dibenzofuran	0.525	0.0416	"	0.831		63.2	29-121				
Fluoranthene	0.582	0.0416	"	0.831		70.1	33-122				
Fluorene	0.548	0.0416	"	0.831		65.9	29-123				
Hexachlorobenzene	0.568	0.0416	"	0.831		68.4	21-124				
Indeno(1,2,3-cd)pyrene	0.569	0.0416	"	0.831		68.5	10-135				
Naphthalene	0.552	0.0416	"	0.831		66.5	23-124				
Pentachlorophenol	0.630	0.0416	"	0.831		75.8	10-139				
Phenanthrene	0.568	0.0416	"	0.831		68.4	33-123				
Phenol	0.487	0.0416	"	0.831		58.6	23-115				
Pyrene	0.588	0.0416	"	0.831		70.8	32-130				
Surrogate: SURR: 2-Fluorophenol	*1.03*		"	*1.66*		*62.0*	*20-108*				
Surrogate: SURR: Phenol-d5	*0.975*		"	*1.66*		*58.7*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.612*		"	*0.831*		*73.7*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.534*		"	*0.831*		*64.3*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.24*		"	*1.66*		*74.8*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.586*		"	*0.831*		*70.6*	*24-116*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90406 - EPA 3550C											
Blank (BJ90406-BLK1)											
Prepared: 10/07/2019 Analyzed: 10/08/2019											
2-Methylphenol	ND	0.0416	mg/kg wet								
3- & 4-Methylphenols	ND	0.0416	"								
Acenaphthene	ND	0.0416	"								
Acenaphthylene	ND	0.0416	"								
Anthracene	ND	0.0416	"								
Benzo(a)anthracene	ND	0.0416	"								
Benzo(a)pyrene	ND	0.0416	"								
Benzo(b)fluoranthene	ND	0.0416	"								
Benzo(g,h,i)perylene	ND	0.0416	"								
Benzo(k)fluoranthene	ND	0.0416	"								
Chrysene	ND	0.0416	"								
Dibenzo(a,h)anthracene	ND	0.0416	"								
Dibenzofuran	ND	0.0416	"								
Fluoranthene	ND	0.0416	"								
Fluorene	ND	0.0416	"								
Hexachlorobenzene	ND	0.0416	"								
Indeno(1,2,3-cd)pyrene	ND	0.0416	"								
Naphthalene	ND	0.0416	"								
Pentachlorophenol	ND	0.0416	"								
Phenanthrene	ND	0.0416	"								
Phenol	ND	0.0416	"								
Pyrene	ND	0.0416	"								
Surrogate: SURR: 2-Fluorophenol	*0.888*		"	*1.66*		*53.4*	*20-108*				
Surrogate: SURR: Phenol-d5	*0.868*		"	*1.66*		*52.2*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.513*		"	*0.831*		*61.8*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.496*		"	*0.831*		*59.8*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.06*		"	*1.66*		*64.1*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.547*		"	*0.831*		*65.8*	*24-116*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90406 - EPA 3550C											
LCS (BJ90406-BS1)								Prepared: 10/07/2019 Analyzed: 10/08/2019			
2-Methylphenol	0.436	0.0416	mg/kg wet	0.831		52.5	10-136				
3- & 4-Methylphenols	0.374	0.0416	"	0.831		45.0	29-103				
Acenaphthene	0.485	0.0416	"	0.831		58.4	30-121				
Acenaphthylene	0.470	0.0416	"	0.831		56.6	30-115				
Anthracene	0.522	0.0416	"	0.831		62.8	34-118				
Benzo(a)anthracene	0.533	0.0416	"	0.831		64.2	32-122				
Benzo(a)pyrene	0.511	0.0416	"	0.831		61.6	29-133				
Benzo(b)fluoranthene	0.542	0.0416	"	0.831		65.2	25-133				
Benzo(g,h,i)perylene	0.515	0.0416	"	0.831		62.0	10-143				
Benzo(k)fluoranthene	0.492	0.0416	"	0.831		59.2	25-128				
Chrysene	0.500	0.0416	"	0.831		60.2	32-123				
Dibenzo(a,h)anthracene	0.544	0.0416	"	0.831		65.4	10-136				
Dibenzofuran	0.479	0.0416	"	0.831		57.7	29-121				
Fluoranthene	0.513	0.0416	"	0.831		61.8	33-122				
Fluorene	0.481	0.0416	"	0.831		57.9	29-123				
Hexachlorobenzene	0.476	0.0416	"	0.831		57.3	21-124				
Indeno(1,2,3-cd)pyrene	0.519	0.0416	"	0.831		62.4	10-135				
Naphthalene	0.487	0.0416	"	0.831		58.6	23-124				
Pentachlorophenol	0.560	0.0416	"	0.831		67.4	10-139				
Phenanthrene	0.504	0.0416	"	0.831		60.6	33-123				
Phenol	0.506	0.0416	"	0.831		60.9	23-115				
Pyrene	0.519	0.0416	"	0.831		62.5	32-130				
Surrogate: SURR: 2-Fluorophenol	*0.925*		"	*1.66*		*55.7*	*20-108*				
Surrogate: SURR: Phenol-d5	*0.881*		"	*1.66*		*53.1*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.526*		"	*0.831*		*63.4*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.483*		"	*0.831*		*58.1*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.14*		"	*1.66*		*68.7*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.514*		"	*0.831*		*61.8*	*24-116*				

PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90227 - SPE PFAS Extraction-Soil-EPA 537m											
Blank (BJ90227-BLK1)									Prepared: 10/03/2019 Analyzed: 10/04/2019		
Perfluorobutanesulfonic acid (PFBS)	ND	0.732	ug/kg wet								
Perfluorohexanoic acid (PFHxA)	ND	0.732	"								
Perfluoroheptanoic acid (PFHpA)	ND	0.732	"								
Perfluorohexanesulfonic acid (PFHxS)	ND	0.732	"								
Perfluorooctanoic acid (PFOA)	ND	0.732	"								
Perfluorooctanesulfonic acid (PFOS)	ND	0.732	"								
Perfluorononanoic acid (PFNA)	ND	0.732	"								
Perfluorodecanoic acid (PFDA)	ND	0.732	"								
Perfluoroundecanoic acid (PFUnA)	ND	0.732	"								
Perfluorododecanoic acid (PFDoA)	ND	0.732	"								
Perfluorotridecanoic acid (PFTrDA)	ND	0.732	"								
Perfluorotetradecanoic acid (PFTA)	ND	0.732	"								
N-MeFOSAA	ND	0.732	"								
N-EtFOSAA	ND	0.732	"								
Perfluoropentanoic acid (PFPeA)	ND	0.732	"								
Perfluoro-1-octanesulfonamide (FOSA)	ND	0.732	"								
Perfluoro-1-heptanesulfonic acid (PFHpS)	ND	0.732	"								
Perfluoro-1-decanesulfonic acid (PFDS)	ND	0.732	"								
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	ND	0.732	"								
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	ND	0.732	"								
Perfluoro-n-butanoic acid (PFBA)	ND	0.732	"								
Surrogate: M3PFBS	*3.13*		"	*4.54*		*69.0*	*25-150*				
Surrogate: M5PFHxA	*3.38*		"	*4.88*		*69.2*	*25-150*				
Surrogate: M4PFHpA	*3.85*		"	*4.88*		*78.9*	*25-150*				
Surrogate: M3PFHxS	*3.20*		"	*4.62*		*69.3*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*3.69*		"	*4.88*		*75.6*	*25-150*				
Surrogate: M6PFDA	*3.77*		"	*4.88*		*77.1*	*25-150*				
Surrogate: M7PFUdA	*3.06*		"	*4.88*		*62.8*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*3.10*		"	*4.88*		*63.4*	*25-150*				
Surrogate: M2PFTeDA	*3.24*		"	*4.88*		*66.3*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*3.45*		"	*4.88*		*70.6*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*3.14*		"	*4.67*		*67.1*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*3.37*		"	*4.88*		*69.1*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*2.80*		"	*4.88*		*57.4*	*10-150*				
Surrogate: d3-N-MeFOSAA	*3.18*		"	*4.88*		*65.1*	*25-150*				
Surrogate: d5-N-EtFOSAA	*3.33*		"	*4.88*		*68.2*	*25-150*				
Surrogate: M2-6:2 FTS	*3.75*		"	*4.63*		*80.9*	*25-150*				
Surrogate: M2-8:2 FTS	*4.42*		"	*4.68*		*94.6*	*25-150*				
Surrogate: M9PFNA	*3.99*		"	*4.88*		*81.7*	*25-150*				



PFAS Target compounds by LC/MS-MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90227 - SPE PFAS Extraction-Soil-EPA 537m											
LCS (BJ90227-BS1)								Prepared: 10/03/2019 Analyzed: 10/04/2019			
Perfluorobutanesulfonic acid (PFBS)	5.47	0.735	ug/kg wet	4.34		126	50-130				
Perfluorohexanoic acid (PFHxA)	5.42	0.735	"	4.90		111	50-130				
Perfluoroheptanoic acid (PFHpA)	4.78	0.735	"	4.90		97.6	50-130				
Perfluorohexanesulfonic acid (PFHxS)	4.25	0.735	"	3.63		117	50-130				
Perfluorooctanoic acid (PFOA)	5.60	0.735	"	4.90		114	50-130				
Perfluorooctanesulfonic acid (PFOS)	3.93	0.735	"	3.58		110	50-130				
Perfluorononanoic acid (PFNA)	5.42	0.735	"	4.70		115	50-130				
Perfluorodecanoic acid (PFDA)	5.04	0.735	"	4.90		103	50-130				
Perfluoroundecanoic acid (PFUnA)	5.02	0.735	"	4.90		102	50-130				
Perfluorododecanoic acid (PFDoA)	5.45	0.735	"	4.90		111	50-130				
Perfluorotridecanoic acid (PFTrDA)	5.60	0.735	"	4.90		114	50-130				
Perfluorotetradecanoic acid (PFTA)	5.03	0.735	"	4.90		103	50-130				
N-MeFOSAA	5.20	0.735	"	4.90		106	50-130				
N-EtFOSAA	5.42	0.735	"	4.90		111	50-130				
Perfluoropentanoic acid (PFPeA)	5.45	0.735	"	4.90		111	50-130				
Perfluoro-1-octanesulfonamide (FOSA)	5.18	0.735	"	4.90		106	50-130				
Perfluoro-1-heptanesulfonic acid (PFHpS)	5.70	0.735	"	4.88		117	50-130				
Perfluoro-1-decanesulfonic acid (PFDS)	4.95	0.735	"	4.73		105	50-130				
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	5.20	0.735	"	4.66		112	50-130				
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	5.13	0.735	"	4.70		109	50-130				
Perfluoro-n-butanoic acid (PFBA)	5.60	0.735	"	4.90		114	50-130				
Surrogate: M3PFBS	*3.12*		"	*4.55*		*68.5*	*25-150*				
Surrogate: M5PFHxA	*3.37*		"	*4.90*		*68.9*	*25-150*				
Surrogate: M4PFHpA	*3.96*		"	*4.90*		*80.7*	*25-150*				
Surrogate: M3PFHxS	*3.28*		"	*4.64*		*70.7*	*25-150*				
Surrogate: Perfluoro-n-[13C8]octanoic acid (M8PFOA)	*3.58*		"	*4.90*		*73.0*	*25-150*				
Surrogate: M6PFDA	*3.74*		"	*4.90*		*76.3*	*25-150*				
Surrogate: M7PFUdA	*3.22*		"	*4.90*		*65.7*	*25-150*				
Surrogate: Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	*3.21*		"	*4.90*		*65.6*	*25-150*				
Surrogate: M2PFTeDA	*3.40*		"	*4.90*		*69.4*	*10-150*				
Surrogate: Perfluoro-n-[13C4]butanoic acid (MPFBA)	*3.48*		"	*4.90*		*71.0*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	*3.23*		"	*4.69*		*68.9*	*25-150*				
Surrogate: Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	*3.39*		"	*4.90*		*69.2*	*25-150*				
Surrogate: Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	*2.83*		"	*4.90*		*57.7*	*10-150*				
Surrogate: d3-N-MeFOSAA	*3.32*		"	*4.90*		*67.7*	*25-150*				
Surrogate: d5-N-EtFOSAA	*3.22*		"	*4.90*		*65.7*	*25-150*				
Surrogate: M2-6:2 FTS	*3.81*		"	*4.65*		*81.8*	*25-150*				
Surrogate: M2-8:2 FTS	*4.10*		"	*4.69*		*87.4*	*25-150*				
Surrogate: M9PFNA	*3.68*		"	*4.90*		*75.1*	*25-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90321 - EPA 3550C											
Blank (BJ90321-BLK1)									Prepared: 10/04/2019 Analyzed: 10/08/2019		
4,4'-DDD	ND	0.00164	mg/kg wet								
4,4'-DDE	ND	0.00164	"								
4,4'-DDT	ND	0.00164	"								
Aldrin	ND	0.00164	"								
alpha-BHC	ND	0.00164	"								
alpha-Chlordane	ND	0.00164	"								
beta-BHC	ND	0.00164	"								
delta-BHC	ND	0.00164	"								
Dieldrin	ND	0.00164	"								
Endosulfan I	ND	0.00164	"								
Endosulfan II	ND	0.00164	"								
Endosulfan sulfate	ND	0.00164	"								
Endrin	ND	0.00164	"								
gamma-BHC (Lindane)	ND	0.00164	"								
Heptachlor	ND	0.00164	"								
Surrogate: Decachlorobiphenyl	*0.0686*		*"*	*0.0664*		*103*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0730*		*"*	*0.0664*		*110*	*30-150*				
LCS (BJ90321-BS1)									Prepared: 10/04/2019 Analyzed: 10/08/2019		
4,4'-DDD	0.0342	0.00164	mg/kg wet	0.0332		103	40-140				
4,4'-DDE	0.0331	0.00164	"	0.0332		99.5	40-140				
4,4'-DDT	0.0163	0.00164	"	0.0332		49.0	40-140				
Aldrin	0.0322	0.00164	"	0.0332		96.8	40-140				
alpha-BHC	0.0301	0.00164	"	0.0332		90.7	40-140				
alpha-Chlordane	0.0327	0.00164	"	0.0332		98.4	40-140				
beta-BHC	0.0297	0.00164	"	0.0332		89.5	40-140				
delta-BHC	0.0265	0.00164	"	0.0332		79.8	40-140				
Dieldrin	0.0331	0.00164	"	0.0332		99.7	40-140				
Endosulfan I	0.0338	0.00164	"	0.0332		102	40-140				
Endosulfan II	0.0336	0.00164	"	0.0332		101	40-140				
Endosulfan sulfate	0.0319	0.00164	"	0.0332		96.1	40-140				
Endrin	0.0301	0.00164	"	0.0332		90.6	40-140				
gamma-BHC (Lindane)	0.0290	0.00164	"	0.0332		87.2	40-140				
Heptachlor	0.0281	0.00164	"	0.0332		84.6	40-140				
Surrogate: Decachlorobiphenyl	*0.0723*		*"*	*0.0664*		*109*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0703*		*"*	*0.0664*		*106*	*30-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90322 - EPA 3550C											
Blank (BJ90322-BLK1)									Prepared: 10/04/2019 Analyzed: 10/09/2019		
4,4'-DDD	ND	0.00164	mg/kg wet								
4,4'-DDE	ND	0.00164	"								
4,4'-DDT	ND	0.00164	"								
Aldrin	ND	0.00164	"								
alpha-BHC	ND	0.00164	"								
alpha-Chlordane	ND	0.00164	"								
beta-BHC	ND	0.00164	"								
delta-BHC	ND	0.00164	"								
Dieldrin	ND	0.00164	"								
Endosulfan I	ND	0.00164	"								
Endosulfan II	ND	0.00164	"								
Endosulfan sulfate	ND	0.00164	"								
Endrin	ND	0.00164	"								
gamma-BHC (Lindane)	ND	0.00164	"								
Heptachlor	ND	0.00164	"								
Surrogate: Decachlorobiphenyl	*0.0586*		*"*	*0.0664*		*88.1*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0718*		*"*	*0.0664*		*108*	*30-150*				
LCS (BJ90322-BS1)									Prepared: 10/04/2019 Analyzed: 10/09/2019		
4,4'-DDD	0.0306	0.00164	mg/kg wet	0.0332		92.0	40-140				
4,4'-DDE	0.0283	0.00164	"	0.0332		85.1	40-140				
4,4'-DDT	0.0137	0.00164	"	0.0332		41.3	40-140				
Aldrin	0.0307	0.00164	"	0.0332		92.4	40-140				
alpha-BHC	0.0298	0.00164	"	0.0332		89.8	40-140				
alpha-Chlordane	0.0298	0.00164	"	0.0332		89.6	40-140				
beta-BHC	0.0281	0.00164	"	0.0332		84.7	40-140				
delta-BHC	0.0259	0.00164	"	0.0332		78.0	40-140				
Dieldrin	0.0302	0.00164	"	0.0332		90.9	40-140				
Endosulfan I	0.0310	0.00164	"	0.0332		93.4	40-140				
Endosulfan II	0.0297	0.00164	"	0.0332		89.3	40-140				
Endosulfan sulfate	0.0284	0.00164	"	0.0332		85.5	40-140				
Endrin	0.0248	0.00164	"	0.0332		74.7	40-140				
gamma-BHC (Lindane)	0.0282	0.00164	"	0.0332		84.8	40-140				
Heptachlor	0.0261	0.00164	"	0.0332		78.6	40-140				
Surrogate: Decachlorobiphenyl	*0.0631*		*"*	*0.0664*		*95.0*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.0721*		*"*	*0.0664*		*108*	*30-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch Y9I2404 - BI90712											
Performance Mix (Y9I2404-PEM1)								Prepared & Analyzed: 09/16/2019			
4,4'-DDD	12.6		ng/mL	0.00			0-200				
4,4'-DDE	1.76		"	0.00			0-200				
4,4'-DDT	464		"	200		232	0-200	High Bias			
Endrin	171		"	100		171	0-200				
Batch Y9J0822 - BJ90283											
Performance Mix (Y9J0822-PEM1)								Prepared & Analyzed: 10/07/2019			
4,4'-DDD	3.36		ng/mL	0.00			0-200				
4,4'-DDE	0.667		"	0.00			0-200				
4,4'-DDT	228		"	200		114	0-200				
Endrin	77.1		"	100		77.1	0-200				
Batch Y9J0912 - BI91644											
Performance Mix (Y9J0912-PEM1)								Prepared & Analyzed: 10/08/2019			
4,4'-DDD	5.14		ng/mL	0.00			0-200				
4,4'-DDE	0.905		"	0.00			0-200				
4,4'-DDT	179		"	200		89.5	0-200				
Endrin	68.4		"	100		68.4	0-200				
Performance Mix (Y9J0912-PEM2)								Prepared & Analyzed: 10/08/2019			
4,4'-DDD	0.00		ng/mL	0.00			0-200				
4,4'-DDE	0.907		"	0.00			0-200				
4,4'-DDT	234		"	200		117	0-200				
Endrin	88.2		"	100		88.2	0-200				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch Y9J1109 - BI91644											
Performance Mix (Y9J1109-PEM1)							Prepared & Analyzed: 10/09/2019				
4,4'-DDD	0.00		ng/mL	0.00			0-200				
4,4'-DDE	1.53		"	0.00			0-200				
4,4'-DDT	148		"	200		73.9	0-200				
Endrin	95.6		"	100		95.6	0-200				
Performance Mix (Y9J1109-PEM2)							Prepared & Analyzed: 10/09/2019				
4,4'-DDD	3.01		ng/mL	0.00			0-200				
4,4'-DDE	0.545		"	0.00			0-200				
4,4'-DDT	245		"	200		122	0-200				
Endrin	82.5		"	100		82.5	0-200				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90321 - EPA 3550C											
Blank (BJ90321-BLK2)									Prepared: 10/04/2019 Analyzed: 10/07/2019		
Aroclor 1016	ND	0.0166	mg/kg wet								
Aroclor 1221	ND	0.0166	"								
Aroclor 1232	ND	0.0166	"								
Aroclor 1242	ND	0.0166	"								
Aroclor 1248	ND	0.0166	"								
Aroclor 1254	ND	0.0166	"								
Aroclor 1260	ND	0.0166	"								
Aroclor 1262	ND	0.0166	"								
Aroclor 1268	ND	0.0166	"								
Total PCBs	ND	0.0166	"								
Surrogate: Tetrachloro-m-xylene	*0.0718*		*"*	*0.0664*		*108*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0571*		*"*	*0.0664*		*86.0*	*30-120*				
LCS (BJ90321-BS2)									Prepared: 10/04/2019 Analyzed: 10/07/2019		
Aroclor 1016	0.335	0.0166	mg/kg wet	0.332		101	40-130				
Aroclor 1260	0.325	0.0166	"	0.332		97.8	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0625*		*"*	*0.0664*		*94.0*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0498*		*"*	*0.0664*		*75.0*	*30-120*				
Batch BJ90322 - EPA 3550C											
Blank (BJ90322-BLK2)									Prepared: 10/04/2019 Analyzed: 10/08/2019		
Aroclor 1016	ND	0.0166	mg/kg wet								
Aroclor 1221	ND	0.0166	"								
Aroclor 1232	ND	0.0166	"								
Aroclor 1242	ND	0.0166	"								
Aroclor 1248	ND	0.0166	"								
Aroclor 1254	ND	0.0166	"								
Aroclor 1260	ND	0.0166	"								
Aroclor 1262	ND	0.0166	"								
Aroclor 1268	ND	0.0166	"								
Total PCBs	ND	0.0166	"								
Surrogate: Tetrachloro-m-xylene	*0.0771*		*"*	*0.0664*		*116*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0518*		*"*	*0.0664*		*78.0*	*30-120*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90322 - EPA 3550C											
LCS (BJ90322-BS2)								Prepared: 10/04/2019 Analyzed: 10/08/2019			
Aroclor 1016	0.359	0.0166	mg/kg wet	0.332		108	40-130				
Aroclor 1260	0.324	0.0166	"	0.332		97.7	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0711*		*"*	*0.0664*		*107*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.0458*		*"*	*0.0664*		*69.0*	*30-120*				
Batch Y9J0815 - BJ90144											
Aroclor Reference (Y9J0815-ARC2)								Prepared & Analyzed: 10/07/2019			
Surrogate: Tetrachloro-m-xylene	*0.244*		*ug/mL*	*0.200*		*122*					
Surrogate: Decachlorobiphenyl	*0.199*		*"*	*0.200*		*99.5*					

Chlorinated Herbicides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90361 - EPA 3550B/8151A											
Blank (BJ90361-BLK1)								Prepared: 10/07/2019 Analyzed: 10/08/2019			
2,4,5-TP (Silvex)	ND	0.0199	mg/kg wet								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.679*		"	*0.498*		*136*	*21-150*				
LCS (BJ90361-BS1)								Prepared: 10/07/2019 Analyzed: 10/08/2019			
2,4,5-TP (Silvex)	0.0777	0.0199	mg/kg wet	0.159		48.7	10-120				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.567*		"	*0.498*		*114*	*21-150*				
Matrix Spike (BJ90361-MS1)	*Source sample: 19J0144-01 (SB19_0-2)							Prepared: 10/07/2019 Analyzed: 10/08/2019			
2,4,5-TP (Silvex)	0.0481	0.0209	mg/kg dry	0.167	ND	28.8	10-120				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.392*		"	*0.523*		*75.0*	*21-150*				
Matrix Spike Dup (BJ90361-MSD1)	*Source sample: 19J0144-01 (SB19_0-2)							Prepared: 10/07/2019 Analyzed: 10/08/2019			
2,4,5-TP (Silvex)	0.0533	0.0209	mg/kg dry	0.167	ND	31.9	10-120		10.3	35	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*0.433*		"	*0.523*		*82.8*	*21-150*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90216 - EPA 3050B											
Blank (BJ90216-BLK1)									Prepared & Analyzed: 10/03/2019		
Arsenic	ND	1.50	mg/kg wet								
Barium	ND	2.50	"								
Beryllium	ND	0.050	"								
Cadmium	ND	0.300	"								
Chromium	ND	0.500	"								
Copper	ND	2.00	"								
Lead	ND	0.500	"								
Manganese	ND	0.500	"								
Nickel	ND	1.00	"								
Selenium	ND	2.50	"								
Silver	ND	0.500	"								
Zinc	ND	2.50	"								
Duplicate (BJ90216-DUP1)	*Source sample: 19J0144-06 (SB28_5.5-7.5)								Prepared: 10/03/2019 Analyzed: 10/04/2019		
Arsenic	ND	1.65	mg/kg dry		ND					35	
Barium	23.4	2.74	"		23.8				1.74	35	
Beryllium	ND	0.055	"		ND					35	
Cadmium	0.405	0.329	"		0.383				5.40	35	
Chromium	36.3	0.548	"		39.3				7.94	35	
Copper	23.9	2.19	"		25.1				4.77	35	
Lead	28.8	0.548	"		32.0				10.7	35	
Manganese	343	0.548	"		341				0.616	35	
Nickel	25.8	1.10	"		28.0				8.18	35	
Selenium	ND	2.74	"		ND					35	
Silver	ND	0.548	"		ND					35	
Zinc	68.0	2.74	"		63.4				7.03	35	
Matrix Spike (BJ90216-MS1)	*Source sample: 19J0144-06 (SB28_5.5-7.5)								Prepared: 10/03/2019 Analyzed: 10/04/2019		
Arsenic	210	1.65	mg/kg dry	219	ND	95.8	75-125				
Barium	244	2.74	"	219	23.8	100	75-125				
Beryllium	0.818	0.055	"	5.48	ND	14.9	75-125	Low Bias			
Cadmium	5.66	0.329	"	5.48	0.383	96.3	75-125				
Chromium	50.8	0.548	"	21.9	39.3	52.3	75-125	Low Bias			
Copper	47.4	2.19	"	27.4	25.1	81.4	75-125				
Lead	125	0.548	"	54.8	32.0	170	75-125	High Bias			
Manganese	398	0.548	"	54.8	341	104	75-125				
Nickel	79.8	1.10	"	54.8	28.0	94.3	75-125				
Silver	2.65	0.548	"	5.48	ND	48.4	75-125	Low Bias			
Zinc	110	2.74	"	54.8	63.4	84.9	75-125				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90216 - EPA 3050B											
Post Spike (BJ90216-PS1)	*Source sample: 19J0144-06 (SB28_5.5-7.5)							Prepared: 10/03/2019 Analyzed: 10/04/2019			
Arsenic	2.01		ug/mL	2.00	0.014	99.9	75-125				
Barium	2.35		"	2.00	0.217	107	75-125				
Beryllium	-0.008		"	0.0500	-0.060		75-125	Low Bias			
Cadmium	0.055		"	0.0500	0.003	103	75-125				
Chromium	0.569		"	0.200	0.359	105	75-125				
Copper	0.502		"	0.250	0.229	109	75-125				
Lead	0.802		"	0.500	0.292	102	75-125				
Manganese	3.64		"	0.500	3.11	106	75-125				
Nickel	0.796		"	0.500	0.256	108	75-125				
Silver	0.011		"	0.0500	-0.030	22.6	75-125	Low Bias			
Zinc	1.08		"	0.500	0.578	101	75-125				
Reference (BJ90216-SRM1)								Prepared & Analyzed: 10/03/2019			
Arsenic	131	1.50	mg/kg wet	125		105	69.8-130.2				
Barium	651	2.50	"	529		123	75.2-125.2				
Beryllium	167	0.050	"	155		108	75-125				
Cadmium	41.1	0.300	"	37.7		109	74.5-124.8				
Chromium	58.7	0.500	"	58.3		101	70.1-129.9				
Copper	83.8	2.00	"	78.0		107	74.7-124.1				
Lead	118	0.500	"	111		106	68.4-131.6				
Manganese	321	0.500	"	310		103	75.2-124.8				
Nickel	362	1.00	"	333		109	69.9-129.8				
Selenium	238	2.50	"	251		94.9	58.1-141.7				
Silver	29.1	0.500	"	27.2		107	70.7-129.3				
Zinc	371	2.50	"	351		106	70.1-130.3				

Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90473 - EPA 7473 soil											
Blank (BJ90473-BLK1)									Prepared & Analyzed: 10/08/2019		
Mercury	ND	0.0300	mg/kg wet								
Reference (BJ90473-SRM1)									Prepared & Analyzed: 10/08/2019		
Mercury	3.1308		mg/kg	3.71		84.4	65-135				

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BJ90452 - EPA SW846-3060											
Blank (BJ90452-BLK1)								Prepared & Analyzed: 10/08/2019			
Chromium, Hexavalent	ND	0.500	mg/kg wet								
Reference (BJ90452-SRM1)								Prepared & Analyzed: 10/08/2019			
Chromium, Hexavalent	98.5		mg/L	71.8		137	18.8-206.1				
Batch BJ90530 - EPA SW846-3060											
Blank (BJ90530-BLK1)								Prepared & Analyzed: 10/09/2019			
Chromium, Hexavalent	ND	0.500	mg/kg wet								
Reference (BJ90530-SRM1)								Prepared & Analyzed: 10/09/2019			
Chromium, Hexavalent	53.6		mg/L	71.8		74.6	18.8-206.1				

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
19J0144-01	SB19_0-2	40mL 01_Clear Vial Cool to 4° C
19J0144-02	SB19_8-9	40mL Vial with Stir Bar-Cool 4° C
19J0144-03	SB27_0-2	40mL 01_Clear Vial Cool to 4° C
19J0144-04	SB27_6-8	40mL 01_Clear Vial Cool to 4° C
19J0144-05	SB28_0-2	40mL 01_Clear Vial Cool to 4° C
19J0144-06	SB28_5.5-7.5	40mL 01_Clear Vial Cool to 4° C
19J0144-07	RITB04_100219	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Sample and Data Qualifiers Relating to This Work Order

S-08	The recovery of this surrogate was outside of QC limits.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
M-ICV2	The recovery for this element in the ICV was outside the 90-110% recovery criteria.
M-CRL	The RL check for this element recovered outside of control limits.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.

Non-Dir. Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Laboratory Chain-of-Custody Record

York Project (SDG) No.: 19J0144

Samples Received: 10/02/2019 19:36 **By:** Tom Gabrielson **Logged In:** 10/02/2019 17:36 **By:** Tom Gabrielson

Sample Conditions:

- [x] Custody Seals
- [x] Containers Intact
- [x] COC/Labels Agree
- [x] Preservation Confirmed
- [x] Cooler Temperature Confirmed
- [x] COC Complete
- [x] Chain of Custody Form Received
- [x] Appropriate Sample Volumes Received
- [x] Appropriate Sample Containers Submitted
- [x] Samples Submitted within Holding Times
- [ ] Corrective Action Form Required

Preparation Chain-of-Custody

Sample ID	Reason Prep	Prep Start Date	Prep End Date	Prep Analyst
19J0144-01	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-02	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-03	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-04	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-05	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-06	% Solids Prep	10/08/2019 20:28	10/08/2019 20:28	Margaret A. Ottersen
19J0144-01	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-02	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-03	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-04	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-05	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-06	Analysis Preparation	10/09/2019 12:39	10/09/2019 12:39	Philip Murphy
19J0144-01	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-02	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-03	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-04	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-05	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-06	EPA 3050B	10/03/2019 11:12	10/03/2019 11:12	Sarah Yu
19J0144-01	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-02	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-03	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-04	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-05	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-06	EPA 3550B/8151A	10/07/2019 9:25	10/07/2019 9:25	Cailee T. D'Amico
19J0144-01	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott
19J0144-01	EPA 3550C	10/07/2019 14:12	10/07/2019 14:12	Chelsy L. O'Leary
19J0144-01	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott
19J0144-02	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott

Preparation Chain-of-Custody

Sample ID	Reason Prep	Prep Start Date	Prep End Date	Prep Analyst
19J0144-02	EPA 3550C	10/07/2019 14:12	10/07/2019 14:12	Chelsy L. O'Leary
19J0144-02	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott
19J0144-03	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott
19J0144-03	EPA 3550C	10/04/2019 13:53	10/04/2019 13:53	Zach T. Scott
19J0144-03	EPA 3550C	10/07/2019 14:12	10/07/2019 14:12	Chelsy L. O'Leary
19J0144-04	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-04	EPA 3550C	10/04/2019 13:58	10/04/2019 13:58	Chelsy L. O'Leary
19J0144-04	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-05	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-05	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-05	EPA 3550C	10/04/2019 13:58	10/04/2019 13:58	Chelsy L. O'Leary
19J0144-06	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-06	EPA 3550C	10/04/2019 13:49	10/04/2019 13:49	Destiney K. Coward
19J0144-06	EPA 3550C	10/04/2019 13:58	10/04/2019 13:58	Chelsy L. O'Leary
19J0144-07	EPA 5030B	10/09/2019 6:01	10/09/2019 6:01	Lie Ling Jauw
19J0144-01	EPA 5035A	10/04/2019 6:52	10/04/2019 6:52	Taylor M. Pasquence
19J0144-02	EPA 5035A	10/07/2019 6:49	10/07/2019 6:49	Taylor M. Pasquence
19J0144-03	EPA 5035A	10/04/2019 6:55	10/04/2019 6:55	Taylor M. Pasquence
19J0144-04	EPA 5035A	10/04/2019 6:55	10/04/2019 6:55	Taylor M. Pasquence
19J0144-05	EPA 5035A	10/04/2019 6:55	10/04/2019 6:55	Taylor M. Pasquence
19J0144-06	EPA 5035A	10/04/2019 6:52	10/04/2019 6:52	Taylor M. Pasquence
19J0144-01	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-02	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-03	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-04	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-05	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-06	EPA 7473 soil	10/08/2019 10:45	10/08/2019 10:45	Sarah Yu
19J0144-01	EPA SW846-3060	10/08/2019 8:56	10/08/2019 8:56	Meet S. Parikh
19J0144-02	EPA SW846-3060	10/08/2019 8:56	10/08/2019 8:56	Meet S. Parikh
19J0144-03	EPA SW846-3060	10/08/2019 8:56	10/08/2019 8:56	Meet S. Parikh
19J0144-04	EPA SW846-3060	10/08/2019 8:56	10/08/2019 8:56	Meet S. Parikh
19J0144-05	EPA SW846-3060	10/08/2019 8:56	10/08/2019 8:56	Meet S. Parikh
19J0144-06	EPA SW846-3060	10/09/2019 8:45	10/09/2019 8:45	Meet S. Parikh
19J0144-02	SPE PFAS Extraction-Soil-EPA 537m	10/03/2019 13:31	10/03/2019 13:31	WLi
19J0144-04	SPE PFAS Extraction-Soil-EPA 537m	10/03/2019 13:31	10/03/2019 13:31	WLi
19J0144-06	SPE PFAS Extraction-Soil-EPA 537m	10/03/2019 13:31	10/03/2019 13:31	WLi

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst
19J0144-01	Chromium, Hexavalent	10/08/2019 8:56	10/08/2019 22:37	Margaret A. Ottersen
19J0144-02	Chromium, Hexavalent	10/08/2019 8:56	10/08/2019 22:37	Margaret A. Ottersen
19J0144-03	Chromium, Hexavalent	10/08/2019 8:56	10/08/2019 22:37	Margaret A. Ottersen
19J0144-04	Chromium, Hexavalent	10/08/2019 8:56	10/08/2019 22:37	Margaret A. Ottersen
19J0144-05	Chromium, Hexavalent	10/08/2019 8:56	10/08/2019 22:37	Margaret A. Ottersen
19J0144-06	Chromium, Hexavalent	10/09/2019 8:45	10/09/2019 15:40	Meet S. Parikh
19J0144-01	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-02	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-03	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-04	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-05	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-06	Chromium, Trivalent	10/09/2019 12:39	10/09/2019 17:59	Philip Murphy
19J0144-01	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 12:36	Sal Rianna
19J0144-02	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 12:47	Sal Rianna
19J0144-03	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 12:57	Sal Rianna
19J0144-04	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 13:08	Sal Rianna
19J0144-05	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 14:12	Sal Rianna
19J0144-06	HERB, 8151 MASTER	10/07/2019 9:25	10/08/2019 10:38	Sal Rianna
19J0144-01	Mercury by 7473	10/08/2019 10:45	10/08/2019 11:20	Sarah Yu
19J0144-02	Mercury by 7473	10/08/2019 10:45	10/08/2019 11:30	Sarah Yu
19J0144-03	Mercury by 7473	10/08/2019 10:45	10/08/2019 11:39	Sarah Yu
19J0144-04	Mercury by 7473	10/08/2019 10:45	10/08/2019 11:48	Sarah Yu
19J0144-05	Mercury by 7473	10/08/2019 10:45	10/08/2019 11:57	Sarah Yu
19J0144-06	Mercury by 7473	10/08/2019 10:45	10/08/2019 12:06	Sarah Yu
19J0144-01	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 14:47	Kristin M. Lopez
19J0144-02	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 14:56	Kristin M. Lopez
19J0144-03	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 14:58	Kristin M. Lopez
19J0144-04	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 15:01	Kristin M. Lopez
19J0144-05	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 15:03	Kristin M. Lopez
19J0144-06	Metals, NYSDEC Part 375	10/03/2019 11:12	10/04/2019 15:05	Kristin M. Lopez
19J0144-01	PCB, 8082 MASTER	10/04/2019 13:53	10/09/2019 5:27	Sal Rianna
19J0144-02	PCB, 8082 MASTER	10/04/2019 13:53	10/09/2019 5:41	Sal Rianna
19J0144-03	PCB, 8082 MASTER	10/04/2019 13:53	10/09/2019 5:54	Sal Rianna
19J0144-04	PCB, 8082 MASTER	10/04/2019 13:49	10/07/2019 18:05	Sal Rianna
19J0144-05	PCB, 8082 MASTER	10/04/2019 13:49	10/07/2019 18:18	Sal Rianna
19J0144-06	PCB, 8082 MASTER	10/04/2019 13:49	10/07/2019 18:32	Sal Rianna
19J0144-01	PEST, 8081 MASTER	10/04/2019 13:53	10/09/2019 13:32	Courtney Mezes
19J0144-02	PEST, 8081 MASTER	10/04/2019 13:53	10/09/2019 13:50	Courtney Mezes
19J0144-03	PEST, 8081 MASTER	10/04/2019 13:53	10/09/2019 14:08	Courtney Mezes
19J0144-04	PEST, 8081 MASTER	10/04/2019 13:49	10/08/2019 23:22	Courtney Mezes
19J0144-05	PEST, 8081 MASTER	10/04/2019 13:49	10/08/2019 23:40	Courtney Mezes

Analysis Chain-of-Custody

Sample ID	Reason Analysis	Analysis Start Date	Analysis End Date	Analyst
19J0144-06	PEST, 8081 MASTER	10/04/2019 13:49	10/08/2019 23:58	Courtney Mezes
19J0144-02	PFAS, NYSDEC Target List	10/03/2019 13:31	10/04/2019 22:31	Krys Trafalski
19J0144-04	PFAS, NYSDEC Target List	10/03/2019 13:31	10/04/2019 22:58	Krys Trafalski
19J0144-06	PFAS, NYSDEC Target List	10/03/2019 13:31	10/04/2019 23:25	Krys Trafalski
19J0144-01	SVOA, 8270 MASTER	10/07/2019 14:12	10/08/2019 10:32	Sal Rianna
19J0144-02	SVOA, 8270 MASTER	10/07/2019 14:12	10/08/2019 11:04	Sal Rianna
19J0144-03	SVOA, 8270 MASTER	10/07/2019 14:12	10/08/2019 11:35	Sal Rianna
19J0144-04	SVOA, 8270 MASTER	10/04/2019 13:58	10/07/2019 13:17	Sal Rianna
19J0144-05	SVOA, 8270 MASTER	10/04/2019 13:58	10/07/2019 13:48	Sal Rianna
19J0144-06	SVOA, 8270 MASTER	10/04/2019 13:58	10/07/2019 14:20	Sal Rianna
19J0144-01	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-02	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-03	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-04	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-05	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-06	Total Solids	10/08/2019 20:28	10/09/2019 10:07	Timothy J. Moore
19J0144-07	VOA, 8260 LOW MASTER	10/09/2019 6:01	10/10/2019 2:04	Lie Ling Jauw
19J0144-01	VOA, 8260 MASTER	10/04/2019 6:52	10/04/2019 14:26	Lie Ling Jauw
19J0144-02	VOA, 8260 MASTER	10/07/2019 6:49	10/07/2019 18:18	Lie Ling Jauw
19J0144-03	VOA, 8260 MASTER	10/04/2019 6:55	10/05/2019 1:09	Lie Ling Jauw
19J0144-04	VOA, 8260 MASTER	10/04/2019 6:55	10/05/2019 1:36	Lie Ling Jauw
19J0144-05	VOA, 8260 MASTER	10/04/2019 6:55	10/05/2019 2:02	Lie Ling Jauw
19J0144-06	VOA, 8260 MASTER	10/04/2019 6:52	10/04/2019 16:45	Lie Ling Jauw

YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

RI

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 19J0144

YOUR Information

Company: Langan Engineering
Address: 360 W 31st St; 8th Fl
New York, NY 10001
Phone No. (212) 479-5400
Contact Person: Stuart Knoop
E-Mail Address: sknoop@langan.com

Report To:

Company:
Address:
Phone No. SAME
Attention:
E-Mail Address:

Invoice To:

Company:
Address:
Phone No. SAME
Attention:
E-Mail Address:

YOUR Project ID

170396002

Purchase Order No.

Samples from: CT ___ NY X NJ ___

Turn-Around Time

- RUSH - Same Day ☐
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☑
- RUSH - Four Day ☐
- Standard(5-7 Days) X

Report Type

- Summary Report X
- Summary w/ QA Summary ___
- CT RCP Package ___
- CTRCP DQA/DUE Pkg ___
- NY ASP A Package ___
- NY ASP B Package X
- NJDEP Red. Deliv. ___

Electronic Data Deliverables (EDD)

- Simple Excel ___
- NYSDEC EQuIS X
- EQuIS (std) ___
- EZ-EDD (EQuIS) ___
- NJDEP SRP HazSite EDD ___
- GIS/KEY (std) ___
- Other ___
- **York Regulatory Comparison Excel Spreadsheet**

Compare to the following Regs. (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Samples Collected/Authorized By (Signature)

Eric M. Montfort
Name (printed)

Matrix Codes

S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dioxane/Furans	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
SB19-0-2	10-2-19/1245	S	Part 375 VOCs, SVOCs, PCBs, Pest., Herb., and Metals (incl. hexCr)	[redacted] + 1,4 Dioxane and NYSDEC-listed PFAS
SB19-8-9	1250			
SB27-0-2	1030			+ 1,4-Dioxane and NYSDEC-listed PFAS
SB27-[redacted]	1035			
SB28-0-2	1200			
SB28-5.5-7.5	1205			+ 1,4-Dioxane and NYSDEC-listed PFAS
RITB04-100219	-	W	VOCs	(2) 40 mL vials

Comments

Please also email results to kdelcol@langan.com and datamanagement@langan.com

Preservation Check those Applicable

4°C X Frozen ___ HCl ___ MeOH ___ HNO3 X H2SO4 ___ NaOH X
ZnAc ___ Ascorbic Acid ___ Other ___

Special Instructions
Field Filtered X
Lab to Filter ☐

Samples Relinquished By	Date/Time	Samples Received By	Date/Time
[signature]	10-2-19/1540	[signature]	10-2-19 1540
Samples Relinquished By	Date/Time	Samples Received in LAB by	Date/Time
[signature]	10-2-19 1630	TC Tahl 10/2/19	1936

Temperature on Receipt 1.3 °C

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06
RITB04_100219	19J0144-07

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0834 Instrument: QVOA1

Calibration: YJ90003

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90131-BS1)			Lab File ID: QV110107.D		Analyzed: 10/04/19 10:39			
SURR: 1,2-Dichloroethane-d4	50.0	102	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.8	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
LCS Dup (BJ90131-BSD1)			Lab File ID: QV110108.D		Analyzed: 10/04/19 11:05			
SURR: 1,2-Dichloroethane-d4	50.0	99.6	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	97.1	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
Blank (BJ90131-BLK1)			Lab File ID: QV110111.D		Analyzed: 10/04/19 12:40			
SURR: 1,2-Dichloroethane-d4	50.0	102	77 - 125	4.802	4.8045	-0.0025	+/-1.00	
SURR: Toluene-d8	50.0	102	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	94.9	76 - 130	9.348	9.351167	-0.0032	+/-1.00	
SB19_0-2 (19J0144-01)			Lab File ID: QV110115.D		Analyzed: 10/04/19 14:26			
SURR: 1,2-Dichloroethane-d4	50.0	107	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	102	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.8	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
SB28_5.5-7.5 (19J0144-06)			Lab File ID: QV110120.D		Analyzed: 10/04/19 16:45			
SURR: 1,2-Dichloroethane-d4	50.0	103	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	103	85 - 120	6.621	6.624	-0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	98.9	76 - 130	9.35	9.351167	-0.0012	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0836 Instrument: QVOA1

Calibration: YJ90003

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90132-BS1)			Lab File ID: QV110134.D		Analyzed: 10/04/19 22:57			
SURR: 1,2-Dichloroethane-d4	50.0	101	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	94.3	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
LCS Dup (BJ90132-BSD1)			Lab File ID: QV110135.D		Analyzed: 10/04/19 23:24			
SURR: 1,2-Dichloroethane-d4	50.0	99.9	77 - 125	4.801	4.8045	-0.0035	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	94.7	76 - 130	9.348	9.351167	-0.0032	+/-1.00	
Blank (BJ90132-BLK1)			Lab File ID: QV110136.D		Analyzed: 10/04/19 23:50			
SURR: 1,2-Dichloroethane-d4	50.0	102	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.621	6.624	-0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	95.3	76 - 130	9.348	9.351167	-0.0032	+/-1.00	
Blank (BJ90132-BLK2)			Lab File ID: QV110137.D		Analyzed: 10/05/19 00:17			
SURR: 1,2-Dichloroethane-d4	50.0	103	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	101	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.4	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
SB27_0-2 (19J0144-03)			Lab File ID: QV110139.D		Analyzed: 10/05/19 01:09			
SURR: 1,2-Dichloroethane-d4	50.0	109	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	109	85 - 120	6.621	6.624	-0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	102	76 - 130	9.35	9.351167	-0.0012	+/-1.00	
SB27_6-8 (19J0144-04)			Lab File ID: QV110140.D		Analyzed: 10/05/19 01:36			
SURR: 1,2-Dichloroethane-d4	50.0	107	77 - 125	4.801	4.8045	-0.0035	+/-1.00	
SURR: Toluene-d8	50.0	105	85 - 120	6.621	6.624	-0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	97.8	76 - 130	9.347	9.351167	-0.0042	+/-1.00	
SB28_0-2 (19J0144-05)			Lab File ID: QV110141.D		Analyzed: 10/05/19 02:02			
SURR: 1,2-Dichloroethane-d4	50.0	105	77 - 125	4.804	4.8045	-0.0005	+/-1.00	
SURR: Toluene-d8	50.0	113	85 - 120	6.624	6.624	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	105	76 - 130	9.35	9.351167	-0.0012	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0915	Instrument:	QVOA4
		Calibration:	YE90028

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90136-BS1)			Lab File ID: QV407281.D		Analyzed: 10/07/19 10:15			
SURR: 1,2-Dichloroethane-d4	50.0	99.0	77 - 125	4.696	4.697	-0.0010	+/-1.00	
SURR: Toluene-d8	50.0	98.4	85 - 120	6.46	6.46	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	96.3	76 - 130	9.201	9.2005	0.0005	+/-1.00	
Blank (BJ90136-BLK1)			Lab File ID: QV407283.D		Analyzed: 10/07/19 11:08			
SURR: 1,2-Dichloroethane-d4	50.0	100	77 - 125	4.696	4.697	-0.0010	+/-1.00	
SURR: Toluene-d8	50.0	98.7	85 - 120	6.46	6.46	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	95.4	76 - 130	9.198	9.2005	-0.0025	+/-1.00	
SB19_8-9 (19J0144-02)			Lab File ID: QV407299.D		Analyzed: 10/07/19 18:18			
SURR: 1,2-Dichloroethane-d4	50.0	99.0	77 - 125	4.696	4.697	-0.0010	+/-1.00	
SURR: Toluene-d8	50.0	99.3	85 - 120	6.457	6.46	-0.0030	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	97.1	76 - 130	9.198	9.2005	-0.0025	+/-1.00	
LCS Dup (BJ90136-BSD1)			Lab File ID: QV407302.D		Analyzed: 10/07/19 19:39			
SURR: 1,2-Dichloroethane-d4	50.0	98.6	77 - 125	4.696	4.697	-0.0010	+/-1.00	
SURR: Toluene-d8	50.0	98.7	85 - 120	6.46	6.46	0.0000	+/-1.00	
SURR: p-Bromofluorobenzene	50.0	97.1	76 - 130	9.198	9.2005	-0.0025	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J1024	Instrument:	QVOA6
		Calibration:	YJ90014

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90578-BS1)			Lab File ID: QV616946.D		Analyzed: 10/09/19 23:54			
SURR: 1,2-Dichloroethane-d4	10.0	97.8	70 - 130	5.324	5.325	-0.0010	+/-1.00	
SURR: Toluene-d8	10.0	98.5	70 - 130	7.172	7.173667	-0.0017	+/-1.00	
SURR: p-Bromofluorobenzene	10.0	97.7	70 - 130	9.946	9.947445	-0.0014	+/-1.00	
LCS Dup (BJ90578-BSD1)			Lab File ID: QV616947.D		Analyzed: 10/10/19 00:20			
SURR: 1,2-Dichloroethane-d4	10.0	99.4	70 - 130	5.324	5.325	-0.0010	+/-1.00	
SURR: Toluene-d8	10.0	98.5	70 - 130	7.172	7.173667	-0.0017	+/-1.00	
SURR: p-Bromofluorobenzene	10.0	97.6	70 - 130	9.943	9.947445	-0.0044	+/-1.00	
Blank (BJ90578-BLK1)			Lab File ID: QV616949.D		Analyzed: 10/10/19 01:12			
SURR: 1,2-Dichloroethane-d4	10.0	100	70 - 130	5.324	5.325	-0.0010	+/-1.00	
SURR: Toluene-d8	10.0	98.8	70 - 130	7.169	7.173667	-0.0047	+/-1.00	
SURR: p-Bromofluorobenzene	10.0	100	70 - 130	9.946	9.947445	-0.0014	+/-1.00	
RITB04_100219 (19J0144-07)			Lab File ID: QV616951.D		Analyzed: 10/10/19 02:04			
SURR: 1,2-Dichloroethane-d4	10.0	104	70 - 130	5.324	5.325	-0.0010	+/-1.00	
SURR: Toluene-d8	10.0	99.6	70 - 130	7.172	7.173667	-0.0017	+/-1.00	
SURR: p-Bromofluorobenzene	10.0	99.7	70 - 130	9.943	9.947445	-0.0044	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90131	Laboratory ID:	BJ90131-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	57.8	116	70 - 130
1,1-Dichloroethane	50.0	59.9	120	70 - 130
1,1-Dichloroethylene	50.0	60.4	121	70 - 130
1,2,4-Trimethylbenzene	50.0	59.5	119	84 - 125
1,2-Dichlorobenzene	50.0	60.2	120	70 - 130
1,2-Dichloroethane	50.0	62.5	125	70 - 130
1,3,5-Trimethylbenzene	50.0	60.3	121	82 - 126
1,3-Dichlorobenzene	50.0	57.6	115	70 - 130
1,4-Dichlorobenzene	50.0	57.2	114	70 - 130
1,4-Dioxane	1050	1210	115	40 - 160
2-Butanone	50.0	63.4	127	40 - 160
Acetone	50.0	52.8	106	40 - 160
Benzene	50.0	63.2	126	70 - 130
Carbon tetrachloride	50.0	57.4	115	70 - 130
Chlorobenzene	50.0	59.9	120	70 - 130
Chloroform	50.0	59.4	119	70 - 130
cis-1,2-Dichloroethylene	50.0	61.6	123	70 - 130
Ethyl Benzene	50.0	63.6	127	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	63.2	126	70 - 130
Methylene chloride	50.0	69.3	139 *	70 - 130
Naphthalene	50.0	52.5	105	86 - 141
n-Butylbenzene	50.0	62.3	125	80 - 130
n-Propylbenzene	50.0	61.2	122	74 - 136
o-Xylene	50.0	61.9	124	70 - 130
p- & m- Xylenes	100	118	118	70 - 130
sec-Butylbenzene	50.0	63.9	128 *	83 - 125
tert-Butylbenzene	50.0	51.3	103	80 - 127
Tetrachloroethylene	50.0	53.5	107	70 - 130
Toluene	50.0	63.1	126	70 - 130
trans-1,2-Dichloroethylene	50.0	62.4	125	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90131	Laboratory ID:	BJ90131-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Trichloroethylene	50.0	59.4	119	70 - 130
Vinyl Chloride	50.0	63.4	127	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil

Batch: BJ90131 Laboratory ID: BJ90131-BSD1

Preparation: EPA 5035A Initial/Final: 5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #		% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	56.6	113		2.10	30	70 - 130
1,1-Dichloroethane	50.0	60.0	120		0.283	30	70 - 130
1,1-Dichloroethylene	50.0	60.1	120		0.581	30	70 - 130
1,2,4-Trimethylbenzene	50.0	59.9	120		0.636	30	84 - 125
1,2-Dichlorobenzene	50.0	59.9	120		0.416	30	70 - 130
1,2-Dichloroethane	50.0	60.2	120		3.73	30	70 - 130
1,3,5-Trimethylbenzene	50.0	60.4	121		0.298	30	82 - 126
1,3-Dichlorobenzene	50.0	58.2	116		0.950	30	70 - 130
1,4-Dichlorobenzene	50.0	57.8	116		1.06	30	70 - 130
1,4-Dioxane	1050	1200	115		0.505	30	40 - 160
2-Butanone	50.0	58.5	117		8.04	30	40 - 160
Acetone	50.0	50.5	101		4.45	30	40 - 160
Benzene	50.0	62.5	125		1.23	30	70 - 130
Carbon tetrachloride	50.0	57.7	115		0.504	30	70 - 130
Chlorobenzene	50.0	59.9	120		0.117	30	70 - 130
Chloroform	50.0	58.4	117		1.80	30	70 - 130
cis-1,2-Dichloroethylene	50.0	61.2	122		0.684	30	70 - 130
Ethyl Benzene	50.0	63.9	128		0.502	30	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	60.8	122		4.02	30	70 - 130
Methylene chloride	50.0	68.5	137	*	1.16	30	70 - 130
Naphthalene	50.0	51.8	104		1.27	30	86 - 141
n-Butylbenzene	50.0	61.2	122		1.75	30	80 - 130
n-Propylbenzene	50.0	62.0	124		1.18	30	74 - 136
o-Xylene	50.0	61.8	124		0.0808	30	70 - 130
p- & m- Xylenes	100	118	118		0.0594	30	70 - 130
sec-Butylbenzene	50.0	64.6	129	*	1.18	30	83 - 125
tert-Butylbenzene	50.0	52.2	104		1.64	30	80 - 127
Tetrachloroethylene	50.0	53.5	107		0.0747	30	70 - 130
Toluene	50.0	63.0	126		0.206	30	70 - 130
trans-1,2-Dichloroethylene	50.0	61.9	124		0.692	30	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90131	Laboratory ID:	BJ90131-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Trichloroethylene	50.0	59.6	119	0.370	30	70 - 130
Vinyl Chloride	50.0	62.0	124	2.17	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90132	Laboratory ID:	BJ90132-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	42.0	84.1	70 - 130
1,1-Dichloroethane	50.0	44.5	88.9	70 - 130
1,1-Dichloroethylene	50.0	44.6	89.3	70 - 130
1,2,4-Trimethylbenzene	50.0	43.8	87.5	84 - 125
1,2-Dichlorobenzene	50.0	45.2	90.5	70 - 130
1,2-Dichloroethane	50.0	45.9	91.9	70 - 130
1,3,5-Trimethylbenzene	50.0	44.8	89.7	82 - 126
1,3-Dichlorobenzene	50.0	42.0	84.1	70 - 130
1,4-Dichlorobenzene	50.0	41.7	83.5	70 - 130
1,4-Dioxane	1050	951	90.6	40 - 160
2-Butanone	50.0	47.8	95.7	40 - 160
Acetone	50.0	41.8	83.6	40 - 160
Benzene	50.0	46.3	92.5	70 - 130
Carbon tetrachloride	50.0	39.9	79.8	70 - 130
Chlorobenzene	50.0	44.1	88.3	70 - 130
Chloroform	50.0	43.5	87.0	70 - 130
cis-1,2-Dichloroethylene	50.0	44.3	88.7	70 - 130
Ethyl Benzene	50.0	47.4	94.7	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	46.2	92.3	70 - 130
Methylene chloride	50.0	51.1	102	70 - 130
Naphthalene	50.0	37.8	75.6 *	86 - 141
n-Butylbenzene	50.0	47.1	94.3	80 - 130
n-Propylbenzene	50.0	44.8	89.5	74 - 136
o-Xylene	50.0	45.5	91.0	70 - 130
p- & m- Xylenes	100	84.9	84.9	70 - 130
sec-Butylbenzene	50.0	47.3	94.6	83 - 125
tert-Butylbenzene	50.0	37.9	75.8 *	80 - 127
Tetrachloroethylene	50.0	39.2	78.5	70 - 130
Toluene	50.0	46.2	92.4	70 - 130
trans-1,2-Dichloroethylene	50.0	46.6	93.1	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90132	Laboratory ID:	BJ90132-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Trichloroethylene	50.0	44.5	89.0	70 - 130
Vinyl Chloride	50.0	48.7	97.4	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil

Batch: BJ90132 Laboratory ID: BJ90132-BSD1

Preparation: EPA 5035A Initial/Final: 5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	47.8	95.6	12.9	30	70 - 130
1,1-Dichloroethane	50.0	45.3	90.7	1.96	30	70 - 130
1,1-Dichloroethylene	50.0	46.0	92.1	3.11	30	70 - 130
1,2,4-Trimethylbenzene	50.0	47.8	95.5	8.70	30	84 - 125
1,2-Dichlorobenzene	50.0	50.4	101	10.7	30	70 - 130
1,2-Dichloroethane	50.0	52.4	105	13.1	30	70 - 130
1,3,5-Trimethylbenzene	50.0	49.4	98.9	9.72	30	82 - 126
1,3-Dichlorobenzene	50.0	46.5	92.9	9.99	30	70 - 130
1,4-Dichlorobenzene	50.0	46.5	93.0	10.8	30	70 - 130
1,4-Dioxane	1050	1070	102	11.4	30	40 - 160
2-Butanone	50.0	50.0	100	4.38	30	40 - 160
Acetone	50.0	42.0	84.1	0.573	30	40 - 160
Benzene	50.0	52.0	104	11.6	30	70 - 130
Carbon tetrachloride	50.0	46.0	92.0	14.2	30	70 - 130
Chlorobenzene	50.0	50.0	100	12.5	30	70 - 130
Chloroform	50.0	49.6	99.3	13.1	30	70 - 130
cis-1,2-Dichloroethylene	50.0	47.2	94.4	6.31	30	70 - 130
Ethyl Benzene	50.0	53.4	107	12.0	30	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	48.1	96.3	4.20	30	70 - 130
Methylene chloride	50.0	53.7	107	4.85	30	70 - 130
Naphthalene	50.0	41.9	83.7 *	10.1	30	86 - 141
n-Butylbenzene	50.0	51.3	103	8.43	30	80 - 130
n-Propylbenzene	50.0	49.8	99.5	10.5	30	74 - 136
o-Xylene	50.0	51.9	104	13.1	30	70 - 130
p- & m- Xylenes	100	96.7	96.7	13.0	30	70 - 130
sec-Butylbenzene	50.0	52.7	105	10.9	30	83 - 125
tert-Butylbenzene	50.0	42.5	85.1	11.5	30	80 - 127
Tetrachloroethylene	50.0	44.5	88.9	12.5	30	70 - 130
Toluene	50.0	52.9	106	13.5	30	70 - 130
trans-1,2-Dichloroethylene	50.0	47.6	95.1	2.15	30	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90132	Laboratory ID:	BJ90132-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Trichloroethylene	50.0	49.8	99.7	11.3	30	70 - 130
Vinyl Chloride	50.0	54.9	110	12.0	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90136	Laboratory ID:	BJ90136-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	45.8	91.6	70 - 130
1,1-Dichloroethane	50.0	42.8	85.7	70 - 130
1,1-Dichloroethylene	50.0	33.3	66.6 *	70 - 130
1,2,4-Trimethylbenzene	50.0	41.4	82.9 *	84 - 125
1,2-Dichlorobenzene	50.0	42.2	84.4	70 - 130
1,2-Dichloroethane	50.0	41.2	82.5	70 - 130
1,3,5-Trimethylbenzene	50.0	41.7	83.3	82 - 126
1,3-Dichlorobenzene	50.0	42.5	85.0	70 - 130
1,4-Dichlorobenzene	50.0	43.6	87.1	70 - 130
1,4-Dioxane	1050	759	72.3	40 - 160
2-Butanone	50.0	49.1	98.2	40 - 160
Acetone	50.0	29.0	57.9	40 - 160
Benzene	50.0	44.0	88.1	70 - 130
Carbon tetrachloride	50.0	43.7	87.4	70 - 130
Chlorobenzene	50.0	42.9	85.9	70 - 130
Chloroform	50.0	45.0	90.0	70 - 130
cis-1,2-Dichloroethylene	50.0	43.4	86.8	70 - 130
Ethyl Benzene	50.0	41.0	82.0	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	45.1	90.2	70 - 130
Methylene chloride	50.0	45.4	90.8	70 - 130
Naphthalene	50.0	45.6	91.1	86 - 141
n-Butylbenzene	50.0	42.0	83.9	80 - 130
n-Propylbenzene	50.0	39.1	78.1	74 - 136
o-Xylene	50.0	40.1	80.2	70 - 130
p- & m- Xylenes	100	79.6	79.6	70 - 130
sec-Butylbenzene	50.0	43.4	86.7	83 - 125
tert-Butylbenzene	50.0	42.3	84.6	80 - 127
Tetrachloroethylene	50.0	44.2	88.4	70 - 130
Toluene	50.0	40.1	80.3	70 - 130
trans-1,2-Dichloroethylene	50.0	43.6	87.2	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90136	Laboratory ID:	BJ90136-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Trichloroethylene	50.0	42.9	85.9	70 - 130
Vinyl Chloride	50.0	32.1	64.1 *	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil

Batch: BJ90136 Laboratory ID: BJ90136-BSD1

Preparation: EPA 5035A Initial/Final: 5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	50.0	60.5	121	27.7	30	70 - 130
1,1-Dichloroethane	50.0	53.8	108	22.7	30	70 - 130
1,1-Dichloroethylene	50.0	41.3	82.5	21.3	30	70 - 130
1,2,4-Trimethylbenzene	50.0	54.4	109	27.1	30	84 - 125
1,2-Dichlorobenzene	50.0	55.1	110	26.5	30	70 - 130
1,2-Dichloroethane	50.0	54.7	109	28.1	30	70 - 130
1,3,5-Trimethylbenzene	50.0	54.7	109	27.1	30	82 - 126
1,3-Dichlorobenzene	50.0	55.4	111	26.5	30	70 - 130
1,4-Dichlorobenzene	50.0	56.9	114	26.6	30	70 - 130
1,4-Dioxane	1050	1210	115	45.9 *	30	40 - 160
2-Butanone	50.0	60.4	121	20.6	30	40 - 160
Acetone	50.0	34.4	68.9	17.3	30	40 - 160
Benzene	50.0	58.3	117	27.9	30	70 - 130
Carbon tetrachloride	50.0	56.6	113	25.8	30	70 - 130
Chlorobenzene	50.0	55.8	112	26.1	30	70 - 130
Chloroform	50.0	57.7	115	24.7	30	70 - 130
cis-1,2-Dichloroethylene	50.0	54.5	109	22.7	30	70 - 130
Ethyl Benzene	50.0	54.0	108	27.5	30	70 - 130
Methyl tert-butyl ether (MTBE)	50.0	56.2	112	21.8	30	70 - 130
Methylene chloride	50.0	55.3	111	19.7	30	70 - 130
Naphthalene	50.0	58.7	117	25.3	30	86 - 141
n-Butylbenzene	50.0	55.1	110	27.1	30	80 - 130
n-Propylbenzene	50.0	52.2	104	28.7	30	74 - 136
o-Xylene	50.0	52.9	106	27.5	30	70 - 130
p- & m- Xylenes	100	104	104	26.7	30	70 - 130
sec-Butylbenzene	50.0	57.9	116	28.7	30	83 - 125
tert-Butylbenzene	50.0	56.0	112	27.9	30	80 - 127
Tetrachloroethylene	50.0	58.7	117	28.2	30	70 - 130
Toluene	50.0	52.6	105	26.8	30	70 - 130
trans-1,2-Dichloroethylene	50.0	56.1	112	25.0	30	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90136	Laboratory ID:	BJ90136-BSD1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Trichloroethylene	50.0	56.5	113	27.2	30	70 - 130
Vinyl Chloride	50.0	39.5	78.9	20.7	30	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Water		
Batch:	BJ90578	Laboratory ID:	BJ90578-BS1
Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
1,1,1-Trichloroethane	10.0	9.44	94.4	70 - 130
1,1-Dichloroethane	10.0	9.84	98.4	70 - 130
1,1-Dichloroethylene	10.0	9.71	97.1	70 - 130
1,2,4-Trimethylbenzene	10.0	9.42	94.2	82 - 132
1,2-Dichlorobenzene	10.0	9.36	93.6	70 - 130
1,2-Dichloroethane	10.0	9.38	93.8	70 - 130
1,3,5-Trimethylbenzene	10.0	9.54	95.4	80 - 131
1,3-Dichlorobenzene	10.0	9.16	91.6	70 - 130
1,4-Dichlorobenzene	10.0	9.18	91.8	70 - 130
1,4-Dioxane	210	210	99.8	40 - 160
2-Butanone	10.0	8.27	82.7	40 - 160
Acetone	10.0	7.96	79.6	40 - 160
Benzene	10.0	10.5	105	70 - 130
Carbon tetrachloride	10.0	9.47	94.7	70 - 130
Chlorobenzene	10.0	9.75	97.5	70 - 130
Chloroform	10.0	9.56	95.6	70 - 130
cis-1,2-Dichloroethylene	10.0	9.41	94.1	70 - 130
Ethyl Benzene	10.0	10.4	104	70 - 130
Methyl tert-butyl ether (MTBE)	10.0	10.4	104	70 - 130
Methylene chloride	10.0	10.8	108	70 - 130
Naphthalene	10.0	9.02	90.2	70 - 147
n-Butylbenzene	10.0	9.59	95.9	79 - 132
n-Propylbenzene	10.0	9.75	97.5	78 - 133
o-Xylene	10.0	9.95	99.5	70 - 130
p- & m- Xylenes	20.0	17.8	89.2	70 - 130
sec-Butylbenzene	10.0	10.0	100	79 - 137
tert-Butylbenzene	10.0	7.82	78.2	77 - 138
Tetrachloroethylene	10.0	8.61	86.1	70 - 130
Toluene	10.0	10.2	102	70 - 130
trans-1,2-Dichloroethylene	10.0	9.78	97.8	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Water		
Batch:	BJ90578	Laboratory ID:	BJ90578-BS1
Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL

COMPOUND	SPIKE ADDED ppb	LCS CONCENTRATION ppb	LCS % REC. #	QC LIMITS REC.
Trichloroethylene	10.0	9.33	93.3	70 - 130
Vinyl Chloride	10.0	10.9	109	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Water

Batch: BJ90578 Laboratory ID: BJ90578-BSD1

Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1,1-Trichloroethane	10.0	9.84	98.4	4.15	20	70 - 130
1,1-Dichloroethane	10.0	10.2	102	3.59	20	70 - 130
1,1-Dichloroethylene	10.0	10.3	103	5.70	20	70 - 130
1,2,4-Trimethylbenzene	10.0	9.57	95.7	1.58	20	82 - 132
1,2-Dichlorobenzene	10.0	9.56	95.6	2.11	20	70 - 130
1,2-Dichloroethane	10.0	9.79	97.9	4.28	20	70 - 130
1,3,5-Trimethylbenzene	10.0	9.88	98.8	3.50	30	80 - 131
1,3-Dichlorobenzene	10.0	9.26	92.6	1.09	20	70 - 130
1,4-Dichlorobenzene	10.0	9.28	92.8	1.08	20	70 - 130
1,4-Dioxane	210	217	103	3.47	20	40 - 160
2-Butanone	10.0	8.47	84.7	2.39	20	40 - 160
Acetone	10.0	8.40	84.0	5.38	20	40 - 160
Benzene	10.0	11.0	110	4.38	20	70 - 130
Carbon tetrachloride	10.0	9.84	98.4	3.83	20	70 - 130
Chlorobenzene	10.0	9.94	99.4	1.93	20	70 - 130
Chloroform	10.0	9.84	98.4	2.89	20	70 - 130
cis-1,2-Dichloroethylene	10.0	9.77	97.7	3.75	20	70 - 130
Ethyl Benzene	10.0	10.7	107	2.46	20	70 - 130
Methyl tert-butyl ether (MTBE)	10.0	10.6	106	2.29	20	70 - 130
Methylene chloride	10.0	11.2	112	3.55	20	70 - 130
Naphthalene	10.0	9.35	93.5	3.59	30	70 - 147
n-Butylbenzene	10.0	9.81	98.1	2.27	30	79 - 132
n-Propylbenzene	10.0	9.99	99.9	2.43	30	78 - 133
o-Xylene	10.0	10.2	102	2.29	20	70 - 130
p- & m- Xylenes	20.0	18.3	91.6	2.71	20	70 - 130
sec-Butylbenzene	10.0	10.3	103	2.75	30	79 - 137
tert-Butylbenzene	10.0	7.98	79.8	2.03	30	77 - 138
Tetrachloroethylene	10.0	8.78	87.8	1.96	20	70 - 130
Toluene	10.0	10.5	105	3.29	20	70 - 130
trans-1,2-Dichloroethylene	10.0	10.3	103	4.79	20	70 - 130

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Water		
Batch:	BJ90578	Laboratory ID:	BJ90578-BSD1
Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL

COMPOUND	SPIKE ADDED ppb	LCSD CONCENTRATION ppb	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Trichloroethylene	10.0	9.65	96.5	3.37	20	70 - 130
Vinyl Chloride	10.0	11.8	118	7.40	20	70 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90131 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	QV110115.D	10/04/19 06:52	
SB28_5.5-7.5	19J0144-06	QV110120.D	10/04/19 06:52	
Blank	BJ90131-BLK1	QV110111.D	10/04/19 06:52	
LCS	BJ90131-BS1	QV110107.D	10/04/19 06:52	
LCS Dup	BJ90131-BSD1	QV110108.D	10/04/19 06:52	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90132 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB27_0-2	19J0144-03	QV110139.D	10/04/19 06:55	
SB27_6-8	19J0144-04	QV110140.D	10/04/19 06:55	
SB28_0-2	19J0144-05	QV110141.D	10/04/19 06:55	
Blank	BJ90132-BLK1	QV110136.D	10/04/19 06:55	
Blank	BJ90132-BLK2	QV110137.D	10/04/19 06:55	
LCS	BJ90132-BS1	QV110134.D	10/04/19 06:55	
LCS Dup	BJ90132-BSD1	QV110135.D	10/04/19 06:55	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90136 Batch Matrix: Soil Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_8-9	19J0144-02	QV407299.D	10/07/19 06:49	
Blank	BJ90136-BLK1	QV407283.D	10/07/19 06:43	
LCS	BJ90136-BS1	QV407281.D	10/07/19 06:43	
LCS Dup	BJ90136-BSD1	QV407302.D	10/07/19 06:43	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90578 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
RITB04_100219	19J0144-07	QV616951.D	10/09/19 06:01	
Blank	BJ90578-BLK1	QV616949.D	10/09/19 06:01	
LCS	BJ90578-BS1	QV616946.D	10/09/19 06:01	
LCS Dup	BJ90578-BSD1	QV616947.D	10/09/19 06:01	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90131-BLK1	File ID:	QV110111.D
Prepared:	10/04/19 06:52	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 12:40	Instrument:	QVOA1		
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0052	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90131-BLK1	File ID:	QV110111.D
Prepared:	10/04/19 06:52	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 12:40	Instrument:	QVOA1		
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.2	102	77 - 125	
SURR: p-Bromofluorobenzene	50.0	47.5	94.9	76 - 130	
SURR: Toluene-d8	50.0	50.9	102	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	1956312	11.045	1910137	11.045	
ISTD: Chlorobenzene-d5	4143373	8.09	4193637	8.09	
ISTD: Fluorobenzene	1046384	5.11	1058927	5.11	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK1	File ID:	QV110136.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 23:50	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0053	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK1	File ID:	QV110136.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 23:50	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.1	102	77 - 125	
SURR: p-Bromofluorobenzene	50.0	47.6	95.3	76 - 130	
SURR: Toluene-d8	50.0	50.3	101	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	1829760	11.042	1819501	11.042	
ISTD: Chlorobenzene-d5	3938253	8.09	3868081	8.09	
ISTD: Fluorobenzene	981283	5.107	980619	5.11	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK2	File ID:	QV110137.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/05/19 00:17	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0052	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK2	File ID:	QV110137.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/05/19 00:17	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.3	103	77 - 125	
SURR: p-Bromofluorobenzene	50.0	48.2	96.4	76 - 130	
SURR: Toluene-d8	50.0	50.4	101	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	1812997	11.042	1819501	11.042	
ISTD: Chlorobenzene-d5	3941239	8.09	3868081	8.09	
ISTD: Fluorobenzene	989248	5.11	980619	5.11	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90136-BLK1	File ID:	QV407283.D
Prepared:	10/07/19 06:43	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/07/19 11:08	Instrument:	QVOA4		
Batch:	BJ90136	Sequence:	Y9J0915	Calibration:	YE90028

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0063	
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90136-BLK1	File ID:	QV407283.D
Prepared:	10/07/19 06:43	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/07/19 11:08	Instrument:	QVOA4		
Batch:	BJ90136	Sequence:	Y9J0915	Calibration:	YE90028

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	50.1	100	77 - 125	
SURR: p-Bromofluorobenzene	50.0	47.7	95.4	76 - 130	
SURR: Toluene-d8	50.0	49.3	98.7	85 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	407950	10.89	437115	10.89	
ISTD: Chlorobenzene-d5	800132	7.938	851108	7.938	
ISTD: Fluorobenzene	192373	4.966	202989	4.966	

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Water	Laboratory ID:	BJ90578-BLK1	File ID:	QV616949.D
Prepared:	10/09/19 06:01	Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL
Analyzed:	10/10/19 01:12	Instrument:	QVOA6		
Batch:	BJ90578	Sequence:	Y9J1024	Calibration:	YJ90014

CAS NO.	COMPOUND	CONC. (ug/L)	Q
71-55-6	1,1,1-Trichloroethane	0.500	U
75-34-3	1,1-Dichloroethane	0.500	U
75-35-4	1,1-Dichloroethylene	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
95-50-1	1,2-Dichlorobenzene	0.500	U
107-06-2	1,2-Dichloroethane	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
541-73-1	1,3-Dichlorobenzene	0.500	U
106-46-7	1,4-Dichlorobenzene	0.500	U
123-91-1	1,4-Dioxane	80.0	U
78-93-3	2-Butanone	0.500	U
67-64-1	Acetone	2.00	U
71-43-2	Benzene	0.500	U
56-23-5	Carbon tetrachloride	0.500	U
108-90-7	Chlorobenzene	0.500	U
67-66-3	Chloroform	0.500	U
156-59-2	cis-1,2-Dichloroethylene	0.500	U
100-41-4	Ethyl Benzene	0.500	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
75-09-2	Methylene chloride	2.00	U
91-20-3	Naphthalene	2.00	U
104-51-8	n-Butylbenzene	0.500	U
103-65-1	n-Propylbenzene	0.500	U
95-47-6	o-Xylene	0.500	U
179601-23-1	p- & m- Xylenes	1.00	U
135-98-8	sec-Butylbenzene	0.500	U
98-06-6	tert-Butylbenzene	0.500	U
127-18-4	Tetrachloroethylene	0.500	U
108-88-3	Toluene	0.500	U
156-60-5	trans-1,2-Dichloroethylene	0.500	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Water	Laboratory ID:	BJ90578-BLK1	File ID:	QV616949.D
Prepared:	10/09/19 06:01	Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL
Analyzed:	10/10/19 01:12	Instrument:	QVOA6		
Batch:	BJ90578	Sequence:	Y9J1024	Calibration:	YJ90014

CAS NO.	COMPOUND	CONC. (ug/L)	Q
79-01-6	Trichloroethylene	0.500	U
75-01-4	Vinyl Chloride	0.500	U
1330-20-7	Xylenes, Total	1.50	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	10.0	10.0	100	70 - 130	
SURR: p-Bromofluorobenzene	10.0	10.0	100	70 - 130	
SURR: Toluene-d8	10.0	9.88	98.8	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,2-Dichlorobenzene-d4	439910	11.621	452724	11.621	
ISTD: Chlorobenzene-d5	1162375	8.66	1178780	8.663	
ISTD: Fluorobenzene	329997	5.633	327739	5.633	

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV404444.D	Injection Date:	05/17/19
Instrument ID:	QVOA4	Injection Time:	15:39
Sequence:	Y9E2910	Lab Sample ID:	Y9E2910-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	22.3	PASS
75	30 - 60% of 95	49.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.7	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	70	PASS
175	5 - 9% of 174	7.59	PASS
176	95 - 101% of 174	101	PASS
177	5 - 9% of 176	6.8	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV110052.D	Injection Date:	10/02/19
Instrument ID:	QVOA1	Injection Time:	10:09
Sequence:	Y9J0230	Lab Sample ID:	Y9J0230-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	18.9	PASS
75	30 - 60% of 95	48	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.73	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	70.7	PASS
175	5 - 9% of 174	7.3	PASS
176	95 - 101% of 174	96.8	PASS
177	5 - 9% of 176	6.46	PASS

FORM V MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV110104.D	Injection Date:	10/04/19
Instrument ID:	QVOA1	Injection Time:	09:05
Sequence:	Y9J0834	Lab Sample ID:	Y9J0834-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.8	PASS
75	30 - 60% of 95	48.4	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.6	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	71.1	PASS
175	5 - 9% of 174	7	PASS
176	95 - 101% of 174	96.2	PASS
177	5 - 9% of 176	6.67	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV110131.D	Injection Date:	10/04/19
Instrument ID:	QVOA1	Injection Time:	21:38
Sequence:	Y9J0836	Lab Sample ID:	Y9J0836-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.5	PASS
75	30 - 60% of 95	49.5	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.47	PASS
173	Less than 2% of 174	0.428	PASS
174	50 - 100% of 95	70.1	PASS
175	5 - 9% of 174	7.14	PASS
176	95 - 101% of 174	99.4	PASS
177	5 - 9% of 176	6.49	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV407279.D	Injection Date:	10/07/19
Instrument ID:	QVOA4	Injection Time:	09:14
Sequence:	Y9J0915	Lab Sample ID:	Y9J0915-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	19.7	PASS
75	30 - 60% of 95	47.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.82	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	75.3	PASS
175	5 - 9% of 174	8.54	PASS
176	95 - 101% of 174	99	PASS
177	5 - 9% of 176	7.75	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV616943.D	Injection Date:	10/09/19
Instrument ID:	QVOA6	Injection Time:	22:35
Sequence:	Y9J1024	Lab Sample ID:	Y9J1024-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	21.1	PASS
75	30 - 60% of 95	47.3	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.41	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	81.7	PASS
175	5 - 9% of 174	7.29	PASS
176	95 - 101% of 174	97.1	PASS
177	5 - 9% of 176	6.37	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	QV616873.D	Injection Date:	10/08/19
Instrument ID:	QVOA6	Injection Time:	15:48
Sequence:	Y9J1113	Lab Sample ID:	Y9J1113-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15 - 40% of 95	21.6	PASS
75	30 - 60% of 95	48.7	PASS
95	Base peak, 100% relative abundance	100	PASS
96	5 - 9% of 95	6.61	PASS
173	Less than 2% of 174	0	PASS
174	50 - 100% of 95	81.6	PASS
175	5 - 9% of 174	7.7	PASS
176	95 - 101% of 174	96.5	PASS
177	5 - 9% of 176	6.83	PASS

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9E2910	Instrument:	QVOA4
		Calibration:	YE90028

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9E2910-TUN1	QV404444.D	05/17/19 15:39
Cal Standard	Y9E2910-CAL1	QV404445.D	05/17/19 16:05
Cal Standard	Y9E2910-CAL3	QV404446.D	05/17/19 16:32
Cal Standard	Y9E2910-CAL2	QV404447.D	05/17/19 16:59
Cal Standard	Y9E2910-CAL4	QV404448.D	05/17/19 17:26
Cal Standard	Y9E2910-CAL5	QV404449.D	05/17/19 17:53
Cal Standard	Y9E2910-CAL6	QV404450.D	05/17/19 18:20
Secondary Cal Check	Y9E2910-SCV1	QV404452.D	05/17/19 19:13

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0230	Instrument:	QVOA1
		Calibration:	YJ90003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0230-TUN1	QV110052.D	10/02/19 10:09
Cal Standard	Y9J0230-CAL1	QV110057.D	10/02/19 11:59
Cal Standard	Y9J0230-CAL2	QV110058.D	10/02/19 12:26
Cal Standard	Y9J0230-CAL3	QV110059.D	10/02/19 12:52
Cal Standard	Y9J0230-CAL4	QV110060.D	10/02/19 13:19
Cal Standard	Y9J0230-CAL5	QV110061.D	10/02/19 13:46
Cal Standard	Y9J0230-CAL6	QV110062.D	10/02/19 14:13
Secondary Cal Check	Y9J0230-SCV1	QV110064.D	10/02/19 15:06

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0834	Instrument:	QVOA1
		Calibration:	YJ90003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0834-TUN1	QV110104.D	10/04/19 09:05
Calibration Check	Y9J0834-CCV1	QV110106.D	10/04/19 10:06
LCS	BJ90131-BS1	QV110107.D	10/04/19 10:39
LCS Dup	BJ90131-BSD1	QV110108.D	10/04/19 11:05
Blank	BJ90131-BLK1	QV110111.D	10/04/19 12:40
SB19_0-2	19J0144-01	QV110115.D	10/04/19 14:26
SB28_5.5-7.5	19J0144-06	QV110120.D	10/04/19 16:45

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0836	Instrument:	QVOA1
		Calibration:	YJ90003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0836-TUN1	QV110131.D	10/04/19 21:38
Calibration Check	Y9J0836-CCV1	QV110133.D	10/04/19 22:31
LCS	BJ90132-BS1	QV110134.D	10/04/19 22:57
LCS Dup	BJ90132-BSD1	QV110135.D	10/04/19 23:24
Blank	BJ90132-BLK1	QV110136.D	10/04/19 23:50
Blank	BJ90132-BLK2	QV110137.D	10/05/19 00:17
SB27_0-2	19J0144-03	QV110139.D	10/05/19 01:09
SB27_6-8	19J0144-04	QV110140.D	10/05/19 01:36
SB28_0-2	19J0144-05	QV110141.D	10/05/19 02:02

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0915	Instrument:	QVOA4
		Calibration:	YE90028

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0915-TUN1	QV407279.D	10/07/19 09:14
Calibration Check	Y9J0915-CCV1	QV407280.D	10/07/19 09:40
LCS	BJ90136-BS1	QV407281.D	10/07/19 10:15
Blank	BJ90136-BLK1	QV407283.D	10/07/19 11:08
SB19_8-9	19J0144-02	QV407299.D	10/07/19 18:18
LCS Dup	BJ90136-BSD1	QV407302.D	10/07/19 19:39

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J1024	Instrument:	QVOA6
		Calibration:	YJ90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J1024-TUN1	QV616943.D	10/09/19 22:35
Calibration Check	Y9J1024-CCV1	QV616945.D	10/09/19 23:28
LCS	BJ90578-BS1	QV616946.D	10/09/19 23:54
LCS Dup	BJ90578-BSD1	QV616947.D	10/10/19 00:20
Blank	BJ90578-BLK1	QV616949.D	10/10/19 01:12
RITB04_100219	19J0144-07	QV616951.D	10/10/19 02:04

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J1113	Instrument:	QVOA6
		Calibration:	YJ90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J1113-TUN1	QV616873.D	10/08/19 15:48
Cal Standard	Y9J1113-CAL1	QV616875.D	10/08/19 16:40
Cal Standard	Y9J1113-CAL2	QV616876.D	10/08/19 17:07
Cal Standard	Y9J1113-CAL3	QV616877.D	10/08/19 17:33
Cal Standard	Y9J1113-CAL4	QV616878.D	10/08/19 17:59
Cal Standard	Y9J1113-CAL5	QV616879.D	10/08/19 18:26
Cal Standard	Y9J1113-CAL6	QV616880.D	10/08/19 18:52
Cal Standard	Y9J1113-CAL7	QV616881.D	10/08/19 19:19
Cal Standard	Y9J1113-CAL8	QV616882.D	10/08/19 19:45
Cal Standard	Y9J1113-CAL9	QV616883.D	10/08/19 20:18
Secondary Cal Check	Y9J1113-SCV1	QV616885.D	10/08/19 21:10

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9E2910 Instrument: QVOA4
Calibration: YE90028

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9E2910-CAL1)			Lab File ID: QV404445.D			Analyzed: 05/17/19 16:05			
ISTD: Fluorobenzene	329107	4.966	335999	4.969	98	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1270228	7.938	1318875	7.94	96	50 - 200	-0.0020	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	637884	10.89	701889	10.89	91	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9E2910-CAL3)			Lab File ID: QV404446.D			Analyzed: 05/17/19 16:32			
ISTD: Fluorobenzene	337513	4.969	335999	4.969	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1325341	7.938	1318875	7.94	100	50 - 200	-0.0020	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	686401	10.89	701889	10.89	98	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9E2910-CAL2)			Lab File ID: QV404447.D			Analyzed: 05/17/19 16:59			
ISTD: Fluorobenzene	333900	4.969	335999	4.969	99	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1289494	7.938	1318875	7.94	98	50 - 200	-0.0020	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	657757	10.89	701889	10.89	94	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9E2910-CAL4)			Lab File ID: QV404448.D			Analyzed: 05/17/19 17:26			
ISTD: Fluorobenzene	335999	4.969	335999	4.969	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1318875	7.94	1318875	7.94	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	701889	10.89	701889	10.89	100	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9E2910-CAL5)			Lab File ID: QV404449.D			Analyzed: 05/17/19 17:53			
ISTD: Fluorobenzene	339868	4.969	335999	4.969	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1357907	7.94	1318875	7.94	103	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	738884	10.892	701889	10.89	105	50 - 200	0.0020	+/-0.17	
Cal Standard (Y9E2910-CAL6)			Lab File ID: QV404450.D			Analyzed: 05/17/19 18:20			
ISTD: Fluorobenzene	345327	4.969	335999	4.969	103	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1415279	7.94	1318875	7.94	107	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	741873	10.895	701889	10.89	106	50 - 200	0.0050	+/-0.17	
Secondary Cal Check (Y9E2910-SCV1)			Lab File ID: QV404452.D			Analyzed: 05/17/19 19:13			
ISTD: Fluorobenzene	335897	4.969	335999	4.969	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1296564	7.94	1318875	7.94	98	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	678155	10.89	701889	10.89	97	50 - 200	0.0000	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0230 Instrument: QVOA1
Calibration: YJ90003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J0230-CAL1)			Lab File ID: QV110057.D			Analyzed: 10/02/19 11:59			
ISTD: Fluorobenzene	1165534	5.11	1101732	5.11	106	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4722484	8.09	4443363	8.09	106	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	2184054	11.045	1980730	11.045	110	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J0230-CAL2)			Lab File ID: QV110058.D			Analyzed: 10/02/19 12:26			
ISTD: Fluorobenzene	1147322	5.113	1101732	5.11	104	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	4596311	8.09	4443363	8.09	103	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	2119146	11.045	1980730	11.045	107	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J0230-CAL3)			Lab File ID: QV110059.D			Analyzed: 10/02/19 12:52			
ISTD: Fluorobenzene	1136352	5.11	1101732	5.11	103	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4553592	8.09	4443363	8.09	102	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	2084657	11.045	1980730	11.045	105	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J0230-CAL4)			Lab File ID: QV110060.D			Analyzed: 10/02/19 13:19			
ISTD: Fluorobenzene	1101732	5.11	1101732	5.11	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4443363	8.09	4443363	8.09	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1980730	11.045	1980730	11.045	100	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J0230-CAL5)			Lab File ID: QV110061.D			Analyzed: 10/02/19 13:46			
ISTD: Fluorobenzene	1118555	5.11	1101732	5.11	102	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4459662	8.09	4443363	8.09	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1940557	11.045	1980730	11.045	98	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J0230-CAL6)			Lab File ID: QV110062.D			Analyzed: 10/02/19 14:13			
ISTD: Fluorobenzene	1110004	5.11	1101732	5.11	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4406478	8.09	4443363	8.09	99	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1875575	11.045	1980730	11.045	95	50 - 200	0.0000	+/-0.17	
Secondary Cal Check (Y9J0230-SCV1)			Lab File ID: QV110064.D			Analyzed: 10/02/19 15:06			
ISTD: Fluorobenzene	1078327	5.107	1101732	5.11	98	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	4320597	8.09	4443363	8.09	97	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1894764	11.045	1980730	11.045	96	50 - 200	0.0000	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0834 Instrument: QVOA1
Calibration: YJ90003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0834-CCV1)			Lab File ID: QV110106.D			Analyzed: 10/04/19 10:06			
ISTD: Fluorobenzene	1058927	5.11	1101732	5.11	96	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4193637	8.09	4443363	8.09	94	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1910137	11.045	1980730	11.045	96	50 - 200	0.0000	+/-0.17	
LCS (BJ90131-BS1)			Lab File ID: QV110107.D			Analyzed: 10/04/19 10:39			
ISTD: Fluorobenzene	1070048	5.108	1058927	5.11	101	50 - 200	-0.0020	+/-0.17	
ISTD: Chlorobenzene-d5	4279436	8.09	4193637	8.09	102	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1982298	11.042	1910137	11.045	104	50 - 200	-0.0030	+/-0.17	
LCS Dup (BJ90131-BSD1)			Lab File ID: QV110108.D			Analyzed: 10/04/19 11:05			
ISTD: Fluorobenzene	1065557	5.11	1058927	5.11	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4201564	8.09	4193637	8.09	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1934655	11.045	1910137	11.045	101	50 - 200	0.0000	+/-0.17	
Blank (BJ90131-BLK1)			Lab File ID: QV110111.D			Analyzed: 10/04/19 12:40			
ISTD: Fluorobenzene	1046384	5.11	1058927	5.11	99	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	4143373	8.09	4193637	8.09	99	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1956312	11.045	1910137	11.045	102	50 - 200	0.0000	+/-0.17	
SB19_0-2 (19J0144-01)			Lab File ID: QV110115.D			Analyzed: 10/04/19 14:26			
ISTD: Fluorobenzene	986151	5.11	1058927	5.11	93	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3915845	8.09	4193637	8.09	93	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1798967	11.045	1910137	11.045	94	50 - 200	0.0000	+/-0.17	
SB28_5.5-7.5 (19J0144-06)			Lab File ID: QV110120.D			Analyzed: 10/04/19 16:45			
ISTD: Fluorobenzene	970505	5.11	1058927	5.11	92	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3756574	8.09	4193637	8.09	90	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1670915	11.042	1910137	11.045	87	50 - 200	-0.0030	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0836 Instrument: QVOA1
Calibration: YJ90003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0836-CCV1)			Lab File ID: QV110133.D			Analyzed: 10/04/19 22:31			
ISTD: Fluorobenzene	980619	5.11	1101732	5.11	89	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3868081	8.09	4443363	8.09	87	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1819501	11.042	1980730	11.045	92	50 - 200	-0.0030	+/-0.17	
LCS (BJ90132-BS1)			Lab File ID: QV110134.D			Analyzed: 10/04/19 22:57			
ISTD: Fluorobenzene	989735	5.11	980619	5.11	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3950108	8.09	3868081	8.09	102	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1849252	11.042	1819501	11.042	102	50 - 200	0.0000	+/-0.17	
LCS Dup (BJ90132-BSD1)			Lab File ID: QV110135.D			Analyzed: 10/04/19 23:24			
ISTD: Fluorobenzene	988299	5.11	980619	5.11	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3911691	8.09	3868081	8.09	101	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1852945	11.042	1819501	11.042	102	50 - 200	0.0000	+/-0.17	
Blank (BJ90132-BLK1)			Lab File ID: QV110136.D			Analyzed: 10/04/19 23:50			
ISTD: Fluorobenzene	981283	5.107	980619	5.11	100	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	3938253	8.09	3868081	8.09	102	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1829760	11.042	1819501	11.042	101	50 - 200	0.0000	+/-0.17	
Blank (BJ90132-BLK2)			Lab File ID: QV110137.D			Analyzed: 10/05/19 00:17			
ISTD: Fluorobenzene	989248	5.11	980619	5.11	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3941239	8.09	3868081	8.09	102	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1812997	11.042	1819501	11.042	100	50 - 200	0.0000	+/-0.17	
SB27_0-2 (19J0144-03)			Lab File ID: QV110139.D			Analyzed: 10/05/19 01:09			
ISTD: Fluorobenzene	853115	5.11	980619	5.11	87	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	3026426	8.09	3868081	8.09	78	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1158216	11.042	1819501	11.042	64	50 - 200	0.0000	+/-0.17	
SB27_6-8 (19J0144-04)			Lab File ID: QV110140.D			Analyzed: 10/05/19 01:36			
ISTD: Fluorobenzene	705092	5.11	980619	5.11	72	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	2613328	8.09	3868081	8.09	68	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1112207	11.042	1819501	11.042	61	50 - 200	0.0000	+/-0.17	
SB28_0-2 (19J0144-05)			Lab File ID: QV110141.D			Analyzed: 10/05/19 02:02			
ISTD: Fluorobenzene	829264	5.11	980619	5.11	85	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	2863067	8.09	3868081	8.09	74	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	1016687	11.042	1819501	11.042	56	50 - 200	0.0000	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0915 Instrument: QVOA4
Calibration: YE90028

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0915-CCV1)			Lab File ID: QV407280.D			Analyzed: 10/07/19 09:40			
ISTD: Fluorobenzene	202989	4.966	335999	4.969	60	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	851108	7.938	1318875	7.94	65	50 - 200	-0.0020	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	437115	10.89	701889	10.89	62	50 - 200	0.0000	+/-0.17	
LCS (BJ90136-BS1)			Lab File ID: QV407281.D			Analyzed: 10/07/19 10:15			
ISTD: Fluorobenzene	204091	4.966	202989	4.966	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	853521	7.938	851108	7.938	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	438095	10.89	437115	10.89	100	50 - 200	0.0000	+/-0.17	
Blank (BJ90136-BLK1)			Lab File ID: QV407283.D			Analyzed: 10/07/19 11:08			
ISTD: Fluorobenzene	192373	4.966	202989	4.966	95	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	800132	7.938	851108	7.938	94	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	407950	10.89	437115	10.89	93	50 - 200	0.0000	+/-0.17	
SB19_8-9 (19J0144-02)			Lab File ID: QV407299.D			Analyzed: 10/07/19 18:18			
ISTD: Fluorobenzene	192846	4.966	202989	4.966	95	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	803020	7.938	851108	7.938	94	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	401155	10.89	437115	10.89	92	50 - 200	0.0000	+/-0.17	
LCS Dup (BJ90136-BSD1)			Lab File ID: QV407302.D			Analyzed: 10/07/19 19:39			
ISTD: Fluorobenzene	188950	4.966	202989	4.966	93	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	798971	7.938	851108	7.938	94	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	405506	10.89	437115	10.89	93	50 - 200	0.0000	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J1024 Instrument: QVOA6
Calibration: YJ90014

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J1024-CCV1)			Lab File ID: QV616945.D			Analyzed: 10/09/19 23:28			
ISTD: Fluorobenzene	327739	5.633	377421	5.633	87	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1178780	8.663	1311031	8.666	90	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	452724	11.621	472778	11.623	96	50 - 200	-0.0020	+/-0.17	
LCS (BJ90578-BS1)			Lab File ID: QV616946.D			Analyzed: 10/09/19 23:54			
ISTD: Fluorobenzene	338959	5.633	327739	5.633	103	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1214706	8.663	1178780	8.663	103	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	474658	11.621	452724	11.621	105	50 - 200	0.0000	+/-0.17	
LCS Dup (BJ90578-BSD1)			Lab File ID: QV616947.D			Analyzed: 10/10/19 00:20			
ISTD: Fluorobenzene	338065	5.63	327739	5.633	103	50 - 200	-0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1223481	8.663	1178780	8.663	104	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	478021	11.621	452724	11.621	106	50 - 200	0.0000	+/-0.17	
Blank (BJ90578-BLK1)			Lab File ID: QV616949.D			Analyzed: 10/10/19 01:12			
ISTD: Fluorobenzene	329997	5.633	327739	5.633	101	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1162375	8.66	1178780	8.663	99	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	439910	11.621	452724	11.621	97	50 - 200	0.0000	+/-0.17	
RITB04_100219 (19J0144-07)			Lab File ID: QV616951.D			Analyzed: 10/10/19 02:04			
ISTD: Fluorobenzene	344042	5.633	327739	5.633	105	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1211367	8.663	1178780	8.663	103	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	446462	11.62	452724	11.621	99	50 - 200	-0.0010	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J1113 Instrument: QVOA6
Calibration: YJ90014

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J1113-CAL1)			Lab File ID: QV616875.D			Analyzed: 10/08/19 16:40			
ISTD: Fluorobenzene	345718	5.633	377421	5.633	92	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1225711	8.663	1311031	8.666	93	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	477427	11.623	472778	11.623	101	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J1113-CAL2)			Lab File ID: QV616876.D			Analyzed: 10/08/19 17:07			
ISTD: Fluorobenzene	389518	5.633	377421	5.633	103	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1360126	8.663	1311031	8.666	104	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	495716	11.621	472778	11.623	105	50 - 200	-0.0020	+/-0.17	
Cal Standard (Y9J1113-CAL3)			Lab File ID: QV616877.D			Analyzed: 10/08/19 17:33			
ISTD: Fluorobenzene	402908	5.633	377421	5.633	107	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1400708	8.663	1311031	8.666	107	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	518198	11.621	472778	11.623	110	50 - 200	-0.0020	+/-0.17	
Cal Standard (Y9J1113-CAL4)			Lab File ID: QV616878.D			Analyzed: 10/08/19 17:59			
ISTD: Fluorobenzene	377421	5.633	377421	5.633	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1311031	8.666	1311031	8.666	100	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	472778	11.623	472778	11.623	100	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J1113-CAL5)			Lab File ID: QV616879.D			Analyzed: 10/08/19 18:26			
ISTD: Fluorobenzene	393622	5.636	377421	5.633	104	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1381402	8.666	1311031	8.666	105	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	511963	11.623	472778	11.623	108	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J1113-CAL6)			Lab File ID: QV616880.D			Analyzed: 10/08/19 18:52			
ISTD: Fluorobenzene	388232	5.636	377421	5.633	103	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1344822	8.663	1311031	8.666	103	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	502517	11.624	472778	11.623	106	50 - 200	0.0010	+/-0.17	
Cal Standard (Y9J1113-CAL7)			Lab File ID: QV616881.D			Analyzed: 10/08/19 19:19			
ISTD: Fluorobenzene	376164	5.633	377421	5.633	100	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1280100	8.663	1311031	8.666	98	50 - 200	-0.0030	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	486480	11.623	472778	11.623	103	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J1113-CAL8)			Lab File ID: QV616882.D			Analyzed: 10/08/19 19:45			
ISTD: Fluorobenzene	358495	5.636	377421	5.633	95	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1213427	8.666	1311031	8.666	93	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	477117	11.623	472778	11.623	101	50 - 200	0.0000	+/-0.17	
Cal Standard (Y9J1113-CAL9)			Lab File ID: QV616883.D			Analyzed: 10/08/19 20:18			
ISTD: Fluorobenzene	359108	5.636	377421	5.633	95	50 - 200	0.0030	+/-0.17	
ISTD: Chlorobenzene-d5	1195719	8.666	1311031	8.666	91	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	469856	11.626	472778	11.623	99	50 - 200	0.0030	+/-0.17	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J1113	Instrument:	QVOA6
		Calibration:	YJ90014

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (Y9J1113-SCV1)			Lab File ID: QV616885.D			Analyzed: 10/08/19 21:10			
ISTD: Fluorobenzene	345757	5.633	377421	5.633	92	50 - 200	0.0000	+/-0.17	
ISTD: Chlorobenzene-d5	1236656	8.666	1311031	8.666	94	50 - 200	0.0000	+/-0.17	
ISTD: 1,2-Dichlorobenzene-d4	485262	11.623	472778	11.623	103	50 - 200	0.0000	+/-0.17	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/04/19 06:52	1.75	14.00	10/04/19 14:26	2.07	14.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/07/19 06:49	4.75	14.00	10/07/19 18:18	5.23	14.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/04/19 06:55	1.85	14.00	10/05/19 01:09	2.61	14.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/04/19 06:55	1.85	14.00	10/05/19 01:36	2.63	14.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/04/19 06:55	1.79	14.00	10/05/19 02:02	2.58	14.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/04/19 06:52	1.78	14.00	10/04/19 16:45	2.19	14.00	
RITB04_100219	10/02/19 00:00	10/02/19 19:36	10/09/19 06:01	7.25	14.00	10/10/19 02:04	8.09	14.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: SOIL **Instrument:** QVOA1

Analyte	LOD	LOQ	Units
1,1,1-Trichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethylene	0.0025	0.0050	mg/kg
1,2,4-Trimethylbenzene	0.0025	0.0050	mg/kg
1,2-Dichlorobenzene	0.0025	0.0050	mg/kg
1,2-Dichloroethane	0.0025	0.0050	mg/kg
1,3,5-Trimethylbenzene	0.0025	0.0050	mg/kg
1,3-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dioxane	0.050	0.10	mg/kg
2-Butanone	0.0025	0.0050	mg/kg
Acetone	0.0050	0.010	mg/kg
Benzene	0.0025	0.0050	mg/kg
Carbon tetrachloride	0.0025	0.0050	mg/kg
Chlorobenzene	0.0025	0.0050	mg/kg
Chloroform	0.0025	0.0050	mg/kg
cis-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
Ethyl Benzene	0.0025	0.0050	mg/kg
Methyl tert-butyl ether (MTBE)	0.0025	0.0050	mg/kg
Methylene chloride	0.0050	0.010	mg/kg
Naphthalene	0.0025	0.010	mg/kg
n-Butylbenzene	0.0025	0.0050	mg/kg
n-Propylbenzene	0.0025	0.0050	mg/kg
o-Xylene	0.0025	0.0050	mg/kg
p- & m- Xylenes	0.0050	0.010	mg/kg
sec-Butylbenzene	0.0025	0.0050	mg/kg
tert-Butylbenzene	0.0025	0.0050	mg/kg
Tetrachloroethylene	0.0025	0.0050	mg/kg
Toluene	0.0025	0.0050	mg/kg
trans-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
Trichloroethylene	0.0025	0.0050	mg/kg
Vinyl Chloride	0.0025	0.0050	mg/kg
Xylenes, Total	0.0075	0.015	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: SOIL **Instrument:** QVOA4

Analyte	LOD	LOQ	Units
1,1,1-Trichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethane	0.0025	0.0050	mg/kg
1,1-Dichloroethylene	0.0025	0.0050	mg/kg
1,2,4-Trimethylbenzene	0.0025	0.0050	mg/kg
1,2-Dichlorobenzene	0.0025	0.0050	mg/kg
1,2-Dichloroethane	0.0025	0.0050	mg/kg
1,3,5-Trimethylbenzene	0.0025	0.0050	mg/kg
1,3-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dichlorobenzene	0.0025	0.0050	mg/kg
1,4-Dioxane	0.050	0.10	mg/kg
2-Butanone	0.0025	0.0050	mg/kg
Acetone	0.0050	0.010	mg/kg
Benzene	0.0025	0.0050	mg/kg
Carbon tetrachloride	0.0025	0.0050	mg/kg
Chlorobenzene	0.0025	0.0050	mg/kg
Chloroform	0.0025	0.0050	mg/kg
cis-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
Ethyl Benzene	0.0025	0.0050	mg/kg
Methyl tert-butyl ether (MTBE)	0.0025	0.0050	mg/kg
Methylene chloride	0.0050	0.010	mg/kg
Naphthalene	0.0025	0.010	mg/kg
n-Butylbenzene	0.0025	0.0050	mg/kg
n-Propylbenzene	0.0025	0.0050	mg/kg
o-Xylene	0.0025	0.0050	mg/kg
p- & m- Xylenes	0.0050	0.010	mg/kg
sec-Butylbenzene	0.0025	0.0050	mg/kg
tert-Butylbenzene	0.0025	0.0050	mg/kg
Tetrachloroethylene	0.0025	0.0050	mg/kg
Toluene	0.0025	0.0050	mg/kg
trans-1,2-Dichloroethylene	0.0025	0.0050	mg/kg
Trichloroethylene	0.0025	0.0050	mg/kg
Vinyl Chloride	0.0025	0.0050	mg/kg
Xylenes, Total	0.0075	0.015	mg/kg

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Water **Instrument:** QVOA6

Analyte	LOD	LOQ	Units
1,1,1-Trichloroethane	0.200	0.500	ug/L
1,1-Dichloroethane	0.200	0.500	ug/L
1,1-Dichloroethylene	0.200	0.500	ug/L
1,2,4-Trimethylbenzene	0.200	0.500	ug/L
1,2-Dichlorobenzene	0.200	0.500	ug/L
1,2-Dichloroethane	0.200	0.500	ug/L
1,3,5-Trimethylbenzene	0.200	0.500	ug/L
1,3-Dichlorobenzene	0.200	0.500	ug/L
1,4-Dichlorobenzene	0.200	0.500	ug/L
1,4-Dioxane	40.0	80.0	ug/L
2-Butanone	0.200	0.500	ug/L
Acetone	1.00	2.00	ug/L
Benzene	0.200	0.500	ug/L
Carbon tetrachloride	0.200	0.500	ug/L
Chlorobenzene	0.200	0.500	ug/L
Chloroform	0.200	0.500	ug/L
cis-1,2-Dichloroethylene	0.200	0.500	ug/L
Ethyl Benzene	0.200	0.500	ug/L
Methyl tert-butyl ether (MTBE)	0.200	0.500	ug/L
Methylene chloride	1.00	2.00	ug/L
Naphthalene	1.00	2.00	ug/L
n-Butylbenzene	0.200	0.500	ug/L
n-Propylbenzene	0.200	0.500	ug/L
o-Xylene	0.200	0.500	ug/L
p- & m- Xylenes	0.500	1.00	ug/L
sec-Butylbenzene	0.200	0.500	ug/L
tert-Butylbenzene	0.200	0.500	ug/L
Tetrachloroethylene	0.200	0.500	ug/L
Toluene	0.200	0.500	ug/L
trans-1,2-Dichloroethylene	0.200	0.500	ug/L
Trichloroethylene	0.200	0.500	ug/L
Vinyl Chloride	0.200	0.500	ug/L
Xylenes, Total	0.600	1.50	ug/L

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB19_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-01	File ID:	QV110115.D
Sampled:	10/02/19 12:45	Prepared:	10/04/19 06:52	Analyzed:	10/04/19 14:26
Solids:	95.31	Preparation:	EPA 5035A	Initial/Final:	5.68 g / 5 ml
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003
Instrument:	QVOA1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0046	U
75-34-3	1,1-Dichloroethane	1	0.0046	U
75-35-4	1,1-Dichloroethylene	1	0.0046	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0046	U
95-50-1	1,2-Dichlorobenzene	1	0.0046	U
107-06-2	1,2-Dichloroethane	1	0.0046	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0046	U
541-73-1	1,3-Dichlorobenzene	1	0.0046	U
106-46-7	1,4-Dichlorobenzene	1	0.0046	U
123-91-1	1,4-Dioxane	1	0.092	U
78-93-3	2-Butanone	1	0.0028	J
67-64-1	Acetone	1	0.0056	J
71-43-2	Benzene	1	0.0046	U
56-23-5	Carbon tetrachloride	1	0.0046	U
108-90-7	Chlorobenzene	1	0.0046	U
67-66-3	Chloroform	1	0.0046	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0046	U
100-41-4	Ethyl Benzene	1	0.0046	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0046	U
75-09-2	Methylene chloride	1	0.0087	J
91-20-3	Naphthalene	1	0.0092	U
104-51-8	n-Butylbenzene	1	0.0046	U
103-65-1	n-Propylbenzene	1	0.0046	U
95-47-6	o-Xylene	1	0.0046	U
179601-23-1	p- & m- Xylenes	1	0.0049	J
135-98-8	sec-Butylbenzene	1	0.0046	U
98-06-6	tert-Butylbenzene	1	0.0046	U
127-18-4	Tetrachloroethylene	1	0.0046	U
108-88-3	Toluene	1	0.0046	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0046	U
79-01-6	Trichloroethylene	1	0.0046	U
75-01-4	Vinyl Chloride	1	0.0046	U
1330-20-7	Xylenes, Total	1	0.014	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	53.7	107	77 - 125	
SURR: Toluene-d8	50.0	50.9	102	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.4	96.8	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	986151	5.11	1058927	5.11	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB19_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-01	File ID:	QV110115.D
Sampled:	10/02/19 12:45	Prepared:	10/04/19 06:52	Analyzed:	10/04/19 14:26
Solids:	95.31	Preparation:	EPA 5035A	Initial/Final:	5.68 g / 5 ml
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003
Instrument:	QVOA1				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	3915845	8.09	4193637	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1798967	11.045	1910137	11.045	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110115.D
Acq On : 4 Oct 2019 2:26 pm
Operator : LLJ
Sample : 19J0144-01
Misc : QV1100419A COMP 4.75G C
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 11:15:37 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

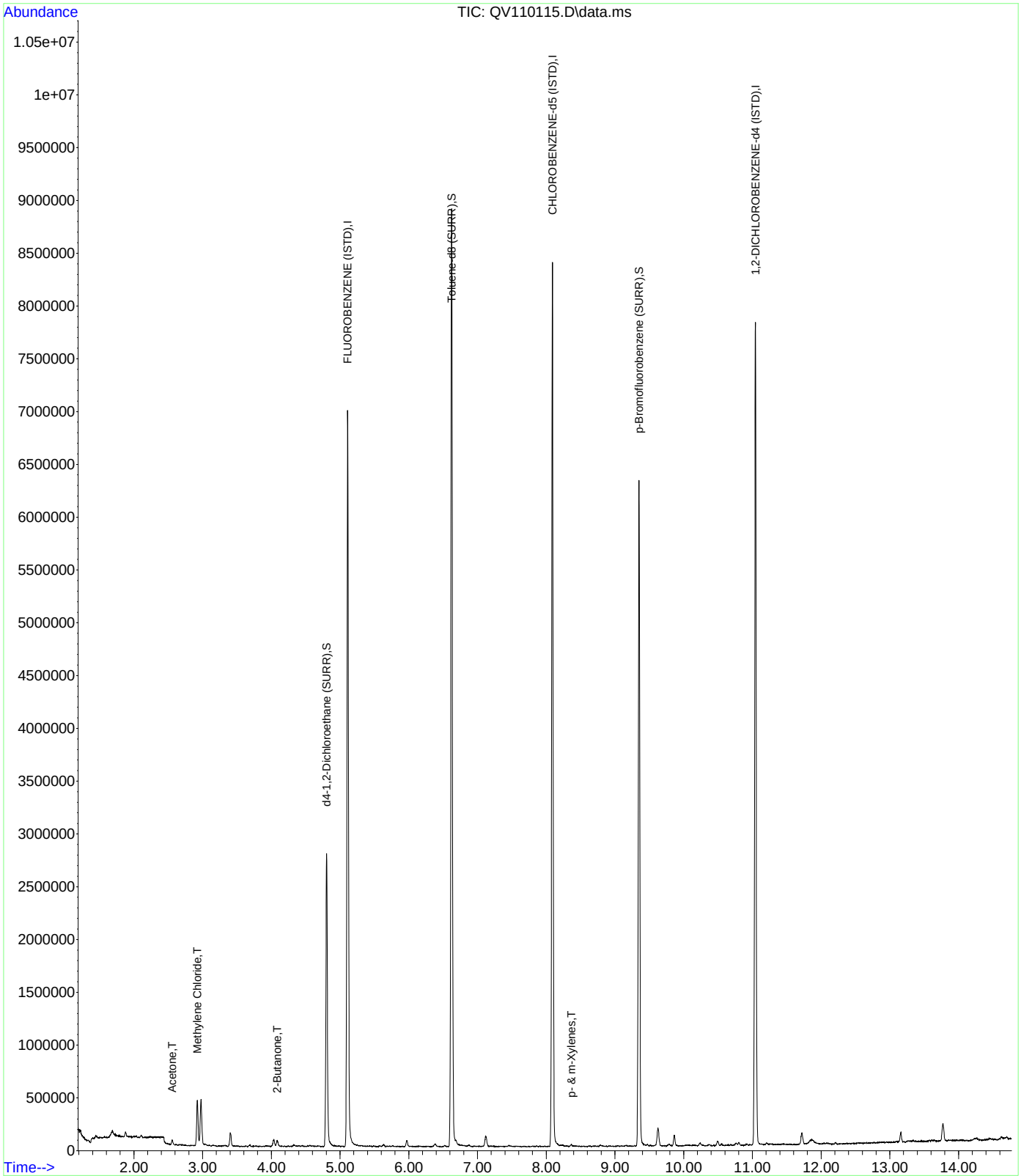
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	986151	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3915845	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1798967	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1523231	53.68	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 107.36%				
54) Toluene-d8 (SURR)	6.624	98	5020493	50.90	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.80%				
73) p-Bromofluorobenzene (...	9.350	95	2029563	48.38	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.76%				
Target Compounds							Qvalue
13) Acetone	2.556	43	40029	6.06	ppb	#	43
18) Methylene Chloride	2.923	49	208029	9.40	ppb		90
27) 2-Butanone	4.084	72	14788	3.04	ppb		89
66) p- & m-Xylenes	8.363	91	9629	5.28	ppb	#	69

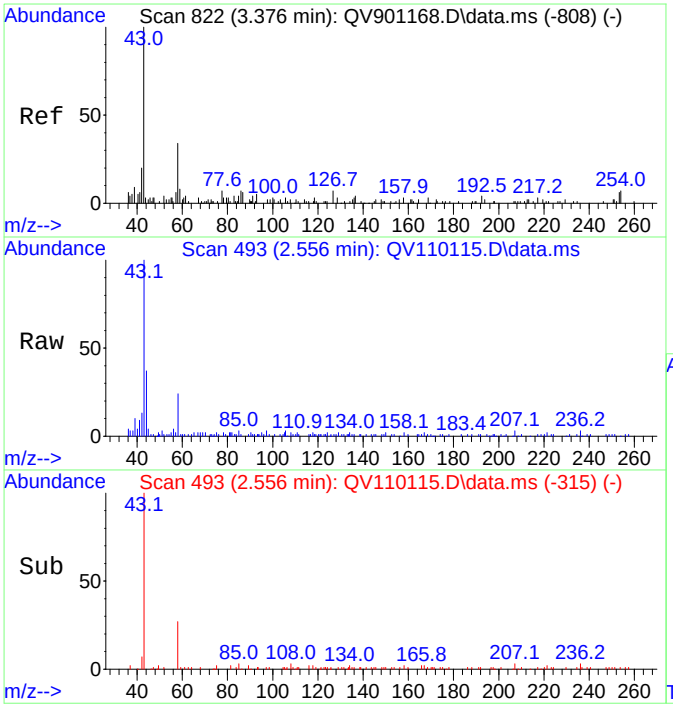
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110115.D
Acq On : 4 Oct 2019 2:26 pm
Operator : LLJ
Sample : 19J0144-01
Misc : QV1100419A COMP 4.75G C
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 11:15:37 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

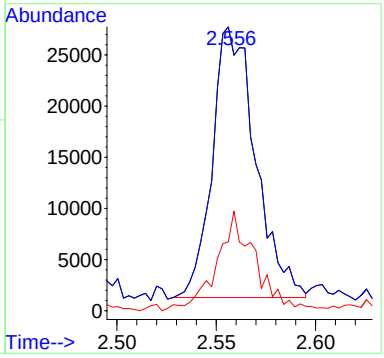


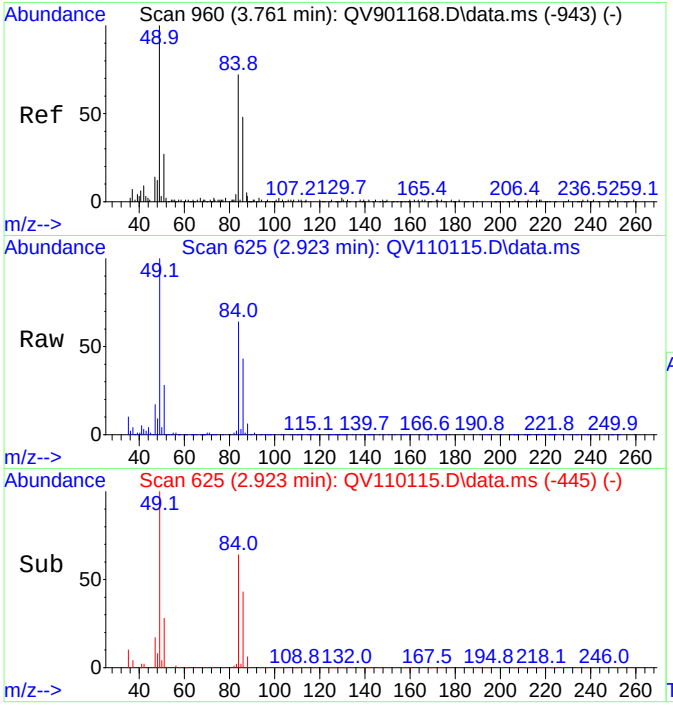


#13
Acetone
Concen: 6.06 ppb
RT: 2.556 min Scan# 493
Delta R.T. -0.006 min
Lab File: QV110115.D
Acq: 4 Oct 2019 2:26 pm

Tgt Ion: 43 Resp: 40029

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	33.0	15.1	45.3

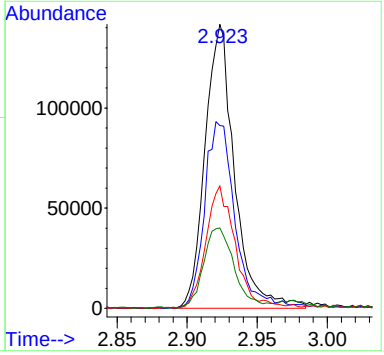


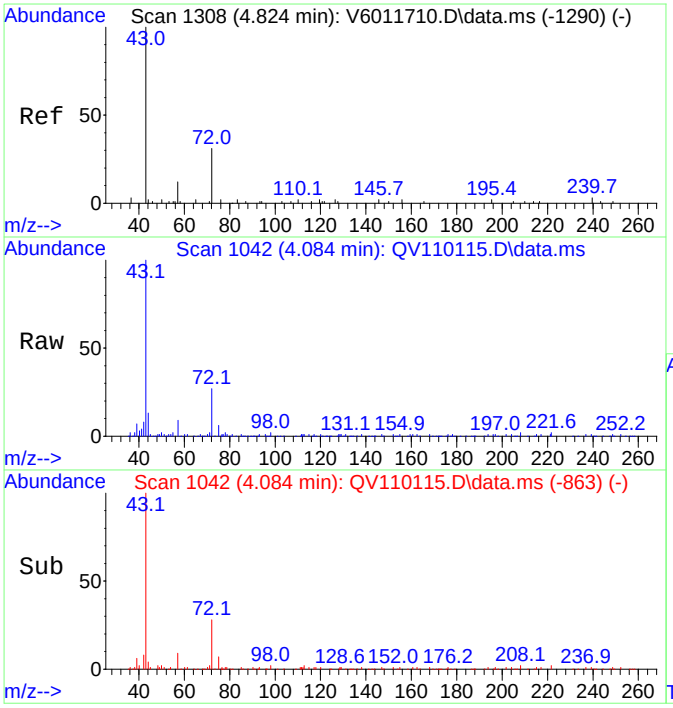


#18
Methylene Chloride
Concen: 9.40 ppb
RT: 2.923 min Scan# 625
Delta R.T. 0.000 min
Lab File: QV110115.D
Acq: 4 Oct 2019 2:26 pm

Tgt Ion: 49 Resp: 208029

Ion	Ratio	Lower	Upper
49	100		
84	68.3	51.5	107.1
86	43.0	33.1	68.7
51	29.4	19.7	40.9

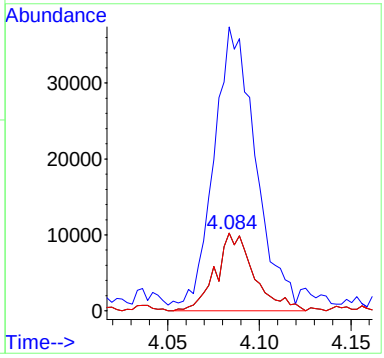


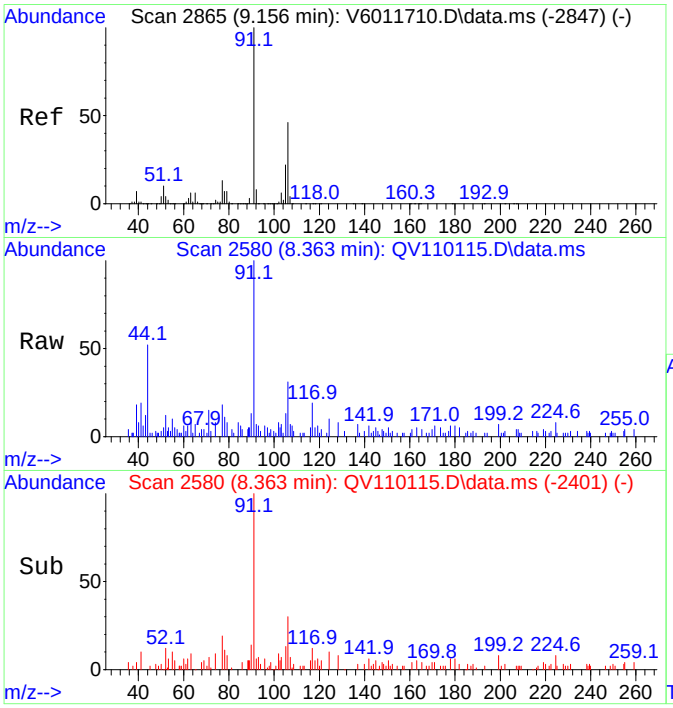


#27
2-Butanone
Concen: 3.04 ppb
RT: 4.084 min Scan# 1042
Delta R.T. -0.002 min
Lab File: QV110115.D
Acq: 4 Oct 2019 2:26 pm

Tgt Ion: 72 Resp: 14788

Ion	Ratio	Lower	Upper
72	100		
43	376.9	280.0	420.0
72	100.0	48.0	144.2

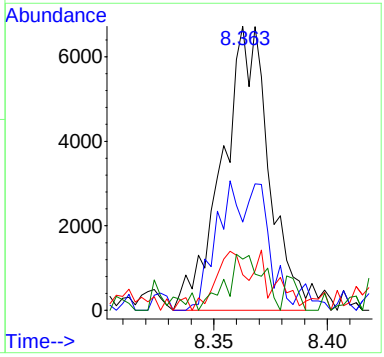




#66
p- & m-Xylenes
Concen: 5.28 ppb
RT: 8.363 min Scan# 2580
Delta R.T. -0.002 min
Lab File: QV110115.D
Acq: 4 Oct 2019 2:26 pm

Tgt Ion: 91 Resp: 9629

Ion	Ratio	Lower	Upper
91	100		
106	25.0	34.8	72.2#
105	12.5	15.9	33.1#
77	15.4	8.7	18.1



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: QV407299.D

Sampled: 10/02/19 12:50 Prepared: 10/07/19 06:49 Analyzed: 10/07/19 18:18

Solids: 86.53 Preparation: EPA 5035A Initial/Final: 6.21 g / 5 ml

Batch: BJ90136 Sequence: Y9J0915 Calibration: YE90028 Instrument: QVOA4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0047	U
75-34-3	1,1-Dichloroethane	1	0.0047	U
75-35-4	1,1-Dichloroethylene	1	0.0047	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0047	U
95-50-1	1,2-Dichlorobenzene	1	0.0047	U
107-06-2	1,2-Dichloroethane	1	0.0047	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0047	U
541-73-1	1,3-Dichlorobenzene	1	0.0047	U
106-46-7	1,4-Dichlorobenzene	1	0.0047	U
123-91-1	1,4-Dioxane	1	0.093	U
78-93-3	2-Butanone	1	0.0052	JB
67-64-1	Acetone	1	0.0093	U
71-43-2	Benzene	1	0.0047	U
56-23-5	Carbon tetrachloride	1	0.0047	U
108-90-7	Chlorobenzene	1	0.0047	U
67-66-3	Chloroform	1	0.0047	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0047	U
100-41-4	Ethyl Benzene	1	0.0047	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0047	U
75-09-2	Methylene chloride	1	0.0054	J
91-20-3	Naphthalene	1	0.0093	U
104-51-8	n-Butylbenzene	1	0.0047	U
103-65-1	n-Propylbenzene	1	0.0047	U
95-47-6	o-Xylene	1	0.0047	U
179601-23-1	p- & m- Xylenes	1	0.0093	U
135-98-8	sec-Butylbenzene	1	0.0047	U
98-06-6	tert-Butylbenzene	1	0.0047	U
127-18-4	Tetrachloroethylene	1	0.0047	U
108-88-3	Toluene	1	0.0047	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0047	U
79-01-6	Trichloroethylene	1	0.0047	U
75-01-4	Vinyl Chloride	1	0.0047	U
1330-20-7	Xylenes, Total	1	0.014	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	49.5	99.0	77 - 125	
SURR: Toluene-d8	50.0	49.7	99.3	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.6	97.1	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	192846	4.966	202989	4.966	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB19_8-9

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-02	File ID:	QV407299.D
Sampled:	10/02/19 12:50	Prepared:	10/07/19 06:49	Analyzed:	10/07/19 18:18
Solids:	86.53	Preparation:	EPA 5035A	Initial/Final:	6.21 g / 5 ml
Batch:	BJ90136	Sequence:	Y9J0915	Calibration:	YE90028
Instrument:	QVOA4				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	803020	7.938	851108	7.938	
ISTD: 1,2-Dichlorobenzene-d4	401155	10.89	437115	10.89	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407299.D
Acq On : 7 Oct 2019 6:18 pm
Operator : LLJ
Sample : 19J0144-02
Misc : QBQV4100719A 8260 D 6.21G
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 09 12:36:39 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

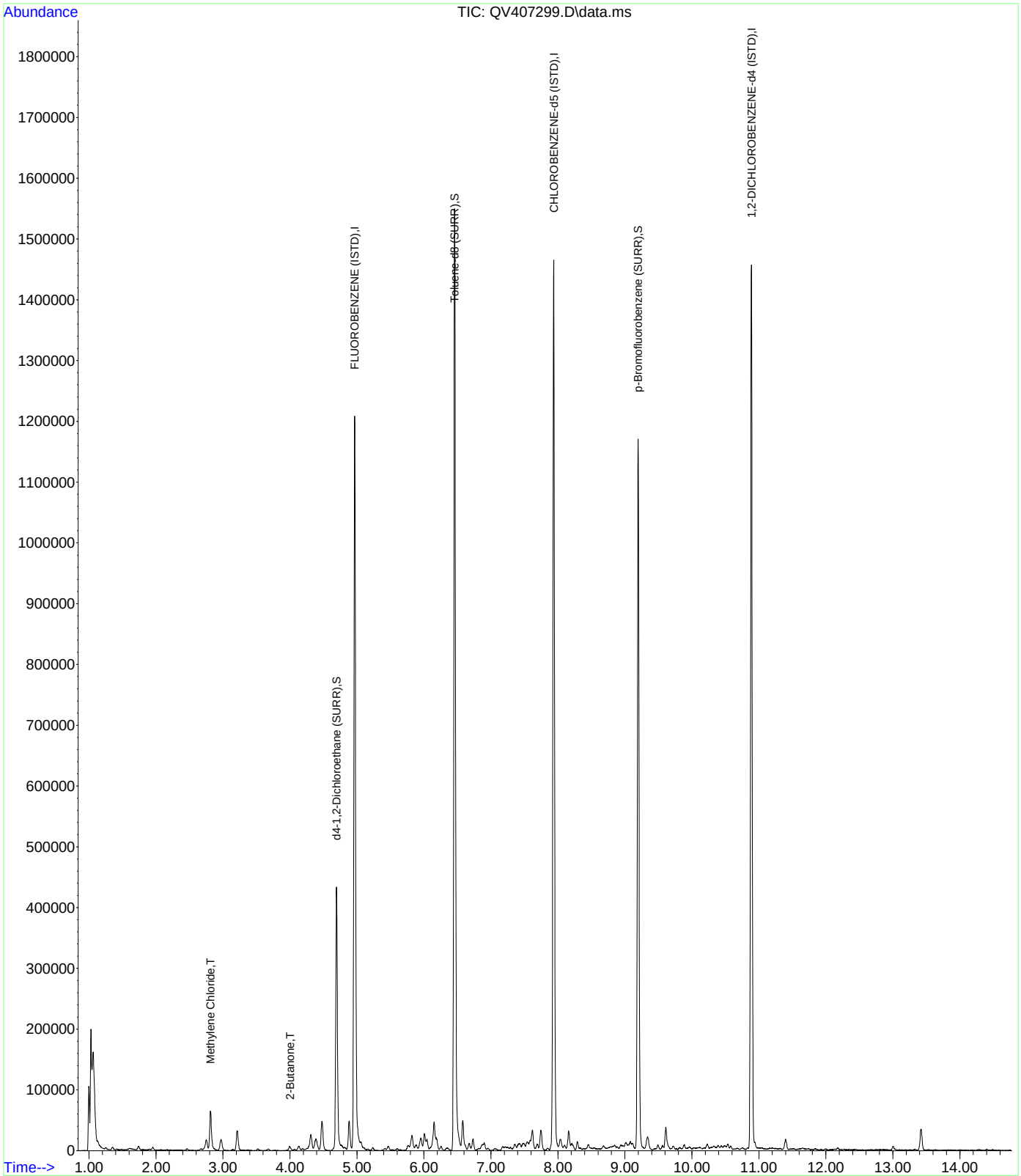
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.966	70	192846	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	803020	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	401155	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.696	65	267279	49.51	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.02%			
54) Toluene-d8 (SURR)	6.457	98	1030236	49.66	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.32%			
73) p-Bromofluorobenzene (...	9.198	95	404362	48.56	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 97.12%			
Target Compounds						Qvalue
18) Methylene Chloride	2.813	49	27269	5.81	ppb	90
27) 2-Butanone	4.001	72	1556m	5.64	ppb	

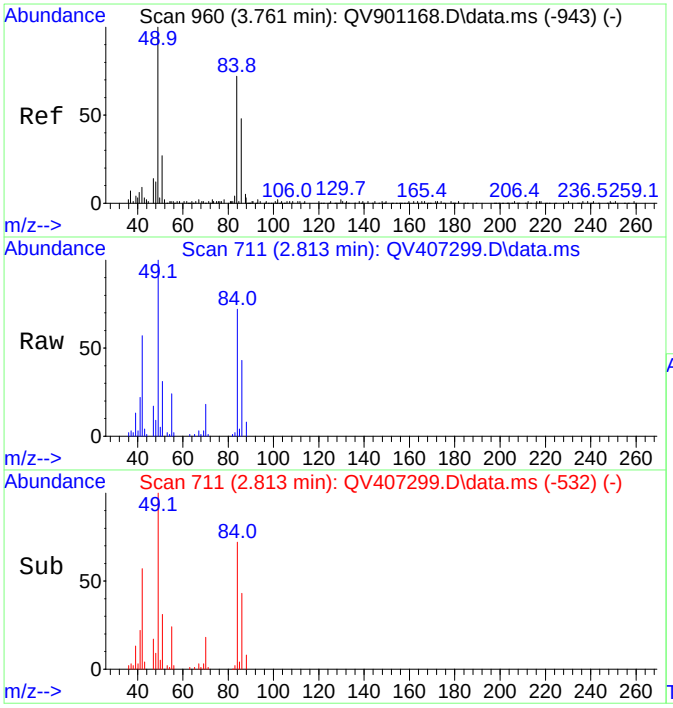
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407299.D
Acq On : 7 Oct 2019 6:18 pm
Operator : LLJ
Sample : 19J0144-02
Misc : QBQV4100719A 8260 D 6.21G
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 09 12:36:39 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

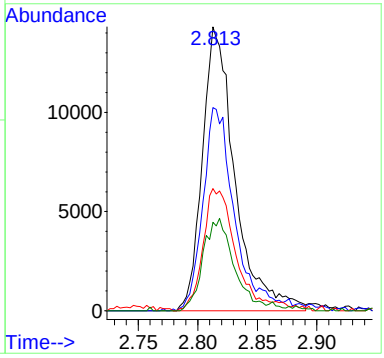


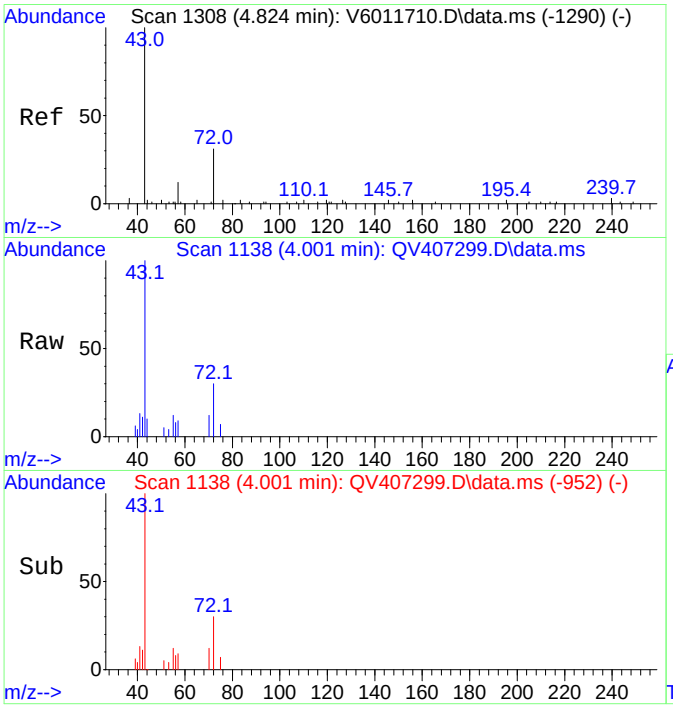


#18
Methylene Chloride
Concen: 5.81 ppb
RT: 2.813 min Scan# 711
Delta R.T. -0.002 min
Lab File: QV407299.D
Acq: 7 Oct 2019 6:18 pm

Tgt Ion: 49 Resp: 27269

Ion	Ratio	Lower	Upper
49	100		
84	68.9	51.5	107.1
86	42.5	33.1	68.7
51	30.8	19.7	40.9

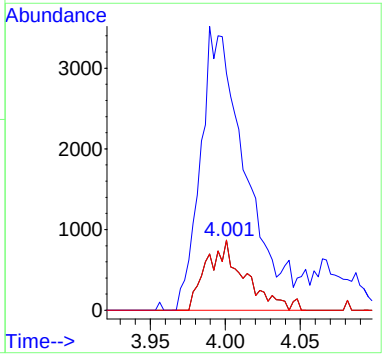




#27
2-Butanone
Concen: 5.64 ppb m
RT: 4.001 min Scan# 1138
Delta R.T. 0.017 min
Lab File: QV407299.D
Acq: 7 Oct 2019 6:18 pm

Tgt Ion: 72 Resp: 1556

Ion	Ratio	Lower	Upper
72	100		
43	0.0	280.0	420.0#
72	29.6	48.0	144.2#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: QV110139.D

Sampled: 10/02/19 10:30 Prepared: 10/04/19 06:55 Analyzed: 10/05/19 01:09

Solids: 94.09 Preparation: EPA 5035A Initial/Final: 5.35 g / 5 ml

Batch: BJ90132 Sequence: Y9J0836 Calibration: YJ90003 Instrument: QVOA1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0050	U
75-34-3	1,1-Dichloroethane	1	0.0050	U
75-35-4	1,1-Dichloroethylene	1	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0050	U
95-50-1	1,2-Dichlorobenzene	1	0.0050	U
107-06-2	1,2-Dichloroethane	1	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0050	U
541-73-1	1,3-Dichlorobenzene	1	0.0050	U
106-46-7	1,4-Dichlorobenzene	1	0.0050	U
123-91-1	1,4-Dioxane	1	0.099	U
78-93-3	2-Butanone	1	0.0045	J
67-64-1	Acetone	1	0.011	
71-43-2	Benzene	1	0.0050	U
56-23-5	Carbon tetrachloride	1	0.0050	U
108-90-7	Chlorobenzene	1	0.0050	U
67-66-3	Chloroform	1	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0050	U
100-41-4	Ethyl Benzene	1	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0050	U
75-09-2	Methylene chloride	1	0.0091	J
91-20-3	Naphthalene	1	0.0099	U
104-51-8	n-Butylbenzene	1	0.0050	U
103-65-1	n-Propylbenzene	1	0.0050	U
95-47-6	o-Xylene	1	0.0050	U
179601-23-1	p- & m- Xylenes	1	0.0052	J
135-98-8	sec-Butylbenzene	1	0.0050	U
98-06-6	tert-Butylbenzene	1	0.0050	U
127-18-4	Tetrachloroethylene	1	0.0050	U
108-88-3	Toluene	1	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0050	U
79-01-6	Trichloroethylene	1	0.0050	U
75-01-4	Vinyl Chloride	1	0.0050	U
1330-20-7	Xylenes, Total	1	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	54.5	109	77 - 125	
SURR: Toluene-d8	50.0	54.7	109	85 - 120	
SURR: p-Bromofluorobenzene	50.0	50.9	102	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	853115	5.11	980619	5.11	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB27_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-03	File ID:	QV110139.D
Sampled:	10/02/19 10:30	Prepared:	10/04/19 06:55	Analyzed:	10/05/19 01:09
Solids:	94.09	Preparation:	EPA 5035A	Initial/Final:	5.35 g / 5 ml
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003
Instrument:	QVOA1				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	3026426	8.09	3868081	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1158216	11.042	1819501	11.042	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110139.D
Acq On : 5 Oct 2019 1:09 am
Operator : LLJ
Sample : 19J0144-03
Misc : QV1100419B COMP 5.35G C
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 07 11:30:01 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

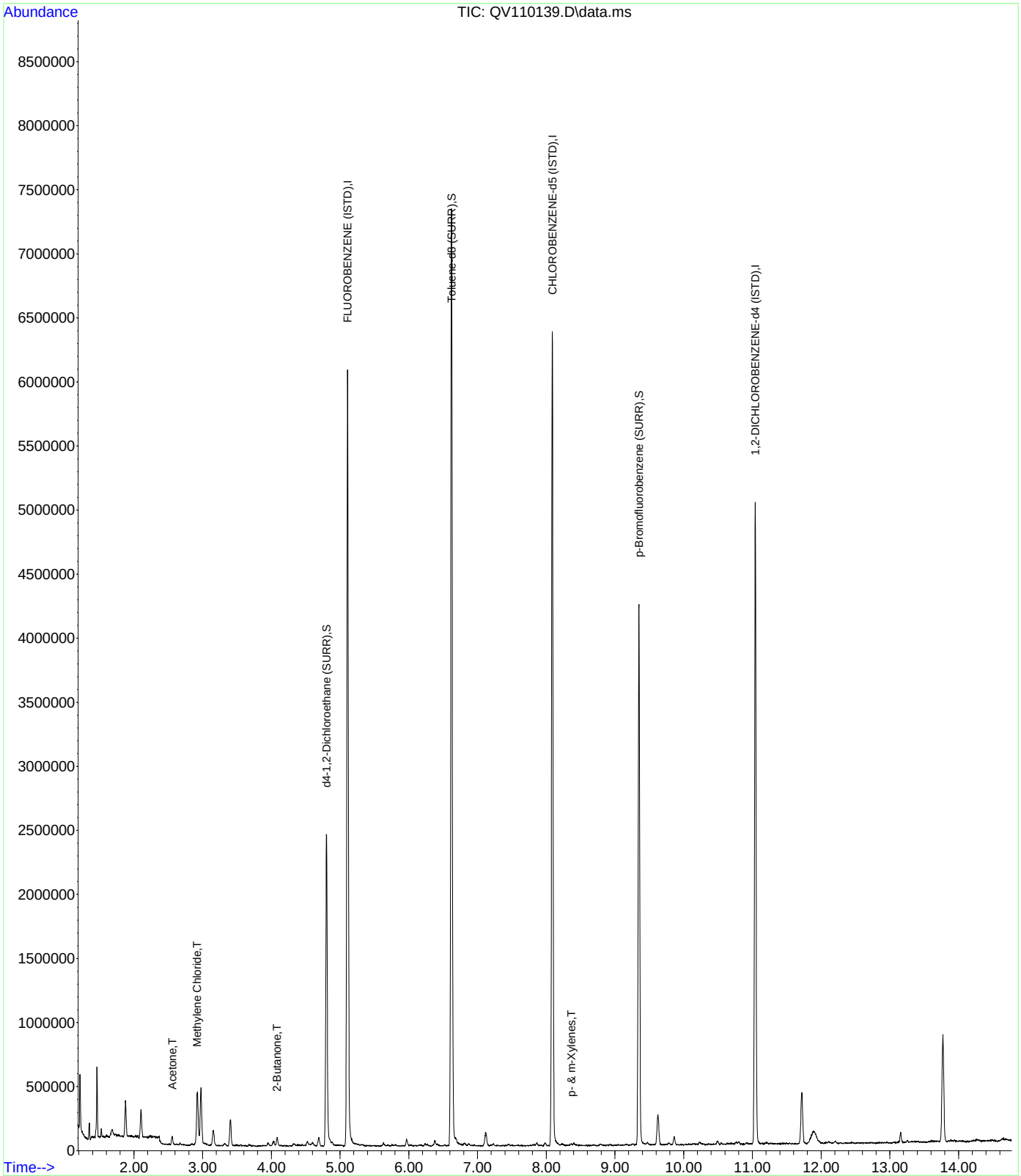
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	853115	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3026426	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1158216	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1337274	54.48	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 108.96%				
54) Toluene-d8 (SURR)	6.621	98	4168972	54.69	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.38%				
73) p-Bromofluorobenzene (...	9.350	95	1374822	50.91	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 101.82%				
Target Compounds							Qvalue
13) Acetone	2.559	43	60860	10.65	ppb	#	43
18) Methylene Chloride	2.918	49	176361	9.21	ppb		93
27) 2-Butanone	4.081	72	15918	4.58	ppb		84
66) p- & m-Xylenes	8.363	91	7596	5.28	ppb	#	72

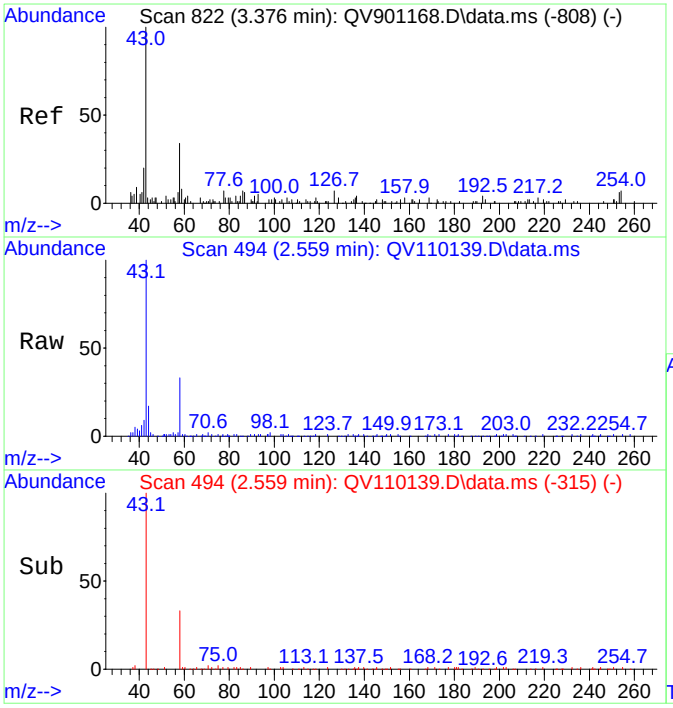
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110139.D
Acq On : 5 Oct 2019 1:09 am
Operator : LLJ
Sample : 19J0144-03
Misc : QV1100419B COMP 5.35G C
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 07 11:30:01 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

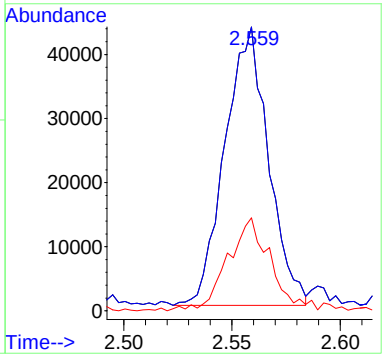


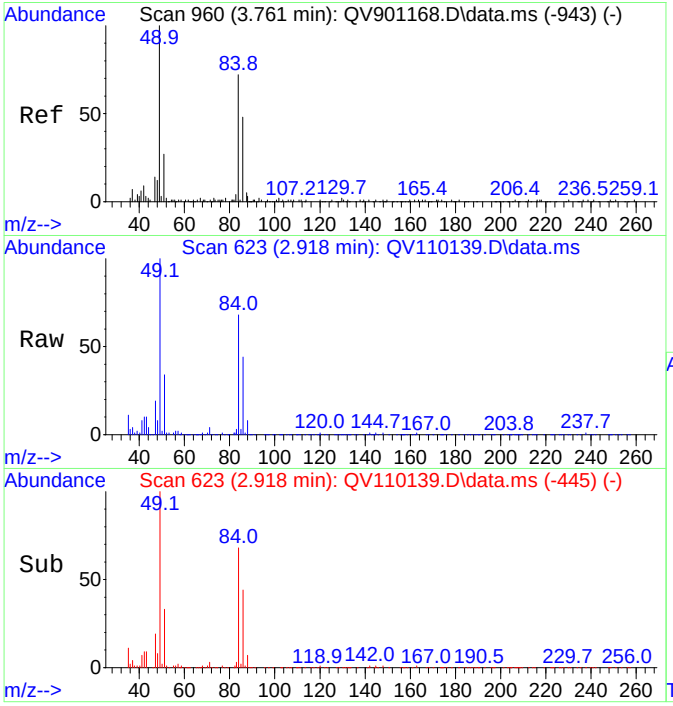


#13
Acetone
Concen: 10.65 ppb
RT: 2.559 min Scan# 494
Delta R.T. -0.003 min
Lab File: QV110139.D
Acq: 5 Oct 2019 1:09 am

Tgt Ion: 43 Resp: 60860

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	32.6	15.1	45.3

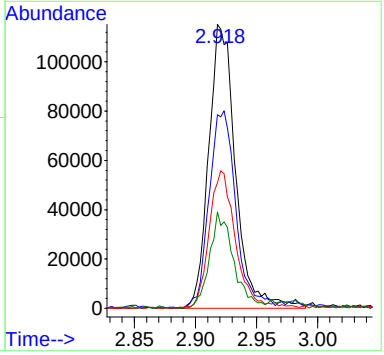


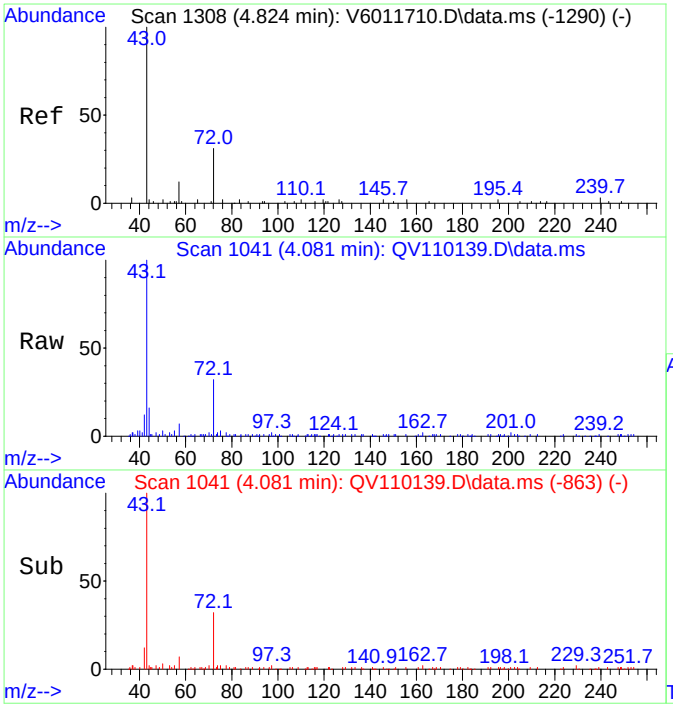


#18
Methylene Chloride
Concen: 9.21 ppb
RT: 2.918 min Scan# 623
Delta R.T. -0.005 min
Lab File: QV110139.D
Acq: 5 Oct 2019 1:09 am

Tgt Ion: 49 Resp: 176361

Ion	Ratio	Lower	Upper
49	100		
84	68.6	51.5	107.1
86	47.9	33.1	68.7
51	30.2	19.7	40.9

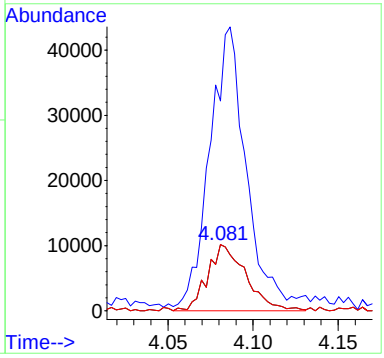


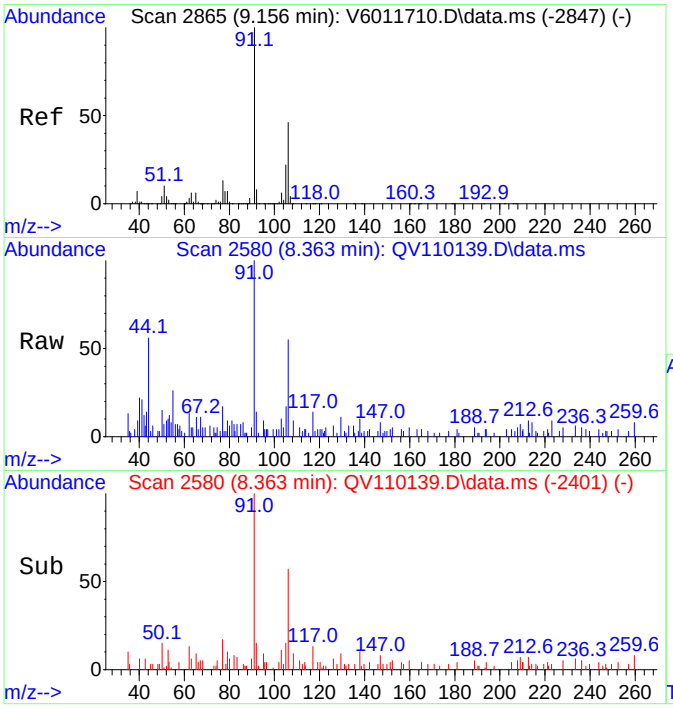


#27
2-Butanone
Concen: 4.58 ppb
RT: 4.081 min Scan# 1041
Delta R.T. -0.005 min
Lab File: QV110139.D
Acq: 5 Oct 2019 1:09 am

Tgt Ion: 72 Resp: 15918

Ion	Ratio	Lower	Upper
72	100		
43	391.5	280.0	420.0
72	100.0	48.0	144.2

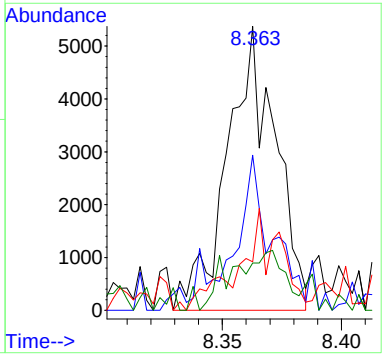




#66
p- & m-Xylenes
Concen: 5.28 ppb
RT: 8.363 min Scan# 2580
Delta R.T. -0.002 min
Lab File: QV110139.D
Acq: 5 Oct 2019 1:09 am

Tgt Ion: 91 Resp: 7596

Ion	Ratio	Lower	Upper
91	100		
106	36.2	34.8	72.2
105	7.2	15.9	33.1#
77	0.0	8.7	18.1#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: QV110140.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 06:55 Analyzed: 10/05/19 01:36

Solids: 83.69 Preparation: EPA 5035A Initial/Final: 5.64 g / 5 ml

Batch: BJ90132 Sequence: Y9J0836 Calibration: YJ90003 Instrument: QVOA1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0053	U
75-34-3	1,1-Dichloroethane	1	0.0053	U
75-35-4	1,1-Dichloroethylene	1	0.0053	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0053	U
95-50-1	1,2-Dichlorobenzene	1	0.0053	U
107-06-2	1,2-Dichloroethane	1	0.0053	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0053	U
541-73-1	1,3-Dichlorobenzene	1	0.0053	U
106-46-7	1,4-Dichlorobenzene	1	0.0053	U
123-91-1	1,4-Dioxane	1	0.11	U
78-93-3	2-Butanone	1	0.0047	J
67-64-1	Acetone	1	0.010	J
71-43-2	Benzene	1	0.0053	U
56-23-5	Carbon tetrachloride	1	0.0053	U
108-90-7	Chlorobenzene	1	0.0053	U
67-66-3	Chloroform	1	0.0053	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0053	U
100-41-4	Ethyl Benzene	1	0.0053	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0053	U
75-09-2	Methylene chloride	1	0.0084	J
91-20-3	Naphthalene	1	0.011	U
104-51-8	n-Butylbenzene	1	0.0053	U
103-65-1	n-Propylbenzene	1	0.0053	U
95-47-6	o-Xylene	1	0.0053	U
179601-23-1	p- & m- Xylenes	1	0.0056	J
135-98-8	sec-Butylbenzene	1	0.0053	U
98-06-6	tert-Butylbenzene	1	0.0053	U
127-18-4	Tetrachloroethylene	1	0.0053	U
108-88-3	Toluene	1	0.0053	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0053	U
79-01-6	Trichloroethylene	1	0.0053	U
75-01-4	Vinyl Chloride	1	0.0053	U
1330-20-7	Xylenes, Total	1	0.016	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	53.4	107	77 - 125	
SURR: Toluene-d8	50.0	52.6	105	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.9	97.8	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	705092	5.11	980619	5.11	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB27_6-8

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-04	File ID:	QV110140.D
Sampled:	10/02/19 10:35	Prepared:	10/04/19 06:55	Analyzed:	10/05/19 01:36
Solids:	83.69	Preparation:	EPA 5035A	Initial/Final:	5.64 g / 5 ml
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003
Instrument:	QVOA1				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	2613328	8.09	3868081	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1112207	11.042	1819501	11.042	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110140.D
Acq On : 5 Oct 2019 1:36 am
Operator : LLJ
Sample : 19J0144-04
Misc : QV1100419B COMP 5.64G C
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 07 11:30:05 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

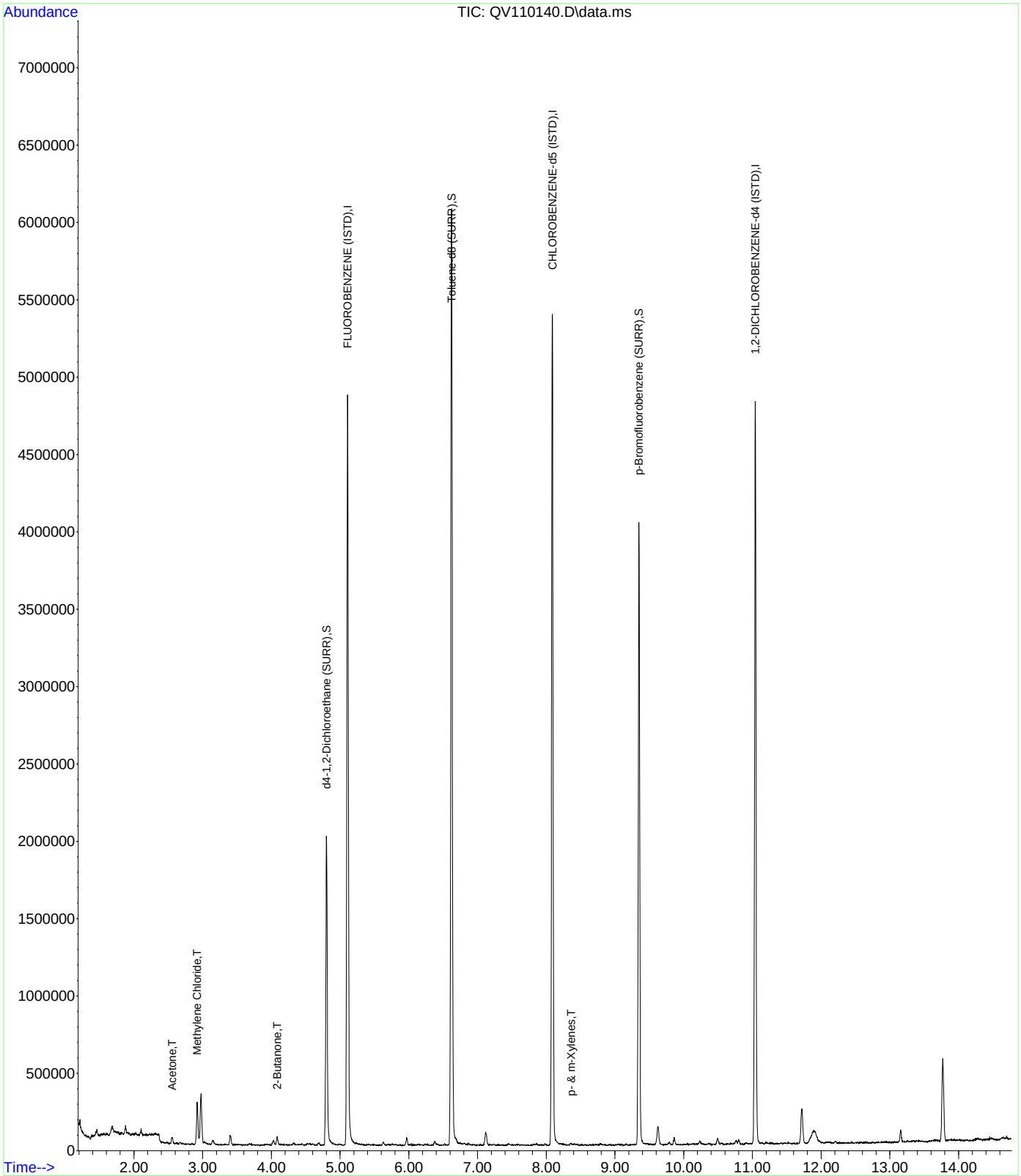
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	705092	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	2613328	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1112207	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.801	65	1083235	53.39	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 106.78%				
54) Toluene-d8 (SURR)	6.621	98	3464877	52.64	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.28%				
73) p-Bromofluorobenzene (...	9.347	95	1268554	48.91	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 97.82%				
Target Compounds							Qvalue
13) Acetone	2.556	43	44382	9.40	ppb	#	32
18) Methylene Chloride	2.921	49	125867	7.96	ppb		90
27) 2-Butanone	4.086	72	12894	4.42	ppb		78
66) p- & m-Xylenes	8.360	91	5820	5.27	ppb	#	68

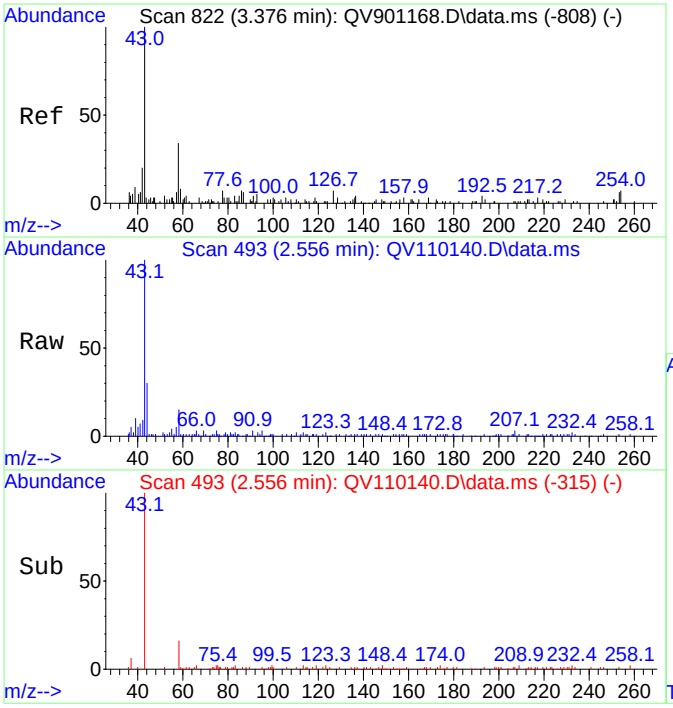
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110140.D
Acq On : 5 Oct 2019 1:36 am
Operator : LLJ
Sample : 19J0144-04
Misc : QV1100419B COMP 5.64G C
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Oct 07 11:30:05 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

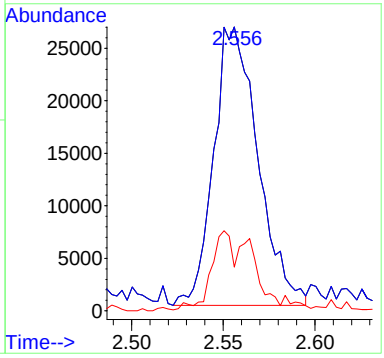


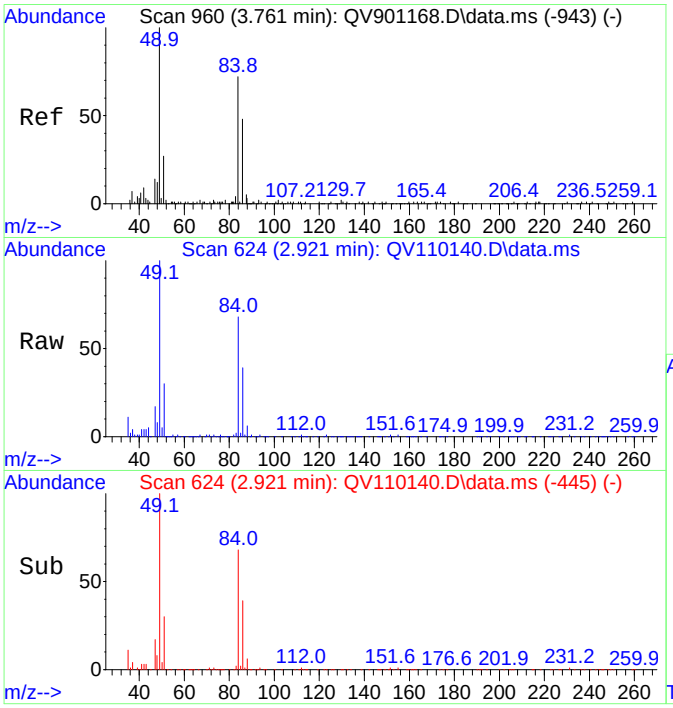


#13
Acetone
Concen: 9.40 ppb
RT: 2.556 min Scan# 493
Delta R.T. -0.006 min
Lab File: QV110140.D
Acq: 5 Oct 2019 1:36 am

Tgt Ion: 43 Resp: 44382

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	13.8	15.1	45.3#

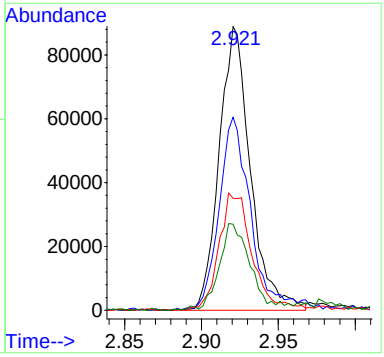


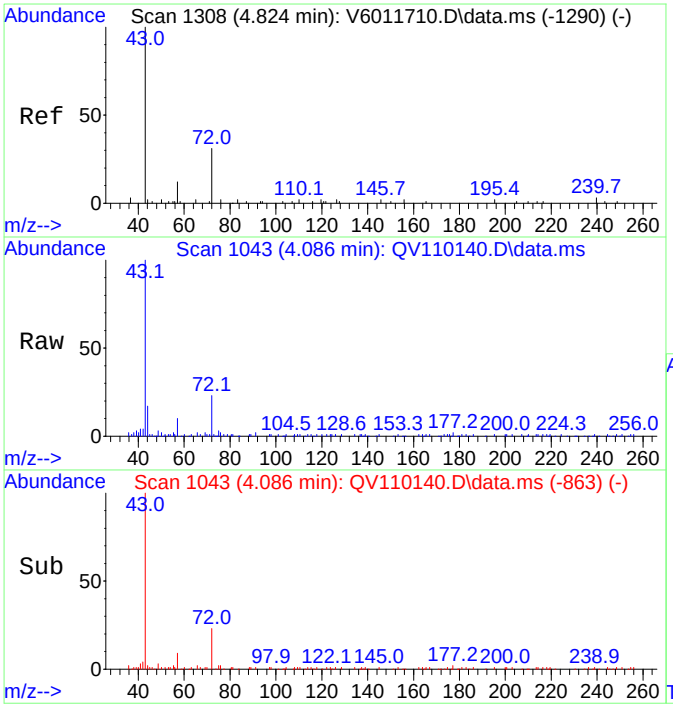


#18
Methylene Chloride
Concen: 7.96 ppb
RT: 2.921 min Scan# 624
Delta R.T. -0.002 min
Lab File: QV110140.D
Acq: 5 Oct 2019 1:36 am

Tgt Ion: 49 Resp: 125867

Ion	Ratio	Lower	Upper
49	100		
84	68.0	51.5	107.1
86	43.8	33.1	68.7
51	30.8	19.7	40.9

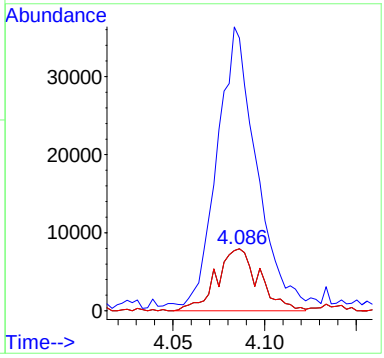


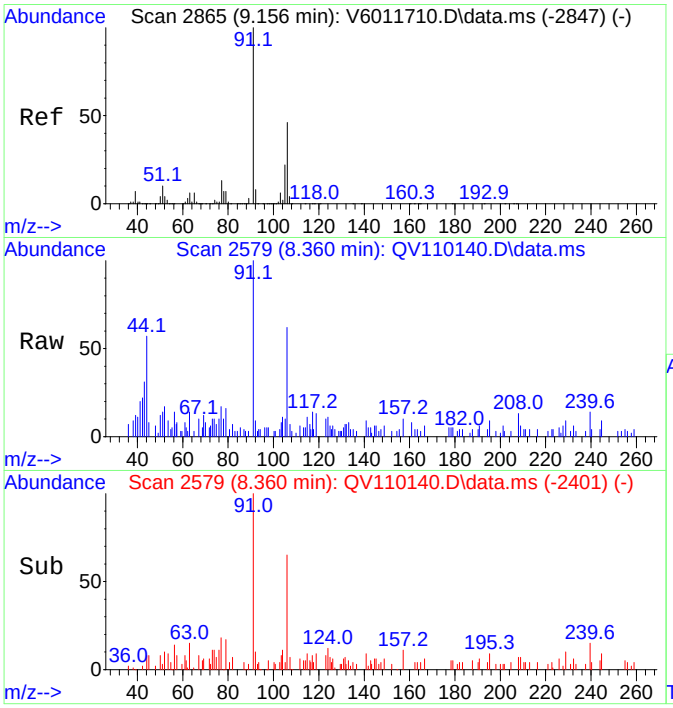


#27
2-Butanone
Concen: 4.42 ppb
RT: 4.086 min Scan# 1043
Delta R.T. 0.000 min
Lab File: QV110140.D
Acq: 5 Oct 2019 1:36 am

Tgt Ion: 72 Resp: 12894

Ion	Ratio	Lower	Upper
72	100		
43	409.6	280.0	420.0
72	100.0	48.0	144.2

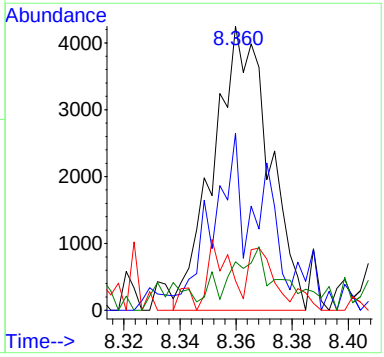




#66
p- & m-Xylenes
Concen: 5.27 ppb
RT: 8.360 min Scan# 2579
Delta R.T. -0.005 min
Lab File: QV110140.D
Acq: 5 Oct 2019 1:36 am

Tgt Ion: 91 Resp: 5820

Ion	Ratio	Lower	Upper
91	100		
106	30.0	34.8	72.2#
105	9.5	15.9	33.1#
77	0.0	8.7	18.1#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: QV110141.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 06:55 Analyzed: 10/05/19 02:02

Solids: 92.39 Preparation: EPA 5035A Initial/Final: 5.34 g / 5 ml

Batch: BJ90132 Sequence: Y9J0836 Calibration: YJ90003 Instrument: QVOA1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0051	U
75-34-3	1,1-Dichloroethane	1	0.0051	U
75-35-4	1,1-Dichloroethylene	1	0.0051	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0051	U
95-50-1	1,2-Dichlorobenzene	1	0.0051	U
107-06-2	1,2-Dichloroethane	1	0.0051	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0051	U
541-73-1	1,3-Dichlorobenzene	1	0.0051	U
106-46-7	1,4-Dichlorobenzene	1	0.0051	U
123-91-1	1,4-Dioxane	1	0.10	U
78-93-3	2-Butanone	1	0.0048	J
67-64-1	Acetone	1	0.016	
71-43-2	Benzene	1	0.0051	U
56-23-5	Carbon tetrachloride	1	0.0051	U
108-90-7	Chlorobenzene	1	0.0051	U
67-66-3	Chloroform	1	0.0051	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0051	U
100-41-4	Ethyl Benzene	1	0.0051	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0051	U
75-09-2	Methylene chloride	1	0.0065	J
91-20-3	Naphthalene	1	0.010	U
104-51-8	n-Butylbenzene	1	0.0051	U
103-65-1	n-Propylbenzene	1	0.0051	U
95-47-6	o-Xylene	1	0.0051	U
179601-23-1	p- & m- Xylenes	1	0.0053	J
135-98-8	sec-Butylbenzene	1	0.0051	U
98-06-6	tert-Butylbenzene	1	0.0051	U
127-18-4	Tetrachloroethylene	1	0.0051	U
108-88-3	Toluene	1	0.0051	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0051	U
79-01-6	Trichloroethylene	1	0.0051	U
75-01-4	Vinyl Chloride	1	0.0051	U
1330-20-7	Xylenes, Total	1	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	52.6	105	77 - 125	
SURR: Toluene-d8	50.0	56.6	113	85 - 120	
SURR: p-Bromofluorobenzene	50.0	52.5	105	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	829264	5.11	980619	5.11	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB28_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-05	File ID:	QV110141.D
Sampled:	10/02/19 12:00	Prepared:	10/04/19 06:55	Analyzed:	10/05/19 02:02
Solids:	92.39	Preparation:	EPA 5035A	Initial/Final:	5.34 g / 5 ml
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003
Instrument:	QVOA1				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	2863067	8.09	3868081	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1016687	11.042	1819501	11.042	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110141.D
Acq On : 5 Oct 2019 2:02 am
Operator : LLJ
Sample : 19J0144-05
Misc : QV1100419B COMP 5.34G C
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 07 11:30:09 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

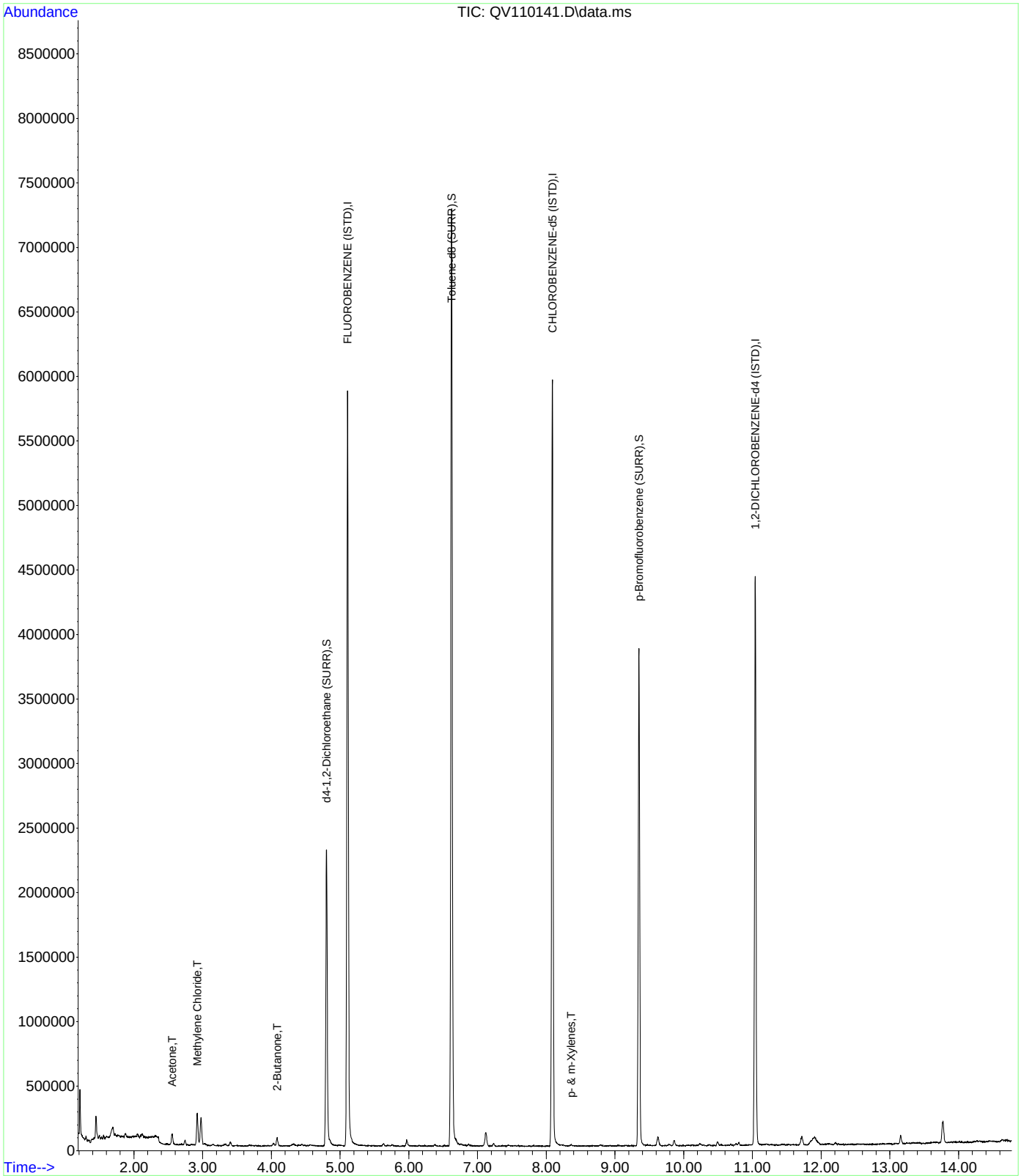
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	829264	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	2863067	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1016687	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1255672	52.62	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.24%				
54) Toluene-d8 (SURR)	6.624	98	4079230	56.57	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 113.14%				
73) p-Bromofluorobenzene (...	9.350	95	1244961	52.51	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 105.02%				
Target Compounds							Qvalue
13) Acetone	2.556	43	86595	15.59	ppb	#	21
14) Iodomethane	2.620	142	1741	Below Cal		#	20
18) Methylene Chloride	2.923	49	118604	6.37	ppb		91
27) 2-Butanone	4.083	72	15794	4.74	ppb		78
66) p- & m-Xylenes	8.360	91	6516	5.27	ppb	#	70

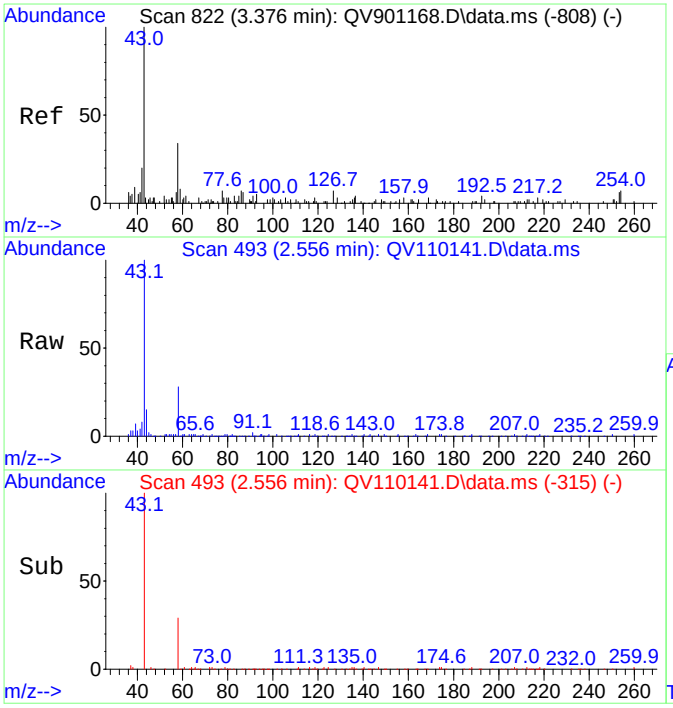
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110141.D
Acq On : 5 Oct 2019 2:02 am
Operator : LLJ
Sample : 19J0144-05
Misc : QV1100419B COMP 5.34G C
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Oct 07 11:30:09 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

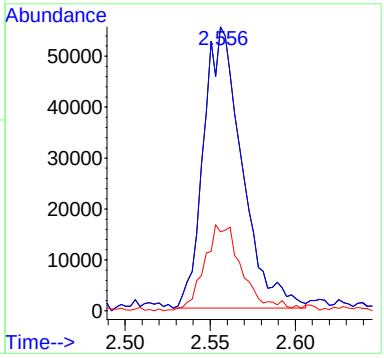


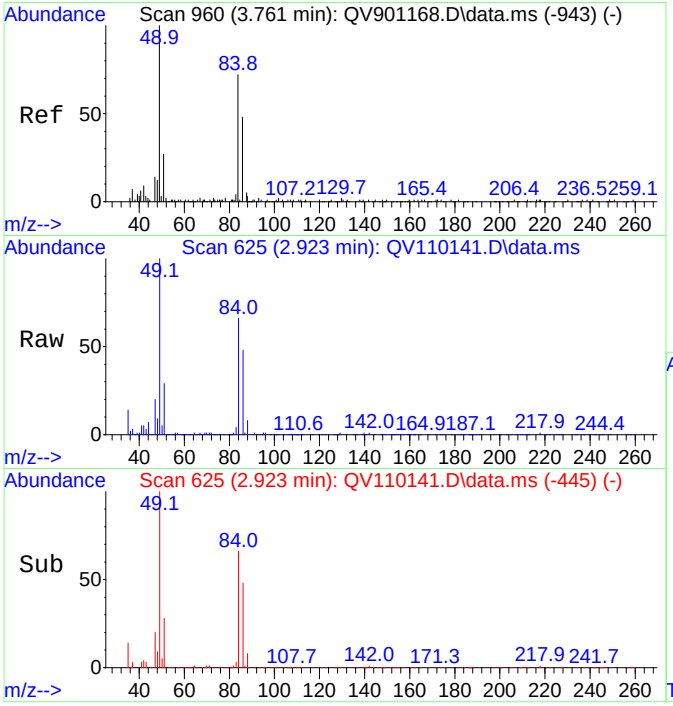


#13
Acetone
Concen: 15.59 ppb
RT: 2.556 min Scan# 493
Delta R.T. -0.006 min
Lab File: QV110141.D
Acq: 5 Oct 2019 2:02 am

Tgt Ion: 43 Resp: 86595

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	0.0	15.1	45.3#

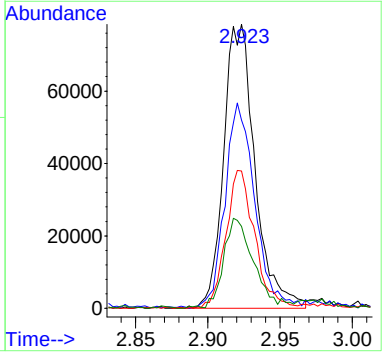


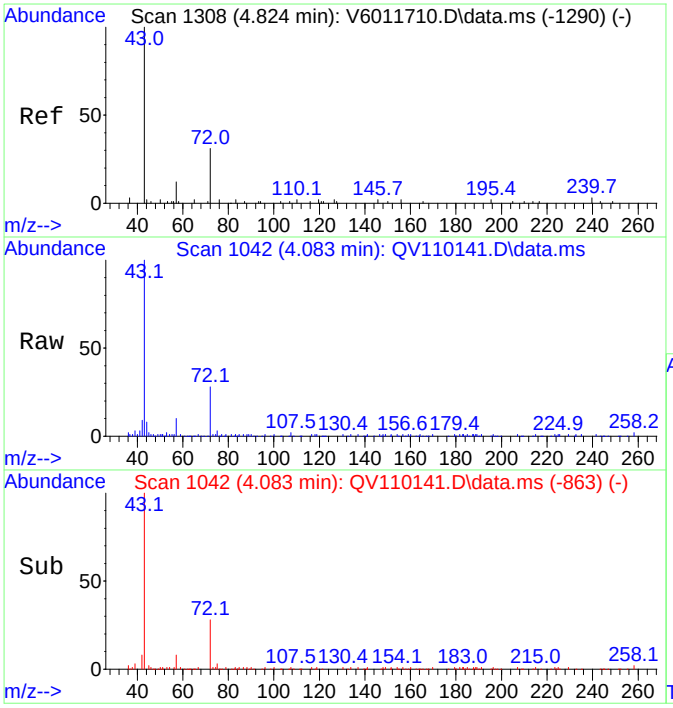


#18
Methylene Chloride
Concen: 6.37 ppb
RT: 2.923 min Scan# 625
Delta R.T. 0.000 min
Lab File: QV110141.D
Acq: 5 Oct 2019 2:02 am

Tgt Ion: 49 Resp: 118604

Ion	Ratio	Lower	Upper
49	100		
84	69.1	51.5	107.1
86	44.7	33.1	68.7
51	28.7	19.7	40.9

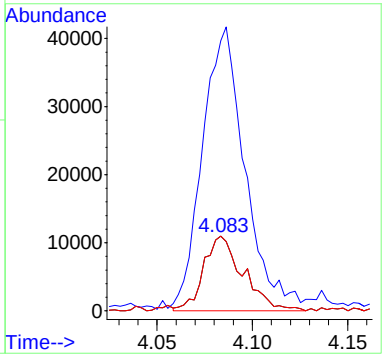


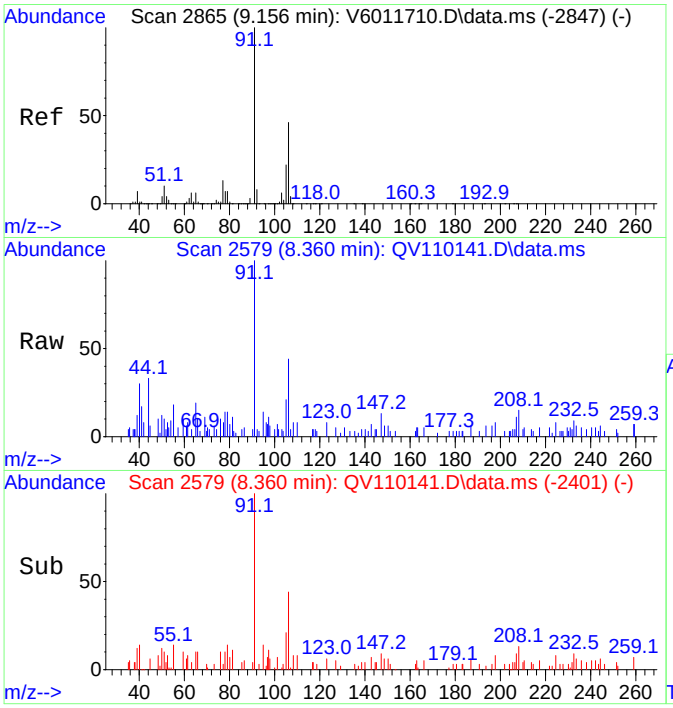


#27
2-Butanone
Concen: 4.74 ppb
RT: 4.083 min Scan# 1042
Delta R.T. -0.003 min
Lab File: QV110141.D
Acq: 5 Oct 2019 2:02 am

Tgt Ion: 72 Resp: 15794

Ion	Ratio	Lower	Upper
72	100		
43	409.2	280.0	420.0
72	100.0	48.0	144.2

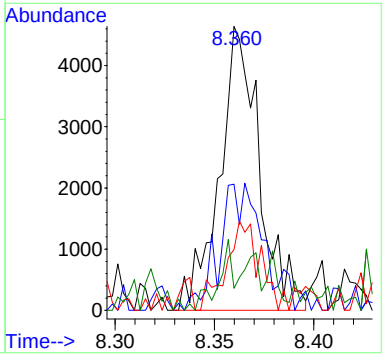




#66
p- & m-Xylenes
Concen: 5.27 ppb
RT: 8.360 min Scan# 2579
Delta R.T. -0.005 min
Lab File: QV110141.D
Acq: 5 Oct 2019 2:02 am

Tgt Ion: 91 Resp: 6516

Ion	Ratio	Lower	Upper
91	100		
106	24.0	34.8	72.2#
105	26.2	15.9	33.1
77	0.0	8.7	18.1#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	QV110120.D
Sampled:	10/02/19 12:05	Prepared:	10/04/19 06:52	Analyzed:	10/04/19 16:45
Solids:	91.18	Preparation:	EPA 5035A	Initial/Final:	5.79 g / 5 ml
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003
Instrument:	QVOA1				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
71-55-6	1,1,1-Trichloroethane	1	0.0047	U
75-34-3	1,1-Dichloroethane	1	0.0047	U
75-35-4	1,1-Dichloroethylene	1	0.0047	U
95-63-6	1,2,4-Trimethylbenzene	1	0.0047	U
95-50-1	1,2-Dichlorobenzene	1	0.0047	U
107-06-2	1,2-Dichloroethane	1	0.0047	U
108-67-8	1,3,5-Trimethylbenzene	1	0.0047	U
541-73-1	1,3-Dichlorobenzene	1	0.0047	U
106-46-7	1,4-Dichlorobenzene	1	0.0047	U
123-91-1	1,4-Dioxane	1	0.095	U
78-93-3	2-Butanone	1	0.0047	U
67-64-1	Acetone	1	0.0053	J
71-43-2	Benzene	1	0.0047	U
56-23-5	Carbon tetrachloride	1	0.0047	U
108-90-7	Chlorobenzene	1	0.0047	U
67-66-3	Chloroform	1	0.0047	U
156-59-2	cis-1,2-Dichloroethylene	1	0.0047	U
100-41-4	Ethyl Benzene	1	0.0047	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.0047	U
75-09-2	Methylene chloride	1	0.0076	J
91-20-3	Naphthalene	1	0.0095	U
104-51-8	n-Butylbenzene	1	0.0047	U
103-65-1	n-Propylbenzene	1	0.0047	U
95-47-6	o-Xylene	1	0.0047	U
179601-23-1	p- & m- Xylenes	1	0.0050	J
135-98-8	sec-Butylbenzene	1	0.0047	U
98-06-6	tert-Butylbenzene	1	0.0047	U
127-18-4	Tetrachloroethylene	1	0.0047	U
108-88-3	Toluene	1	0.0047	U
156-60-5	trans-1,2-Dichloroethylene	1	0.0047	U
79-01-6	Trichloroethylene	1	0.0047	U
75-01-4	Vinyl Chloride	1	0.0047	U
1330-20-7	Xylenes, Total	1	0.014	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.5	103	77 - 125	
SURR: Toluene-d8	50.0	51.7	103	85 - 120	
SURR: p-Bromofluorobenzene	50.0	49.5	98.9	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	970505	5.11	1058927	5.11	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	QV110120.D
Sampled:	10/02/19 12:05	Prepared:	10/04/19 06:52	Analyzed:	10/04/19 16:45
Solids:	91.18	Preparation:	EPA 5035A	Initial/Final:	5.79 g / 5 ml
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003
Instrument:	QVOA1				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	3756574	8.09	4193637	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1670915	11.042	1910137	11.045	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110120.D
Acq On : 4 Oct 2019 4:45 pm
Operator : LLJ
Sample : 19J0144-06
Misc : QV1100419A COMP 5.79G C
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 07 11:15:41 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

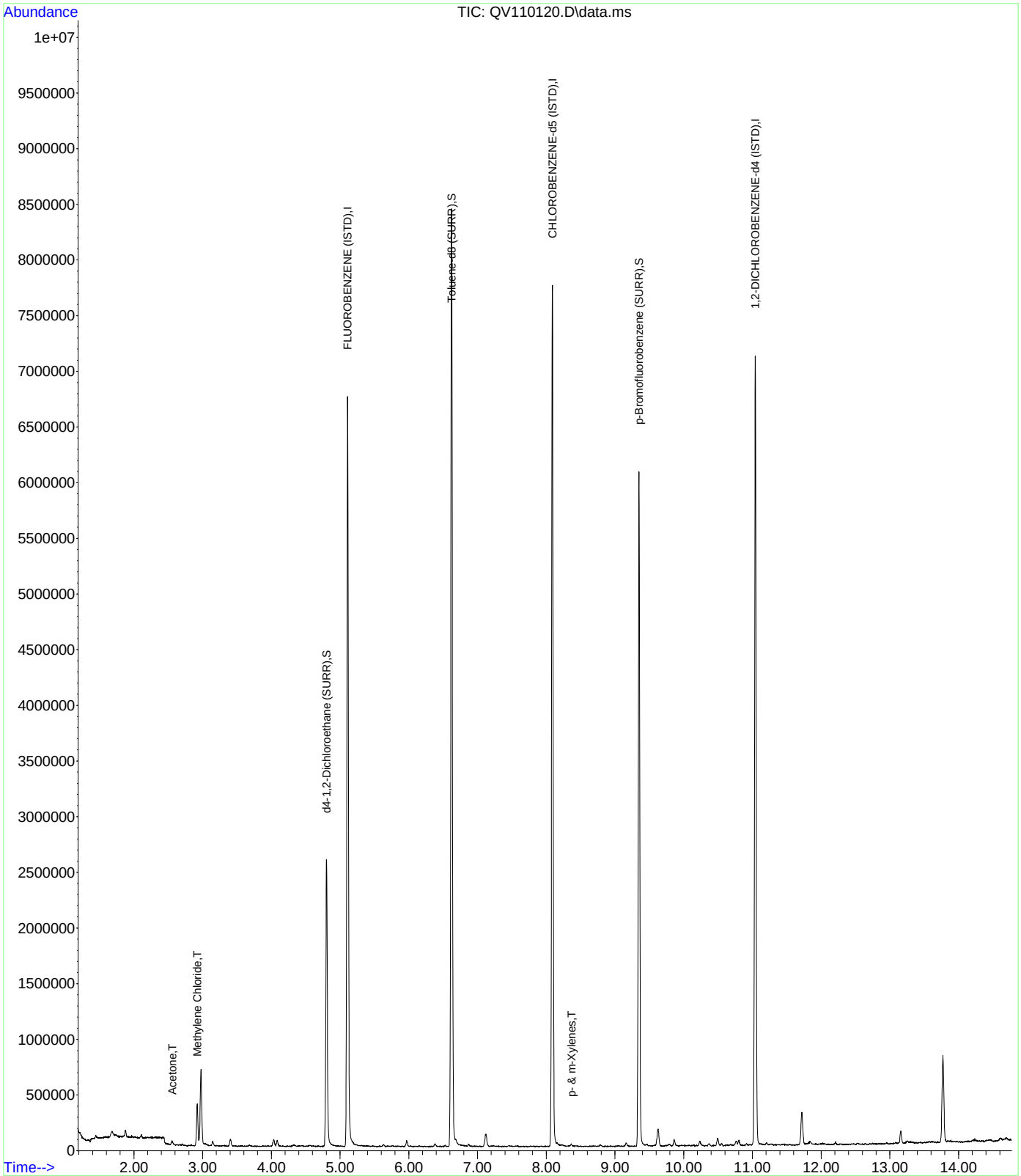
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.110	70	970505	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3756574	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1670915	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.804	65	1438499	51.51	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 103.02%			
54) Toluene-d8 (SURR)	6.621	98	4888584	51.67	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.34%			
73) p-Bromofluorobenzene (...	9.350	95	1927017	49.46	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.92%			
Target Compounds						Qvalue
13) Acetone	2.559	43	36640	5.64	ppb	# 44
18) Methylene Chloride	2.923	49	175155	8.04	ppb	89
66) p- & m-Xylenes	8.366	91	8730	5.27	ppb	# 76

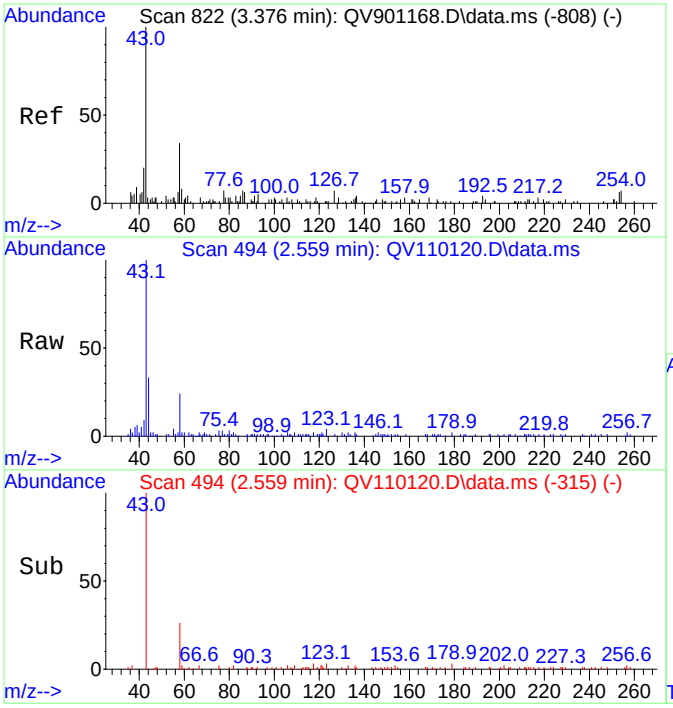
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110120.D
Acq On : 4 Oct 2019 4:45 pm
Operator : LLJ
Sample : 19J0144-06
Misc : QV1100419A COMP 5.79G C
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 07 11:15:41 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

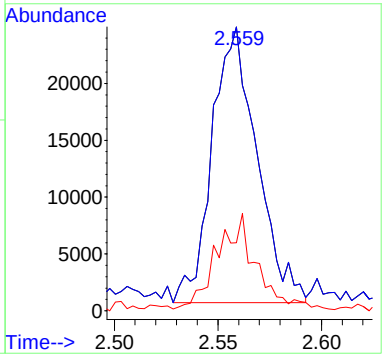


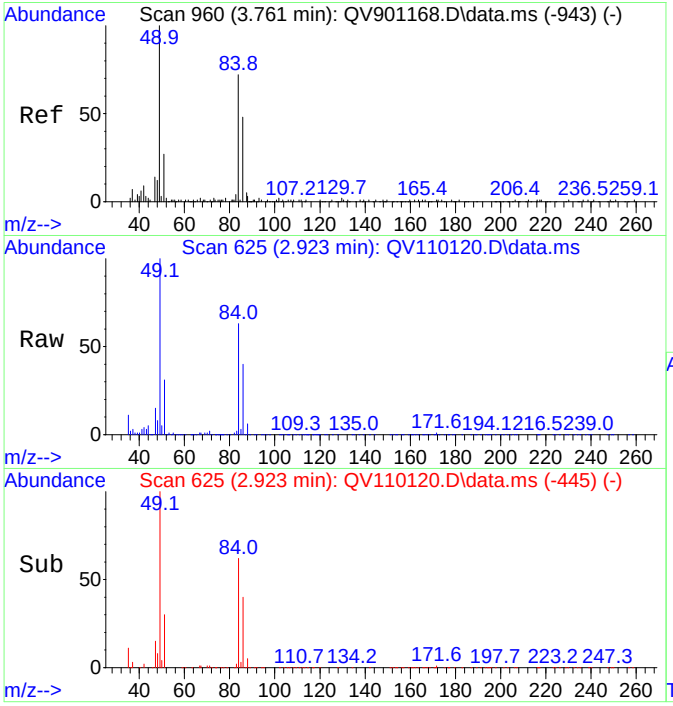


#13
Acetone
Concen: 5.64 ppb
RT: 2.559 min Scan# 494
Delta R.T. -0.003 min
Lab File: QV110120.D
Acq: 4 Oct 2019 4:45 pm

Tgt Ion: 43 Resp: 36640

Ion	Ratio	Lower	Upper
43	100		
43	100.0	32.2	48.2#
58	31.6	15.1	45.3

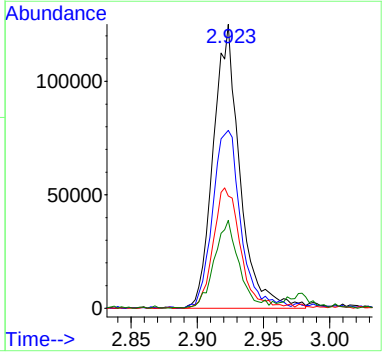


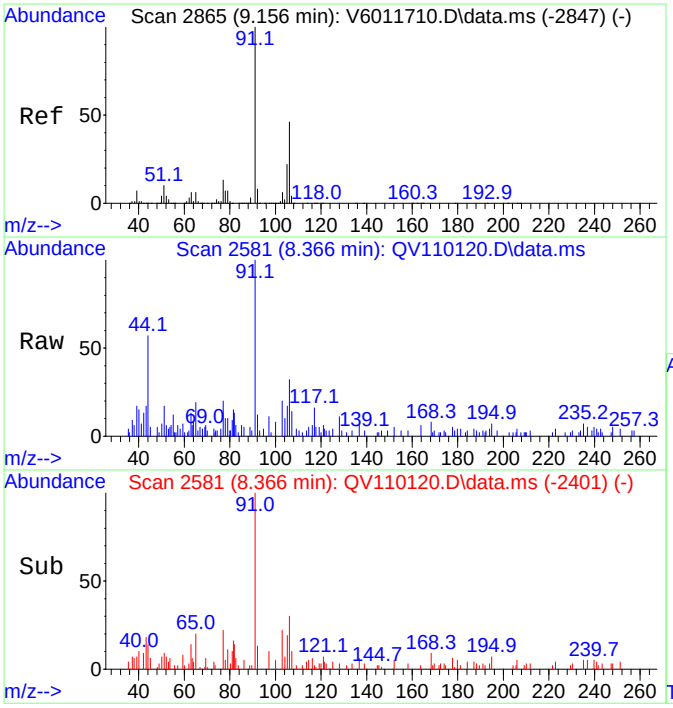


#18
Methylene Chloride
Concen: 8.04 ppb
RT: 2.923 min Scan# 625
Delta R.T. 0.000 min
Lab File: QV110120.D
Acq: 4 Oct 2019 4:45 pm

Tgt Ion: 49 Resp: 175155

Ion	Ratio	Lower	Upper
49	100		
84	66.6	51.5	107.1
86	42.9	33.1	68.7
51	28.4	19.7	40.9

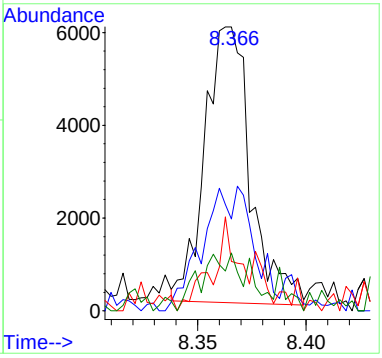




#66
p- & m-Xylenes
Concen: 5.27 ppb
RT: 8.366 min Scan# 2581
Delta R.T. 0.001 min
Lab File: QV110120.D
Acq: 4 Oct 2019 4:45 pm

Tgt Ion: 91 Resp: 8730

Ion	Ratio	Lower	Upper
91	100		
106	29.6	34.8	72.2#
105	19.0	15.9	33.1
77	16.8	8.7	18.1



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

RITB04_100219

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Water Laboratory ID: 19J0144-07 File ID: QV616951.D

Sampled: 10/02/19 00:00 Prepared: 10/09/19 06:01 Analyzed: 10/10/19 02:04

Solids: Preparation: EPA 5030B Initial/Final: 25 mL / 25 mL

Batch: BJ90578 Sequence: Y9J1024 Calibration: YJ90014 Instrument: QVOA6

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
71-55-6	1,1,1-Trichloroethane	1	0.500	U
75-34-3	1,1-Dichloroethane	1	0.500	U
75-35-4	1,1-Dichloroethylene	1	0.500	U
95-63-6	1,2,4-Trimethylbenzene	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.500	U
107-06-2	1,2-Dichloroethane	1	0.500	U
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
541-73-1	1,3-Dichlorobenzene	1	0.500	U
106-46-7	1,4-Dichlorobenzene	1	0.500	U
123-91-1	1,4-Dioxane	1	80.0	U
78-93-3	2-Butanone	1	0.500	U
67-64-1	Acetone	1	2.00	U
71-43-2	Benzene	1	0.500	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.500	U
67-66-3	Chloroform	1	0.500	U
156-59-2	cis-1,2-Dichloroethylene	1	0.500	U
100-41-4	Ethyl Benzene	1	0.500	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
75-09-2	Methylene chloride	1	2.00	U
91-20-3	Naphthalene	1	2.00	U
104-51-8	n-Butylbenzene	1	0.500	U
103-65-1	n-Propylbenzene	1	0.500	U
95-47-6	o-Xylene	1	0.500	U
179601-23-1	p- & m- Xylenes	1	1.00	U
135-98-8	sec-Butylbenzene	1	0.500	U
98-06-6	tert-Butylbenzene	1	0.500	U
127-18-4	Tetrachloroethylene	1	0.500	U
108-88-3	Toluene	1	0.500	U
156-60-5	trans-1,2-Dichloroethylene	1	0.500	U
79-01-6	Trichloroethylene	1	0.500	U
75-01-4	Vinyl Chloride	1	0.500	U
1330-20-7	Xylenes, Total	1	1.50	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	10.0	10.4	104	70 - 130	
SURR: Toluene-d8	10.0	9.96	99.6	70 - 130	
SURR: p-Bromofluorobenzene	10.0	9.97	99.7	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	344042	5.633	327739	5.633	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

RITB04_100219

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Water	Laboratory ID:	19J0144-07	File ID:	QV616951.D
Sampled:	10/02/19 00:00	Prepared:	10/09/19 06:01	Analyzed:	10/10/19 02:04
Solids:		Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL
Batch:	BJ90578	Sequence:	Y9J1024	Calibration:	YJ90014
Instrument:	QVOA6				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Chlorobenzene-d5	1211367	8.663	1178780	8.663	
ISTD: 1,2-Dichlorobenzene-d4	446462	11.62	452724	11.621	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100919A\
Data File : QV616951.D
Acq On : 10 Oct 2019 2:04 am
InstName : MSVOA6
Operator : LLJ
Sample : 19J0144-07
Misc : QBQV6100919B 8260 A
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 10 10:23:37 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

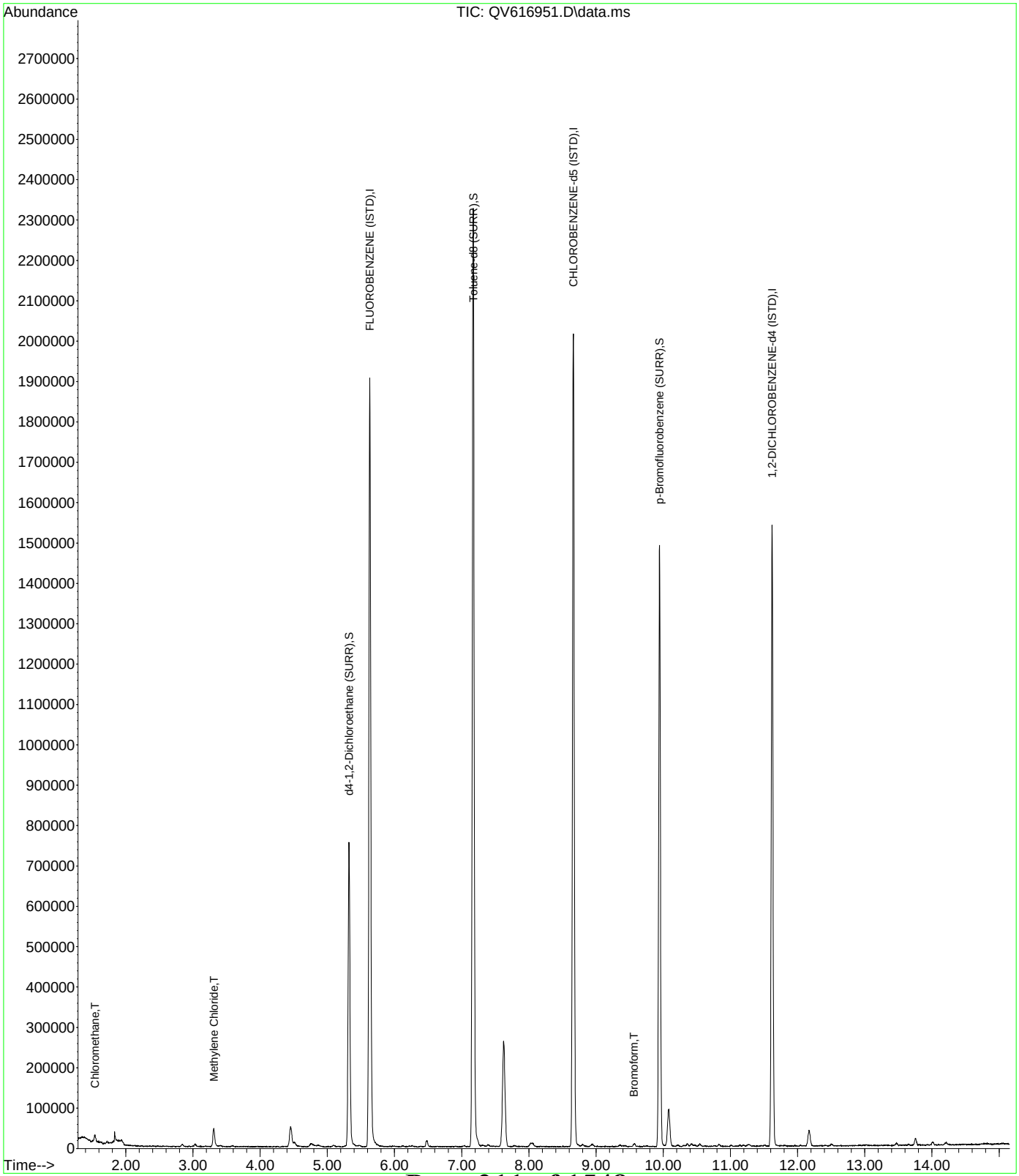
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.633	70	344042	10.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1211367	10.00	ppb	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.620	152	446462	10.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	5.324	65	494781	10.38	ppb	0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 103.80%			
53) Toluene-d8 (SURR)	7.172	98	1586641	9.96	ppb	0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 99.60%			
73) p-Bromofluorobenzene (...	9.943	95	537808	9.97	ppb	0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 99.70%			
Target Compounds						Qvalue
3) Chloromethane	1.543	50	17148	0.37	ppb	# 43
12) Acetone	2.837	43	6140m	Below Cal		
18) Methylene Chloride	3.310	49	29151	0.45	ppb	88
27) 2-Butanone	4.509	72	2226m	Below Cal		
66) p- & m-Xylenes	8.944	91	4412	Below Cal		# 57
69) Bromoform	9.562	173	3892	0.15	ppb	97
98) Naphthalene	13.752	128	15602	Below Cal		94

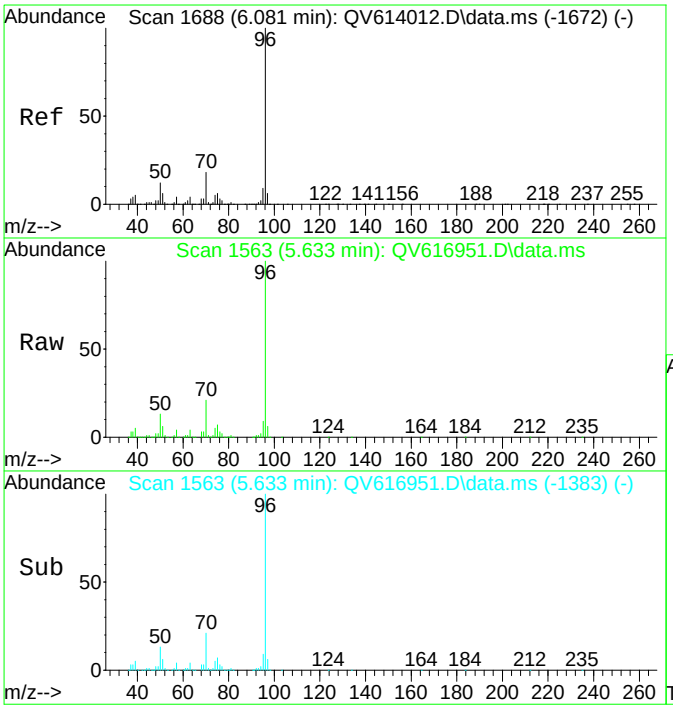
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100919A\
Data File : QV616951.D
Acq On : 10 Oct 2019 2:04 am
InstName : MSVOA6
Operator : LLJ
Sample : 19J0144-07
Misc : QBQV6100919B 8260 A
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Oct 10 10:23:37 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

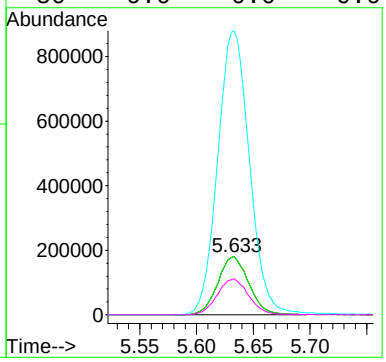


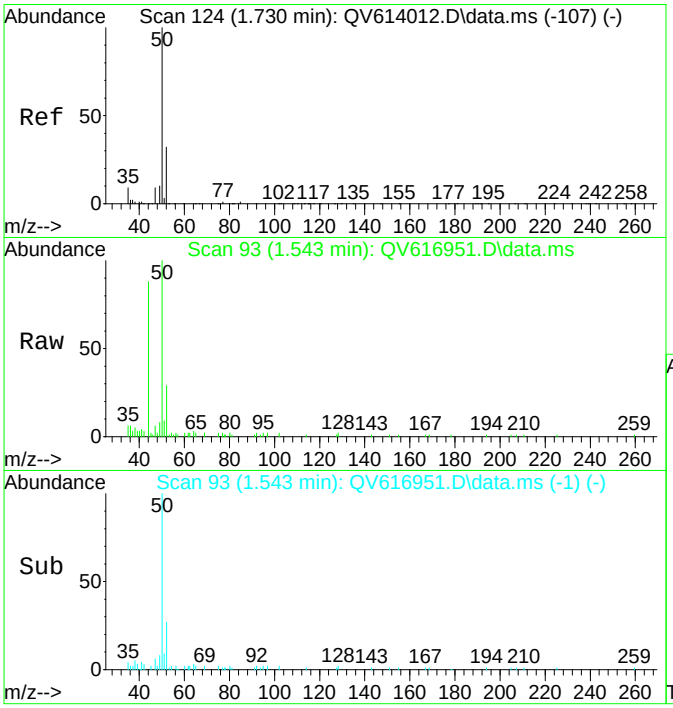


#1
FLUOROBENZENE (ISTD)
Concen: 10.00 ppb
RT: 5.633 min Scan# 1563
Delta R.T. 0.000 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 70 Resp: 344042

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	501.3	341.1	708.3
50	0.0	0.0	0.0

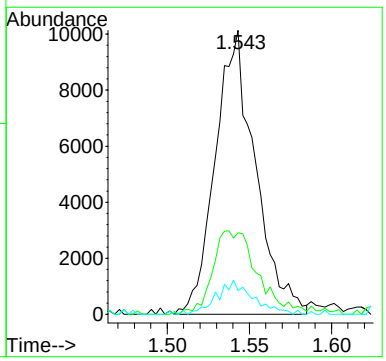


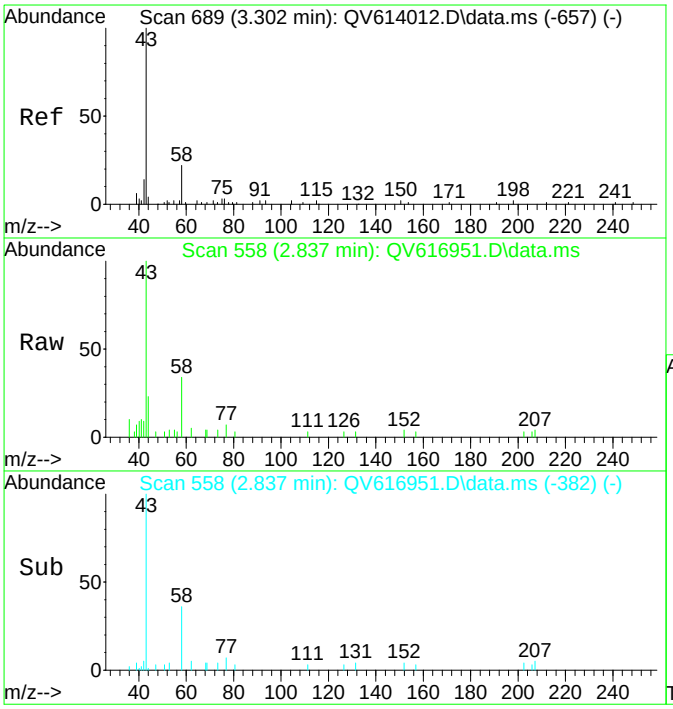


#3
Chloromethane
Concen: 0.37 ppb
RT: 1.543 min Scan# 93
Delta R.T. -0.009 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 50 Resp: 17148

Ion	Ratio	Lower	Upper
50	100		
52	32.9	5.2	10.8#
49	10.6	2.0	4.2#

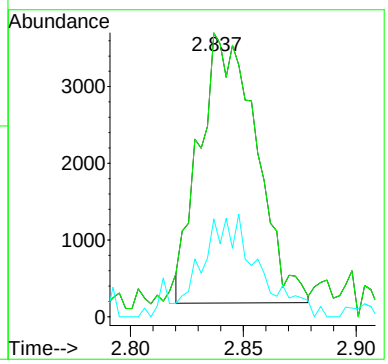


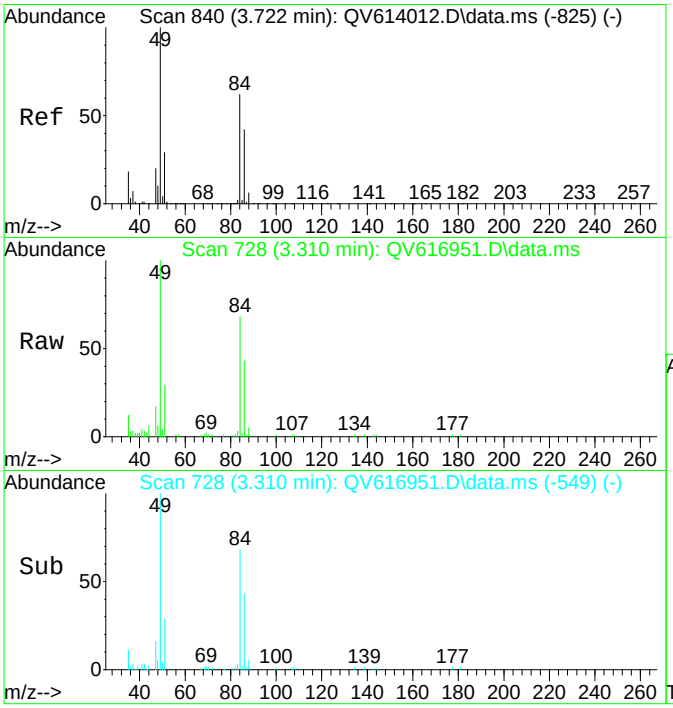


#12
Acetone
Concen: Below Cal m
RT: 2.837 min Scan# 558
Delta R.T. -0.011 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 43 Resp: 6140

Ion	Ratio	Lower	Upper
43	100		
43	5.8	80.0	120.0#
58	1.0	6.0	18.1#

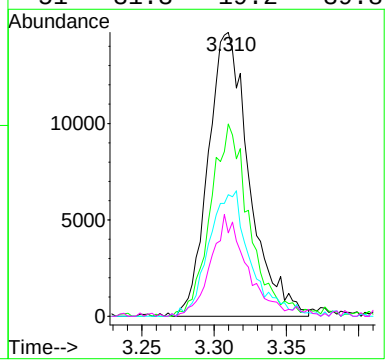


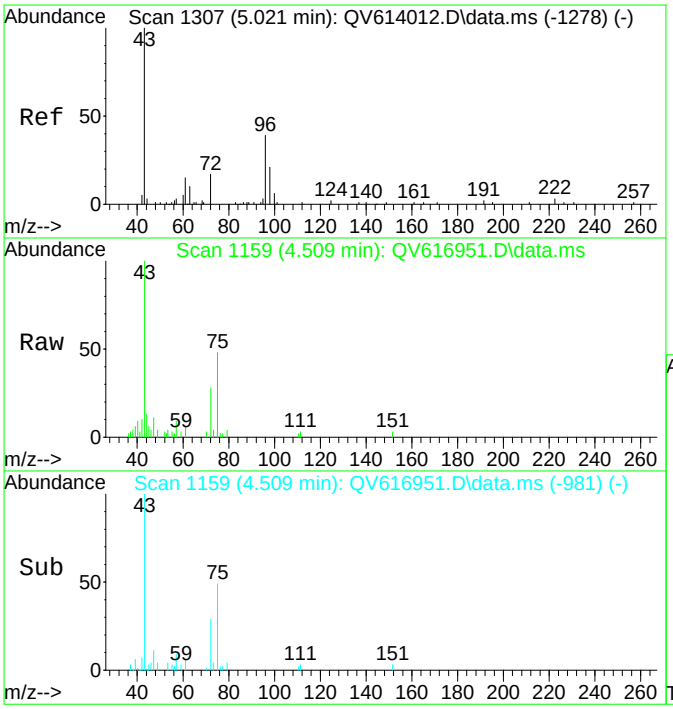


#18
Methylene Chloride
Concen: 0.45 ppb
RT: 3.310 min Scan# 728
Delta R.T. -0.003 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 49 Resp: 29151

Ion	Ratio	Lower	Upper
49	100		
84	63.9	35.0	72.8
86	43.6	22.7	47.3
51	31.3	19.2	39.8

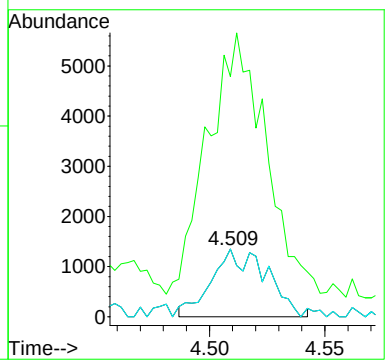


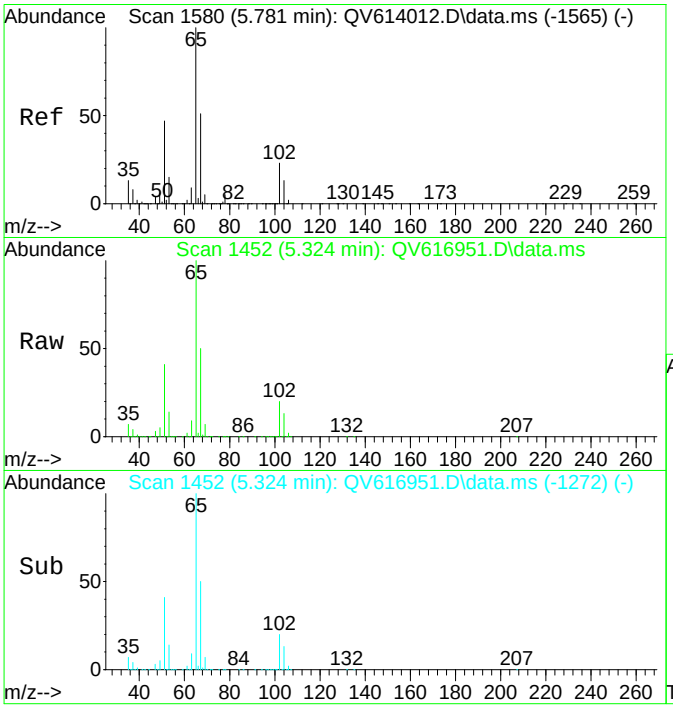


#27
2-Butanone
Concen: Below Cal m
RT: 4.509 min Scan# 1159
Delta R.T. -0.006 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 72 Resp: 2226

Ion	Ratio	Lower	Upper
72	100		
43	409.0	0.0	0.0#
72	56.7	47.4	142.3

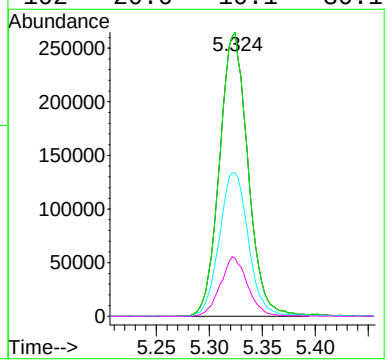


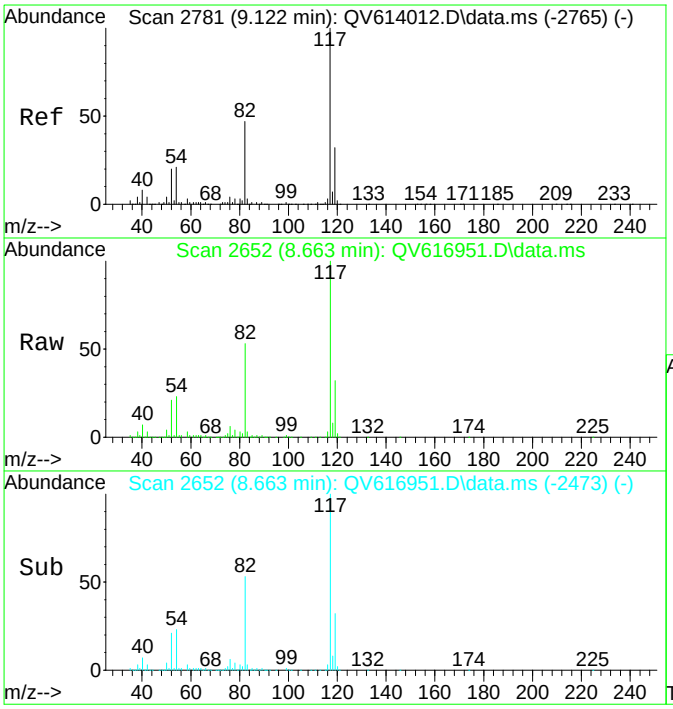


#35
d4-1,2-Dichloroethane (SURR)
Concen: 10.38 ppb
RT: 5.324 min Scan# 1452
Delta R.T. 0.000 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 65 Resp: 494781

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	51.8	34.0	70.6
102	20.0	10.1	30.1

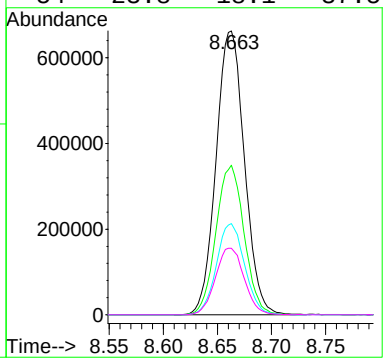


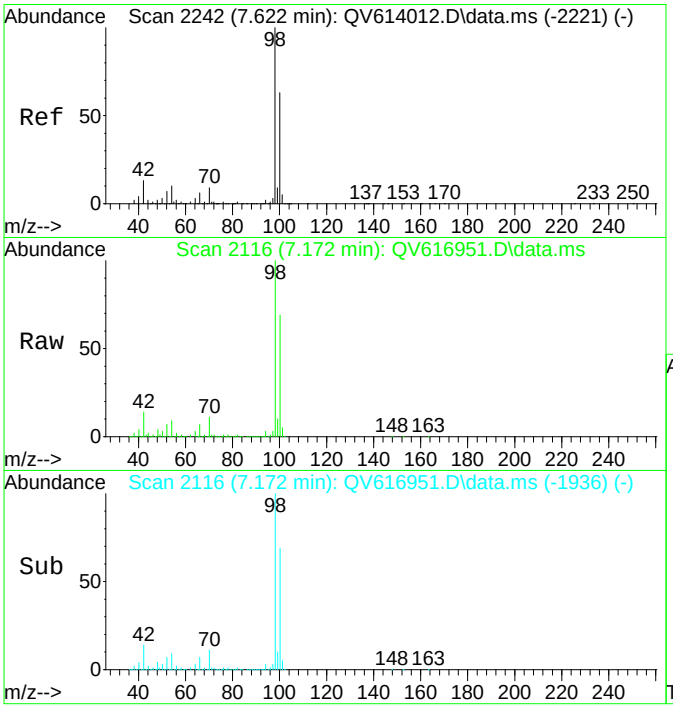


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 10.00 ppb
RT: 8.663 min Scan# 2652
Delta R.T. -0.003 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion:117 Resp: 1211367

Ion	Ratio	Lower	Upper
117	100		
82	52.2	34.5	71.7
119	31.8	20.9	43.3
54	23.8	18.1	37.5

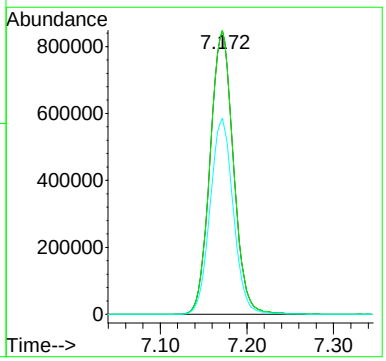


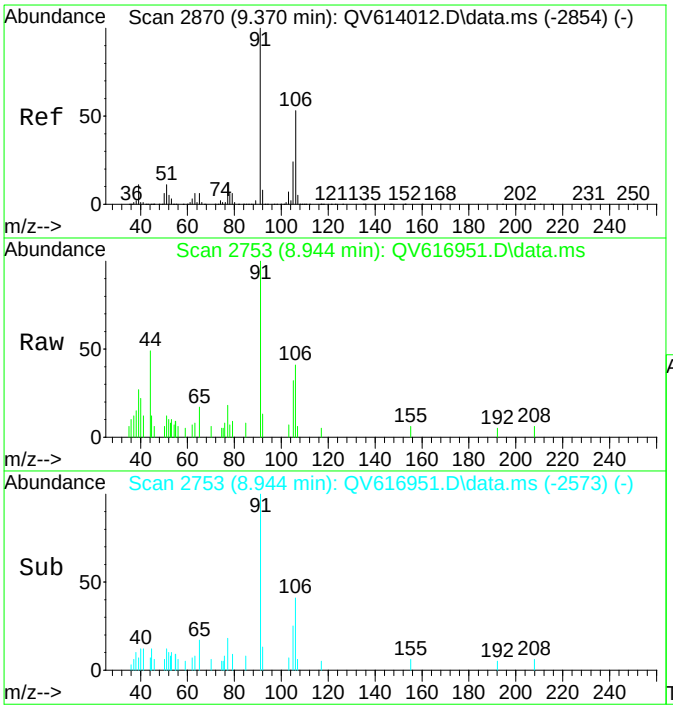


#53
Toluene-d8 (SURR)
Concen: 9.96 ppb
RT: 7.172 min Scan# 2116
Delta R.T. -0.000 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 98 Resp: 1586641

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	68.7	44.2	91.8

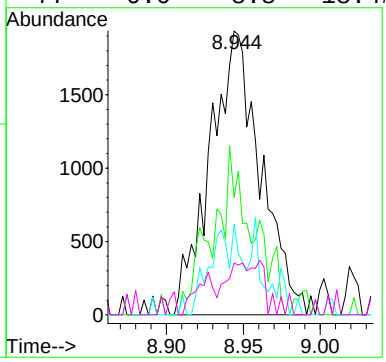


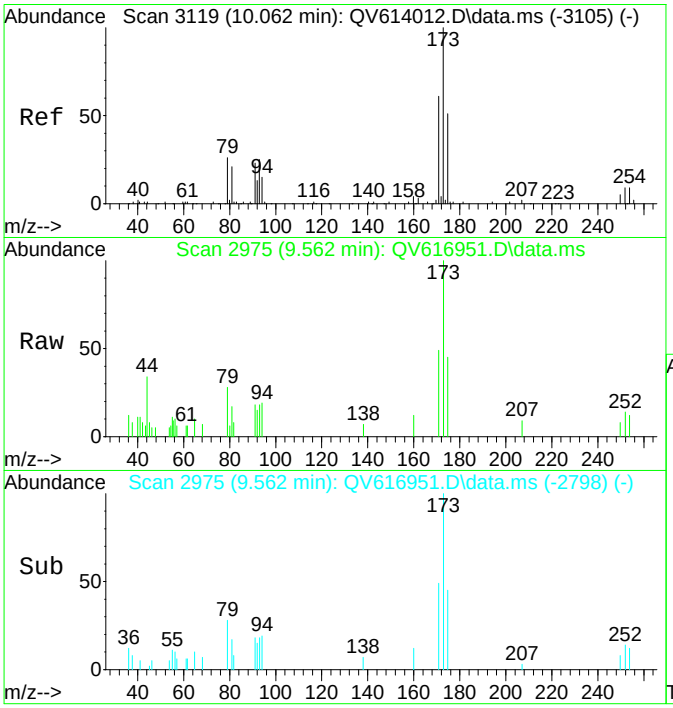


#66
p- & m-Xylenes
Concen: Below Cal
RT: 8.944 min Scan# 2753
Delta R.T. -0.000 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 91 Resp: 4412

Ion	Ratio	Lower	Upper
91	100		
106	14.2	34.1	70.9#
105	12.2	16.2	33.6#
77	0.0	8.8	18.4#

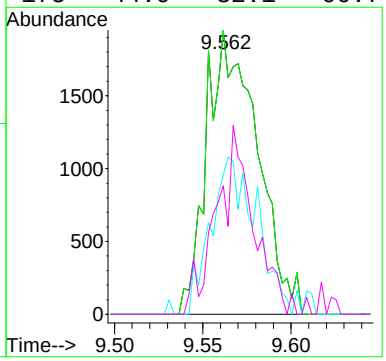


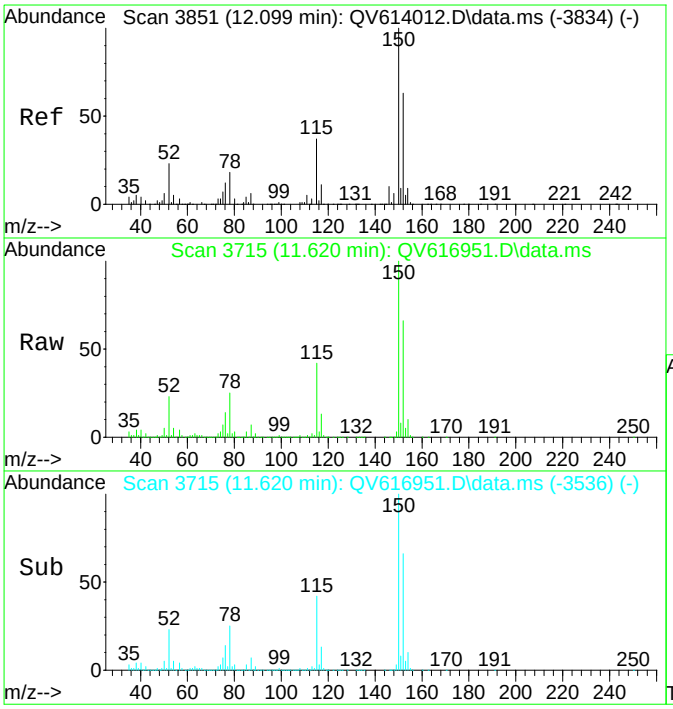


#69
Bromoform
Concen: 0.15 ppb
RT: 9.562 min Scan# 2975
Delta R.T. -0.008 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion:173 Resp: 3892

Ion	Ratio	Lower	Upper
173	100		
173	100.0	80.0	120.0
171	49.8	35.3	73.3
175	44.9	32.1	66.7

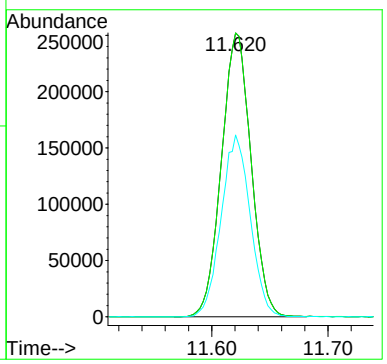


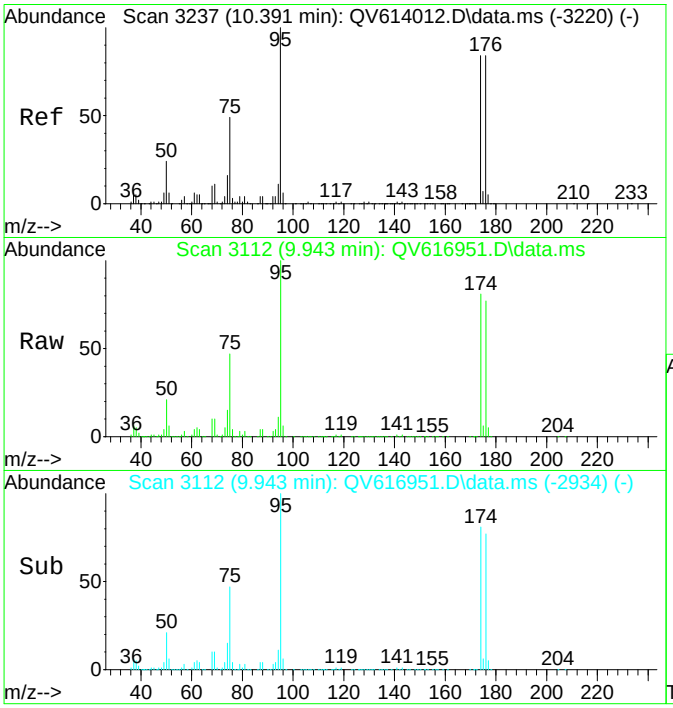


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 10.00 ppb
RT: 11.620 min Scan# 3715
Delta R.T. -0.003 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion:152 Resp: 446462

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	62.8	29.8	89.3

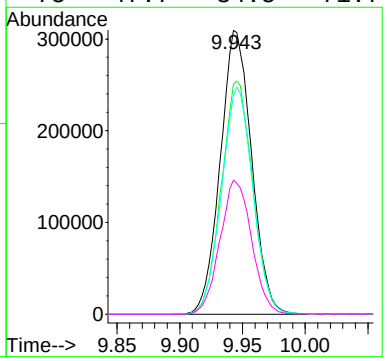


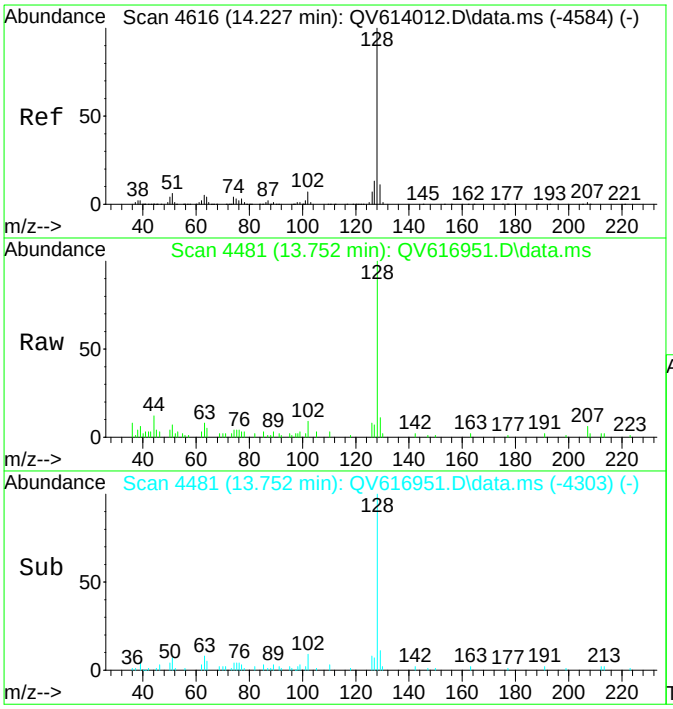


#73
p-Bromofluorobenzene (SURR)
Concen: 9.97 ppb
RT: 9.943 min Scan# 3112
Delta R.T. -0.005 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion: 95 Resp: 537808

Ion	Ratio	Lower	Upper
95	100		
174	82.5	62.5	129.9
176	79.9	60.7	126.1
75	47.7	34.5	71.7

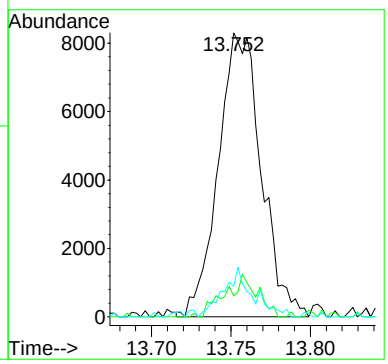




#98
Naphthalene
Concen: Below Cal
RT: 13.752 min Scan# 4481
Delta R.T. -0.005 min
Lab File: QV616951.D
Acq: 10 Oct 2019 2:04 am

Tgt Ion:128 Resp: 15602

Ion	Ratio	Lower	Upper
128	100		
127	11.1	8.9	18.5
129	9.4	7.3	15.3



FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90028
Instrument: QVOA4
Calibration Date: 05/20/19 11:38

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	5	0.1042254	10	0.1339324	20	0.1484769	50	0.1789677	100	0.1825092	200	0.1915788
1,1,1-Trichloroethane	5	0.7901989	10	0.9912099	20	1.088832	50	1.258254	100	1.234266	200	1.324383
1,1,2,2-Tetrachloroethane	5	0.2949439	10	0.3644355	20	0.3919101	50	0.4338677	100	0.412133	200	0.4428821
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	5	0.8987958	10	1.05897	20	1.153156	50	1.211977	100	1.185157	200	1.239463
1,1,2-Trichloroethane	5	0.1155855	10	0.1418463	20	0.1511951	50	0.1689076	100	0.161824	200	0.1644635
1,1-Dichloroethane	5	1.110672	10	1.302171	20	1.423782	50	1.622883	100	1.59569	200	1.68971
1,1-Dichloroethylene	5	0.9777367	10	1.139847	20	1.233019	50	1.377739	100	1.273458	200	1.316479
1,1-Dichloropropylene	5	0.7799591	10	0.9673555	20	0.9999911	50	1.151375	100	1.098653	200	1.14699
1,2,3-Trichlorobenzene	5	0.4394373	10	0.514164	20	0.5326733	50	0.5938489	100	0.5658175	200	0.5802071
1,2,3-Trichloropropane	5	8.456083E-02	10	0.1077146	20	0.1156613	50	0.1272081	100	0.1221849	200	0.128675
1,2,4,5-Tetramethylbenzene	5	1.138749	10	1.434443	20	1.558433	50	1.86038	100	1.849131	200	1.931287
1,2,4-Trichlorobenzene	5	0.4690194	10	0.5501272	20	0.5743873	50	0.6559114	100	0.6461495	200	0.6598087
1,2,4-Trimethylbenzene	5	1.204686	10	1.456313	20	1.529255	50	1.774154	100	1.728108	200	1.799532
1,2-Dibromo-3-chloropropane	5	4.579202E-02	10	5.870709E-02	20	6.722382E-02	50	8.385229E-02	100	8.032858E-02	200	8.894851E-02
1,2-Dibromoethane	5	0.104926	10	0.134262	20	0.1451702	50	0.1646752	100	0.1543324	200	0.1596325
1,2-Dichlorobenzene	5	0.6451486	10	0.7549293	20	0.7935012	50	0.8747622	100	0.8432623	200	0.8852169
1,2-Dichloroethane	5	0.7696889	10	0.9032495	20	0.9728292	50	1.097976	100	1.056417	200	1.102954
1,2-Dichloropropane	5	0.1610105	10	0.1882909	20	0.201948	50	0.2277881	100	0.2190787	200	0.2214745
1,3,5-Trimethylbenzene	5	1.183068	10	1.434078	20	1.504904	50	1.723965	100	1.668684	200	1.7967
1,3-Dichlorobenzene	5	0.67147	10	0.7873576	20	0.8292274	50	0.9508569	100	0.9431697	200	0.9789132
1,3-Dichloropropane	5	0.2053253	10	0.2485006	20	0.2653091	50	0.294868	100	0.2805674	200	0.2827243
1,4-Dichlorobenzene	5	0.6578939	10	0.7748302	20	0.8119707	50	0.9223837	100	0.8950275	200	0.9564279
1,4-Dioxane	100	1.514689E-03	200	2.128742E-03	400	2.358733E-03	1000	2.335286E-03	2000	2.163624E-03	4000	2.104523E-03
2,2-Dichloropropane	5	0.7727274	10	0.9641809	20	1.040967	50	1.206929	100	1.20209	200	1.289342
2-Butanone	5	6.116552E-02	10	6.796945E-02	20	6.501972E-02	50	8.829193E-02	100	7.138654E-02	200	7.499052E-02
2-Chloroethylvinyl ether	5	6.253208E-02	10	8.532417E-02	20	9.664683E-02	50	0.1063505	100	8.977603E-02	200	8.924548E-02
2-Chlorotoluene	5	1.235883	10	1.446028	20	1.527387	50	1.734917	100	1.680574	200	1.801238
2-Hexanone	5	9.192051E-02	10	0.1204271	20	0.1443478	50	0.1670014	100	0.1489399	200	0.1513873
4-Chlorotoluene	5	1.148641	10	1.334589	20	1.419331	50	1.58174	100	1.517114	200	1.61476
4-Methyl-2-pentanone	5	0.1845732	10	0.1974961	20	0.195278	50	0.2154806	100	0.2061073	200	0.2091254
Acetone	5	0.4136041	10	0.3394879	20	0.3474014	50	0.442537	100	0.3046021	200	0.268127

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90028
Instrument: QVOA4
Calibration Date: 05/20/19 11:38

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acrolein	5	0.1062876	10	0.1338125	20	0.1416908	50	8.379787E-02	100	8.139189E-02	200	9.935004E-02
Acrylonitrile	5	0.2225112	10	0.2280473	20	0.2628195	50	0.2991199	100	0.2866024	200	0.292695
Allyl chloride	5	0.2854391	10	0.3604822	20	0.3806668	50	0.4195132	100	0.4419628	200	0.4652894
Benzene	5	2.40554	10	2.871923	20	3.080837	50	3.373516	100	3.240916	200	3.391007
Bromobenzene	5	0.5647579	10	0.6660058	20	0.6890214	50	0.7765701	100	0.7429752	200	0.8060723
Bromochloromethane	5	0.5311343	10	0.672372	20	0.7133133	50	0.7741809	100	0.7520699	200	0.7577673
Bromodichloromethane	5	0.1480679	10	0.1932929	20	0.2121812	50	0.2567423	100	0.2522986	200	0.2616991
Bromoform	5		10	5.577769E-02	20	7.205127E-02	50	9.573007E-02	100	0.1015622	200	0.1139551
Bromomethane	5	0.3077115	10	0.3078017	20	0.3185433	50	0.3123819	100	0.3245922	200	0.3262683
Carbon disulfide	5	1.33209	10	1.706888	20	1.972168	50	2.274697	100	2.18116	200	2.288211
Carbon tetrachloride	5	0.6032992	10	0.7247379	20	0.832842	50	0.9854345	100	0.982733	200	1.053275
Chlorobenzene	5	0.3986292	10	0.4820495	20	0.502184	50	0.5711716	100	0.5473891	200	0.5770355
Chloroethane	5	0.3828238	10	0.4508236	20	0.4900108	50	0.4770193	100	0.4622912	200	0.4514518
Chloroform	5	0.9915924	10	1.14696	20	1.262774	50	1.412582	100	1.366766	200	1.411086
Chloromethane	5	1.148623	10	1.339683	20	1.375932	50	1.328308	100	1.331861	200	1.338945
cis-1,2-Dichloroethylene	5	0.979651	10	1.211905	20	1.324201	50	1.459239	100	1.423203	200	1.493332
cis-1,3-Dichloropropylene	5	0.1957444	10	0.2460888	20	0.2828951	50	0.3299236	100	0.3249884	200	0.3384871
Cyclohexane	5	1.174086	10	1.401707	20	1.499579	50	1.666234	100	1.628323	200	1.731362
Dibromochloromethane	5	8.088312E-02	10	0.1114933	20	0.1332638	50	0.1643507	100	0.1659381	200	0.1762917
Dibromomethane	5	7.815132E-02	10	9.495973E-02	20	0.1023246	50	0.1154059	100	0.1107322	200	0.1119671
Dichlorodifluoromethane	5	0.4934869	10	0.5959569	20	0.6501675	50	0.5759214	100	0.636756	200	0.6468492
Diisopropyl ether (DIPE)	5	2.121012	10	2.566966	20	2.789596	50	3.23267	100	3.085792	200	3.177577
Ethanol	250	1.115382E-02	500	1.175022E-02	1000	0.0120185	2500	0.0127201	5000	1.107044E-02	10000	1.130941E-02
Ethyl Benzene	5	0.7418275	10	0.8943082	20	0.9627051	50	1.11221	100	1.088042	200	1.123465
Ethyl tert-butyl ether (ETBE)	5	1.806191	10	2.15018	20	2.283705	50	2.675749	100	2.57551	200	2.654859
Hexachlorobutadiene	5	0.2596867	10	0.3006353	20	0.3199697	50	0.3621285	100	0.351545	200	0.3753685
Iodomethane	5	0.3759568	10	0.5577418	20	0.6196058	50	0.80205	100	0.7745654	200	0.7569919
Isopropylbenzene	5	1.403296	10	1.701783	20	1.822124	50	2.079833	100	2.009213	200	2.184786
Methyl acetate	5	0.9675577	10	0.8201557	20	0.6686187	50	0.6791687	100	0.6758992	200	0.6088975
Methyl Methacrylate	5	7.763173E-02	10	9.837192E-02	20	0.108159	50	0.1311656	100	0.1241893	200	0.1272629
Methyl tert-butyl ether (MTBE)	5	1.400821	10	1.675187	20	1.790175	50	2.058149	100	1.991963	200	2.079879

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90028
Instrument: QVOA4
Calibration Date: 05/20/19 11:38

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Methylcyclohexane	5	0.2763047	10	0.3236076	20	0.340103	50	0.391699	100	0.3736099	200	0.3875052
Methylene chloride	5	0.9883716	10	1.202081	20	1.236515	50	1.342206	100	1.244271	200	1.282401
Naphthalene	5	1.272535	10	1.375827	20	1.397135	50	1.557447	100	1.45711	200	1.495766
n-Butylbenzene	5	1.704181	10	2.018177	20	2.057558	50	2.379137	100	2.310051	200	2.457154
n-Propylbenzene	5	1.858238	10	2.245769	20	2.373248	50	2.729058	100	2.64203	200	2.793811
o-Xylene	5	0.5673627	10	0.7080219	20	0.762002	50	0.889386	100	0.8775546	200	0.9261262
p- & m- Xylenes	10	0.5920551	20	0.7052107	40	0.76605	100	0.8900931	200	0.8681359	400	0.8628604
p-Diethylbenzene	5	0.7046893	10	0.8635712	20	0.9122291	50	1.071299	100	1.05171	200	1.112114
p-Ethyltoluene	5	1.357065	10	1.641944	20	1.735698	50	1.98052	100	1.923047	200	2.034124
p-Isopropyltoluene	5	1.283164	10	1.60909	20	1.722204	50	2.015534	100	1.972531	200	2.072358
sec-Butylbenzene	5	1.515573	10	1.842443	20	1.94331	50	2.258299	100	2.205371	200	2.381576
Styrene	5	0.3920635	10	0.5074549	20	0.559424	50	0.6742375	100	0.6572394	200	0.6851232
SURR: 1,2-Dichloroethane-d4	50	1.401875	50	1.404052	50	1.404124	50	1.376882	50	1.398575	50	1.412189
SURR: p-Bromofluorobenzene	50	1.057656	50	1.058879	50	1.040715	50	1.024316	50	1.006955	50	1.039061
SURR: Toluene-d8	50	1.317692	50	1.314924	50	1.308715	50	1.290614	50	1.273409	50	1.244319
tert-Amyl alcohol (TAA)	50	4.565081E-02	100	5.812968E-02	200	6.584265E-02	500	7.679785E-02	1000	7.886106E-02	2000	8.415531E-02
tert-Amyl methyl ether (TAME)	5	1.566117	10	1.927164	20	2.112741	50	2.471787	100	2.406957	200	2.450679
tert-Butyl alcohol (TBA)	5	8.559526E-02	10	8.426176E-02	20	8.133761E-02	50	8.369668E-02	100	8.004431E-02	200	8.237337E-02
tert-Butylbenzene	5	1.012849	10	1.216315	20	1.293981	50	1.514067	100	1.468071	200	1.607239
Tetrachloroethylene	5	0.1564522	10	0.1873642	20	0.1920864	50	0.2168227	100	0.2108999	200	0.2242637
Tetrahydrofuran	5	0.2025785	10	0.2210842	20	0.2618862	50	0.2811973	100	0.2684778	200	0.2797414
Toluene	5	0.8023441	10	0.847216	20	0.8670184	50	0.9555303	100	0.9130143	200	0.9466838
trans-1,2-Dichloroethylene	5	0.8381469	10	1.027778	20	1.101202	50	1.250873	100	1.228505	200	1.306015
trans-1,3-Dichloropropylene	5	0.1646712	10	0.2097024	20	0.2416529	50	0.2890805	100	0.2882009	200	0.2995962
trans-1,4-dichloro-2-butene	5	0.3127998	10	0.3861532	20	0.4415458	50	0.513376	100	0.4962761	200	0.5367108
Trichloroethylene	5	0.1485088	10	0.1815208	20	0.1945009	50	0.2184286	100	0.2089926	200	0.2178048
Trichlorofluoromethane	5	0.8436162	10	1.05897	20	1.153156	50	1.211977	100	1.185157	200	1.239463
Vinyl acetate	5	1.022221	10	1.461935	20	1.577732	50	1.806732	100	1.848254	200	1.801297
Vinyl Chloride	5	0.8137779	10	0.9652141	20	1.045212	50	1.062197	100	1.042853	200	1.05246

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90028
Instrument: QVOA4
Calibration Date: 05/20/19 11:38

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.1566151	21.59257	8.064333	2.248199E-02	0.99983		0.99	
1,1,1-Trichloroethane	1.114524	17.94895	4.362167	1.791905E-02			SPCC (0.1)	
1,1,2,2-Tetrachloroethane	0.3900287	13.99794	9.416	2.520784E-02			SPCC (0.3)	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.124586	11.29029	1.9025	6.323699E-02			SPCC (0.1)	
1,1,2-Trichloroethane	0.150637	13.13121	6.989	2.630697E-02			SPCC (0.1)	
1,1-Dichloroethane	1.457485	15.21635	3.422	2.102637E-02			SPCC (0.2)	
1,1-Dichloroethylene	1.219713	11.72909	2.355667	3.992028E-02			SPCC (0.1)	
1,1-Dichloropropylene	1.024054	13.82823	4.5095	1.978599E-02			20	
1,2,3-Trichlorobenzene	0.5376913	10.51568	13.2785	2.422202E-02			20	
1,2,3-Trichloropropane	0.1143341	14.45159	9.449167	3.057877E-02			20	
1,2,4,5-Tetramethylbenzene	1.628737	18.95475	11.7175	2.025761E-02			20	
1,2,4-Trichlorobenzene	0.5925673	12.80793	12.717	1.617143E-02			SPCC (0.2)	
1,2,4-Trimethylbenzene	1.582008	14.59434	10.05867	1.857112E-02			20	
1,2-Dibromo-3-chloropropane	7.080872E-02	23.41919	11.82617	1.960368E-02	0.99911		SPCC (0.05)	
1,2-Dibromoethane	0.143833	15.23664	7.49	1.523364E-02			SPCC (0.1)	
1,2-Dichlorobenzene	0.7994701	11.29545	10.912	1.825828E-02			SPCC (0.4)	
1,2-Dichloroethane	0.9838524	13.24923	4.769	0.0220007			SPCC (0.1)	
1,2-Dichloropropane	0.2032651	12.43512	5.537667	2.473329E-02			SPCC (0.1)	
1,3,5-Trimethylbenzene	1.5519	14.5605	9.6445	0.0286177			20	
1,3-Dichlorobenzene	0.8601658	13.86137	10.3895	1.310862E-02			SPCC (0.6)	
1,3-Dichloropropane	0.2628824	12.33228	7.149167	2.903584E-02			20	
1,4-Dichlorobenzene	0.8364223	13.25833	10.49183	9.656999E-03			SPCC (0.5)	
1,4-Dioxane	2.100933E-03	14.58984	5.694	0.1067084			20	
2,2-Dichloropropane	1.079373	17.78197	3.9155	4.244206E-02			20	
2-Butanone	7.147061E-02	13.35346	3.9875	7.343811E-02			SPCC (0.1)	
2-Chloroethylvinyl ether	8.831252E-02	16.57559	6.100333	4.009196E-02			20	
2-Chlorotoluene	1.571005	13.40381	9.558834	1.816218E-02			20	
2-Hexanone	0.1373373	19.56438	7.223167	2.299391E-02			SPCC (0.1)	
4-Chlorotoluene	1.436029	12.1779	9.681	0.021842			20	
4-Methyl-2-pentanone	0.2013434	5.512485	6.385	4.137791E-02			SPCC (0.1)	
Acetone	0.3526266	18.57374	2.463	6.256622E-02			SPCC (0.1)	
Acrolein	0.1077218	23.3832	2.3205	0.1267032		0.9959551	0.99	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YE90028 Instrument: QVOA4

Calibration Date: 05/20/19 11:38

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acrylonitrile	0.2652992	12.58398	3.078	0.0788346			20	
Allyl chloride	0.3922256	16.56281	2.687667	7.320195E-02			20	
Benzene	3.060623	12.26622	4.706333	2.540747E-02			SPCC (0.5)	
Bromobenzene	0.7075671	12.35062	9.3555	1.821678E-02			20	
Bromochloromethane	0.7001396	12.93482	4.1725	2.116828E-02			20	
Bromodichloromethane	0.2207137	20.3406	5.821	2.971077E-02	0.99987		SPCC (0.2)	
Bromoform	8.781527E-02	26.7657	8.8848	1.479535E-02	0.99910		SPCC (0.1)	
Bromomethane	0.3162165	2.586397	1.6305	0.1383617			SPCC (0.1)	
Carbon disulfide	1.959202	19.28991	2.5455	5.107791E-02			SPCC (0.1)	
Carbon tetrachloride	0.8637203	20.25279	4.4985	4.887409E-02	0.99962		SPCC (0.1)	
Chlorobenzene	0.5130765	13.16788	7.9675	6.397311E-03			SPCC (0.5)	
Chloroethane	0.4524034	8.24859	1.707667	0.1505921			SPCC (0.1)	
Chloroform	1.265293	13.32675	4.245167	4.772643E-02			SPCC (0.2)	
Chloromethane	1.310559	6.191371	1.356	0.4199385			SPCC (0.1)	
cis-1,2-Dichloroethylene	1.315255	14.7228	3.947	3.713741E-02			SPCC (0.1)	
cis-1,3-Dichloropropylene	0.2863546	19.72515	6.2365	2.283866E-02			SPCC (0.2)	
Cyclohexane	1.516882	13.56834	4.372667	2.779907E-02			SPCC (0.1)	
Dibromochloromethane	0.1387035	26.83212	7.385	2.162015E-02	0.99975		SPCC (0.1)	
Dibromomethane	0.1022568	13.64447	5.6705	0.0128524			20	
Dichlorodifluoromethane	0.5998563	10.00342	1.157	1.918956E-02			SPCC (0.1)	
Diisopropyl ether (DIPE)	2.828936	15.17834	3.4365	3.882784E-02			20	
Ethanol	1.167041E-02	5.401037	2.167	9.005684E-02		0.9986739	0.99	
Ethyl Benzene	0.987093	15.28377	8.063	1.975563E-02			SPCC (0.1)	
Ethyl tert-butyl ether (ETBE)	2.357699	14.56485	3.759333	1.719091E-02			20	
Hexachlorobutadiene	0.3282223	13.24016	12.8795	1.928738E-02			20	
Iodomethane	0.6478186	25.32603	2.507333	8.245789E-02		0.9996788	0.99	
Isopropylbenzene	1.866839	15.35485	9.000333	1.631184E-02			SPCC (0.1)	
Methyl acetate	0.7367163	18.03167	2.7275	0.0617006			SPCC (0.1)	
Methyl Methacrylate	0.1111301	18.55504	5.638833	3.468436E-02			20	
Methyl tert-butyl ether (MTBE)	1.832696	14.44521	3.02	3.664855E-02			SPCC (0.1)	
Methylcyclohexane	0.3488049	12.7698	5.427	4.791141E-02			SPCC (0.1)	
Methylene chloride	1.215974	9.975337	2.817667	2.854971E-02			SPCC (0.1)	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90028
Instrument: QVOA4
Calibration Date: 05/20/19 11:38

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Naphthalene	1.42597	7.013857	13.001	0.0211672			20	
n-Butylbenzene	2.154376	13.07986	10.865	2.489753E-02			20	
n-Propylbenzene	2.440359	14.54768	9.45	2.420891E-02			20	
o-Xylene	0.7884089	17.31047	8.6115	3.080694E-02			SPCC (0.3)	
p- & m- Xylenes	0.7807342	14.92198	8.186	3.199988E-02			SPCC (0.1)	
p-Diethylbenzene	0.9526021	16.28798	10.83683	2.847905E-02			20	
p-Ethyltoluene	1.778733	14.3363	9.575167	2.494663E-02			20	
p-Isopropyltoluene	1.779147	17.00027	10.40367	2.236431E-02			20	
sec-Butylbenzene	2.024429	15.83196	10.2385	1.444772E-02			20	
Styrene	0.5792571	19.9691	8.642	5.24796E-04			SPCC (0.3)	
SURR: 1,2-Dichloroethane-d4	1.399616	0.8581206	4.697	3.924847E-02			20	
SURR: p-Bromofluorobenzene	1.03793	1.918172	9.2005	1.540632E-02			20	
SURR: Toluene-d8	1.291612	2.212992	6.46	1.874711E-02			20	
tert-Amyl alcohol (TAA)	6.823956E-02	21.31253	4.780333	6.691859E-02		0.9999501	0.99	
tert-Amyl methyl ether (TAME)	2.155907	16.74637	4.785167	5.254355E-02			20	
tert-Butyl alcohol (TBA)	8.288483E-02	2.450426	2.975	0.1025873			20	
tert-Butylbenzene	1.352087	16.26055	9.996333	2.287739E-02			20	
Tetrachloroethylene	0.1979815	12.54594	7.056167	2.646195E-02			SPCC (0.2)	*
Tetrahydrofuran	0.2524942	13.00117	4.2085	0.1279725			20	
Toluene	0.8886345	6.764663	6.5255	1.050085E-02			SPCC (0.4)	
trans-1,2-Dichloroethylene	1.12542	15.47344	3.031	0.0497454			SPCC (0.1)	
trans-1,3-Dichloropropylene	0.2488174	21.57768	6.800833	1.263235E-02	0.99989		SPCC (0.1)	
trans-1,4-dichloro-2-butene	0.4478103	19.11079	9.4515	0.0363788			20	
Trichloroethylene	0.1949594	13.77878	5.304	3.143376E-02			SPCC (0.2)	*
Trichlorofluoromethane	1.11539	13.18023	1.9025	6.323699E-02			SPCC (0.1)	
Vinyl acetate	1.586362	19.87744	3.467333	3.951747E-02		0.9999413	0.99	
Vinyl Chloride	0.9969523	9.655847	1.38	0.1375888			SPCC (0.1)	

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90003
Instrument: QVOA1
Calibration Date: 10/02/19 10:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	5	0.2185608	10	0.1513203	20	0.1703029	50	0.2147956	100	0.1913873	200	0.1958203
1,1,1-Trichloroethane	5	1.680037	10	1.138643	20	1.286254	50	1.575489	100	1.393157	200	1.432663
1,1,2,2-Tetrachloroethane	5	0.6068577	10	0.4277265	20	0.4883573	50	0.611727	100	0.5641447	200	0.6060384
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	5	1.022724	10	0.8879765	20	0.8915811	50	1.111081	100	0.992813	200	1.03702
1,1,2-Trichloroethane	5	0.2158567	10	0.1534872	20	0.1691544	50	0.2096358	100	0.1847241	200	0.1927226
1,1-Dichloroethane	5	1.837484	10	1.214707	20	1.414878	50	1.792003	100	1.556549	200	1.627636
1,1-Dichloroethylene	5	1.4533	10	0.9918445	20	1.125994	50	1.415546	100	1.224827	200	1.269943
1,1-Dichloropropylene	5	1.488631	10	0.9760338	20	1.106297	50	1.369495	100	1.174129	200	1.215851
1,2,3-Trichlorobenzene	5	0.8002504	10	0.5329199	20	0.6100248	50	0.7430407	100	0.6830753	200	0.7473544
1,2,3-Trichloropropane	5	0.2148024	10	0.1395515	20	0.1618791	50	0.1983057	100	0.1710339	200	0.1882656
1,2,4,5-Tetramethylbenzene	5	2.217532	10	1.608296	20	1.852812	50	2.332535	100	2.133042	200	2.049661
1,2,4-Trichlorobenzene	5	0.8686141	10	0.5818476	20	0.6723168	50	0.7709249	100	0.7222996	200	0.7898343
1,2,4-Trimethylbenzene	5	2.439038	10	1.64475	20	1.896052	50	2.36516	100	2.130222	200	2.003872
1,2-Dibromo-3-chloropropane	5	0.1229686	10	0.1010808	20	0.1131901	50	0.1448461	100	0.1313278	200	0.1535982
1,2-Dibromoethane	5	0.2151431	10	0.1496983	20	0.1700608	50	0.2111597	100	0.1850737	200	0.1951736
1,2-Dichlorobenzene	5	1.110435	10	0.7905873	20	0.8823394	50	1.066451	100	0.9397812	200	0.9453392
1,2-Dichloroethane	5	1.37978	10	0.9344369	20	1.077393	50	1.336991	100	1.166541	200	1.220612
1,2-Dichloropropane	5	0.2665377	10	0.1796963	20	0.1994931	50	0.2536063	100	0.2258201	200	0.2393019
1,3,5-Trimethylbenzene	5	2.460685	10	1.640802	20	1.90431	50	2.372729	100	2.121847	200	1.969704
1,3-Dichlorobenzene	5	1.257162	10	0.8344234	20	0.9648997	50	1.179436	100	1.05881	200	1.122352
1,3-Dichloropropane	5	0.376194	10	0.2617088	20	0.3003448	50	0.3703395	100	0.3281792	200	0.3464685
1,4-Dichlorobenzene	5	1.258513	10	0.8566092	20	0.9591002	50	1.168001	100	1.053388	200	1.137273
1,4-Dioxane	100	3.259408E-03	200	2.301411E-03	400	2.743466E-03	1000	3.283661E-03	2000	2.774795E-03	4000	2.969733E-03
2,2-Dichloropropane	5	1.768168	10	1.130907	20	1.289715	50	1.560709	100	1.350524	200	1.378219
2-Butanone	5	0.2191356	10	0.1371237	20	0.13511	50	0.142757	100	0.1145952	200	0.1225777
2-Chloroethylvinyl ether	5	0.132587	10	9.659921E-02	20	0.1101004	50	0.138449	100	0.1208803	200	0.127865
2-Chlorotoluene	5	2.029039	10	1.378168	20	1.560519	50	1.976615	100	1.795345	200	1.819303
2-Hexanone	5	0.1994586	10	0.141928	20	0.1726972	50	0.2057149	100	0.1729328	200	0.1937148
4-Chlorotoluene	5	2.338138	10	1.622599	20	1.853903	50	2.309271	100	2.086601	200	1.86177
4-Methyl-2-pentanone	5	0.3866313	10	0.2597398	20	0.3098021	50	0.3789211	100	0.3296237	200	0.3705754
Acetone	5	0.4450063	10	0.2778557	20	0.2896088	50	0.3708906	100	0.2999119	200	0.3257063

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90003
Instrument: QVOA1
Calibration Date: 10/02/19 10:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acrolein	5	0.1086884	10	8.982657E-02	20	0.1113057	50	7.046904E-02	100	5.072527E-02	200	5.951983E-02
Acrylonitrile	5	0.3770461	10	0.2607638	20	0.3160266	50	0.3895947	100	0.3295345	200	0.3751309
Allyl chloride	5	0.5563973	10	0.3469776	20	0.4068348	50	0.5506521	100	0.469993	200	0.4740668
Benzene	5	4.156052	10	2.792141	20	3.185688	50	4.029804	100	3.508159	200	3.378071
Bromobenzene	5	1.054383	10	0.7292513	20	0.8305179	50	1.052903	100	0.9513351	200	1.021811
Bromochloromethane	5	0.8741401	10	0.5980623	20	0.6729187	50	0.8355762	100	0.7179464	200	0.7479728
Bromodichloromethane	5	0.3111604	10	0.2132504	20	0.2451559	50	0.3194243	100	0.2825256	200	0.3014795
Bromoform	5	0.1173747	10	8.516504E-02	20	0.100424	50	0.130175	100	0.1183594	200	0.131452
Bromomethane	5	0.2649086	10	0.1697867	20	0.1832861	50	0.2447002	100	0.2256139	200	0.2323079
Carbon disulfide	5	3.06076	10	1.937246	20	2.274891	50	2.883247	100	2.493269	200	2.582398
Carbon tetrachloride	5	1.359094	10	0.8992332	20	1.043886	50	1.3001	100	1.127882	200	1.160091
Chlorobenzene	5	0.7264355	10	0.4865304	20	0.5513834	50	0.6830601	100	0.6046144	200	0.6201983
Chloroethane	5	0.3983324	10	0.3843298	20	0.3806919	50	0.5055985	100	0.425642	200	0.430968
Chloroform	5	1.825961	10	1.218673	20	1.357753	50	1.70417	100	1.481654	200	1.561021
Chloromethane	5	1.097694	10	0.9249539	20	0.9080307	50	1.106515	100	0.9475761	200	0.9860933
cis-1,2-Dichloroethylene	5	1.658296	10	1.11952	20	1.280772	50	1.618914	100	1.41135	200	1.480977
cis-1,3-Dichloropropylene	5	0.4260004	10	0.2862785	20	0.3369016	50	0.4153482	100	0.3675423	200	0.3896708
Cyclohexane	5	1.772604	10	1.242655	20	1.417769	50	1.786718	100	1.559835	200	1.657358
Dibromochloromethane	5	0.2033527	10	0.1416734	20	0.1652031	50	0.2115753	100	0.1911459	200	0.2065988
Dibromomethane	5	0.1513314	10	9.694731E-02	20	0.1118815	50	0.1412698	100	0.1248257	200	0.130162
Dichlorodifluoromethane	5	0.8749809	10	0.7287361	20	0.7680609	50	0.967985	100	0.8149622	200	0.8118869
Diisopropyl ether (DIPE)	5	3.05285	10	2.262277	20	2.74743	50	3.34866	100	3.076631	200	3.284439
Ethanol	250	1.311073E-02	500	7.050244E-03	1000	9.501941E-03	2500	1.040465E-02	5000	9.47535E-03	10000	0.0104264
Ethyl Benzene	5	1.296472	10	0.8916368	20	1.006236	50	1.264664	100	1.111444	200	0.9139402
Ethyl tert-butyl ether (ETBE)	5	2.723533	10	2.09412	20	2.484279	50	3.028182	100	2.776371	200	2.964883
Hexachlorobutadiene	5	0.4666048	10	0.311878	20	0.3576967	50	0.4404709	100	0.4088831	200	0.4309448
Iodomethane	5	0.5809183	10	0.4454896	20	0.5373335	50	0.7957607	100	0.6766046	200	0.6558118
Isopropylbenzene	5	2.89225	10	1.995648	20	2.296479	50	2.931429	100	2.623638	200	2.223162
Methyl acetate	5	0.7433588	10	0.5763291	20	0.6897819	50	0.8272366	100	0.7054392	200	0.7770046
Methyl Methacrylate	5	0.1980737	10	0.1310932	20	0.1546175	50	0.1836694	100	0.1598072	200	0.1732448
Methyl tert-butyl ether (MTBE)	5	2.799524	10	1.946977	20	2.24194	50	2.791122	100	2.467555	200	2.603288

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90003
Instrument: QVOA1
Calibration Date: 10/02/19 10:02

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Methylcyclohexane	5	0.4456532	10	0.3246799	20	0.3757995	50	0.4587759	100	0.4027015	200	0.4235574
Methylene chloride	5	1.323539	10	0.8894975	20	0.9943134	50	1.265828	100	1.094897	200	1.163107
Naphthalene	5	3.137267	10	2.073673	20	2.027299	50	2.230489	100	2.013444	200	2.016178
n-Butylbenzene	5	2.942056	10	1.942063	20	2.238633	50	2.808787	100	2.464984	200	2.22887
n-Propylbenzene	5	3.467657	10	2.351709	20	2.701554	50	3.448466	100	3.09312	200	2.333871
o-Xylene	5	1.046396	10	0.7023731	20	0.8140442	50	1.000047	100	0.8784548	200	0.8473899
p- & m- Xylenes	10	1.019497	20	0.6935524	40	0.796869	100	0.9908937	200	0.8196378	400	0.5571178
p-Diethylbenzene	5	1.275797	10	0.941601	20	1.088368	50	1.324838	100	1.202963	200	1.284995
p-Ethyltoluene	5	2.552011	10	1.855068	20	2.125297	50	2.695608	100	2.43003	200	2.195022
p-Isopropyltoluene	5	2.636093	10	1.793642	20	2.066389	50	2.575244	100	2.321735	200	2.100487
sec-Butylbenzene	5	3.089186	10	2.069678	20	2.405482	50	3.053925	100	2.746915	200	2.282819
Styrene	5	0.817989	10	0.5402191	20	0.631726	50	0.786374	100	0.6919899	200	0.7029633
SURR: 1,2-Dichloroethane-d4	50	1.444244	50	1.436587	50	1.434864	50	1.445037	50	1.432502	50	1.438841
SURR: p-Bromofluorobenzene	50	1.13378	50	1.130788	50	1.13771	50	1.166539	50	1.196267	50	1.230373
SURR: Toluene-d8	50	1.25796	50	1.260922	50	1.250338	50	1.254661	50	1.250601	50	1.281405
tert-Amyl alcohol (TAA)	50	9.940851E-02	100	0.0794036	200	9.836345E-02	500	0.1143189	1000	0.1013083	2000	0.1184238
tert-Amyl methyl ether (TAME)	5	2.483608	10	1.866651	20	2.211432	50	2.776051	100	2.503705	200	2.686407
tert-Butyl alcohol (TBA)	5		10		20	0.1115785	50	0.149953	100	0.1182704	200	0.1348644
tert-Butylbenzene	5	2.294032	10	1.559848	20	1.796567	50	2.237869	100	2.010575	200	2.019733
Tetrachloroethylene	5	0.2844795	10	0.1928286	20	0.2166087	50	0.2811008	100	0.2475922	200	0.2631408
Tetrahydrofuran	5	0.3991475	10	0.264699	20	0.3066809	50	0.3560775	100	0.2952452	200	0.3329682
Toluene	5	1.133632	10	0.7628814	20	0.8606672	50	1.081922	100	0.9604906	200	0.8789905
trans-1,2-Dichloroethylene	5	1.400302	10	0.9163339	20	1.076735	50	1.35868	100	1.187067	200	1.251434
trans-1,3-Dichloropropylene	5	0.3831649	10	0.2667607	20	0.3103978	50	0.3787107	100	0.335944	200	0.3586708
trans-1,4-dichloro-2-butene	5	0.7215756	10	0.4942392	20	0.5868555	50	0.7419815	100	0.6556507	200	0.7354924
Trichloroethylene	5	0.2667727	10	0.1810659	20	0.2072111	50	0.252215	100	0.2218925	200	0.2284277
Trichlorofluoromethane	5	1.022724	10	0.8879765	20	0.8915811	50	1.111081	100	0.992813	200	1.03702
Vinyl acetate	5	3.578892	10	2.351411	20	2.799159	50	3.329016	100	2.99524	200	3.162935
Vinyl Chloride	5	0.8460071	10	0.7450219	20	0.7355071	50	0.9528052	100	0.8341794	200	0.8542442

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90003
Instrument: QVOA1
Calibration Date: 10/02/19 10:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.1903645	13.59653	8.210667	6.699757E-03			20	
1,1,1-Trichloroethane	1.417707	13.73905	4.5125	2.642097E-02			SPCC (0.1)	
1,1,2,2-Tetrachloroethane	0.5508086	13.85751	9.5215	0.015035			SPCC (0.3)	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.9905326	8.806174	2.033	1.674483E-02			SPCC (0.1)	
1,1,2-Trichloroethane	0.1875968	12.66494	7.099167	2.357908E-02			SPCC (0.1)	
1,1-Dichloroethane	1.573876	14.88842	3.5395	4.492533E-02			SPCC (0.2)	
1,1-Dichloroethylene	1.246909	13.97073	2.485	5.938491E-02			SPCC (0.1)	
1,1-Dichloropropylene	1.221739	15.05081	4.663	2.974535E-02			20	
1,2,3-Trichlorobenzene	0.6861109	14.47037	13.43883	1.134841E-02			20	
1,2,3-Trichloropropane	0.178973	15.1029	9.564167	0.0213072			20	
1,2,4,5-Tetramethylbenzene	2.032313	12.9606	11.91833	1.066897E-02			20	
1,2,4-Trichlorobenzene	0.7343062	13.57647	12.88833	1.311471E-02			SPCC (0.2)	
1,2,4-Trimethylbenzene	2.079849	14.29244	10.25	2.274645E-02			20	
1,2-Dibromo-3-chloropropane	0.1278353	15.32609	11.947	2.295282E-02			SPCC (0.05)	
1,2-Dibromoethane	0.1877182	13.31038	7.609833	0.02004			SPCC (0.1)	
1,2-Dichlorobenzene	0.9558222	12.30929	11.066	2.167632E-02			SPCC (0.4)	
1,2-Dichloroethane	1.185959	13.9577	4.8735	2.301305E-02			SPCC (0.1)	
1,2-Dichloropropane	0.2274092	14.47409	5.668333	2.205135E-02			SPCC (0.1)	
1,3,5-Trimethylbenzene	2.078346	14.72471	9.8365	1.338127E-02			20	
1,3-Dichlorobenzene	1.069514	14.26687	10.55133	1.816201E-02			SPCC (0.6)	
1,3-Dichloropropane	0.3305391	13.24063	7.267333	0.0238599			20	
1,4-Dichlorobenzene	1.072147	13.69206	10.653	5.445697E-03			SPCC (0.5)	
1,4-Dioxane	2.888746E-03	12.75639	5.803	4.947254E-02			20	
2,2-Dichloropropane	1.41304	15.75634	4.059	0.0293292			20	
2-Butanone	0.1452165	25.92733	4.088	6.311205E-02	0.99816		SPCC (0.1)	
2-Chloroethylvinyl ether	0.1210802	12.79494	6.2275	2.210985E-02			20	
2-Chlorotoluene	1.759831	14.14117	9.7245	8.852338E-03			20	
2-Hexanone	0.1810744	13.00759	7.3595	1.964976E-02			SPCC (0.1)	
4-Chlorotoluene	2.012047	14.04865	9.825666	0.5118452			20	
4-Methyl-2-pentanone	0.3392156	14.4912	6.5225	2.408582E-02			SPCC (0.1)	
Acetone	0.3348299	18.90431	2.56	5.968898E-02			SPCC (0.1)	
Acrolein	0.0817558	31.17688	2.414667	0.0834599			20	*

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90003 Instrument: QVOA1

Calibration Date: 10/02/19 10:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acrylonitrile	0.3413494	14.36252	3.151333	5.451789E-02			20	
Allyl chloride	0.4674869	17.39712	2.811	5.595262E-02			20	
Benzene	3.508319	14.67579	4.852333	4.418934E-02			SPCC (0.5)	
Bromobenzene	0.9400336	14.19701	9.508	3.636604E-03			20	
Bromochloromethane	0.7411027	13.80253	4.275667	1.112661E-02			20	
Bromodichloromethane	0.2788327	14.92075	5.9295	0.0275413			SPCC (0.2)	
Bromoform	0.113825	15.77551	8.993833	0.0210288			SPCC (0.1)	
Bromomethane	0.2201006	16.60554	1.723667	0.0450131			SPCC (0.1)	
Carbon disulfide	2.538635	16.01606	2.6715	0.0615729			SPCC (0.1)	
Carbon tetrachloride	1.148381	14.62151	4.662167	3.236401E-02			SPCC (0.1)	
Chlorobenzene	0.612037	14.18452	8.120834	1.070868E-02			SPCC (0.5)	
Chloroethane	0.4209271	11.02137	1.8135	0.1243861			SPCC (0.1)	
Chloroform	1.524872	14.59528	4.3535	0.0171834			SPCC (0.2)	
Chloromethane	0.9951438	8.734958	1.384	0.1110922			SPCC (0.1)	
cis-1,2-Dichloroethylene	1.428305	14.32802	4.061	1.356822E-02			SPCC (0.1)	
cis-1,3-Dichloropropylene	0.3702903	14.13093	6.3635	2.596436E-02			SPCC (0.2)	
Cyclohexane	1.572823	13.51822	4.558833	4.641921E-02			SPCC (0.1)	
Dibromochloromethane	0.1865915	14.77703	7.4935	1.992298E-02			SPCC (0.1)	
Dibromomethane	0.1260696	15.61203	5.7765	3.823808E-02			20	
Dichlorodifluoromethane	0.8277687	10.20489	1.2415	0.1325341			SPCC (0.1)	
Diisopropyl ether (DIPE)	2.962048	13.59267	3.612667	3.573978E-02			20	
Ethanol	9.994886E-03	19.62964	2.243667	0.124852			20	
Ethyl Benzene	1.080732	16.05035	8.238667	2.798939E-02			SPCC (0.1)	
Ethyl tert-butyl ether (ETBE)	2.678561	12.88002	3.9365	0.032029			20	
Hexachlorobutadiene	0.4027464	14.31541	13.09267	0.017786			20	
Iodomethane	0.6153197	19.77934	2.6195	4.731259E-02			20	
Isopropylbenzene	2.493768	15.29565	9.188	2.263526E-02			SPCC (0.1)	
Methyl acetate	0.7198584	11.95991	2.846667	5.409194E-02			SPCC (0.1)	
Methyl Methacrylate	0.166751	14.13154	5.783667	2.925304E-02			20	
Methyl tert-butyl ether (MTBE)	2.475068	13.45955	3.175667	4.396112E-02			SPCC (0.1)	
Methylcyclohexane	0.4051946	12.18975	5.630167	2.397351E-02			SPCC (0.1)	
Methylene chloride	1.121864	14.59731	2.921833	4.118127E-02			SPCC (0.1)	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Calibration:	YJ90003	Instrument:	QVOA1
		Calibration Date:	10/02/19 10:02

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Naphthalene	2.249725	19.66818	13.16	1.356732E-02			20	
n-Butylbenzene	2.437565	15.58629	11.066	3.064623E-02			20	
n-Propylbenzene	2.899396	17.72695	9.6385	0.0324682			20	
o-Xylene	0.8814508	14.26519	8.786	2.151315E-02			SPCC (0.3)	
p- & m- Xylenes	0.812928	21.612	8.362333	2.934213E-02		0.9977052	SPCC (0.1)	
p-Diethylbenzene	1.186427	12.31215	11.04	1.472192E-02			20	
p-Ethyltoluene	2.308839	13.36309	9.7655	0.0250859			20	
p-Isopropyltoluene	2.248932	14.39914	10.6065	3.024671E-02			20	
sec-Butylbenzene	2.608001	16.14289	10.4395	2.392587E-02			20	
Styrene	0.6952102	14.5995	8.803	2.587997E-02			SPCC (0.3)	
SURR: 1,2-Dichloroethane-d4	1.438679	0.3521817	4.8045	2.377565E-02			20	
SURR: p-Bromofluorobenzene	1.165909	3.460381	9.351167	1.461735E-02			20	
SURR: Toluene-d8	1.259314	0.9195762	6.624	1.050892E-02			20	
tert-Amyl alcohol (TAA)	0.1018711	13.54805	4.878333	5.597396E-02			20	
tert-Amyl methyl ether (TAME)	2.421309	13.80288	4.964167	4.706567E-02			20	
tert-Butyl alcohol (TBA)	0.1286666	13.39863	3.063	0.0787335			20	
tert-Butylbenzene	1.986437	13.83341	10.1955	1.859348E-02			20	
Tetrachloroethylene	0.2476251	14.76548	7.2355	9.002742E-03			SPCC (0.2)	
Tetrahydrofuran	0.3258031	14.6433	4.327	0.0209798			20	
Toluene	0.9464306	14.88225	6.689167	0.0347159			SPCC (0.4)	
trans-1,2-Dichloroethylene	1.198425	15.10103	3.1625	4.262874E-02			SPCC (0.1)	
trans-1,3-Dichloropropylene	0.3389415	13.16823	6.915	2.205046E-02			SPCC (0.1)	
trans-1,4-dichloro-2-butene	0.6559658	15.08527	9.564833	2.135632E-02			20	
Trichloroethylene	0.2262641	13.61368	5.452	2.406166E-02			SPCC (0.2)	
Trichlorofluoromethane	0.9905326	8.806174	2.033	1.674483E-02			SPCC (0.1)	
Vinyl acetate	3.036109	14.15228	3.599167	5.287827E-02			20	
Vinyl Chloride	0.8279608	9.672527	1.468	2.451556E-02			SPCC (0.1)	

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90014
Instrument: QVOA6
Calibration Date: 10/08/19 15:48

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	0.5	0.3435394	2	0.3951141	4	0.3008746	10		20	0.4461746	40	0.3655
1,1,1-Trichloroethane	0.5	2.158869	2	2.391738	4	1.789683	10		20	2.6781	40	2.146239
1,1,2,2-Tetrachloroethane	0.5	0.7152088	2	0.8844379	4	0.6587781	10		20	0.9537291	40	0.7935189
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	0.5	1.101939	2	1.08692	4	0.9119638	10		20	1.404246	40	1.112117
1,1,2-Trichloroethane	0.5	0.2909658	2	0.3183602	4	0.2321148	10		20	0.3344913	40	0.2772337
1,1-Dichloroethane	0.5	2.573716	2	2.816327	4	2.109228	10		20	3.11201	40	2.497152
1,1-Dichloroethylene	0.5	2.003136	2	2.276891	4	1.717067	10		20	2.432369	40	1.940491
1,1-Dichloropropylene	0.5	1.855096	2	1.98711	4	1.530846	10		20	2.300016	40	1.858722
1,2,3-Trichlorobenzene	0.5		2		4		10		20		40	
1,2,3-Trichloropropane	0.5		2		4		10		20		40	
1,2,4,5-Tetramethylbenzene	0.5	2.242521	2	2.026402	4	1.754088	10		20	2.580307	40	2.13185
1,2,4-Trichlorobenzene	0.5	0.7309599	2	0.7797913	4	0.5876374	10		20	0.8238447	40	0.704416
1,2,4-Trimethylbenzene	0.5	3.296797	2	3.384529	4	2.547052	10		20	3.657109	40	2.960305
1,2-Dibromo-3-chloropropane	0.5	0.1265115	2	0.1633193	4	0.1142372	10		20	0.1651936	40	0.1392615
1,2-Dibromoethane	0.5	0.2621499	2	0.3025639	4	0.232677	10		20	0.3333903	40	0.2761416
1,2-Dichlorobenzene	0.5	1.560532	2	1.855881	4	1.378638	10		20	1.985649	40	1.632448
1,2-Dichloroethane	0.5	1.700866	2	1.888424	4	1.38191	10		20	2.032404	40	1.663342
1,2-Dichloropropane	0.5	0.4066375	2	0.4559725	4	0.343346	10		20	0.5012346	40	0.4146205
1,3,5-Trimethylbenzene	0.5	2.776969	2	3.407072	4	2.536072	10		20	3.644705	40	2.960575
1,3-Dichlorobenzene	0.5	1.723489	2	2.00278	4	1.510156	10		20	2.16436	40	1.776158
1,3-Dichloropropane	0.5	0.4662437	2	0.5329028	4	0.3944826	10		20	0.5691015	40	0.4700323
1,4-Dichlorobenzene	0.5	1.769485	2	2.049631	4	1.527148	10		20	2.197715	40	1.809325
1,4-Dioxane	10	2.67763E-03	40	3.03924E-03	80	1.775174E-03	200		400	2.609704E-03	800	2.121424E-03
2,2-Dichloropropane	0.5	2.171307	2	2.318981	4	1.753533	10		20	2.57159	40	2.044093
2-Butanone	0.5		2		4		10		20		40	
2-Chlorotoluene	0.5	2.675969	2	3.102069	4	2.325236	10		20	3.344139	40	2.708094
2-Hexanone	0.5	0.205856	2	0.2571453	4	0.1875962	10		20	0.2745881	40	0.2281131
4-Chlorotoluene	0.5	3.002721	2	3.557249	4	2.667875	10		20	3.86814	40	3.139013
4-Methyl-2-pentanone	0.5	0.4674185	2	0.5226428	4	0.37848	10		20	0.5528771	40	0.4624253
Acetone	0.5	0.6929926	2	0.526253	4	0.3533189	10		20	0.4464715	40	0.3481076
Acrolein	0.5	0.1158169	2	7.644063E-02	4	6.170143E-02	10		20	0.1016737	40	8.505996E-02

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.

SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC)

Project: 170396002

Calibration: YJ90014

Instrument: QVOA6

Calibration Date: 10/08/19 15:48

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acrylonitrile	0.5	0.3656159	2	0.3687634	4	0.2669654	10		20	0.3899706	40	0.3269514
Allyl chloride	0.5	0.7544878	2	0.7658311	4	0.5584836	10		20	0.8205715	40	0.6239613
Benzene	0.5	5.213671	2	5.631742	4	4.241309	10		20	6.178194	40	4.98438
Bromobenzene	0.5	1.52417	2	1.819469	4	1.375232	10		20	1.949824	40	1.602972
Bromochloromethane	0.5	1.305804	2	1.334572	4	1.001246	10		20	1.384775	40	1.109534
Bromodichloromethane	0.5	0.4970992	2	0.5387957	4	0.4088432	10		20	0.6047284	40	0.4997431
Bromoform	0.5	0.1740214	2	0.2025106	4	0.1578952	10		20	0.2421058	40	0.2050894
Bromomethane	0.5	0.822925	2	0.8159572	4	0.5710733	10		20	0.8033964	40	0.6856345
Carbon disulfide	0.5	3.855512	2	3.512662	4	2.590232	10		20	3.67589	40	2.943802
Carbon tetrachloride	0.5	1.991392	2	2.173815	4	1.640548	10		20	2.47486	40	1.986925
Chlorobenzene	0.5	0.9434361	2	1.067938	4	0.7987246	10		20	1.14758	40	0.9338451
Chloroethane	0.5	0.8675279	2	0.9388783	4	0.6943397	10		20	1.006843	40	0.8197779
Chloroform	0.5	2.566658	2	2.59816	4	1.947876	10		20	2.820258	40	2.286409
Chloromethane	0.5	1.373779	2	1.593225	4	1.096019	10		20	1.594654	40	1.304424
cis-1,2-Dichloroethylene	0.5	2.312174	2	2.522156	4	1.886876	10		20	2.774927	40	2.245237
cis-1,3-Dichloropropylene	0.5	0.5766612	2	0.6626996	4	0.4969647	10		20	0.7371815	40	0.6065329
Cyclohexane	0.5	2.131506	2	1.950192	4	1.768989	10		20	2.678694	40	1.973343
Dibromochloromethane	0.5	0.3264228	2	0.3785715	4	0.2820199	10		20	0.4268395	40	0.3549167
Dibromomethane	0.5	0.2119749	2	0.2358054	4	0.1723843	10		20	0.2535059	40	0.2102512
Dichlorodifluoromethane	0.5	0.8639411	2	1.134158	4	0.792954	10		20	1.133717	40	0.8634972
Diisopropyl ether (DIPE)	0.5	4.901799	2	5.058187	4	4.165089	10		20	6.167154	40	4.695509
Ethyl Benzene	0.5	1.590962	2	1.77049	4	1.343249	10		20	1.938119	40	1.568395
Ethyl tert-butyl ether (ETBE)	0.5	4.188327	2	4.343638	4	3.569934	10		20	5.29302	40	4.042287
Hexachlorobutadiene	0.5	0.1637947	2	0.1583064	4	0.1194186	10		20	0.1643029	40	0.1415151
Iodomethane	0.5	1.080881	2	1.239044	4	1.034399	10		20	1.865382	40	1.479043
Isopropylbenzene	0.5	3.770168	2	4.453134	4	3.351759	10		20	4.806052	40	3.863927
Methyl acetate	0.5	0.990634	2	0.804597	4	0.6519044	10		20	0.9654364	40	0.7808701
Methyl Methacrylate	0.5	0.1952173	2	0.2257181	4	0.1667103	10		20	0.2492457	40	0.2092771
Methyl tert-butyl ether (MTBE)	0.5	3.335551	2	3.743075	4	2.760159	10		20	4.027257	40	3.281907
Methylcyclohexane	0.5	0.4631434	2	0.4800548	4	0.4215011	10		20	0.6439744	40	0.5382895
Methylene chloride	0.5	1.911095	2	2.014554	4	1.515495	10		20	2.195186	40	1.773333

FORM VI

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90014
Instrument: QVOA6
Calibration Date: 10/08/19 15:48

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Naphthalene	0.5		2		4		10		20		40	
n-Butylbenzene	0.5	2.21747	2	2.475682	4	1.919807	10		20	2.824129	40	2.358078
n-Propylbenzene	0.5	4.067009	2	4.855794	4	3.652417	10		20	5.220899	40	4.195343
o-Xylene	0.5	1.265845	2	1.40909	4	1.058095	10		20	1.530916	40	1.238114
p- & m- Xylenes	1	1.246844	4	1.371463	8	1.044744	20		40	1.498096	80	1.201568
p-Diethylbenzene	0.5	1.195617	2	1.110132	4	0.9522229	10		20	1.429978	40	1.187179
p-Ethyltoluene	0.5	3.264792	2	3.08357	4	2.730612	10		20	3.886881	40	3.137759
p-Isopropyltoluene	0.5	2.445358	2	2.855556	4	2.215345	10		20	3.183361	40	2.617909
sec-Butylbenzene	0.5	2.600398	2	3.102492	4	2.381841	10		20	3.431587	40	2.826255
Styrene	0.5	0.9643709	2	1.103482	4	0.834096	10		20	1.226739	40	1.002124
SURR: 1,2-Dichloroethane-d4	10	1.389031	10	1.399604	10	1.376927	10	1.391912	10	1.409769	10	1.387925
SURR: p-Bromofluorobenzene	10	1.180361	10	1.247416	10	1.232149	10	1.242632	10	1.21643	10	1.205695
SURR: Toluene-d8	10	1.300747	10	1.299704	10	1.312733	10	1.305257	10	1.304858	10	1.323911
tert-Amyl alcohol (TAA)	5	9.596839E-02	20	0.1030209	40	7.853095E-02	100		200	0.1225602	400	9.676173E-02
tert-Amyl methyl ether (TAME)	0.5	3.313163	2	3.453332	4	2.791698	10		20	4.235485	40	3.243728
tert-Butyl alcohol (TBA)	0.5		2		4		10		20		40	
tert-Butylbenzene	0.5	2.707932	2	3.220059	4	2.404105	10		20	3.505203	40	2.853737
Tetrachloroethylene	0.5	0.4327937	2	0.4700484	4	0.3570248	10		20	0.5274189	40	0.433006
Tetrahydrofuran	0.5	0.4264748	2	0.395155	4	0.2906929	10		20	0.3913653	40	0.3283926
Toluene	0.5	1.585186	2	1.683392	4	1.262381	10		20	1.802097	40	1.461591
trans-1,2-Dichloroethylene	0.5	2.038193	2	2.075514	4	1.556633	10		20	2.310998	40	1.889652
trans-1,3-Dichloropropylene	0.5	0.5095492	2	0.5691495	4	0.4266539	10		20	0.6353089	40	0.5254521
trans-1,4-dichloro-2-butene	0.5		2		4		10		20		40	
Trichloroethylene	0.5	0.399409	2	0.4350038	4	0.3288765	10		20	0.4846468	40	0.3992965
Trichlorofluoromethane	0.5	1.633528	2	1.985544	4	1.48725	10		20	2.204799	40	1.731857
Vinyl acetate	0.5	2.272083	2	2.003052	4	1.812988	10		20	2.721582	40	2.062575
Vinyl Chloride	0.5	1.416472	2	1.550493	4	1.12746	10		20	1.63792	40	1.296691

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90014 Instrument: QVOA6

Calibration Date: 10/08/19 15:48

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
1,1,1,2-Tetrachloroethane	80	0.3565632	120	0.3707054	160	0.370525						
1,1,1-Trichloroethane	80	2.069686	120	2.231454	160	2.279802						
1,1,2,2-Tetrachloroethane	80	0.7881547	120	0.8068122	160	0.8224034						
1,1,2-Trichloro-1,2,2-trifluoro ethane (Freon 113)	80	1.095848	120	1.162007	160	1.206207						
1,1,2-Trichloroethane	80	0.2803489	120	0.297888	160	0.3005294						
1,1-Dichloroethane	80	2.29171	120	2.452412	160	2.515173						
1,1-Dichloroethylene	80	1.835432	120	1.968958	160	2.065286						
1,1-Dichloropropylene	80	1.809062	120	1.958662	160	2.009928						
1,2,3-Trichlorobenzene	80		120	0.5730256	160	0.5988195						
1,2,3-Trichloropropane	80		120	0.2367945	160	0.2438517						
1,2,4,5-Tetramethylbenzene	80	2.002671	120	2.105937	160	2.153287						
1,2,4-Trichlorobenzene	80	0.6693443	120	0.7253738	160	0.7681647						
1,2,4-Trimethylbenzene	80	2.728874	120	2.753444	160	2.523199						
1,2-Dibromo-3-chloropropane	80	0.1372174	120	0.1446163	160	0.1521499						
1,2-Dibromoethane	80	0.2777658	120	0.2931715	160	0.2960825						
1,2-Dichlorobenzene	80	1.535368	120	1.561248	160	1.535363						
1,2-Dichloroethane	80	1.639218	120	1.784119	160	1.750088						
1,2-Dichloropropane	80	0.4176032	120	0.4545459	160	0.4647578						
1,3,5-Trimethylbenzene	80	2.706697	120	2.730593	160	2.492716						
1,3-Dichlorobenzene	80	1.676101	120	1.733823	160	1.762323						
1,3-Dichloropropane	80	0.4734209	120	0.4990306	160	0.5039062						
1,4-Dichlorobenzene	80	1.705222	120	1.747966	160	1.778194						
1,4-Dioxane	1600	2.128882E-03	2400	2.199765E-03	3200	2.111721E-03						
2,2-Dichloropropane	80	1.96349	120	2.097142	160	2.131009						
2-Butanone	80		120	0.1252349	160	0.1251767						
2-Chlorotoluene	80	2.510112	120	2.53329	160	2.779435						
2-Hexanone	80	0.2320901	120	0.2416404	160	0.2445652						
4-Chlorotoluene	80	2.914886	120	2.923237	160	2.705385						
4-Methyl-2-pentanone	80	0.4759446	120	0.5004623	160	0.5019071						
Acetone	80	0.3454913	120	0.349553	160	0.340372						
Acrolein	80	9.032197E-02	120	9.852462E-02	160	9.881324E-02						

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90014 Instrument: QVOA6

Calibration Date: 10/08/19 15:48

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Acrylonitrile	80	0.3300186	120	0.3495474	160	0.3539997						
Allyl chloride	80	0.6136625	120	0.6602219	160	0.6788315						
Benzene	80	4.686217	120	4.557872	160	3.946356						
Bromobenzene	80	1.523945	120	1.580202	160	1.604244						
Bromochloromethane	80	1.079535	120	1.150478	160	1.181034						
Bromodichloromethane	80	0.5022124	120	0.5412689	160	0.5509844						
Bromoform	80	0.2098627	120	0.2250323	160	0.2323844						
Bromomethane	80	0.6811713	120	0.7730201	160	0.8536076						
Carbon disulfide	80	2.756412	120	2.963812	160	3.10089						
Carbon tetrachloride	80	1.92785	120	2.067043	160	2.093649						
Chlorobenzene	80	0.8999447	120	0.9329706	160	0.9016625						
Chloroethane	80	0.7780679	120	0.8475999	160	0.8897073						
Chloroform	80	2.206834	120	2.30732	160	2.286095						
Chloromethane	80	1.239987	120	1.364489	160	1.414147						
cis-1,2-Dichloroethylene	80	2.133183	120	2.2815	160	2.314556						
cis-1,3-Dichloropropylene	80	0.6065766	120	0.6497782	160	0.6538822						
Cyclohexane	80	2.044613	120	2.279944	160	2.196991						
Dibromochloromethane	80	0.3569258	120	0.3786246	160	0.3815577						
Dibromomethane	80	0.2164973	120	0.2231653	160	0.203199						
Dichlorodifluoromethane	80	0.8300253	120	0.870657	160	0.9002875						
Diisopropyl ether (DIPE)	80	4.631434	120	4.840797	160	4.35888						
Ethyl Benzene	80	1.431438	120	1.303469	160	1.131191						
Ethyl tert-butyl ether (ETBE)	80	4.038239	120	4.268686	160	4.090016						
Hexachlorobutadiene	80	0.131795	120	0.147705	160	0.1640568						
Iodomethane	80	1.36862	120	1.388928	160	1.30458						
Isopropylbenzene	80	3.477327	120	3.27546	160	2.875301						
Methyl acetate	80	0.7910805	120	0.8315479	160	0.8413219						
Methyl Methacrylate	80	0.2224933	120	0.238392	160	0.2438758						
Methyl tert-butyl ether (MTBE)	80	3.324142	120	3.52381	160	3.47387						
Methylcyclohexane	80	0.5300485	120	0.5717891	160	0.5756683						
Methylene chloride	80	1.716918	120	1.86718	160	1.911806						

FORM VI INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90014 Instrument: QVOA6

Calibration Date: 10/08/19 15:48

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Naphthalene	80		120	1.703939	160	1.724619						
n-Butylbenzene	80	2.174413	120	2.281381	160	2.318925						
n-Propylbenzene	80	3.738861	120	3.360039	160	2.930851						
o-Xylene	80	1.169704	120	1.175546	160	1.06259						
p- & m- Xylenes	160	1.048977	240	0.8767682	320	0.7338924						
p-Diethylbenzene	80	1.102489	120	1.176373	160	1.227714						
p-Ethyltoluene	80	2.868276	120	2.867129	160	2.78744						
p-Isopropyltoluene	80	2.404936	120	2.482661	160	2.418095						
sec-Butylbenzene	80	2.578002	120	2.660169	160	2.543509						
Styrene	80	0.954292	120	0.9769713	160	0.9230811						
SURR: 1,2-Dichloroethane-d4	10	1.389833	10	1.386231	10	1.333047						
SURR: p-Bromofluorobenzene	10	1.185985	10	1.171373	10	1.187285						
SURR: Toluene-d8	10	1.321513	10	1.336874	10	1.334415						
tert-Amyl alcohol (TAA)	800	9.987622E-02	1200	0.1054813	1600	0.1037558						
tert-Amyl methyl ether (TAME)	80	3.290594	120	3.509995	160	3.468123						
tert-Butyl alcohol (TBA)	80		120	0.1235963	160	0.1136973						
tert-Butylbenzene	80	2.632675	120	2.71303	160	2.770109						
Tetrachloroethylene	80	0.42354	120	0.4549779	160	0.4609975						
Tetrahydrofuran	80	0.3384222	120	0.3518668	160	0.3436922						
Toluene	80	1.372732	120	1.309037	160	1.132362						
trans-1,2-Dichloroethylene	80	1.809156	120	1.919382	160	1.968673						
trans-1,3-Dichloropropylene	80	0.5300075	120	0.5627211	160	0.5664662						
trans-1,4-dichloro-2-butene	80		120	0.9260019	160	0.9562422						
Trichloroethylene	80	0.3941293	120	0.4308926	160	0.4493346						
Trichlorofluoromethane	80	1.663288	120	1.758716	160	1.836385						
Vinyl acetate	80	2.100977	120	2.209262	160	2.264587						
Vinyl Chloride	80	1.229043	120	1.318188	160	1.381919						

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90014
Instrument: QVOA6
Calibration Date: 10/08/19 15:48

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1,1,2-Tetrachloroethane	0.3686245	11.27787	8.7965	1.983746E-02			20	
1,1,1-Trichloroethane	2.218196	11.55629	5.018125	2.105485E-02			SPCC (0.1)	
1,1,2,2-Tetrachloroethane	0.8028804	11.392	10.09088	2.843234E-02			SPCC (0.3)	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.135156	12.16565	2.8435	0.0290454			SPCC (0.1)	
1,1,2-Trichloroethane	0.2914915	10.49156	7.675625	3.411959E-02			SPCC (0.1)	
1,1-Dichloroethane	2.545966	12.07654	4.0015	7.032657E-02			SPCC (0.2)	
1,1-Dichloroethylene	2.029954	11.36155	2.820125	4.952531E-02			SPCC (0.1)	
1,1-Dichloropropylene	1.91368	11.34407	5.1715	3.049698E-02			20	
1,2,3-Trichlorobenzene	0.5859225	3.11291	14.0145	1.855985E-02			20	
1,2,3-Trichloropropane	0.2403231	2.076386	10.153	6.515273E-03			20	
1,2,4,5-Tetramethylbenzene	2.124633	11.03226	12.5065	1.604458E-02			20	
1,2,4-Trichlorobenzene	0.7236915	10.05253	13.474	3.112569E-03			SPCC (0.2)	
1,2,4-Trimethylbenzene	2.981414	14.07904	10.88963	1.463429			20	
1,2-Dibromo-3-chloropropane	0.1428133	12.23752	12.53187	2.552426E-02			SPCC (0.05)	
1,2-Dibromoethane	0.2842428	10.49197	8.18325	2.896722E-02			SPCC (0.1)	
1,2-Dichlorobenzene	1.630641	12.00295	11.6465	2.453086E-02			SPCC (0.4)	
1,2-Dichloroethane	1.730046	11.02312	5.400125	2.571024E-02			SPCC (0.1)	
1,2-Dichloropropane	0.4323397	11.04464	6.227875	2.107363E-02			SPCC (0.1)	
1,3,5-Trimethylbenzene	2.906925	14.21064	10.42175	2.312958E-02			20	
1,3-Dichlorobenzene	1.793649	11.25227	11.14163	1.750526E-02			SPCC (0.6)	
1,3-Dichloropropane	0.4886401	10.58297	7.837625	1.690573E-02			20	
1,4-Dichlorobenzene	1.823086	11.4283	11.25975	2.714617E-02			SPCC (0.5)	
1,4-Dioxane	2.332943E-03	17.43735	6.297	5.350537E-02			20	
2,2-Dichloropropane	2.131393	11.35922	4.5435	2.371473E-02			20	
2-Butanone	0.1252058	4.254146E-02	4.515	0.0199506		1	SPCC (0.1)	
2-Chlorotoluene	2.747293	12.07181	10.30663	1.864702E-02			20	
2-Hexanone	0.2339493	11.80236	7.881125	1.186463E-02			SPCC (0.1)	
4-Chlorotoluene	3.097313	13.46763	10.441	1.380091E-02			20	
4-Methyl-2-pentanone	0.4827697	10.72232	7.037875	0.0253768			SPCC (0.1)	
Acetone	0.42532	29.8408	2.844375	4.416414E-02		0.9989577	SPCC (0.1)	
Acrolein	9.104406E-02	18.34912	2.713	0.0917293			20	
Acrylonitrile	0.343979	10.847	3.511875	4.560092E-02			20	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90014
Instrument: QVOA6
Calibration Date: 10/08/19 15:48

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Allyl chloride	0.6845064	12.97461	3.185	6.959971E-02			20	
Benzene	4.929968	14.89312	5.346	7.360793E-02			SPCC (0.5)	
Bromobenzene	1.622507	11.14676	10.08975	2.852519E-02			20	
Bromochloromethane	1.193372	11.33599	4.7615	2.399757E-02			20	
Bromodichloromethane	0.5179594	10.95022	6.48525	1.396206E-02			SPCC (0.2)	
Bromoform	0.2061127	13.87687	9.569375	1.331644E-02			SPCC (0.1)	
Bromomethane	0.7508482	12.80151	1.93075	0.1091835			SPCC (0.1)	
Carbon disulfide	3.174901	14.3289	3.032375	3.853511E-02			SPCC (0.1)	
Carbon tetrachloride	2.04451	11.51203	5.171875	0.0343545			SPCC (0.1)	
Chlorobenzene	0.9532627	11.29716	8.695625	1.365785E-02			SPCC (0.5)	
Chloroethane	0.8553427	11.22062	2.044	0.1109078			SPCC (0.1)	
Chloroform	2.377451	11.4176	4.86575	2.541443E-02			SPCC (0.2)	
Chloromethane	1.372591	12.2687	1.55225	0.1399993			SPCC (0.1)	
cis-1,2-Dichloroethylene	2.308826	11.30017	4.53775	0.0482374			SPCC (0.1)	
cis-1,3-Dichloropropylene	0.6237846	11.31183	6.90975	1.505221E-02			SPCC (0.2)	
Cyclohexane	2.128034	12.83854	5.097125	4.460729E-02			SPCC (0.1)	
Dibromochloromethane	0.3607348	11.88337	8.064625	2.159239E-02			SPCC (0.1)	
Dibromomethane	0.2158479	11.02728	6.3105	3.133076E-02			20	
Dichlorodifluoromethane	0.9236546	14.45754	1.35175	0.1041248			SPCC (0.1)	
Diisopropyl ether (DIPE)	4.852356	12.46994	4.048625	0.1047296			20	
Ethyl Benzene	1.509664	17.36796	8.80325	4.032787E-02			SPCC (0.1)	
Ethyl tert-butyl ether (ETBE)	4.229268	11.5609	4.393625	4.410613E-02			20	
Hexachlorobutadiene	0.1488618	11.34067	13.6535	2.034225E-02			20	
Iodomethane	1.34511	19.27086	2.9575	6.253346E-02			20	
Isopropylbenzene	3.734141	17.07042	9.755875	2.606845E-02			SPCC (0.1)	
Methyl acetate	0.832174	12.88897	3.17325	6.492528E-02			SPCC (0.1)	
Methyl Methacrylate	0.2188662	12.64457	6.282875	1.675093E-02			20	
Methyl tert-butyl ether (MTBE)	3.433721	10.76306	3.5785	4.660376E-02			SPCC (0.1)	
Methylcyclohexane	0.5280586	13.50442	6.221875	2.748016E-02			SPCC (0.1)	
Methylene chloride	1.863196	10.88968	3.311875	4.352801E-02			SPCC (0.1)	
Naphthalene	1.714279	0.8532931	13.757	1.625027E-02		1	0.99	
n-Butylbenzene	2.321236	11.20064	11.65288	1.809635E-02			20	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90014
Instrument: QVOA6
Calibration Date: 10/08/19 15:48

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
n-Propylbenzene	4.002652	18.90271	10.21512	2.111064E-02			20	
o-Xylene	1.238737	13.2136	9.35125	1.517167E-02			SPCC (0.3)	
p- & m- Xylenes	1.127794	22.41646	8.9435	6.745822E-02		0.998676	SPCC (0.1)	
p-Diethylbenzene	1.172713	11.50484	11.62862	1.562312E-02			20	
p-Ethyltoluene	3.078307	12.19415	10.35487	2.134095E-03			20	
p-Isopropyltoluene	2.577903	11.90053	11.19712	1.607334E-02			20	
sec-Butylbenzene	2.765532	12.45802	11.01663	1.227429E-02			20	
Styrene	0.9981445	11.94007	9.37475	2.164612E-02			SPCC (0.3)	
SURR: 1,2-Dichloroethane-d4	1.38492	1.550443	5.325	0.0264452			20	
SURR: p-Bromofluorobenzene	1.207703	2.347675	9.947445	1.088474E-02			20	
SURR: Toluene-d8	1.315557	1.079861	7.173667	2.689877E-02			20	
tert-Amyl alcohol (TAA)	0.1007444	12.13077	5.367125	5.300889E-02			20	
tert-Amyl methyl ether (TAME)	3.413265	11.77208	5.4855	3.383824E-02			20	
tert-Butyl alcohol (TBA)	0.1186468	5.89961	3.4185	1.191185E-02			20	
tert-Butylbenzene	2.850856	12.27789	10.76788	0.0150146			20	
Tetrachloroethylene	0.4449759	10.83408	7.773625	2.326993E-02			SPCC (0.2)	
Tetrahydrofuran	0.3582577	12.12775	4.775125	2.738222E-02			20	
Toluene	1.451097	15.60158	7.2405	0.0482768			SPCC (0.4)	
trans-1,2-Dichloroethylene	1.946025	11.21174	3.589125	4.140288E-02			SPCC (0.1)	
trans-1,3-Dichloropropylene	0.5406635	11.10468	7.4765	1.667232E-02			SPCC (0.1)	
trans-1,4-dichloro-2-butene	0.9411221	2.27203	10.1475	2.320324E-02			20	
Trichloroethylene	0.4151986	11.15821	5.9885	9.90671E-03			SPCC (0.2)	
Trichlorofluoromethane	1.787671	12.48968	2.308625	0.0597795			SPCC (0.1)	
Vinyl acetate	2.180888	12.20357	4.049625	4.974834E-02			20	
Vinyl Chloride	1.369773	12.13516	1.621	1.217151E-02			SPCC (0.1)	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404445.D
Acq On : 17 May 2019 4:05 pm
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV4051719A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 17 16:26:18 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.966	70	329107	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	1270228	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	637884	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	461367	52.51	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.02%				
54) Toluene-d8 (SURR)	6.460	98	1673769	54.69	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.38%				
73) p-Bromofluorobenzene (...	9.201	95	674662	48.16	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.32%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	16241m	3.02	ppb		
3) Chloromethane	1.349	50	37802m	6.68	ppb		
4) Vinyl Chloride	1.380	62	26782m	5.61	ppb		
5) Bromomethane	1.630	94	10127m	8.65	ppb		
6) Allyl Chloride	2.690	76	9394	3.53	ppb	#	100
7) Chloroethane	1.703	64	12599m	7.62	ppb		
8) Trichlorofluoromethane	1.903	101	27764	6.17	ppb		96
9) Ethanol	2.170	45	18354m	2092.27	ppb		
10) Freon-113	1.903	101	29580m	6.59	ppb		
11) 1,1-Dichloroethylene	2.354	61	32178	5.19	ppb		89
12) Acrolein	2.320	56	3498	8.10	ppb		92
13) Acetone	2.462	43	13612	8.36	ppb	#	43
14) Iodomethane	2.510	142	12373m	3.79	ppb		
15) Methyl Acetate	2.729	43	31843m	9.04	ppb		
16) Carbon disulfide	2.543	76	43840	3.10	ppb		100
17) tert-Butyl Alcohol (TBA)	2.971	59	2817m	5.55	ppb		
18) Methylene Chloride	2.818	49	32528	4.84	ppb		89
19) Acrylonitrile	3.074	53	7323	4.80	ppb		98
20) trans-1,2-Dichloroethy...	3.033	61	27584	3.99	ppb		93
21) tert-Butyl Methyl Ethe...	3.019	73	46102	3.74	ppb		97
22) 1,1-Dichloroethane	3.422	63	36553	4.17	ppb	#	99
23) Vinyl Acetate	3.469	43	33642	4.21	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	69804	4.35	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.759	59	59443	3.85	ppb	#	96
26) cis-1,2-Dichloroethylene	3.948	61	32241	4.07	ppb		93
27) 2-Butanone	3.987	72	2013m	4.34	ppb		
28) 2,2-Dichloropropane	3.917	77	25431	3.63	ppb	#	85
29) Tetrahydrofuran	4.215	42	6667	4.62	ppb	#	68
30) Bromochloromethane	4.173	49	17480	4.48	ppb		82
31) Chloroform	4.248	83	32634	4.11	ppb		99
32) 1,1,1-Trichloroethane	4.363	97	26006	3.62	ppb	#	85
33) Cyclohexane	4.371	56	38640	4.29	ppb		87
34) 1,1-Dichloropropylene	4.507	75	25669	4.00	ppb		69
36) Carbon Tetrachloride	4.502	117	19855m	3.35	ppb		
37) tert-Amyl alcohol (TAA)	4.785	59	15024	3.23	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	25331	4.41	ppb	#	98
39) Benzene	4.705	78	79168	4.13	ppb	#	1
40) tert-Amyl methyl ether...	4.788	73	51542	3.41	ppb	#	89
42) Trichloroethylene	5.306	95	18864	4.26	ppb		88
43) Methyl Cyclohexane	5.431	83	35097	4.31	ppb	#	68
44) Methyl Methacrylate	5.642	69	9861	3.58	ppb	#	98
45) Dibromomethane	5.670	93	9927	4.24	ppb		94
46) Bromodichloromethane	5.823	83	18808m	3.41	ppb		
47) 1,2-Dichloropropane	5.537	63	20452	4.52	ppb	#	81
48) 1,4-Dioxane	5.701	88	3848m	23.24	ppb		
49) 2-Chloroethyl vinyl ether	6.104	63	7943	3.47	ppb		98
51) cis-1,3-Dichloropropene	6.235	75	24864	3.60	ppb		88
52) ethyl methacrylate	6.855	69	17865m	3.42	ppb		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404445.D
Acq On : 17 May 2019 4:05 pm
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV4051719A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 17 16:26:18 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

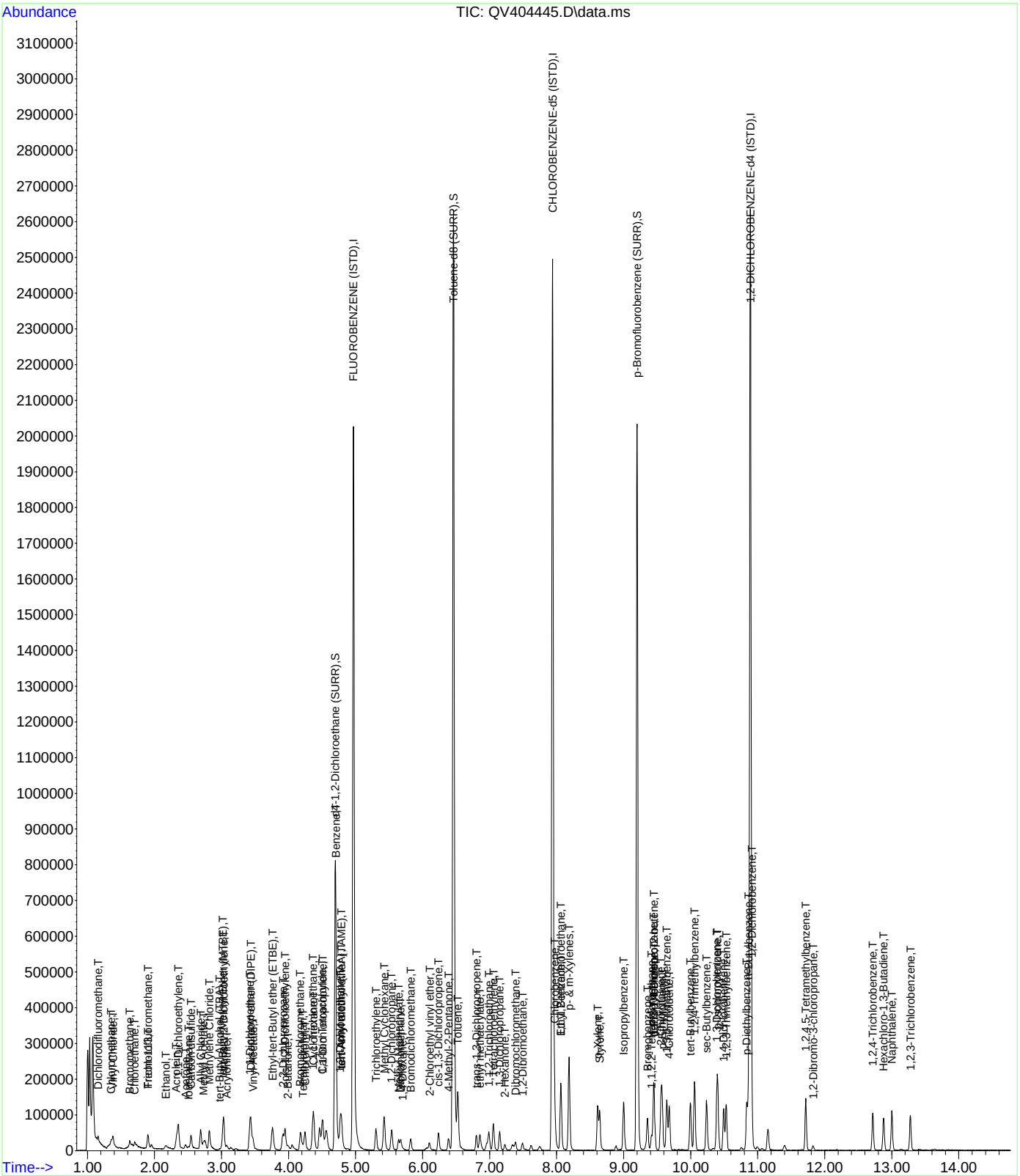
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.388	43	23445	5.97 ppb	#	88
55) Toluene	6.524	91	101916	5.33 ppb		99
56) trans-1,3-Dichloropropene	6.803	75	20917	3.36 ppb	#	90
57) 1,1,2-Trichloroethane	6.992	97	14682	4.16 ppb		93
58) 1,3-Dichloropropane	7.145	76	26081	4.25 ppb	#	88
59) Tetrachloroethylene	7.056	166	19873	3.92 ppb	#	72
60) 2-Hexanone	7.225	43	11676	4.08 ppb	#	86
61) Dibromochloromethane	7.387	129	10274	2.68 ppb		97
62) 1,2-Dibromoethane	7.490	107	13328	3.82 ppb		97
63) Chlorobenzene	7.968	112	50635	4.34 ppb	#	28
64) 1,1,1,2-tetrachloroethane	8.063	131	13239m	3.47 ppb		
65) Ethyl Benzene	8.063	91	94229	4.41 ppb		95
66) p- & m-Xylenes	8.185	91	150409	9.08 ppb		94
67) o-Xylene	8.611	91	72068	4.14 ppb		97
68) Styrene	8.642	104	49801m	3.74 ppb		
71) p-Ethyltoluene	9.576	105	86565	4.31 ppb	#	97
72) Isopropylbenzene	9.001	105	89514	4.19 ppb		96
74) 1,1,2,2-Tetrachloroethane	9.415	83	18814	4.13 ppb	#	100
75) Bromobenzene	9.357	77	36025	4.40 ppb		81
76) trans-1,4-Dichloro-2-b...	9.451	75	19953	3.81 ppb	#	45
77) 1,2,3-Trichloropropane	9.448	110	5394	4.11 ppb		90
78) n-Propylbenzene	9.451	91	118534	4.50 ppb		95
79) 2-Chlorotoluene	9.557	91	78835	4.58 ppb		98
80) 4-Chlorotoluene	9.679	91	73270	4.53 ppb		83
81) 1,3,5-Trimethylbenzene	9.640	105	75466	4.27 ppb		96
82) tert-Butylbenzene	9.994	119	64608	4.16 ppb		89
83) 1,2,4-Trimethylbenzene	10.058	105	76845	4.33 ppb		91
84) sec-Butylbenzene	10.236	105	96676	4.19 ppb		96
86) 1,3-Dichlorobenzene	10.389	146	42832	4.44 ppb		94
87) p-Isopropyltoluene	10.400	119	81851	4.09 ppb		96
88) 1,4-Dichlorobenzene	10.492	146	41966	4.29 ppb		93
89) 1,2,3-Trimethylbenzene	10.531	105	72012	4.34 ppb		95
91) p-Diethylbenzene	10.834	105	44951	4.29 ppb	#	23
92) 1,2-Dichlorobenzene	10.912	146	41153m	4.56 ppb		
93) n-Butylbenzene	10.865	91	108707m	4.60 ppb		
94) 1,2-Dibromo-3-chloropr...	11.827	75	2921m	3.10 ppb		
95) 1,2,4,5-Tetramethylben...	11.716	119	72639	3.82 ppb		95
96) 1,2,4-Trichlorobenzene	12.715	180	29918	4.12 ppb	#	100
97) Hexachloro-1,3-Butadiene	12.876	225	16565	4.28 ppb		88
98) Naphthalene	13.001	128	81173	4.15 ppb		99
99) 1,2,3-Trichlorobenzene	13.280	180	28031	4.17 ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404445.D
Acq On : 17 May 2019 4:05 pm
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV4051719A
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 17 16:26:18 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404447.D
Acq On : 17 May 2019 4:59 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV4051719A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 15:57:38 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	333900	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	1289494	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	657757	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	468813	52.59	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.18%				
54) Toluene-d8 (SURR)	6.460	98	1695586	54.58	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 109.16%				
73) p-Bromofluorobenzene (...	9.201	95	696485	48.21	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.42%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	39798m	7.31	ppb		
3) Chloromethane	1.352	50	89464m	15.57	ppb		
4) Vinyl Chloride	1.377	62	64457	13.31	ppb	#	86
5) Bromomethane	1.627	94	20555m	17.30	ppb		
6) Allyl Chloride	2.685	76	24073	8.93	ppb	#	100
7) Chloroethane	1.708	64	30106m	17.95	ppb		
8) Trichlorofluoromethane	1.900	101	70718	15.48	ppb		96
9) Ethanol	2.167	45	39234m	4598.68	ppb		
10) Freon-113	1.900	101	70718	15.52	ppb	#	90
11) 1,1-Dichloroethylene	2.356	61	76119	12.11	ppb		90
12) Acrolein	2.320	56	8936	29.51	ppb		95
13) Acetone	2.465	43	22671	13.72	ppb	#	21
14) Iodomethane	2.504	142	37246m	9.37	ppb		
15) Methyl Acetate	2.726	43	54770	15.33	ppb		94
16) Carbon disulfide	2.546	76	113986	7.94	ppb		100
17) tert-Butyl Alcohol (TBA)	2.977	59	5627m	10.93	ppb		
18) Methylene Chloride	2.816	49	80275	11.77	ppb		81
19) Acrylonitrile	3.080	53	15229	9.84	ppb	#	64
20) trans-1,2-Dichloroethy...	3.030	61	68635	9.78	ppb		93
21) tert-Butyl Methyl Ethe...	3.019	73	111869	8.95	ppb	#	92
22) 1,1-Dichloroethane	3.422	63	86959	9.77	ppb	#	99
23) Vinyl Acetate	3.469	43	97628	12.93	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	171422	10.53	ppb		96
25) Ethyl-tert-Butyl ether...	3.759	59	143589	9.17	ppb	#	95
26) cis-1,2-Dichloroethylene	3.945	61	80931	10.08	ppb		92
27) 2-Butanone	3.990	72	4539	9.65	ppb	#	1
28) 2,2-Dichloropropane	3.914	77	64388	9.06	ppb	#	83
29) Tetrahydrofuran	4.215	42	14764	10.09	ppb		80
30) Bromochloromethane	4.170	49	44901	11.33	ppb	#	47
31) Chloroform	4.243	83	76594	9.50	ppb	#	71
32) 1,1,1-Trichloroethane	4.362	97	66193	9.07	ppb	#	73
33) Cyclohexane	4.371	56	93606	10.25	ppb		88
34) 1,1-Dichloropropylene	4.510	75	64600	9.93	ppb		74
36) Carbon Tetrachloride	4.496	117	48398	8.06	ppb		99
37) tert-Amyl alcohol (TAA)	4.783	59	38819	8.23	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	60319	10.34	ppb	#	97
39) Benzene	4.705	78	191787	9.87	ppb	#	1
40) tert-Amyl methyl ether...	4.788	73	128696	8.40	ppb	#	93
42) Trichloroethylene	5.303	95	46814	10.40	ppb		86
43) Methyl Cyclohexane	5.425	83	83458	10.09	ppb	#	69
44) Methyl Methacrylate	5.637	69	25370	9.06	ppb	#	81
45) Dibromomethane	5.673	93	24490	10.32	ppb	#	64
46) Bromodichloromethane	5.823	83	49850	8.91	ppb		96
47) 1,2-Dichloropropane	5.539	63	48560	10.58	ppb	#	99
48) 1,4-Dioxane	5.701	88	10980m	65.33	ppb		
49) 2-Chloroethyl vinyl ether	6.101	63	22005	9.47	ppb		96
50) 2-nitropropane	6.068	43	7471	3.65	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	63466	9.06	ppb		88

Data Path : C:\msdchem\1\data\051719\
Data File : QV404447.D
Acq On : 17 May 2019 4:59 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV4051719A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 15:57:38 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

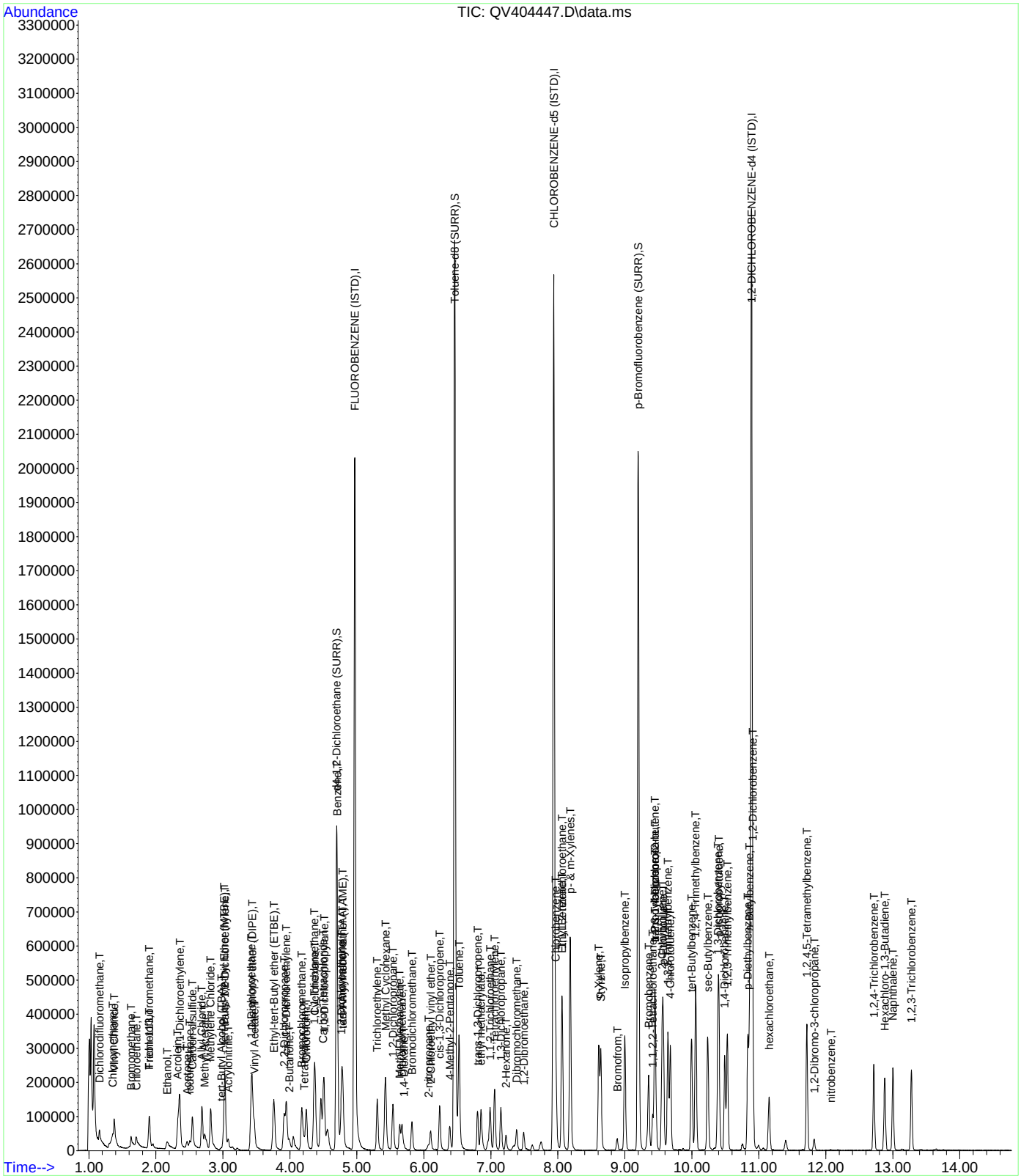
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.850	69	48954	9.24	ppb	#	100
53) 4-Methyl-2-Pentanone	6.388	43	50934	12.78	ppb	#	87
55) Toluene	6.527	91	218496	11.25	ppb		99
56) trans-1,3-Dichloropropene	6.802	75	54082	8.56	ppb	#	87
57) 1,1,2-Trichloroethane	6.989	97	36582	10.22	ppb		95
58) 1,3-Dichloropropane	7.150	76	64088	10.30	ppb	#	89
59) Tetrachloroethylene	7.053	166	48321	9.39	ppb		97
60) 2-Hexanone	7.225	43	31058	10.69	ppb		94
61) Dibromochloromethane	7.384	129	28754	7.39	ppb		96
62) 1,2-Dibromoethane	7.490	107	34626	9.78	ppb		98
63) Chlorobenzene	7.965	112	124320	10.51	ppb	#	75
64) 1,1,1,2-tetrachloroethane	8.063	131	34541	8.91	ppb	#	35
65) Ethyl Benzene	8.060	91	230641	10.64	ppb		95
66) p- & m-Xylenes	8.185	91	363746	21.63	ppb		93
67) o-Xylene	8.608	91	182598	10.33	ppb		97
68) Styrene	8.642	104	130872	9.69	ppb	#	100
69) Bromofrom	8.886	173	14385	5.74	ppb		99
71) p-Ethyltoluene	9.574	105	216000	10.44	ppb	#	97
72) Isopropylbenzene	9.000	105	223872	10.16	ppb		95
74) 1,1,2,2-Tetrachloroethane	9.415	83	47942	10.21	ppb	#	100
75) Bromobenzene	9.354	77	87614	10.38	ppb		79
76) trans-1,4-Dichloro-2-b...	9.448	75	50799	9.41	ppb	#	52
77) 1,2,3-Trichloropropane	9.448	110	14170	10.47	ppb		97
78) n-Propylbenzene	9.448	91	295434	10.89	ppb		95
79) 2-Chlorotoluene	9.557	91	190227	10.71	ppb		98
80) 4-Chlorotoluene	9.679	91	175567	10.53	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	188655	10.35	ppb		95
82) tert-Butylbenzene	9.994	119	160008	9.99	ppb		88
83) 1,2,4-Trimethylbenzene	10.055	105	191580	10.47	ppb		91
84) sec-Butylbenzene	10.239	105	242376	10.19	ppb		95
85) hexachloroethane	11.154	117	21934	6.25	ppb	#	100
86) 1,3-Dichlorobenzene	10.389	146	103578	10.42	ppb		94
87) p-Isopropyltoluene	10.403	119	211678	10.26	ppb		95
88) 1,4-Dichlorobenzene	10.489	146	101930	10.09	ppb		93
89) 1,2,3-Trimethylbenzene	10.531	105	189686	11.08	ppb		96
90) nitrobenzene	12.075	77	874m	3.22	ppb		
91) p-Diethylbenzene	10.834	105	113604	10.50	ppb	#	22
92) 1,2-Dichlorobenzene	10.909	146	99312	10.68	ppb	#	88
93) n-Butylbenzene	10.862	91	265494m	10.88	ppb		
94) 1,2-Dibromo-3-chloropr...	11.830	75	7723	7.95	ppb	#	80
95) 1,2,4,5-Tetramethylben...	11.716	119	188703	9.63	ppb		95
96) 1,2,4-Trichlorobenzene	12.718	180	72370	9.66	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.879	225	39549	9.92	ppb		86
98) Naphthalene	13.001	128	180992	8.97	ppb		99
99) 1,2,3-Trichlorobenzene	13.277	180	67639	9.76	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404447.D
Acq On : 17 May 2019 4:59 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV4051719A
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 20 15:57:38 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404446.D
Acq On : 17 May 2019 4:32 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV4051719A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 20 15:56:06 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	337513	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	1325341	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	686401	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	473910	52.59	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.18%				
54) Toluene-d8 (SURR)	6.460	98	1734494	54.32	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 108.64%				
73) p-Bromofluorobenzene (...	9.201	95	714348	47.39	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.78%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	87776m	15.94	ppb		
3) Chloromethane	1.360	50	185758	31.99	ppb	#	87
4) Vinyl Chloride	1.383	62	141109	28.84	ppb		99
5) Bromomethane	1.633	94	43005m	35.81	ppb		
6) Allyl Chloride	2.687	76	51392	18.86	ppb	#	100
7) Chloroethane	1.708	64	66154m	39.01	ppb		
8) Trichlorofluoromethane	1.903	101	155682	33.72	ppb		98
9) Ethanol	2.164	45	81128	8924.81	ppb		82
10) Freon-113	1.903	101	155682	33.80	ppb	#	92
11) 1,1-Dichloroethylene	2.356	61	166464	26.20	ppb		89
12) Acrolein	2.326	56	19129	68.47	ppb		94
13) Acetone	2.462	43	46901	28.09	ppb	#	44
14) Iodomethane	2.509	142	83650	19.57	ppb	#	50
15) Methyl Acetate	2.729	43	90267	25.00	ppb		95
16) Carbon disulfide	2.546	76	266253	18.35	ppb		100
17) tert-Butyl Alcohol (TBA)	2.971	59	10981	21.10	ppb	#	1
18) Methylene Chloride	2.818	49	166936	24.21	ppb		83
19) Acrylonitrile	3.080	53	35482	22.68	ppb		98
20) trans-1,2-Dichloroethy...	3.030	61	148668	20.95	ppb		93
21) tert-Butyl Methyl Ethe...	3.021	73	241683	19.14	ppb		98
22) 1,1-Dichloroethane	3.422	63	192218	21.37	ppb	#	96
23) Vinyl Acetate	3.466	43	213002	28.07	ppb		100
24) Diisopropyl ether (DIPE)	3.439	45	376610	22.89	ppb	#	93
25) Ethyl-tert-Butyl ether...	3.761	59	308312	19.48	ppb	#	95
26) cis-1,2-Dichloroethylene	3.945	61	178774	22.03	ppb		91
27) 2-Butanone	3.990	72	8778	18.47	ppb	#	22
28) 2,2-Dichloropropane	3.917	77	140536	19.57	ppb	#	83
29) Tetrahydrofuran	4.209	42	35356	23.90	ppb		75
30) Bromochloromethane	4.173	49	96301	24.05	ppb		82
31) Chloroform	4.245	83	170481	20.91	ppb		100
32) 1,1,1-Trichloroethane	4.362	97	146998	19.93	ppb	#	85
33) Cyclohexane	4.373	56	202451	21.94	ppb		89
34) 1,1-Dichloropropylene	4.510	75	135004	20.53	ppb		78
36) Carbon Tetrachloride	4.496	117	112438	18.52	ppb		99
37) tert-Amyl alcohol (TAA)	4.780	59	88891	18.65	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	131337	22.28	ppb		99
39) Benzene	4.707	78	415929	21.18	ppb	#	52
40) tert-Amyl methyl ether...	4.782	73	285231	18.42	ppb	#	88
42) Trichloroethylene	5.306	95	103112	22.30	ppb		84
43) Methyl Cyclohexane	5.425	83	180301	21.22	ppb	#	69
44) Methyl Methacrylate	5.639	69	57339	19.93	ppb	#	98
45) Dibromomethane	5.670	93	54246	22.23	ppb		95
46) Bromodichloromethane	5.820	83	112485	19.56	ppb		98
47) 1,2-Dichloropropane	5.536	63	107060	22.69	ppb	#	98
48) 1,4-Dioxane	5.695	88	25009	144.77	ppb		82
49) 2-Chloroethyl vinyl ether	6.101	63	51236	21.44	ppb		97
50) 2-nitropropane	6.068	43	12916	9.16	ppb	#	100
51) cis-1,3-Dichloropropene	6.238	75	149973	20.82	ppb		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404446.D
Acq On : 17 May 2019 4:32 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV4051719A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 20 15:56:06 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

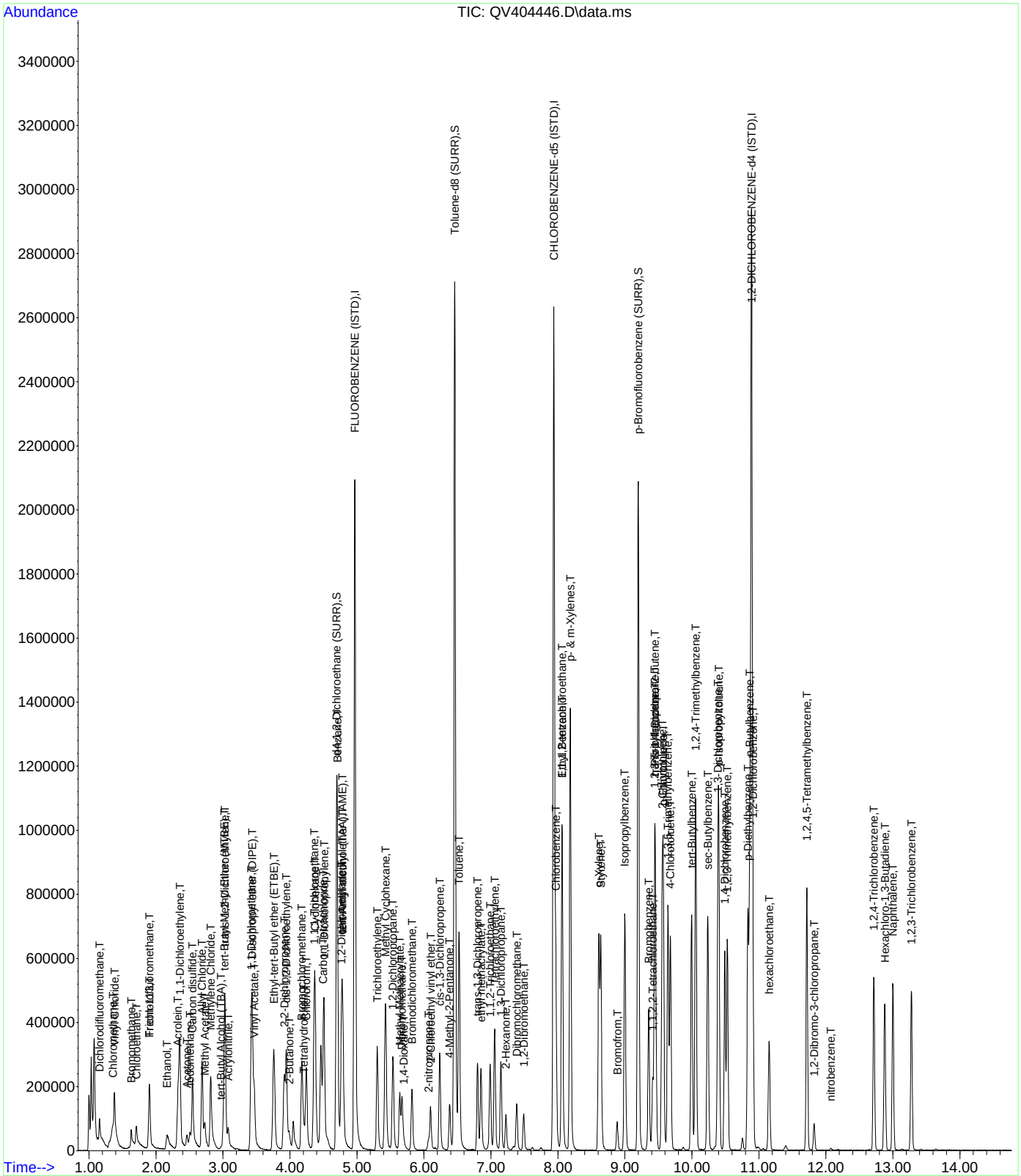
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.852	69	115397	21.18	ppb	#	100
53) 4-Methyl-2-Pentanone	6.382	43	103524	25.26	ppb	#	87
55) Toluene	6.524	91	459638	23.03	ppb		99
56) trans-1,3-Dichloropropene	6.800	75	128109	19.73	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	80154	21.78	ppb		96
58) 1,3-Dichloropropane	7.150	76	140650	21.99	ppb	#	90
59) Tetrachloroethylene	7.058	166	101832	19.25	ppb		97
60) 2-Hexanone	7.223	43	76524	25.62	ppb		91
61) Dibromochloromethane	7.387	129	70648	17.67	ppb		97
62) 1,2-Dibromoethane	7.490	107	76960	21.15	ppb		97
63) Chlorobenzene	7.968	112	266226	21.89	ppb		87
64) 1,1,1,2-tetrachloroethane	8.063	131	78713	19.76	ppb	#	56
65) Ethyl Benzene	8.063	91	510365	22.91	ppb		95
66) p- & m-Xylenes	8.185	91	812222	46.99	ppb		93
67) o-Xylene	8.611	91	403965	22.23	ppb		97
68) Styrene	8.641	104	296571	21.36	ppb	#	100
69) Bromofrom	8.886	173	38197	14.82	ppb	#	81
71) p-Ethyltoluene	9.573	105	476554	22.07	ppb	#	97
72) Isopropylbenzene	8.998	105	500283	21.76	ppb		95
74) 1,1,2,2-Tetrachloroethane	9.415	83	107603	21.96	ppb	#	100
75) Bromobenzene	9.354	77	189178	21.48	ppb		80
76) trans-1,4-Dichloro-2-b...	9.448	75	121231	21.52	ppb	#	50
77) 1,2,3-Trichloropropane	9.446	110	31756	22.48	ppb		95
78) n-Propylbenzene	9.448	91	651600	23.01	ppb		95
79) 2-Chlorotoluene	9.560	91	419360	22.63	ppb		98
80) 4-Chlorotoluene	9.679	91	389692	22.39	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	413187	21.72	ppb		95
82) tert-Butylbenzene	9.996	119	355276	21.26	ppb		88
83) 1,2,4-Trimethylbenzene	10.058	105	419873	21.98	ppb		92
84) sec-Butylbenzene	10.238	105	533556	21.49	ppb		96
85) hexachloroethane	11.154	117	53485	14.59	ppb	#	100
86) 1,3-Dichlorobenzene	10.389	146	227673	21.95	ppb		94
87) p-Isopropyltoluene	10.403	119	472849	21.97	ppb		96
88) 1,4-Dichlorobenzene	10.492	146	222935	21.16	ppb		94
89) 1,2,3-Trimethylbenzene	10.528	105	376335	21.07	ppb		96
90) nitrobenzene	12.072	77	1846	6.43	ppb	#	100
91) p-Diethylbenzene	10.837	105	250462	22.19	ppb	#	23
92) 1,2-Dichlorobenzene	10.912	146	217864	22.45	ppb	#	87
93) n-Butylbenzene	10.864	91	564924m	22.19	ppb		
94) 1,2-Dibromo-3-chloropr...	11.824	75	18457	18.20	ppb	#	82
95) 1,2,4,5-Tetramethylben...	11.716	119	427884	20.92	ppb		96
96) 1,2,4-Trichlorobenzene	12.715	180	157704	20.17	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.882	225	87851	21.12	ppb		87
98) Naphthalene	12.998	128	383598	18.21	ppb		100
99) 1,2,3-Trichlorobenzene	13.277	180	146251	20.21	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404446.D
Acq On : 17 May 2019 4:32 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV4051719A
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 20 15:56:06 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404448.D
Acq On : 17 May 2019 5:26 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QBQV4051719A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 20 16:00:16 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	335999	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.940	117	1318875	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	701889	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	462631	51.57	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 103.14%				
54) Toluene-d8 (SURR)	6.460	98	1702158	53.57	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 107.14%				
73) p-Bromofluorobenzene (...	9.201	95	718956	46.64	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 93.28%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	193509	35.30	ppb		97
3) Chloromethane	1.363	50	446310	77.21	ppb	#	74
4) Vinyl Chloride	1.380	62	356897	73.26	ppb		99
5) Bromomethane	1.630	94	104960m	87.80	ppb		
6) Allyl Chloride	2.687	76	140956	51.95	ppb	#	100
7) Chloroethane	1.708	64	160278	94.95	ppb		97
8) Trichlorofluoromethane	1.903	101	407223	88.61	ppb		97
9) Ethanol	2.167	45	213697	19695.13	ppb		82
10) Freon-113	1.903	101	407223	88.81	ppb	#	92
11) 1,1-Dichloroethylene	2.356	61	462919	73.18	ppb		87
12) Acrolein	2.320	56	28156	103.03	ppb		93
13) Acetone	2.462	43	148692	89.45	ppb	#	45
14) Iodomethane	2.507	142	269488	59.95	ppb	#	20
15) Methyl Acetate	2.729	43	228200	63.48	ppb		95
16) Carbon disulfide	2.546	76	764296	52.91	ppb		100
17) tert-Butyl Alcohol (TBA)	2.977	59	28122	54.29	ppb	#	1
18) Methylene Chloride	2.818	49	450980	65.69	ppb		83
19) Acrylonitrile	3.077	53	100504	64.54	ppb	#	64
20) trans-1,2-Dichloroethy...	3.030	61	420292	59.50	ppb		93
21) tert-Butyl Methyl Ethe...	3.019	73	691536	55.01	ppb	#	92
22) 1,1-Dichloroethane	3.422	63	545287	60.91	ppb	#	99
23) Vinyl Acetate	3.466	43	607060	77.09	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	1086174	66.33	ppb	#	93
25) Ethyl-tert-Butyl ether...	3.759	59	899049	57.06	ppb	#	79
26) cis-1,2-Dichloroethylene	3.948	61	490303	60.70	ppb		92
27) 2-Butanone	3.990	72	29666m	62.70	ppb		
28) 2,2-Dichloropropane	3.914	77	405527	56.71	ppb	#	84
29) Tetrahydrofuran	4.204	42	94482	64.15	ppb		79
30) Bromochloromethane	4.173	49	260124	65.25	ppb		82
31) Chloroform	4.243	83	474626	58.49	ppb	#	93
32) 1,1,1-Trichloroethane	4.362	97	422772	57.57	ppb	#	85
33) Cyclohexane	4.373	56	559853	60.93	ppb		88
34) 1,1-Dichloropropylene	4.510	75	386861	59.10	ppb		81
36) Carbon Tetrachloride	4.499	117	331105	54.78	ppb	#	58
37) tert-Amyl alcohol (TAA)	4.780	59	258040	54.38	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	368919	62.85	ppb		99
39) Benzene	4.707	78	1133498	57.98	ppb	#	85
40) tert-Amyl methyl ether...	4.785	73	830518	53.86	ppb	#	89
42) Trichloroethylene	5.303	95	288080	62.60	ppb		85
43) Methyl Cyclohexane	5.425	83	516602	61.09	ppb	#	71
44) Methyl Methacrylate	5.639	69	172991	60.41	ppb	#	97
45) Dibromomethane	5.670	93	152206	62.68	ppb		95
46) Bromodichloromethane	5.820	83	338611	59.16	ppb		98
47) 1,2-Dichloropropane	5.536	63	300424	64.00	ppb	#	99
48) 1,4-Dioxane	5.687	88	61599	358.33	ppb		83
49) 2-Chloroethyl vinyl ether	6.096	63	140263	58.99	ppb		97
50) 2-nitropropane	6.068	43	58620	52.66	ppb	#	100
51) cis-1,3-Dichloropropene	6.238	75	435128	60.71	ppb		91

Data Path : C:\msdchem\1\data\051719\
Data File : QV404448.D
Acq On : 17 May 2019 5:26 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QBQV4051719A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 20 16:00:16 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

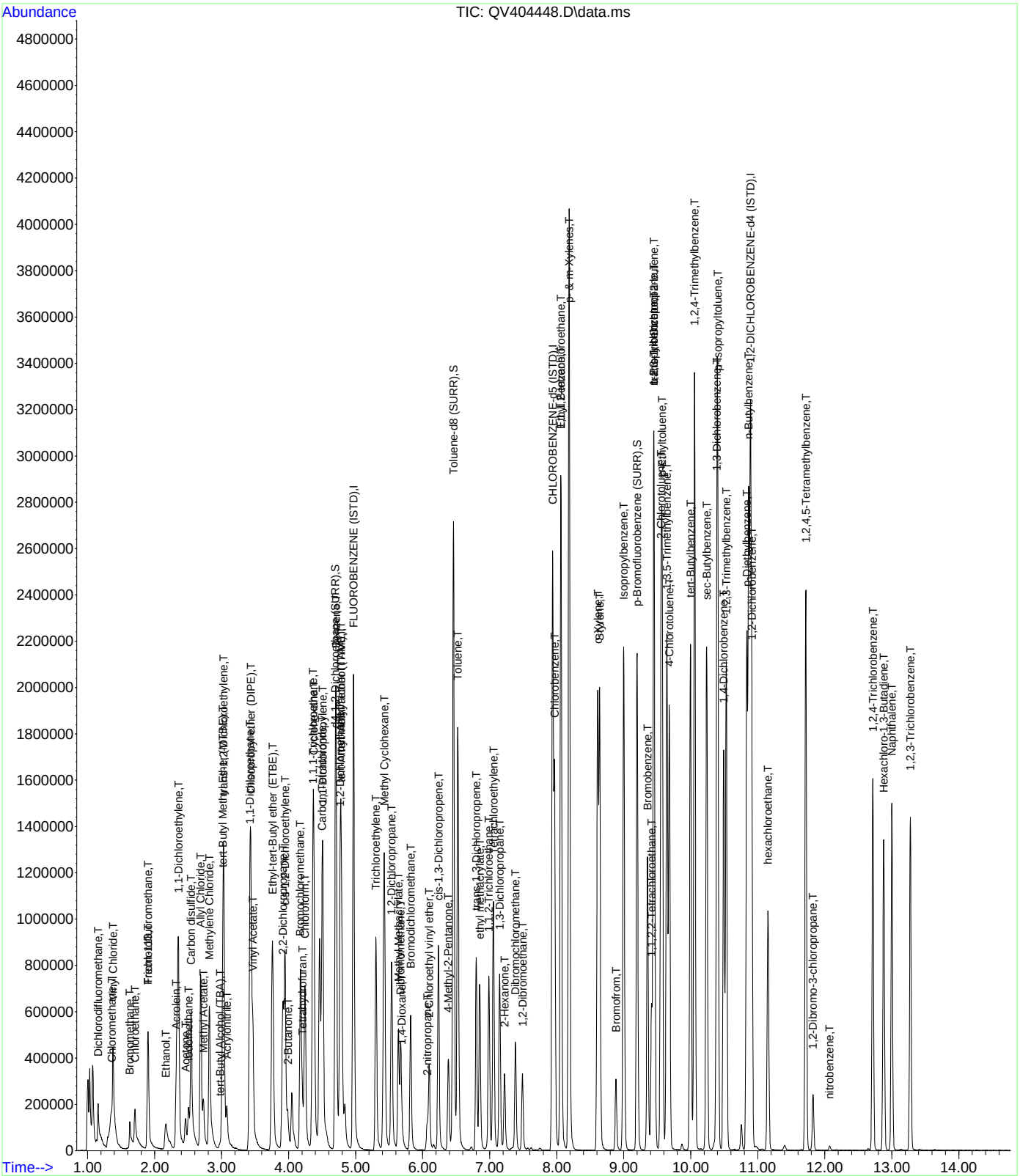
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.852	69	337344	62.22	ppb	#	100
53) 4-Methyl-2-Pentanone	6.382	43	284192	69.69	ppb		93
55) Toluene	6.524	91	1260225	63.46	ppb		99
56) trans-1,3-Dichloropropene	6.800	75	381261	59.02	ppb		99
57) 1,1,2-Trichloroethane	6.986	97	222768	60.83	ppb		96
58) 1,3-Dichloropropane	7.150	76	388894	61.10	ppb	#	90
59) Tetrachloroethylene	7.056	166	285962	54.33	ppb	#	72
60) 2-Hexanone	7.223	43	220254	74.09	ppb		93
61) Dibromochloromethane	7.384	129	216758	54.48	ppb		96
62) 1,2-Dibromoethane	7.490	107	217186	59.98	ppb		98
63) Chlorobenzene	7.968	112	753304	62.25	ppb	#	87
64) 1,1,1,2-tetrachloroethane	8.063	131	236036	59.53	ppb	#	56
65) Ethyl Benzene	8.063	91	1466866	66.16	ppb		95
66) p- & m-Xylenes	8.185	91	2347843	136.49	ppb		92
67) o-Xylene	8.614	91	1172989	64.88	ppb		97
68) Styrene	8.641	104	889235	64.36	ppb	#	100
69) Bromofrom	8.884	173	126256	49.22	ppb	#	81
71) p-Ethyltoluene	9.573	105	1390105	62.96	ppb	#	97
72) Isopropylbenzene	9.000	105	1459812	62.08	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.415	83	304527	60.78	ppb	#	100
75) Bromobenzene	9.354	77	545066	60.52	ppb		81
76) trans-1,4-Dichloro-2-b...	9.451	75	360333	62.54	ppb	#	53
77) 1,2,3-Trichloropropane	9.448	110	89286	61.81	ppb		92
78) n-Propylbenzene	9.448	91	1915496	66.14	ppb		95
79) 2-Chlorotoluene	9.557	91	1217719	64.25	ppb		98
80) 4-Chlorotoluene	9.682	91	1110206	62.39	ppb		83
81) 1,3,5-Trimethylbenzene	9.646	105	1210032	62.22	ppb		94
82) tert-Butylbenzene	9.996	119	1062707	62.18	ppb		89
83) 1,2,4-Trimethylbenzene	10.058	105	1245259	63.75	ppb		92
84) sec-Butylbenzene	10.238	105	1585075	62.43	ppb		96
85) hexachloroethane	11.151	117	189654	50.60	ppb	#	100
86) 1,3-Dichlorobenzene	10.389	146	667396	62.93	ppb		95
87) p-Isopropyltoluene	10.403	119	1414681	64.27	ppb		96
88) 1,4-Dichlorobenzene	10.492	146	647411	60.08	ppb		94
89) 1,2,3-Trimethylbenzene	10.531	105	1155879	63.27	ppb		96
90) nitrobenzene	12.069	77	5909	19.03	ppb	#	100
91) p-Diethylbenzene	10.837	105	751933	65.16	ppb	#	23
92) 1,2-Dichlorobenzene	10.912	146	613986	61.88	ppb	#	88
93) n-Butylbenzene	10.864	91	1669890m	64.15	ppb		
94) 1,2-Dibromo-3-chloropr...	11.822	75	58855	56.75	ppb	#	82
95) 1,2,4,5-Tetramethylben...	11.719	119	1305780	62.42	ppb		95
96) 1,2,4-Trichlorobenzene	12.717	180	460377	57.57	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.879	225	254174	59.75	ppb		86
98) Naphthalene	13.001	128	1093155	50.76	ppb		99
99) 1,2,3-Trichlorobenzene	13.277	180	416816	56.34	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404448.D
Acq On : 17 May 2019 5:26 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QBQV4051719A
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 20 16:00:16 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404449.D
Acq On : 17 May 2019 5:53 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV4051719A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 20 16:01:55 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	339868	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.940	117	1357907	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.892	152	738884	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.699	65	475331	52.38	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 104.76%				
54) Toluene-d8 (SURR)	6.460	98	1729171	52.85	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 105.70%				
73) p-Bromofluorobenzene (...	9.198	95	744023	45.85	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 91.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	432826	78.06	ppb		100
3) Chloromethane	1.360	50	905314m	154.83	ppb		
4) Vinyl Chloride	1.380	62	708865	143.85	ppb	#	86
5) Bromomethane	1.633	94	220637m	182.46	ppb		
6) Allyl Chloride	2.690	76	300418	109.46	ppb	#	100
7) Chloroethane	1.711	64	314236	184.03	ppb		99
8) Trichlorofluoromethane	1.903	101	805594	173.29	ppb		98
9) Ethanol	2.167	45	376249	29491.05	ppb		82
10) Freon-113	1.903	101	805594	173.69	ppb	#	93
11) 1,1-Dichloroethylene	2.356	61	865615	135.27	ppb		89
12) Acrolein	2.320	56	55325	199.92	ppb		93
13) Acetone	2.465	43	207049	123.13	ppb	#	21
14) Iodomethane	2.507	142	526500	111.90	ppb	#	20
15) Methyl Acetate	2.726	43	459433	126.35	ppb		95
16) Carbon disulfide	2.546	76	1482613	101.46	ppb		100
17) tert-Butyl Alcohol (TBA)	2.977	59	54409	103.84	ppb	#	1
18) Methylene Chloride	2.818	49	845776	121.80	ppb		85
19) Acrylonitrile	3.080	53	194814	123.68	ppb		99
20) trans-1,2-Dichloroethy...	3.033	61	835059	116.86	ppb	#	66
21) tert-Butyl Methyl Ethe...	3.021	73	1354009	106.48	ppb	#	92
22) 1,1-Dichloroethane	3.422	63	1084648	119.77	ppb	#	96
23) Vinyl Acetate	3.467	43	1256325	147.22	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	2097524	126.62	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.759	59	1750667	109.85	ppb	#	96
26) cis-1,2-Dichloroethylene	3.948	61	967402	118.40	ppb		92
27) 2-Butanone	3.984	72	48524	101.40	ppb	#	1
28) 2,2-Dichloropropane	3.914	77	817104	112.97	ppb	#	86
29) Tetrahydrofuran	4.204	42	182494	122.49	ppb		78
30) Bromochloromethane	4.173	49	511209	126.77	ppb		82
31) Chloroform	4.246	83	929040	113.18	ppb	#	93
32) 1,1,1-Trichloroethane	4.362	97	838975	112.95	ppb	#	73
33) Cyclohexane	4.374	56	1106830	119.09	ppb		89
34) 1,1-Dichloropropylene	4.510	75	746794	112.78	ppb		83
36) Carbon Tetrachloride	4.499	117	667999	109.25	ppb		99
37) tert-Amyl alcohol (TAA)	4.777	59	536047	111.67	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	718085	120.95	ppb	#	98
39) Benzene	4.707	78	2202967	111.40	ppb	#	93
40) tert-Amyl methyl ether...	4.785	73	1636095	104.90	ppb	#	88
42) Trichloroethylene	5.303	95	567585	119.78	ppb		85
43) Methyl Cyclohexane	5.428	83	1014655	116.55	ppb	#	71
44) Methyl Methacrylate	5.637	69	337275	114.40	ppb	#	97
45) Dibromomethane	5.670	93	300728	120.29	ppb		96
46) Bromodichloromethane	5.820	83	685196	116.27	ppb		97
47) 1,2-Dichloropropane	5.539	63	594977	123.10	ppb	#	98
48) 1,4-Dioxane	5.690	88	117520	663.98	ppb		84
49) 2-Chloroethyl vinyl ether	6.099	63	243815	99.60	ppb		97
50) 2-nitropropane	6.068	43	129802	106.08	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	882608	119.60	ppb		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404449.D
Acq On : 17 May 2019 5:53 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV4051719A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 20 16:01:55 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

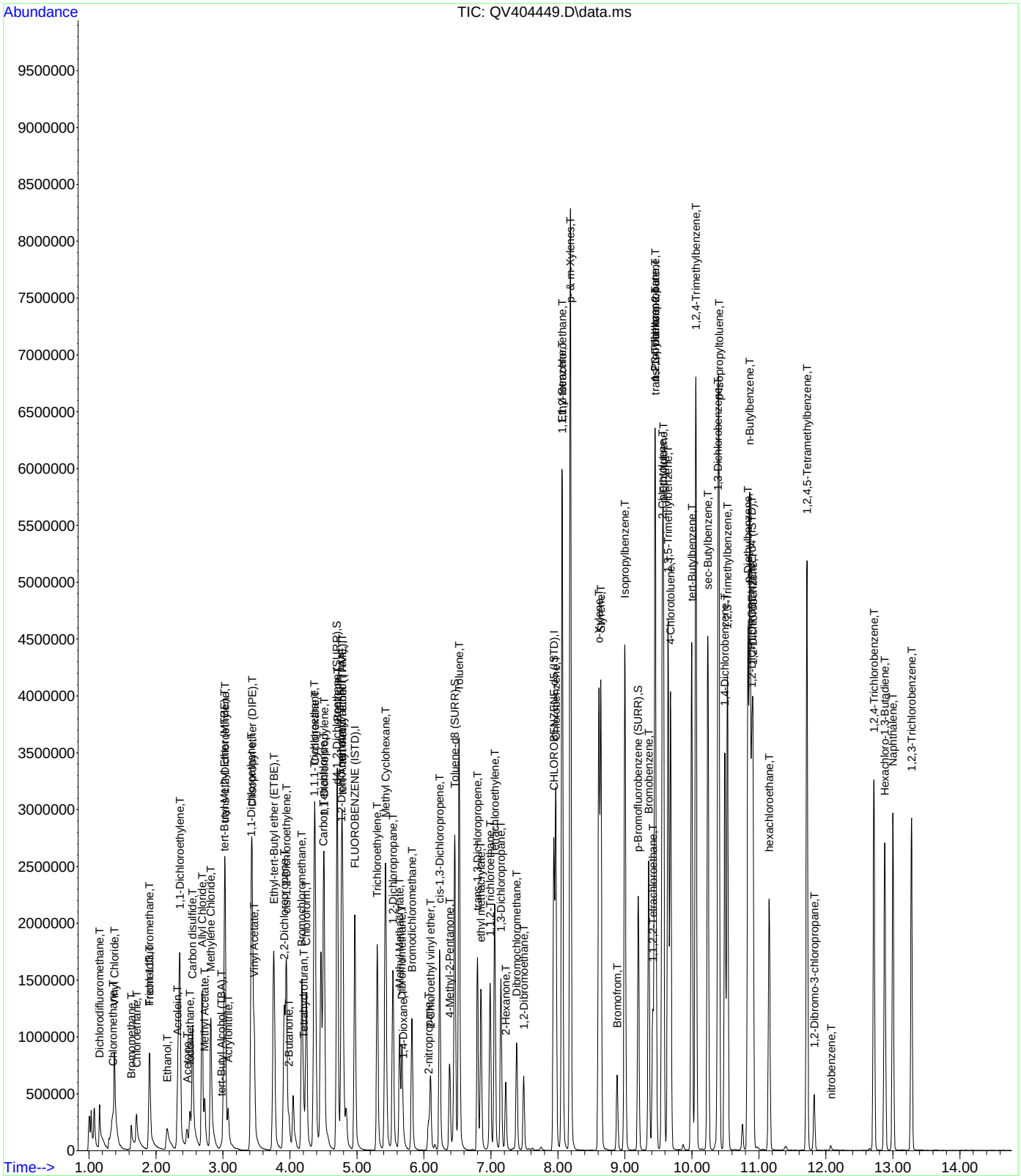
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.850	69	659615	118.17	ppb	#	100
53) 4-Methyl-2-Pentanone	6.385	43	559749	133.32	ppb		93
55) Toluene	6.527	91	2479577	121.28	ppb		99
56) trans-1,3-Dichloropropene	6.800	75	782700	117.67	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	439484	116.55	ppb		97
58) 1,3-Dichloropropane	7.150	76	761969	116.27	ppb	#	90
59) Tetrachloroethylene	7.056	166	572765	105.69	ppb	#	72
60) 2-Hexanone	7.220	43	404493	132.16	ppb		94
61) Dibromochloromethane	7.384	129	450657	110.02	ppb		97
62) 1,2-Dibromoethane	7.490	107	419138	112.42	ppb		99
63) Chlorobenzene	7.968	112	1486607	119.32	ppb		89
64) 1,1,1,2-tetrachloroethane	8.066	131	495661	121.42	ppb	#	54
65) Ethyl Benzene	8.063	91	2954920	129.44	ppb		95
66) p- & m-Xylenes	8.185	91	4715391	266.25	ppb		92
67) o-Xylene	8.611	91	2383275	128.03	ppb		97
68) Styrene	8.642	104	1784940	125.47	ppb	#	100
69) Bromofrom	8.884	173	275824	104.44	ppb	#	81
71) p-Ethyltoluene	9.576	105	2841817	122.27	ppb	#	97
72) Isopropylbenzene	9.000	105	2969150	119.95	ppb		95
74) 1,1,2,2-Tetrachloroethane	9.418	83	609037	115.48	ppb	#	100
75) Bromobenzene	9.357	77	1097945	115.81	ppb		81
76) trans-1,4-Dichloro-2-b...	9.454	75	733381	120.91	ppb	#	55
77) 1,2,3-Trichloropropane	9.451	110	180561	118.75	ppb		90
78) n-Propylbenzene	9.451	91	3904308	128.07	ppb		95
79) 2-Chlorotoluene	9.560	91	2483498	124.48	ppb		98
80) 4-Chlorotoluene	9.682	91	2241943	119.68	ppb		83
81) 1,3,5-Trimethylbenzene	9.646	105	2465928	120.44	ppb		95
82) tert-Butylbenzene	9.999	119	2169468	120.59	ppb		89
83) 1,2,4-Trimethylbenzene	10.060	105	2553743	124.20	ppb		91
84) sec-Butylbenzene	10.239	105	3259027	121.93	ppb		96
85) hexachloroethane	11.154	117	425470	107.84	ppb	#	100
86) 1,3-Dichlorobenzene	10.389	146	1393786	124.85	ppb		95
87) p-Isopropyltoluene	10.405	119	2914943	125.80	ppb		95
88) 1,4-Dichlorobenzene	10.492	146	1322643	116.60	ppb		95
89) 1,2,3-Trimethylbenzene	10.531	105	2317163	120.49	ppb		96
90) nitrobenzene	12.078	77	14164	39.77	ppb	#	100
91) p-Diethylbenzene	10.837	105	1554183	127.94	ppb	#	23
92) 1,2-Dichlorobenzene	10.912	146	1246146m	119.31	ppb		
93) n-Butylbenzene	10.865	91	3413719m	124.58	ppb		
94) 1,2-Dibromo-3-chloropr...	11.827	75	118707	108.74	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.719	119	2732587	124.09	ppb		95
96) 1,2,4-Trichlorobenzene	12.717	180	954859	113.43	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.879	225	519502	116.00	ppb		86
98) Naphthalene	13.001	128	2153271	94.97	ppb		99
99) 1,2,3-Trichlorobenzene	13.280	180	836147	107.36	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404449.D
Acq On : 17 May 2019 5:53 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV4051719A
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 20 16:01:55 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404450.D
Acq On : 17 May 2019 6:20 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV4051719A
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 16:03:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	345327	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.940	117	1415279	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.895	152	741873	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.699	65	487667	52.89	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 105.78%				
54) Toluene-d8 (SURR)	6.460	98	1761059	51.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 103.30%				
73) p-Bromofluorobenzene (...	9.201	95	770851	47.31	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.62%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	893498	158.60	ppb		100
3) Chloromethane	1.352	50	1849496m	311.30	ppb		
4) Vinyl Chloride	1.380	62	1453771	290.35	ppb		99
5) Bromomethane	1.630	94	450677	366.80	ppb		99
6) Allyl Chloride	2.687	76	642708	230.48	ppb	#	100
7) Chloroethane	1.708	64	623594	359.43	ppb		99
8) Trichlorofluoromethane	1.903	101	1712080	362.47	ppb		97
9) Ethanol	2.167	45	781089	47670.03	ppb		82
10) Freon-113	1.903	101	1712080	363.30	ppb	#	60
11) 1,1-Dichloroethylene	2.356	61	1818463	279.69	ppb		87
12) Acrolein	2.317	56	137233	461.17	ppb		94
13) Acetone	2.462	43	370366	216.78	ppb	#	45
14) Iodomethane	2.507	142	1045639	207.73	ppb	#	20
15) Methyl Acetate	2.726	43	841075	227.65	ppb		96
16) Carbon disulfide	2.546	76	3160724	212.89	ppb		100
17) tert-Butyl Alcohol (TBA)	2.977	59	113783	213.72	ppb	#	1
18) Methylene Chloride	2.818	49	1771391	251.07	ppb		84
19) Acrylonitrile	3.077	53	404302	252.61	ppb		99
20) trans-1,2-Dichloroethy...	3.030	61	1804009	248.47	ppb		92
21) tert-Butyl Methyl Ethe...	3.021	73	2872953	222.36	ppb		98
22) 1,1-Dichloroethane	3.422	63	2334010	253.66	ppb	#	96
23) Vinyl Acetate	3.467	43	2488146	258.72	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	4389212	260.78	ppb		96
25) Ethyl-tert-Butyl ether...	3.759	59	3667178	226.47	ppb	#	96
26) cis-1,2-Dichloroethylene	3.948	61	2062751	248.47	ppb	#	80
27) 2-Butanone	3.984	72	103585	213.03	ppb	#	50
28) 2,2-Dichloropropane	3.917	77	1780978	242.35	ppb		96
29) Tetrahydrofuran	4.204	42	386409	255.27	ppb		78
30) Bromochloromethane	4.173	49	1046710	255.47	ppb		83
31) Chloroform	4.246	83	1949144	233.70	ppb	#	72
32) 1,1,1-Trichloroethane	4.362	97	1829381	242.39	ppb	#	85
33) Cyclohexane	4.374	56	2391544	253.26	ppb		89
34) 1,1-Dichloropropylene	4.510	75	1584347	235.49	ppb		85
36) Carbon Tetrachloride	4.499	117	1454897	234.19	ppb		100
37) tert-Amyl alcohol (TAA)	4.777	59	1162444	238.34	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	1523519	252.56	ppb		99
39) Benzene	4.707	78	4684025	233.11	ppb	#	98
40) tert-Amyl methyl ether...	4.783	73	3385142	213.61	ppb	#	89
42) Trichloroethylene	5.303	95	1233018	249.67	ppb		85
43) Methyl Cyclohexane	5.428	83	2193712	241.76	ppb	#	71
44) Methyl Methacrylate	5.639	69	720450	234.46	ppb	#	98
45) Dibromomethane	5.670	93	633859	243.26	ppb		96
46) Bromodichloromethane	5.820	83	1481509	241.21	ppb		97
47) 1,2-Dichloropropane	5.539	63	1253793	248.89	ppb	#	98
48) 1,4-Dioxane	5.690	88	238279	1291.69	ppb		84
49) 2-Chloroethyl vinyl ether	6.101	63	505229	198.02	ppb		97
50) 2-nitropropane	6.068	43	318314	212.09	ppb	#	100
51) cis-1,3-Dichloropropene	6.238	75	1916215	249.14	ppb		92

Data Path : C:\msdchem\1\data\051719\
Data File : QV404450.D
Acq On : 17 May 2019 6:20 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV4051719A
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 16:03:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4

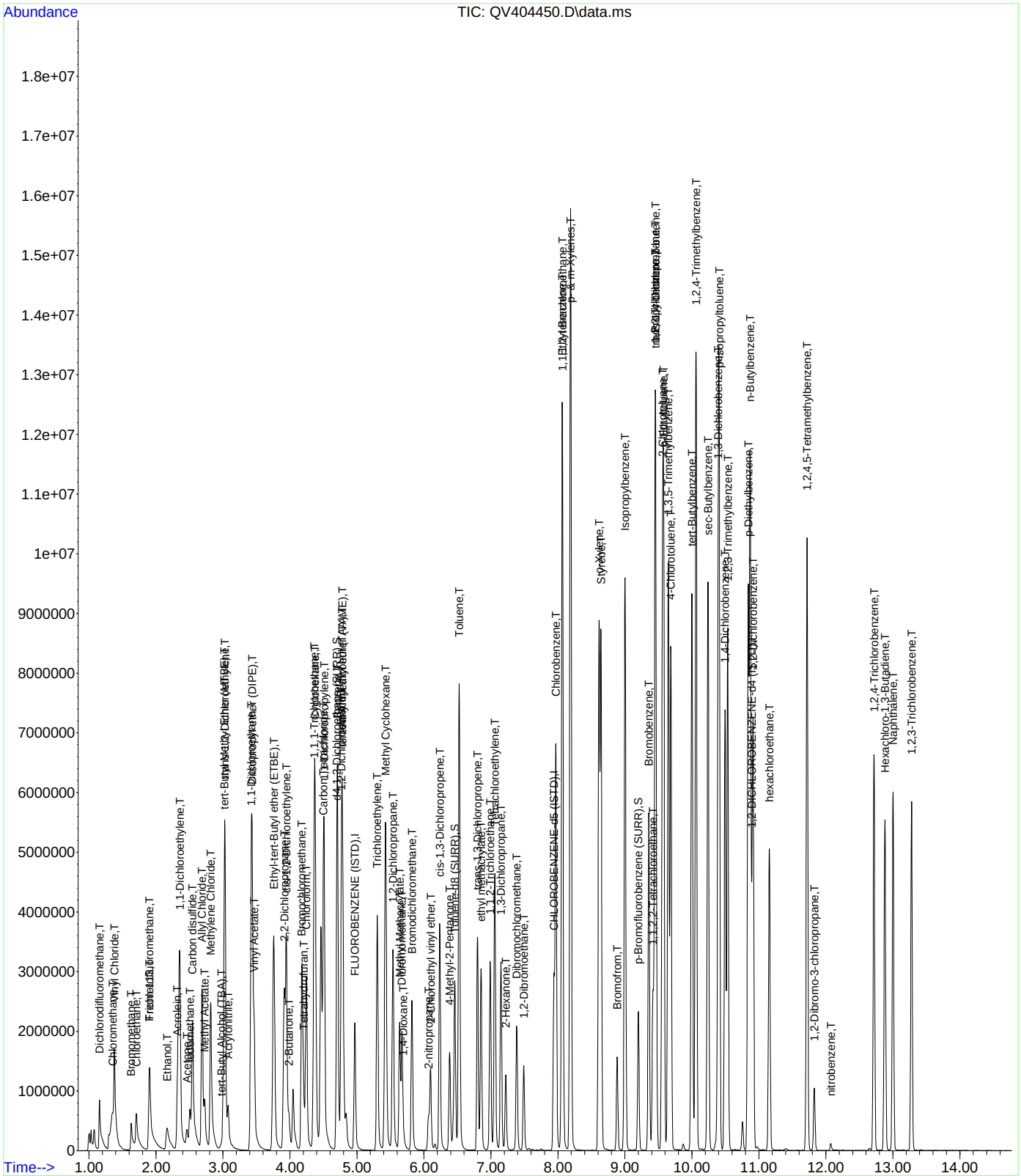
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.853	69	1410540	242.45	ppb	#	100
53) 4-Methyl-2-Pentanone	6.385	43	1183883	270.55	ppb		93
55) Toluene	6.527	91	5359287	251.50	ppb		99
56) trans-1,3-Dichloropropene	6.800	75	1696049	244.65	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	931047	236.91	ppb		97
58) 1,3-Dichloropropane	7.150	76	1600535	234.33	ppb	#	91
59) Tetrachloroethylene	7.058	166	1269583	224.78	ppb	#	72
60) 2-Hexanone	7.223	43	857021	268.66	ppb		94
61) Dibromochloromethane	7.384	129	998008	233.77	ppb		97
62) 1,2-Dibromoethane	7.490	107	903698	232.56	ppb		98
63) Chlorobenzene	7.968	112	3266665	251.56	ppb		90
64) 1,1,1,2-tetrachloroethane	8.068	131	1084550	254.92	ppb	#	54
65) Ethyl Benzene	8.066	91	6360066	267.30	ppb		95
66) p- & m-Xylenes	8.191	91	9769506	529.26	ppb		93
67) o-Xylene	8.614	91	5242908	270.23	ppb		97
68) Styrene	8.644	104	3878562	261.59	ppb	#	100
69) Bromofrom	8.884	173	645113	234.36	ppb		99
71) p-Ethyltoluene	9.579	105	6036248	258.66	ppb	#	97
72) Isopropylbenzene	9.003	105	6483334	260.86	ppb		95
74) 1,1,2,2-Tetrachloroethane	9.418	83	1314249	248.18	ppb	#	100
75) Bromobenzene	9.357	77	2392013	251.29	ppb		82
76) trans-1,4-Dichloro-2-b...	9.457	75	1592685	261.52	ppb	#	59
77) 1,2,3-Trichloropropane	9.454	110	381842	250.10	ppb		88
78) n-Propylbenzene	9.454	91	8290611	270.84	ppb		95
79) 2-Chlorotoluene	9.562	91	5345159	266.83	ppb		98
80) 4-Chlorotoluene	9.685	91	4791786	254.77	ppb		83
81) 1,3,5-Trimethylbenzene	9.649	105	5331692	259.37	ppb		94
82) tert-Butylbenzene	9.999	119	4769469	264.05	ppb		89
83) 1,2,4-Trimethylbenzene	10.063	105	5340096	258.67	ppb		92
84) sec-Butylbenzene	10.241	105	7067309	263.35	ppb		96
85) hexachloroethane	11.157	117	1009914	254.95	ppb	#	100
86) 1,3-Dichlorobenzene	10.392	146	2904917	259.16	ppb		95
87) p-Isopropyltoluene	10.408	119	6149705	264.34	ppb		96
88) 1,4-Dichlorobenzene	10.494	146	2838192	249.20	ppb		95
89) 1,2,3-Trimethylbenzene	10.536	105	4924611	255.04	ppb		96
90) nitrobenzene	12.075	77	42144	96.29	ppb	#	100
91) p-Diethylbenzene	10.842	105	3300188	270.57	ppb	#	23
92) 1,2-Dichlorobenzene	10.915	146	2626874	250.50	ppb	#	88
93) n-Butylbenzene	10.870	91	7291584m	265.03	ppb		
94) 1,2-Dibromo-3-chloropr...	11.827	75	263954	240.81	ppb	#	83
95) 1,2,4,5-Tetramethylben...	11.719	119	5731079	259.21	ppb		96
96) 1,2,4-Trichlorobenzene	12.720	180	1957977	231.65	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.882	225	1113903	247.73	ppb		85
98) Naphthalene	13.004	128	4438674	194.99	ppb		99
99) 1,2,3-Trichlorobenzene	13.280	180	1721760	220.19	ppb		78

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404450.D
Acq On : 17 May 2019 6:20 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV4051719A
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 20 16:03:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0019.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Fri Apr 26 14:40:55 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110057.D
Acq On : 2 Oct 2019 11:59 am
Operator : LLJ
Sample : SEQ-CAL1
Misc : QV1100219A 5.00 PPB SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 02 12:40:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1165534	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4722484	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	2184054	50.00	ppb		-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1683315	56.42	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.84%				
54) Toluene-d8 (SURR)	6.624	98	5940695	50.19	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.38%				
73) p-Bromofluorobenzene (...	9.350	95	2476237	49.30	ppb		-0.20
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.60%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.243	85	101982	5.48	ppb		100
3) Chloromethane	1.382	50	127940	6.78	ppb		99
4) Vinyl Chloride	1.468	62	98605	5.95	ppb		100
5) Bromomethane	1.724	94	30876	5.66	ppb		97
6) Allyl Chloride	2.812	76	64850	5.87	ppb	#	100
7) Chloroethane	1.816	64	46427	5.29	ppb		100
8) Trichlorofluoromethane	2.033	101	119202	5.82	ppb		97
9) Ethanol	2.239	45	76405m	473.02	ppb		
10) Freon-113	2.033	101	119202	5.82	ppb	#	60
11) 1,1-Dichloroethylene	2.484	61	169387	6.51	ppb		96
12) Acrolein	2.417	56	12668m	7.64	ppb		
13) Acetone	2.559	43	51867m	8.30	ppb		
14) Iodomethane	2.620	142	67708	12.24	ppb	#	20
15) Methyl Acetate	2.845	43	86641	5.46	ppb		97
16) Carbon disulfide	2.673	76	356742	6.11	ppb		100
17) tert-Butyl Alcohol (TBA)	3.065	59	16019m	Below Cal			
18) Methylene Chloride	2.920	49	154263	6.43	ppb		93
19) Acrylonitrile	3.151	53	43946	5.39	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	163210	5.98	ppb		96
21) tert-Butyl Methyl Ethe...	3.176	73	326294	5.59	ppb		99
22) 1,1-Dichloroethane	3.538	63	214165	5.71	ppb	#	96
23) Vinyl Acetate	3.597	43	417132	6.63	ppb		100
24) Diisopropyl ether (DIPE)	3.610	45	355820	5.23	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	317437	4.72	ppb	#	99
26) cis-1,2-Dichloroethylene	4.061	61	193280	5.83	ppb	#	70
27) 2-Butanone	4.092	72	25541	9.62	ppb	#	1
28) 2,2-Dichloropropane	4.058	77	206086	6.36	ppb		98
29) Tetrahydrofuran	4.328	42	46522	6.46	ppb	#	73
30) Bromochloromethane	4.275	49	101884	6.24	ppb		90
31) Chloroform	4.353	83	212822	6.00	ppb	#	92
32) 1,1,1-Trichloroethane	4.512	97	195814	6.17	ppb	#	85
33) Cyclohexane	4.556	56	206603	4.96	ppb		93
34) 1,1-Dichloropropylene	4.662	75	173505	5.95	ppb		86
36) Carbon Tetrachloride	4.665	117	158407	6.22	ppb		99
37) tert-Amyl alcohol (TAA)	4.874	59	115864	44.81	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	160818	6.31	ppb		99
39) Benzene	4.854	78	484402	5.40	ppb	#	97
40) tert-Amyl methyl ether...	4.963	73	289473	4.51	ppb	#	89
42) Trichloroethylene	5.452	95	125983	5.69	ppb		88
43) Methyl Cyclohexane	5.630	83	210459	4.80	ppb	#	80
44) Methyl Methacrylate	5.781	69	93540	5.78	ppb	#	97
45) Dibromomethane	5.775	93	71466	5.94	ppb	#	71
46) Bromodichloromethane	5.931	83	146945	5.62	ppb		99
47) 1,2-Dichloropropane	5.667	63	125872	5.60	ppb	#	100
48) 1,4-Dioxane	5.803	88	30785	102.16	ppb		84
49) 2-Chloroethyl vinyl ether	6.229	63	62614	4.90	ppb		99
50) 2-nitropropane	6.153	43	33299	6.25	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	201178	5.53	ppb		93

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110057.D
Acq On : 2 Oct 2019 11:59 am
Operator : LLJ
Sample : SEQ-CAL1
Misc : QV1100219A 5.00 PPB SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 02 12:40:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

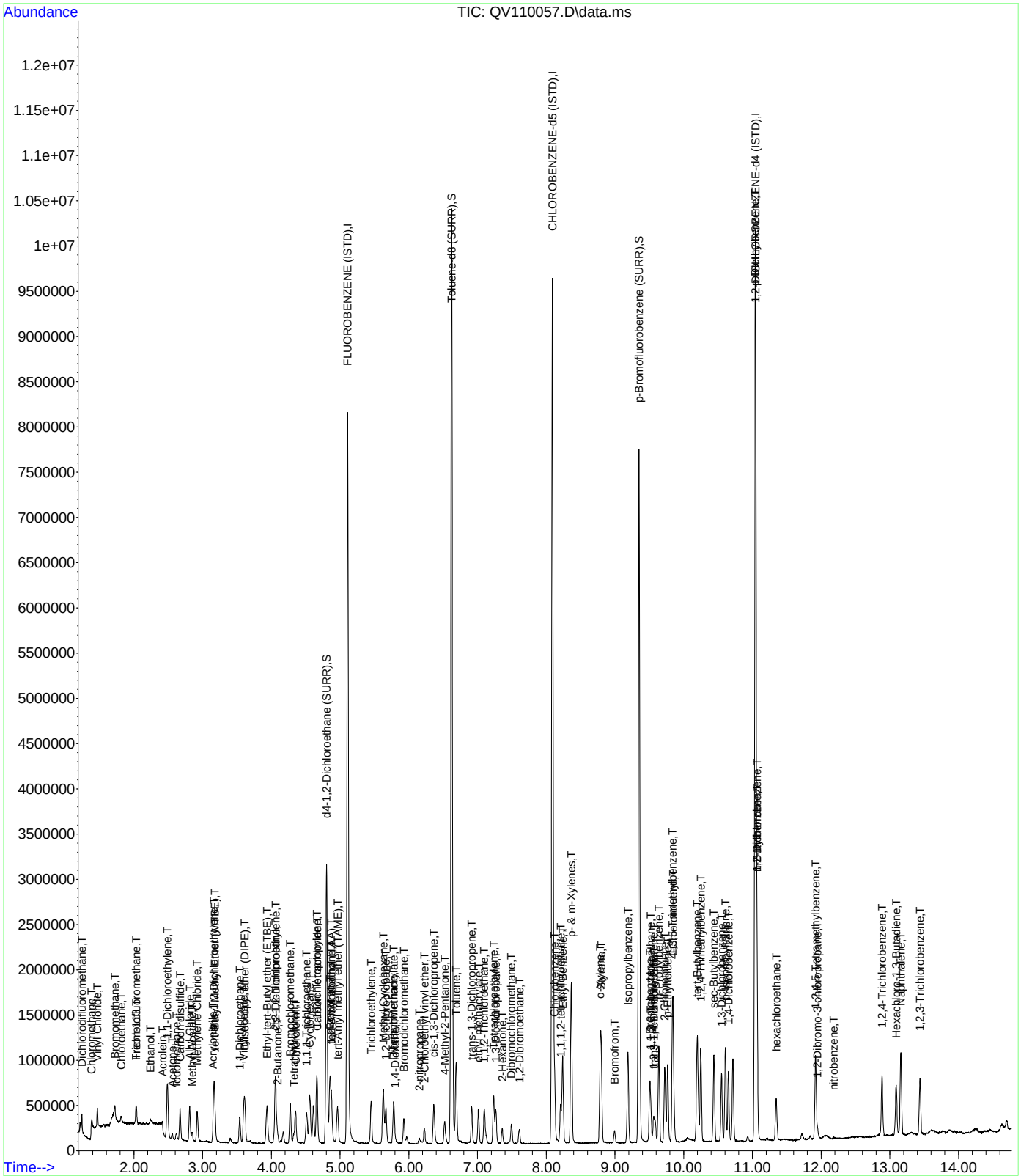
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
52) ethyl methacrylate	7.013	69	164919	5.55 ppb	#	100
53) 4-Methyl-2-Pentanone	6.521	43	182586	6.09 ppb	#	80
55) Toluene	6.690	91	535356	5.36 ppb		99
56) trans-1,3-Dichloropropene	6.913	75	180949	5.62 ppb		99
57) 1,1,2-Trichloroethane	7.097	97	101938	5.33 ppb		98
58) 1,3-Dichloropropane	7.266	76	177657	5.43 ppb	#	93
59) Tetrachloroethylene	7.236	166	134345	5.62 ppb		98
60) 2-Hexanone	7.361	43	94194	6.04 ppb		95
61) Dibromochloromethane	7.492	129	96033	5.42 ppb		96
62) 1,2-Dibromoethane	7.609	107	101601	5.42 ppb		99
63) Chlorobenzene	8.120	112	343058	5.58 ppb	#	75
64) 1,1,1,2-tetrachloroethane	8.210	131	103215	5.65 ppb	#	36
65) Ethyl Benzene	8.237	91	612257	5.59 ppb		99
66) p- & m-Xylenes	8.363	91	962912	11.55 ppb		96
67) o-Xylene	8.785	91	494159	5.74 ppb		98
68) Styrene	8.799	104	386294	5.54 ppb	#	100
69) Bromofrom	8.994	173	55430	4.90 ppb	#	80
71) p-Ethyltoluene	9.765	105	557373	4.79 ppb	#	97
72) Isopropylbenzene	9.189	105	631683	5.31 ppb		97
74) 1,1,2,2-Tetrachloroethane	9.520	83	132541	5.12 ppb	#	100
75) Bromobenzene	9.509	77	230283	5.39 ppb		83
76) trans-1,4-Dichloro-2-b...	9.567	75	157596	5.03 ppb	#	90
77) 1,2,3-Trichloropropane	9.564	110	46914	5.91 ppb		67
78) n-Propylbenzene	9.640	91	757355	5.35 ppb		97
79) 2-Chlorotoluene	9.723	91	443153	5.43 ppb		100
80) 4-Chlorotoluene	9.845	91	510662	5.53 ppb		82
81) 1,3,5-Trimethylbenzene	9.837	105	537427m	5.67 ppb		
82) tert-Butylbenzene	10.193	119	501029	5.49 ppb		95
83) 1,2,4-Trimethylbenzene	10.249	105	532699	5.51 ppb		91
84) sec-Butylbenzene	10.438	105	674695	5.40 ppb		97
85) hexachloroethane	11.345	117	82828	3.20 ppb	#	100
86) 1,3-Dichlorobenzene	10.549	146	274571	5.45 ppb		95
87) p-Isopropyltoluene	10.608	119	575737	5.49 ppb		96
88) 1,4-Dichlorobenzene	10.652	146	274866	5.45 ppb		95
89) 1,2,3-Trimethylbenzene	10.716	105	492698	Below Cal		96
90) nitrobenzene	12.180	77	4036	4.26 ppb	#	100
91) p-Diethylbenzene	11.039	105	278641	4.98 ppb	#	23
92) 1,2-Dichlorobenzene	11.067	146	242525	5.45 ppb	#	62
93) n-Butylbenzene	11.067	91	642561m	5.88 ppb		
94) 1,2-Dibromo-3-chloropr...	11.943	75	26857	3.16 ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.921	119	484321	4.90 ppb		95
96) 1,2,4-Trichlorobenzene	12.886	180	189710	5.35 ppb	#	100
97) Hexachloro-1,3-Butadiene	13.092	225	101909	5.54 ppb		89
98) Naphthalene	13.159	128	685196m	6.74 ppb		
99) 1,2,3-Trichlorobenzene	13.437	180	174779	5.25 ppb		80

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110057.D
Acq On : 2 Oct 2019 11:59 am
Operator : LLJ
Sample : SEQ-CAL1
Misc : QV1100219A 5.00 PPB SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 02 12:40:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110058.D
Acq On : 2 Oct 2019 12:26 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QV1100219A 10.0 PPB SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 02 12:42:00 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.113	70	1147322	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4596311	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	2119146	50.00	ppb		-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1648228	56.13	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.26%				
54) Toluene-d8 (SURR)	6.624	98	5795588	50.31	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.62%				
73) p-Bromofluorobenzene (...	9.350	95	2396304	49.17	ppb		-0.20
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.34%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.243	85	167219	9.13	ppb		100
3) Chloromethane	1.385	50	212244	11.43	ppb		100
4) Vinyl Chloride	1.468	62	170956	10.48	ppb		100
5) Bromomethane	1.724	94	38960	7.25	ppb		96
6) Allyl Chloride	2.809	76	79619	7.32	ppb	#	100
7) Chloroethane	1.816	64	88190	10.20	ppb		98
8) Trichlorofluoromethane	2.033	101	203759	10.11	ppb		98
9) Ethanol	2.242	45	80889m	508.73	ppb		
10) Freon-113	2.033	101	203759	10.11	ppb	#	92
11) 1,1-Dichloroethylene	2.487	61	227593	8.88	ppb		95
12) Acrolein	2.414	56	20612m	12.64	ppb		
13) Acetone	2.562	43	63758	10.23	ppb	#	42
14) Iodomethane	2.620	142	102224	14.72	ppb	#	20
15) Methyl Acetate	2.848	43	132247	8.46	ppb		97
16) Carbon disulfide	2.670	76	444529	7.74	ppb		100
17) tert-Butyl Alcohol (TBA)	3.071	59	26985m	Below Cal			
18) Methylene Chloride	2.923	49	204108	8.65	ppb		94
19) Acrylonitrile	3.149	53	59836	7.46	ppb		98
20) trans-1,2-Dichloroethy...	3.160	61	210266	7.83	ppb		96
21) tert-Butyl Methyl Ethe...	3.174	73	446762	7.77	ppb	#	93
22) 1,1-Dichloroethane	3.538	63	278732	7.55	ppb	#	100
23) Vinyl Acetate	3.602	43	539565	8.71	ppb		100
24) Diisopropyl ether (DIPE)	3.613	45	519112	7.75	ppb		97
25) Ethyl-tert-Butyl ether...	3.939	59	480526	7.27	ppb	#	79
26) cis-1,2-Dichloroethylene	4.061	61	256890	7.88	ppb		95
27) 2-Butanone	4.089	72	31465	11.62	ppb	#	1
28) 2,2-Dichloropropane	4.059	77	259503	8.14	ppb	#	89
29) Tetrahydrofuran	4.328	42	60739	8.57	ppb		88
30) Bromochloromethane	4.276	49	137234	8.53	ppb		87
31) Chloroform	4.354	83	279642	8.01	ppb	#	93
32) 1,1,1-Trichloroethane	4.512	97	261278	8.37	ppb		98
33) Cyclohexane	4.562	56	285145	6.96	ppb		92
34) 1,1-Dichloropropylene	4.662	75	223965	7.80	ppb		87
36) Carbon Tetrachloride	4.662	117	206342	8.24	ppb		99
37) tert-Amyl alcohol (TAA)	4.877	59	182203	71.58	ppb	#	100
38) 1,2-Dichloroethane	4.871	62	214420	8.55	ppb		99
39) Benzene	4.852	78	640697	7.26	ppb	#	96
40) tert-Amyl methyl ether...	4.960	73	428330	6.77	ppb		98
42) Trichloroethylene	5.450	95	166447	7.73	ppb		87
43) Methyl Cyclohexane	5.631	83	298466	7.00	ppb	#	82
44) Methyl Methacrylate	5.784	69	120509	7.65	ppb	#	81
45) Dibromomethane	5.778	93	89120	7.61	ppb		99
46) Bromodichloromethane	5.928	83	196033	7.70	ppb		99
47) 1,2-Dichloropropane	5.670	63	165188	7.55	ppb	#	81
48) 1,4-Dioxane	5.800	88	42312	144.27	ppb		89
49) 2-Chloroethyl vinyl ether	6.226	63	88800	7.14	ppb		99
50) 2-nitropropane	6.156	43	47473	9.16	ppb	#	100
51) cis-1,3-Dichloropropene	6.365	75	263165	7.44	ppb		95

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110058.D
Acq On : 2 Oct 2019 12:26 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QV1100219A 10.0 PPB SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 02 12:42:00 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

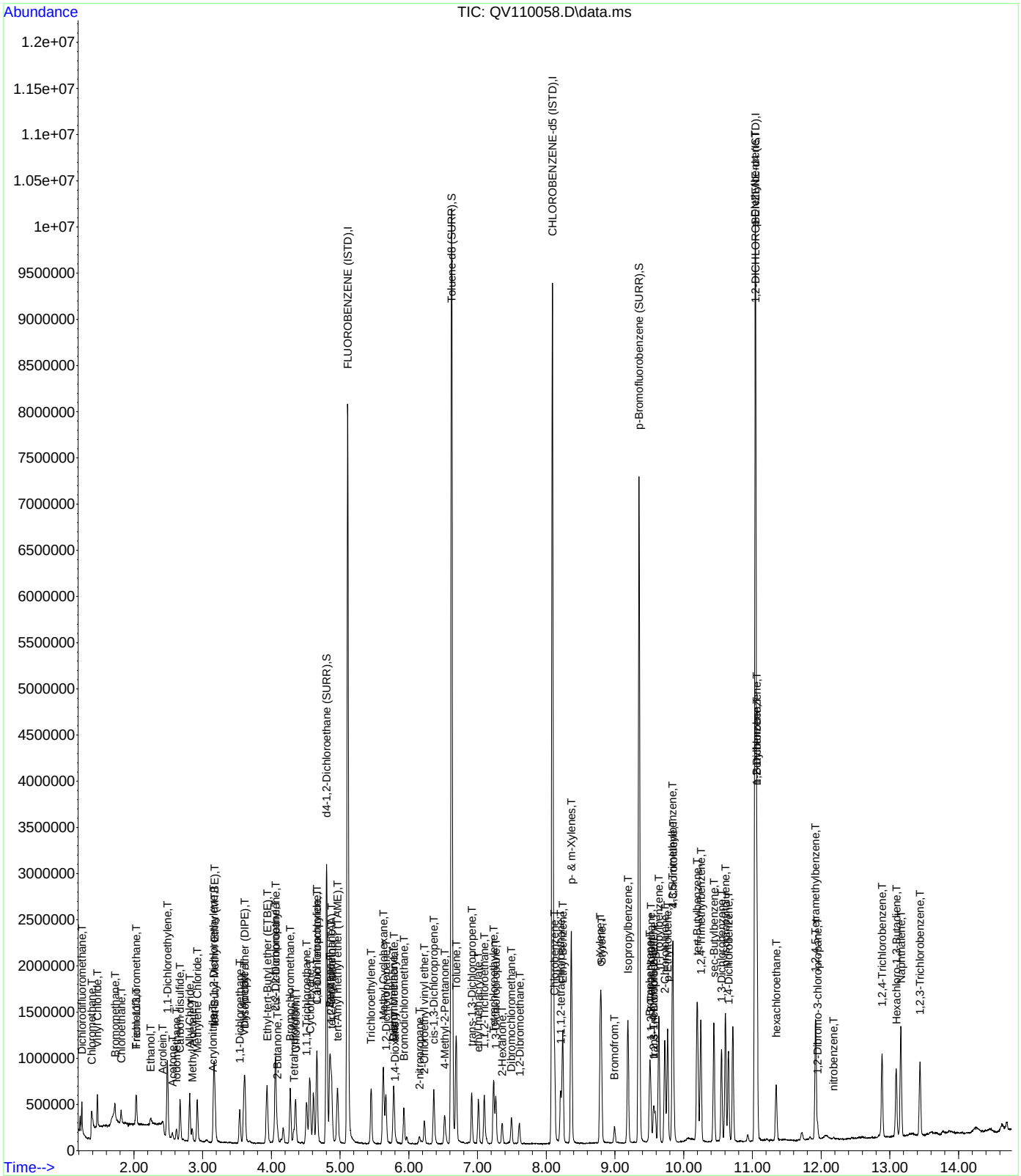
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.011	69	215099	7.43	ppb	#	100
53) 4-Methyl-2-Pentanone	6.521	43	238769	8.19	ppb	#	82
55) Toluene	6.691	91	701288	7.21	ppb		99
56) trans-1,3-Dichloropropene	6.916	75	245223	7.82	ppb		99
57) 1,1,2-Trichloroethane	7.100	97	141095	7.58	ppb		97
58) 1,3-Dichloropropane	7.267	76	240579	7.56	ppb	#	93
59) Tetrachloroethylene	7.233	166	177260	7.62	ppb		98
60) 2-Hexanone	7.358	43	130469	8.60	ppb		98
61) Dibromochloromethane	7.492	129	130235	7.55	ppb	#	92
62) 1,2-Dibromoethane	7.612	107	137612	7.55	ppb		99
63) Chlorobenzene	8.121	112	447249	7.47	ppb		85
64) 1,1,1,2-tetrachloroethane	8.210	131	139103	7.83	ppb	#	35
65) Ethyl Benzene	8.240	91	819648	7.68	ppb		96
66) p- & m-Xylenes	8.363	91	1275113	15.72	ppb		95
67) o-Xylene	8.786	91	645665	7.71	ppb		98
68) Styrene	8.802	104	496603	7.32	ppb	#	100
69) Bromofrom	8.992	173	78289	7.11	ppb		97
71) p-Ethyltoluene	9.765	105	786232	6.97	ppb	#	97
72) Isopropylbenzene	9.189	105	845814	7.32	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.523	83	181283	7.21	ppb	#	100
75) Bromobenzene	9.506	77	309078	7.46	ppb		81
76) trans-1,4-Dichloro-2-b...	9.562	75	209473	6.89	ppb	#	87
77) 1,2,3-Trichloropropane	9.562	110	59146	7.68	ppb		73
78) n-Propylbenzene	9.640	91	996723	7.26	ppb		98
79) 2-Chlorotoluene	9.726	91	584108	7.38	ppb		100
80) 4-Chlorotoluene	9.846	91	687705	7.67	ppb		82
81) 1,3,5-Trimethylbenzene	9.837	105	695420m	7.56	ppb		
82) tert-Butylbenzene	10.196	119	661109	7.46	ppb		96
83) 1,2,4-Trimethylbenzene	10.252	105	697093	7.43	ppb		92
84) sec-Butylbenzene	10.441	105	877190	7.23	ppb		96
85) hexachloroethane	11.345	117	109756	5.84	ppb	#	100
86) 1,3-Dichlorobenzene	10.550	146	353653	7.24	ppb		95
87) p-Isopropyltoluene	10.608	119	760198	7.46	ppb		96
88) 1,4-Dichlorobenzene	10.653	146	363056	7.42	ppb		95
90) nitrobenzene	12.177	77	4022	4.37	ppb	#	100
91) p-Diethylbenzene	11.039	105	399078	7.35	ppb	#	23
92) 1,2-Dichlorobenzene	11.064	146	335074m	7.76	ppb		
93) n-Butylbenzene	11.064	91	823103m	7.77	ppb		
94) 1,2-Dibromo-3-chloropr...	11.946	75	42841	8.26	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.918	119	681643	7.11	ppb		96
96) 1,2,4-Trichlorobenzene	12.887	180	246604	7.16	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.095	225	132183	7.40	ppb		89
98) Naphthalene	13.162	128	878883	8.91	ppb		99
99) 1,2,3-Trichlorobenzene	13.438	180	225867	6.99	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110058.D
Acq On : 2 Oct 2019 12:26 pm
Operator : LLJ
Sample : SEQ-CAL2
Misc : QV1100219A 10.0 PPB SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 02 12:42:00 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110059.D
Acq On : 2 Oct 2019 12:52 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 02 13:16:48 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1136352	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4553592	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	2084657	50.00	ppb		-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1630511	56.06	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.12%				
54) Toluene-d8 (SURR)	6.624	98	5693531	49.88	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.76%				
73) p-Bromofluorobenzene (...	9.351	95	2371735	49.47	ppb		-0.20
Spiked Amount 50.000	Range 76 - 130		Recovery = 98.94%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.243	85	349115	19.25	ppb		99
3) Chloromethane	1.385	50	412737	22.44	ppb		99
4) Vinyl Chloride	1.468	62	334318	20.69	ppb		100
5) Bromomethane	1.724	94	83311m	15.66	ppb		
6) Allyl Chloride	2.812	76	184923	17.18	ppb	#	100
7) Chloroethane	1.813	64	173040	20.20	ppb		99
8) Trichlorofluoromethane	2.033	101	405260	20.30	ppb		98
9) Ethanol	2.245	45	215951m	1371.27	ppb		
10) Freon-113	2.033	101	405260	20.30	ppb	#	92
11) 1,1-Dichloroethylene	2.487	61	511810	20.16	ppb		95
12) Acrolein	2.412	56	50593	31.31	ppb		83
13) Acetone	2.559	43	131639	20.76	ppb	#	43
14) Iodomethane	2.620	142	244240	24.76	ppb	#	49
15) Methyl Acetate	2.848	43	313534	20.26	ppb		96
16) Carbon disulfide	2.673	76	1034031	18.17	ppb		100
17) tert-Butyl Alcohol (TBA)	3.060	59	50717	6.71	ppb	#	1
18) Methylene Chloride	2.921	49	451956	19.33	ppb		93
19) Acrylonitrile	3.152	53	143647	18.09	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	489420	18.40	ppb		95
21) tert-Butyl Methyl Ethe...	3.177	73	1019053	17.90	ppb		99
22) 1,1-Dichloroethane	3.538	63	643120	17.58	ppb	#	99
23) Vinyl Acetate	3.600	43	1272332	20.74	ppb		100
24) Diisopropyl ether (DIPE)	3.614	45	1248819	18.83	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	1129206	17.24	ppb	#	99
26) cis-1,2-Dichloroethylene	4.061	61	582163	18.02	ppb		95
27) 2-Butanone	4.089	72	61413	21.28	ppb		78
28) 2,2-Dichloropropane	4.059	77	586228	18.56	ppb	#	77
29) Tetrahydrofuran	4.326	42	139399	19.85	ppb		87
30) Bromochloromethane	4.276	49	305869	19.21	ppb		88
31) Chloroform	4.354	83	617154	17.86	ppb		99
32) 1,1,1-Trichloroethane	4.512	97	584655	18.91	ppb	#	85
33) Cyclohexane	4.560	56	644434	15.87	ppb		93
34) 1,1-Dichloropropylene	4.662	75	502857	17.68	ppb		88
36) Carbon Tetrachloride	4.662	117	474489	19.12	ppb	#	90
37) tert-Amyl alcohol (TAA)	4.879	59	447102	177.34	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	489719	19.72	ppb		99
39) Benzene	4.854	78	1448025	16.56	ppb	#	96
40) tert-Amyl methyl ether...	4.966	73	1005186	16.05	ppb		97
42) Trichloroethylene	5.453	95	377422	17.69	ppb		88
43) Methyl Cyclohexane	5.631	83	684495	16.20	ppb	#	84
44) Methyl Methacrylate	5.784	69	281626	18.03	ppb	#	98
45) Dibromomethane	5.775	93	203785	17.56	ppb		99
46) Bromodichloromethane	5.928	83	446536	17.70	ppb		99
47) 1,2-Dichloropropane	5.670	63	363364	16.75	ppb	#	99
48) 1,4-Dioxane	5.806	88	99941	343.96	ppb		85
49) 2-Chloroethyl vinyl ether	6.226	63	200541	16.27	ppb		99
50) 2-nitropropane	6.157	43	101355	19.74	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	613645	17.50	ppb		97

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110059.D
Acq On : 2 Oct 2019 12:52 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 02 13:16:48 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

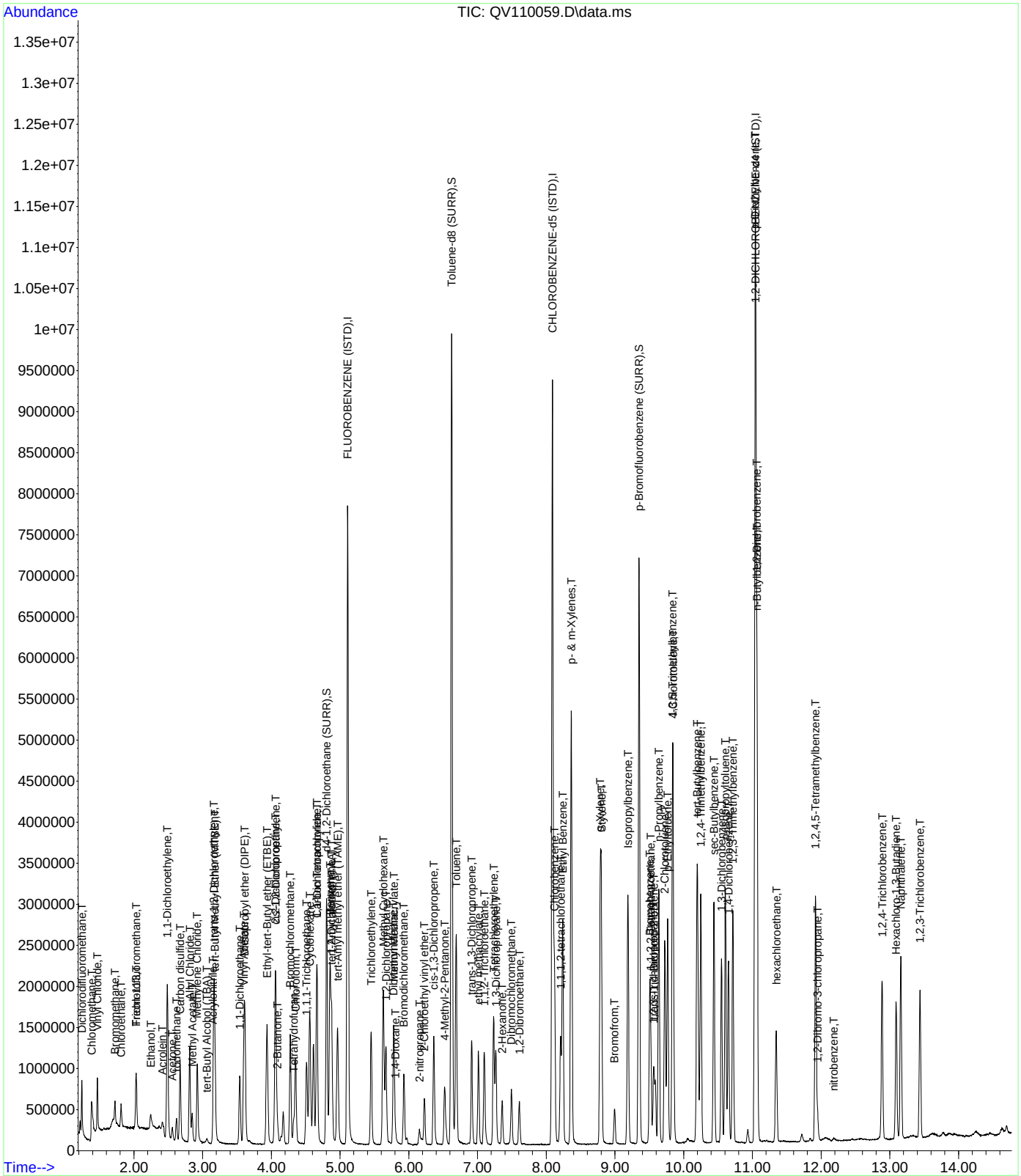
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.013	69	506280	17.66	ppb	#	100
53) 4-Methyl-2-Pentanone	6.521	43	564285	19.53	ppb	#	80
55) Toluene	6.691	91	1567651	16.26	ppb		99
56) trans-1,3-Dichloropropene	6.913	75	565370	18.21	ppb		99
57) 1,1,2-Trichloroethane	7.100	97	308104	16.71	ppb		98
58) 1,3-Dichloropropane	7.269	76	547059	17.34	ppb	#	94
59) Tetrachloroethylene	7.236	166	394539	17.12	ppb	#	71
60) 2-Hexanone	7.358	43	314557	20.92	ppb		95
61) Dibromochloromethane	7.492	129	300907	17.60	ppb		97
62) 1,2-Dibromoethane	7.609	107	309755	17.15	ppb		98
63) Chlorobenzene	8.121	112	1004310	16.94	ppb		89
64) 1,1,1,2-tetrachloroethane	8.210	131	310196	17.62	ppb	#	57
65) Ethyl Benzene	8.240	91	1832795	17.34	ppb		98
66) p- & m-Xylenes	8.363	91	2902893	36.12	ppb		95
67) o-Xylene	8.786	91	1482730	17.86	ppb		98
68) Styrene	8.802	104	1150649	17.12	ppb	#	100
69) Bromofrom	8.992	173	182916	16.77	ppb		98
71) p-Ethyltoluene	9.765	105	1772206	15.96	ppb	#	97
72) Isopropylbenzene	9.189	105	1914948	16.85	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	407223	16.47	ppb	#	100
75) Bromobenzene	9.506	77	692538	16.98	ppb		81
76) trans-1,4-Dichloro-2-b...	9.565	75	489357	16.37	ppb	#	87
77) 1,2,3-Trichloropropane	9.562	110	134985	17.82	ppb		72
78) n-Propylbenzene	9.640	91	2252725	16.68	ppb		98
79) 2-Chlorotoluene	9.723	91	1301259	16.70	ppb		100
80) 4-Chlorotoluene	9.846	91	1545901	17.54	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	1587933m	17.54	ppb		
82) tert-Butylbenzene	10.196	119	1498090	17.19	ppb		97
83) 1,2,4-Trimethylbenzene	10.249	105	1581047	17.14	ppb		91
84) sec-Butylbenzene	10.441	105	2005842	16.82	ppb		97
85) hexachloroethane	11.348	117	256764	18.45	ppb	#	100
86) 1,3-Dichlorobenzene	10.550	146	804594	16.74	ppb		95
87) p-Isopropyltoluene	10.605	119	1723085	17.20	ppb		95
88) 1,4-Dichlorobenzene	10.653	146	799758	16.61	ppb		95
89) 1,2,3-Trimethylbenzene	10.714	105	1544603	16.92	ppb		96
90) nitrobenzene	12.180	77	10591	11.70	ppb	#	100
91) p-Diethylbenzene	11.039	105	907550	16.98	ppb	#	22
92) 1,2-Dichlorobenzene	11.064	146	735750	17.33	ppb	#	88
93) n-Butylbenzene	11.067	91	1866713m	17.91	ppb		
94) 1,2-Dibromo-3-chloropr...	11.949	75	94385	22.57	ppb	#	81
95) 1,2,4,5-Tetramethylben...	11.919	119	1544991	16.38	ppb		95
96) 1,2,4-Trichlorobenzene	12.890	180	560620	16.56	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.090	225	298270	16.98	ppb		87
98) Naphthalene	13.159	128	1690489	17.43	ppb		98
99) 1,2,3-Trichlorobenzene	13.440	180	508677	16.01	ppb		80

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110059.D
Acq On : 2 Oct 2019 12:52 pm
Operator : LLJ
Sample : SEQ-CAL3
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 02 13:16:48 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110060.D
Acq On : 2 Oct 2019 1:19 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 02 13:56:45 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1101732	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4443363	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1980730	50.00	ppb		-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1592043	56.46	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.92%				
54) Toluene-d8 (SURR)	6.624	98	5574914	50.06	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.12%				
73) p-Bromofluorobenzene (...	9.350	95	2310598	50.73	ppb		-0.20
Spiked Amount 50.000	Range 76 - 130		Recovery = 101.46%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	1066460	60.65	ppb		100
3) Chloromethane	1.385	50	1219083	68.37	ppb		98
4) Vinyl Chloride	1.468	62	1049736	67.02	ppb		99
5) Bromomethane	1.724	94	269594m	52.26	ppb		
6) Allyl Chloride	2.809	76	606671	58.12	ppb	#	100
7) Chloroethane	1.810	64	557034	67.08	ppb		99
8) Trichlorofluoromethane	2.033	101	1224113	63.23	ppb		97
9) Ethanol	2.244	45	573157	3753.87	ppb		82
10) Freon-113	2.033	101	1224113	63.23	ppb	#	91
11) 1,1-Dichloroethylene	2.484	61	1559552	63.36	ppb		95
12) Acrolein	2.414	56	77638	49.56	ppb		92
13) Acetone	2.562	43	408622	65.32	ppb	#	21
14) Iodomethane	2.620	142	876715	71.11	ppb	#	20
15) Methyl Acetate	2.848	43	911393	60.75	ppb		96
16) Carbon disulfide	2.673	76	3176565	57.59	ppb		100
17) tert-Butyl Alcohol (TBA)	3.065	59	165208	43.33	ppb	#	1
18) Methylene Chloride	2.923	49	1394603	61.52	ppb		92
19) Acrylonitrile	3.151	53	429229	55.74	ppb		95
20) trans-1,2-Dichloroethy...	3.163	61	1496901	58.03	ppb		94
21) tert-Butyl Methyl Ethe...	3.176	73	3075068	55.72	ppb		100
22) 1,1-Dichloroethane	3.541	63	1974307	55.66	ppb	#	96
23) Vinyl Acetate	3.597	43	3667684	61.68	ppb		100
24) Diisopropyl ether (DIPE)	3.613	45	3689326	57.39	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.936	59	3336245	52.53	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	1783609	56.96	ppb		95
27) 2-Butanone	4.086	72	157280	53.46	ppb		84
28) 2,2-Dichloropropane	4.058	77	1719483	56.16	ppb	#	77
29) Tetrahydrofuran	4.328	42	392302	57.63	ppb		87
30) Bromochloromethane	4.275	49	920581	59.62	ppb		87
31) Chloroform	4.353	83	1877539	56.03	ppb	#	92
32) 1,1,1-Trichloroethane	4.512	97	1735767	57.90	ppb	#	85
33) Cyclohexane	4.559	56	1968484	50.01	ppb		92
34) 1,1-Dichloropropylene	4.665	75	1508816	54.72	ppb		89
36) Carbon Tetrachloride	4.662	117	1432362	59.53	ppb		98
37) tert-Amyl alcohol (TAA)	4.879	59	1259488	515.26	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1473006	61.17	ppb		99
39) Benzene	4.851	78	4439764	52.36	ppb	#	95
40) tert-Amyl methyl ether...	4.965	73	3058464	50.36	ppb		98
42) Trichloroethylene	5.452	95	1120683	53.83	ppb		87
43) Methyl Cyclohexane	5.628	83	2038508	49.45	ppb	#	82
44) Methyl Methacrylate	5.783	69	816110	53.56	ppb	#	99
45) Dibromomethane	5.778	93	627713	55.43	ppb		97
46) Bromodichloromethane	5.931	83	1419318	57.67	ppb		98
47) 1,2-Dichloropropane	5.669	63	1126865	53.24	ppb	#	81
48) 1,4-Dioxane	5.803	88	291810	1029.23	ppb		84
49) 2-Chloroethyl vinyl ether	6.229	63	615179	51.13	ppb		99
50) 2-nitropropane	6.153	43	314520	62.76	ppb	#	100
51) cis-1,3-Dichloropropene	6.365	75	1845543	53.94	ppb		96

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110060.D
Acq On : 2 Oct 2019 1:19 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 02 13:56:45 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

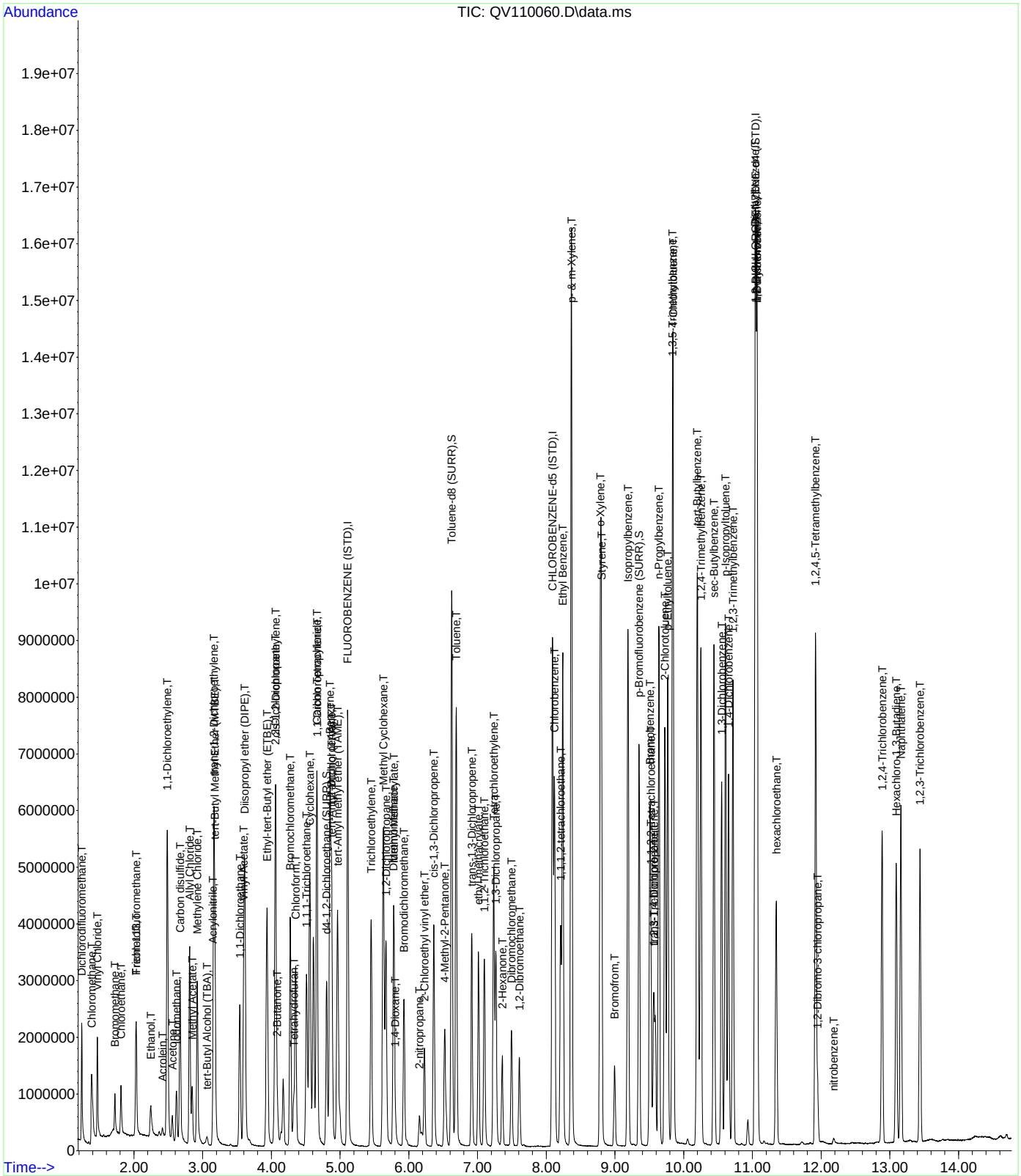
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.013	69	1500475	53.65	ppb	#	100
53) 4-Methyl-2-Pentanone	6.524	43	1683684	59.71	ppb		84
55) Toluene	6.690	91	4807372	51.11	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1682749	55.54	ppb		99
57) 1,1,2-Trichloroethane	7.099	97	931488	51.77	ppb		99
58) 1,3-Dichloropropane	7.266	76	1645553	53.45	ppb	#	94
59) Tetrachloroethylene	7.236	166	1249033	55.55	ppb	#	72
60) 2-Hexanone	7.361	43	914066	62.29	ppb		95
61) Dibromochloromethane	7.495	129	940106	56.36	ppb		97
62) 1,2-Dibromoethane	7.609	107	938259	53.23	ppb		99
63) Chlorobenzene	8.121	112	3035084	52.45	ppb		91
64) 1,1,1,2-tetrachloroethane	8.212	131	954415	55.54	ppb	#	56
65) Ethyl Benzene	8.240	91	5619360	54.50	ppb		96
66) p- & m-Xylenes	8.365	91	8805801	112.28	ppb		94
67) o-Xylene	8.788	91	4443573	54.86	ppb		98
68) Styrene	8.805	104	3494145	53.28	ppb	#	100
69) Bromofrom	8.994	173	578415	54.35	ppb		99
71) p-Ethyltoluene	9.768	105	5339271	50.62	ppb	#	97
72) Isopropylbenzene	9.189	105	5806369	53.78	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.523	83	1211666	51.58	ppb	#	100
75) Bromobenzene	9.509	77	2085517	53.83	ppb		81
76) trans-1,4-Dichloro-2-b...	9.565	75	1469665	51.75	ppb	#	95
77) 1,2,3-Trichloropropane	9.565	110	392790	54.58	ppb		73
78) n-Propylbenzene	9.640	91	6830481	53.24	ppb		97
79) 2-Chlorotoluene	9.726	91	3915141	52.89	ppb		99
80) 4-Chlorotoluene	9.846	91	4574043	54.61	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	4699735m	54.64	ppb		
82) tert-Butylbenzene	10.196	119	4432615	53.53	ppb		96
83) 1,2,4-Trimethylbenzene	10.252	105	4684743	53.46	ppb		91
84) sec-Butylbenzene	10.441	105	6049000	53.37	ppb		97
85) hexachloroethane	11.348	117	827851	59.72	ppb	#	100
86) 1,3-Dichlorobenzene	10.552	146	2336144	51.14	ppb		95
87) p-Isopropyltoluene	10.608	119	5100864	53.58	ppb		95
88) 1,4-Dichlorobenzene	10.652	146	2313494	50.57	ppb		95
89) 1,2,3-Trimethylbenzene	10.716	105	4463057	62.23	ppb		96
90) nitrobenzene	12.183	77	27895	32.44	ppb	#	100
91) p-Diethylbenzene	11.039	105	2624146	51.67	ppb	#	22
92) 1,2-Dichlorobenzene	11.067	146	2112351	52.36	ppb	#	87
93) n-Butylbenzene	11.067	91	5563449m	56.17	ppb		
94) 1,2-Dibromo-3-chloropr...	11.949	75	286901	65.27	ppb	#	80
95) 1,2,4,5-Tetramethylben...	11.918	119	4620122	51.56	ppb		95
96) 1,2,4-Trichlorobenzene	12.889	180	1526994	47.47	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.092	225	872454	52.26	ppb		87
98) Naphthalene	13.162	128	4417996	47.93	ppb		98
99) 1,2,3-Trichlorobenzene	13.440	180	1471763	48.75	ppb		78

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110060.D
Acq On : 2 Oct 2019 1:19 pm
Operator : LLJ
Sample : SEQ-CAL4
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 02 13:56:45 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110061.D
Acq On : 2 Oct 2019 1:46 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 02 14:03:35 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1118555	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4459662	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1940557	50.00	ppb		#-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1602332	55.97	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 111.94%				
54) Toluene-d8 (SURR)	6.624	98	5577257	49.90	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.80%				
73) p-Bromofluorobenzene (...	9.353	95	2321424	52.02	ppb		-0.19
Spiked Amount 50.000	Range 76 - 130		Recovery = 104.04%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	1823160	102.13	ppb		100
3) Chloromethane	1.385	50	2119832	117.10	ppb		97
4) Vinyl Chloride	1.468	62	1866151	117.35	ppb		99
5) Bromomethane	1.722	94	504723m	96.36	ppb		
6) Allyl Chloride	2.812	76	1051426	99.21	ppb	#	100
7) Chloroethane	1.813	64	952208	112.95	ppb		99
8) Trichlorofluoromethane	2.033	101	2221032	113.00	ppb		97
9) Ethanol	2.245	45	1059870	6837.17	ppb		82
10) Freon-113	2.033	101	2221032	113.00	ppb	#	92
11) 1,1-Dichloroethylene	2.484	61	2740072	109.65	ppb		94
12) Acrolein	2.414	56	113478	71.35	ppb		93
13) Acetone	2.559	43	670936	105.31	ppb	#	21
14) Iodomethane	2.617	142	1513639	115.60	ppb	#	20
15) Methyl Acetate	2.846	43	1578145	103.61	ppb		96
16) Carbon disulfide	2.670	76	5577716	99.59	ppb		100
17) tert-Butyl Alcohol (TBA)	3.065	59	264584	73.44	ppb	#	1
18) Methylene Chloride	2.921	49	2449404	106.42	ppb		92
19) Acrylonitrile	3.154	53	737205	94.29	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	2655600	101.40	ppb		94
21) tert-Butyl Methyl Ethe...	3.174	73	5520193	98.53	ppb	#	93
22) 1,1-Dichloroethane	3.541	63	3482172	96.70	ppb	#	96
23) Vinyl Acetate	3.600	43	6700682	110.99	ppb		100
24) Diisopropyl ether (DIPE)	3.613	45	6882762	105.45	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	6211048	96.32	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	3157345	99.31	ppb		95
27) 2-Butanone	4.086	72	256362	84.81	ppb		84
28) 2,2-Dichloropropane	4.061	77	3021270	97.19	ppb		100
29) Tetrahydrofuran	4.326	42	660496	95.56	ppb		88
30) Bromochloromethane	4.276	49	1606125	102.46	ppb		87
31) Chloroform	4.354	83	3314623	97.42	ppb	#	92
32) 1,1,1-Trichloroethane	4.512	97	3116645	102.39	ppb	#	85
33) Cyclohexane	4.557	56	3489523	87.31	ppb		92
34) 1,1-Dichloropropylene	4.665	75	2626655	93.82	ppb		89
36) Carbon Tetrachloride	4.660	117	2523195	103.29	ppb		98
37) tert-Amyl alcohol (TAA)	4.879	59	2266379	913.24	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	2609681	106.75	ppb		99
39) Benzene	4.854	78	7848138	91.17	ppb	#	94
40) tert-Amyl methyl ether...	4.966	73	5601063	90.84	ppb	#	92
42) Trichloroethylene	5.453	95	1979131	94.72	ppb		87
43) Methyl Cyclohexane	5.631	83	3591825	86.81	ppb	#	83
44) Methyl Methacrylate	5.784	69	1425372	93.20	ppb	#	99
45) Dibromomethane	5.778	93	1113361	97.96	ppb		98
46) Bromodichloromethane	5.928	83	2519937	102.02	ppb		98
47) 1,2-Dichloropropane	5.667	63	2014163	94.82	ppb	#	100
48) 1,4-Dioxane	5.800	88	494986	1739.46	ppb		85
49) 2-Chloroethyl vinyl ether	6.226	63	1078171	89.29	ppb		99
50) 2-nitropropane	6.154	43	565721	112.47	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	3278229	95.46	ppb		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110061.D
Acq On : 2 Oct 2019 1:46 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 02 14:03:35 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

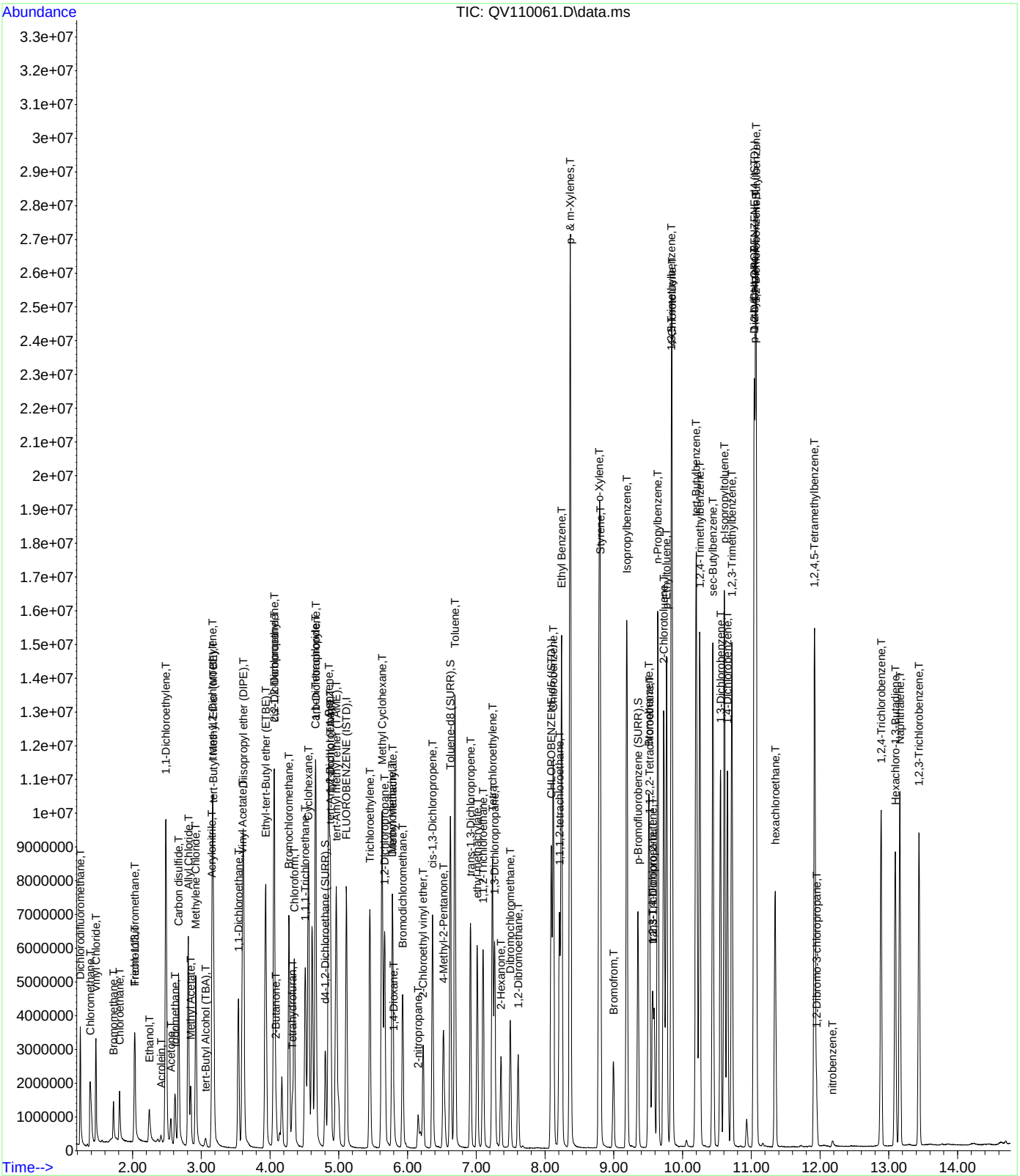
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.013	69	2667608	95.03	ppb	#	100
53) 4-Methyl-2-Pentanone	6.524	43	2940021	103.89	ppb		83
55) Toluene	6.688	91	8566927	90.75	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	2996393	98.53	ppb		99
57) 1,1,2-Trichloroethane	7.100	97	1647614	91.23	ppb		99
58) 1,3-Dichloropropane	7.267	76	2927137	94.74	ppb	#	94
59) Tetrachloroethylene	7.236	166	2208355	97.85	ppb	#	72
60) 2-Hexanone	7.358	43	1542444	104.73	ppb		96
61) Dibromochloromethane	7.495	129	1704892	101.84	ppb		97
62) 1,2-Dibromoethane	7.609	107	1650732	93.31	ppb		99
63) Chlorobenzene	8.121	112	5392752	92.85	ppb		92
64) 1,1,1,2-tetrachloroethane	8.210	131	1707045	98.98	ppb	#	55
65) Ethyl Benzene	8.240	91	9913327	95.79	ppb		96
66) p- & m-Xylenes	8.363	91	14621225	185.74	ppb		97
67) o-Xylene	8.788	91	7835223	96.39	ppb		98
68) Styrene	8.805	104	6172082	93.77	ppb	#	100
69) Bromofrom	8.997	173	1055686	98.84	ppb	#	80
71) p-Ethyltoluene	9.768	105	9431224	91.26	ppb	#	97
72) Isopropylbenzene	9.189	105	10182641	96.27	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	2189510	95.14	ppb	#	100
75) Bromobenzene	9.509	77	3692240	97.27	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	2544655	91.45	ppb	#	96
77) 1,2,3-Trichloropropane	9.565	110	663802	94.15	ppb		74
78) n-Propylbenzene	9.640	91	12004752	95.51	ppb		96
79) 2-Chlorotoluene	9.726	91	6967937	96.08	ppb		99
80) 4-Chlorotoluene	9.848	91	8098336	98.69	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	8235129m	97.73	ppb		
82) tert-Butylbenzene	10.196	119	7803269	96.18	ppb		96
83) 1,2,4-Trimethylbenzene	10.252	105	8267636	96.29	ppb		91
84) sec-Butylbenzene	10.441	105	10661092	96.01	ppb		96
85) hexachloroethane	11.348	117	1506527	98.13	ppb	#	100
86) 1,3-Dichlorobenzene	10.552	146	4109362	91.82	ppb		95
87) p-Isopropyltoluene	10.608	119	9010920	96.62	ppb		95
88) 1,4-Dichlorobenzene	10.653	146	4088317	91.21	ppb		95
89) 1,2,3-Trimethylbenzene	10.717	105	8334084	106.44	ppb		96
90) nitrobenzene	12.177	77	53191	63.13	ppb	#	100
91) p-Diethylbenzene	11.042	105	4668838	93.84	ppb	#	23
92) 1,2-Dichlorobenzene	11.067	146	3647398	92.28	ppb	#	87
93) n-Butylbenzene	11.070	91	9566883m	98.59	ppb		
94) 1,2-Dibromo-3-chloropr...	11.949	75	509698	102.69	ppb	#	80
95) 1,2,4,5-Tetramethylben...	11.918	119	8278580	94.30	ppb		94
96) 1,2,4-Trichlorobenzene	12.889	180	2803327	88.94	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.095	225	1586922	97.03	ppb		87
98) Naphthalene	13.162	128	7814405	86.54	ppb		98
99) 1,2,3-Trichlorobenzene	13.438	180	2651093	89.64	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110061.D
Acq On : 2 Oct 2019 1:46 pm
Operator : LLJ
Sample : SEQ-CAL5
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 02 14:03:35 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110062.D
Acq On : 2 Oct 2019 2:13 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 02 16:07:21 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1110004	50.00	ppb		#-0.17
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4406478	50.00	ppb		#-0.19
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1875575	50.00	ppb		#-0.20
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.807	65	1597119	56.21	ppb		-0.17
Spiked Amount 50.000	Range 77 - 125		Recovery = 112.42%				
54) Toluene-d8 (SURR)	6.624	98	5646483	51.12	ppb		-0.18
Spiked Amount 50.000	Range 85 - 120		Recovery = 102.24%				
73) p-Bromofluorobenzene (...	9.353	95	2307656	53.50	ppb		-0.19
Spiked Amount 50.000	Range 76 - 130		Recovery = 107.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	3604791	203.48	ppb		100
3) Chloromethane	1.382	50	4378270	243.71	ppb		97
4) Vinyl Chloride	1.468	62	3792858	240.36	ppb		99
5) Bromomethane	1.724	94	1031451m	198.44	ppb		
6) Allyl Chloride	2.812	76	2104864	200.15	ppb	#	100
7) Chloroethane	1.813	64	1913505	228.73	ppb		99
8) Trichlorofluoromethane	2.033	101	4604384	236.07	ppb		98
9) Ethanol	2.247	45	2314670	15046.85	ppb		82
10) Freon-113	2.033	101	4604384	236.07	ppb	#	92
11) 1,1-Dichloroethylene	2.484	61	5638566	227.39	ppb		94
12) Acrolein	2.417	56	264269	167.45	ppb		92
13) Acetone	2.559	43	1446141	228.13	ppb	#	44
14) Iodomethane	2.620	142	2911815	216.96	ppb	#	20
15) Methyl Acetate	2.845	43	3449913	228.24	ppb		97
16) Carbon disulfide	2.670	76	11465887	206.31	ppb		100
17) tert-Butyl Alcohol (TBA)	3.062	59	598800	178.76	ppb	#	1
18) Methylene Chloride	2.923	49	5164212	226.11	ppb		91
19) Acrylonitrile	3.151	53	1665587	214.68	ppb		97
20) trans-1,2-Dichloroethy...	3.163	61	5556386	213.80	ppb		93
21) tert-Butyl Methyl Ethe...	3.177	73	11558642	207.89	ppb		99
22) 1,1-Dichloroethane	3.541	63	7226731	202.23	ppb	#	99
23) Vinyl Acetate	3.599	43	14043482	234.40	ppb		100
24) Diisopropyl ether (DIPE)	3.613	45	14582961	225.15	ppb	#	94
25) Ethyl-tert-Butyl ether...	3.936	59	13164133	205.73	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	6575561	208.42	ppb		93
27) 2-Butanone	4.086	72	544247	179.52	ppb		81
28) 2,2-Dichloropropane	4.059	77	6119313	198.37	ppb	#	77
29) Tetrahydrofuran	4.326	42	1478384	215.54	ppb		86
30) Bromochloromethane	4.276	49	3321011	213.49	ppb		85
31) Chloroform	4.353	83	6930957	205.28	ppb	#	93
32) 1,1,1-Trichloroethane	4.515	97	6361047	210.59	ppb		99
33) Cyclohexane	4.559	56	7358694	185.54	ppb		93
34) 1,1-Dichloropropylene	4.662	75	5398399	194.31	ppb		89
36) Carbon Tetrachloride	4.662	117	5150823	212.48	ppb		98
37) tert-Amyl alcohol (TAA)	4.882	59	5258037	2135.05	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	5419538	223.39	ppb		99
39) Benzene	4.849	78	14998692m	175.58	ppb		
40) tert-Amyl methyl ether...	4.965	73	11927685	194.94	ppb		98
42) Trichloroethylene	5.452	95	4026246	195.02	ppb		86
43) Methyl Cyclohexane	5.630	83	7465585	182.60	ppb	#	82
44) Methyl Methacrylate	5.786	69	3053597	202.07	ppb	#	81
45) Dibromomethane	5.775	93	2294224	204.30	ppb		97
46) Bromodichloromethane	5.931	83	5313851	217.72	ppb		98
47) 1,2-Dichloropropane	5.667	63	4217915	200.97	ppb	#	99
48) 1,4-Dioxane	5.806	88	1046885	3723.33	ppb		85
49) 2-Chloroethyl vinyl ether	6.229	63	2253738	188.90	ppb		98
50) 2-nitropropane	6.156	43	1332204	268.06	ppb	#	100
51) cis-1,3-Dichloropropene	6.365	75	6868303	202.41	ppb		96

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110062.D
Acq On : 2 Oct 2019 2:13 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 02 16:07:21 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1

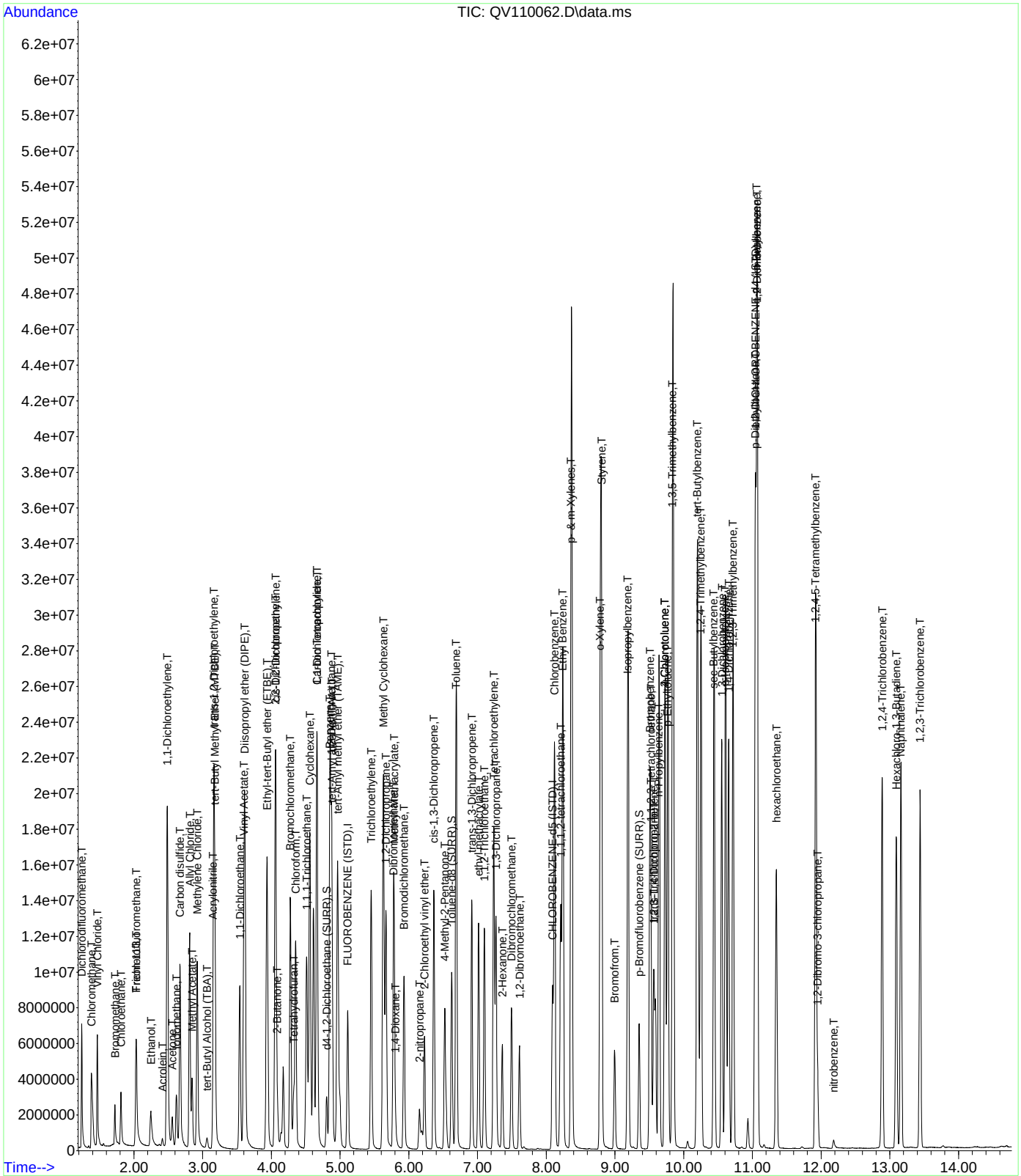
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.016	69	5632539	203.08	ppb	#	100
53) 4-Methyl-2-Pentanone	6.524	43	6531729	233.59	ppb		82
55) Toluene	6.685	91	15493010m	166.10	ppb		
56) trans-1,3-Dichloropropene	6.916	75	6321900	210.39	ppb		98
57) 1,1,2-Trichloroethane	7.099	97	3396911	190.36	ppb		99
58) 1,3-Dichloropropane	7.269	76	6106824	200.04	ppb	#	94
59) Tetrachloroethylene	7.236	166	4638096	208.00	ppb	#	72
60) 2-Hexanone	7.361	43	3414400	234.63	ppb		95
61) Dibromochloromethane	7.495	129	3641492	220.14	ppb		96
62) 1,2-Dibromoethane	7.611	107	3440112	196.81	ppb		100
63) Chlorobenzene	8.121	112	10931560	190.49	ppb		92
64) 1,1,1,2-tetrachloroethane	8.212	131	3451512	202.55	ppb	#	55
65) Ethyl Benzene	8.235	91	16109030m	157.53	ppb		
66) p- & m-Xylenes	8.357	91	19639424m	252.51	ppb		
67) o-Xylene	8.783	91	14936021m	185.95	ppb		
68) Styrene	8.805	104	12390373	190.52	ppb	#	100
69) Bromofrom	8.994	173	2316962	219.54	ppb		99
71) p-Ethyltoluene	9.762	105	16467706m	164.87	ppb		
72) Isopropylbenzene	9.183	105	16678833m	163.16	ppb		
74) 1,1,2,2-Tetrachloroethane	9.523	83	4546682	204.42	ppb	#	100
75) Bromobenzene	9.509	77	7665930	208.96	ppb		78
76) trans-1,4-Dichloro-2-b...	9.565	75	5517885	205.18	ppb	#	89
77) 1,2,3-Trichloropropane	9.567	110	1412425	207.27	ppb		74
78) n-Propylbenzene	9.631	91	17509397m	144.13	ppb		
79) 2-Chlorotoluene	9.723	91	13648957	194.72	ppb		100
80) 4-Chlorotoluene	9.723	91	13967561m	176.12	ppb		
81) 1,3,5-Trimethylbenzene	9.834	105	14777310m	181.44	ppb		
82) tert-Butylbenzene	10.196	119	15152643	193.25	ppb		93
83) 1,2,4-Trimethylbenzene	10.246	105	15033646m	181.16	ppb		
84) sec-Butylbenzene	10.435	105	17126392m	159.58	ppb		
85) hexachloroethane	11.348	117	3222691	173.73	ppb	#	100
86) 1,3-Dichlorobenzene	10.555	146	8420221	194.66	ppb		94
87) p-Isopropyltoluene	10.602	119	15758476m	174.82	ppb		
88) 1,4-Dichlorobenzene	10.655	146	8532166	196.95	ppb		95
89) 1,2,3-Trimethylbenzene	10.714	105	14915624m	166.34	ppb		
90) nitrobenzene	12.180	77	148401	182.23	ppb	#	100
91) p-Diethylbenzene	11.042	105	9640417	200.48	ppb	#	22
92) 1,2-Dichlorobenzene	11.067	146	7092218	185.64	ppb	#	87
93) n-Butylbenzene	11.061	91	16721645m	178.30	ppb		
94) 1,2-Dibromo-3-chloropr...	11.946	75	1152340	183.50	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.916	119	15377172m	181.23	ppb		
96) 1,2,4-Trichlorobenzene	12.889	180	5925574	194.52	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.092	225	3233077	204.53	ppb		88
98) Naphthalene	13.156	128	15125971m	173.31	ppb		
99) 1,2,3-Trichlorobenzene	13.440	180	5606877	196.15	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110062.D
Acq On : 2 Oct 2019 2:13 pm
Operator : LLJ
Sample : SEQ-CAL6
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 02 16:07:21 2019
Quant Method : C:\msdchem\1\methods\VQ1S0023.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Sat Aug 03 16:16:05 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616875.D
Acq On : 8 Oct 2019 4:40 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV6100819A 0.500 PPB AQU
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 19:32:21 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	345718	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1225711	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	477427	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	480213	9.98	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.80%				
53) Toluene-d8 (SURR)	7.172	98	1594340	9.97	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 99.70%				
73) p-Bromofluorobenzene (...	9.946	95	563536	9.50	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 95.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.354	85	14934m	0.47	ppb		
3) Chloromethane	1.552	50	23747	0.54	ppb	#	79
4) Vinyl Chloride	1.621	62	24485m	0.56	ppb		
5) Bromomethane	1.933	94	14225m	0.64	ppb		
6) Chloroethane	2.041	64	14996m	0.56	ppb		
7) Trichlorofluoromethane	2.311	101	28237	0.47	ppb		98
8) Ethanol	2.484	45	9918m	37.33	ppb		
9) Freon-113	2.845	101	19048	0.43	ppb		99
10) 1,1-Dichloroethylene	2.820	61	34626	0.46	ppb		95
11) Acrolein	2.717	56	2002m	0.64	ppb		
12) Acetone	2.845	43	11979m	0.79	ppb		
13) Iodomethane	2.957	142	18684	0.36	ppb		99
14) Allyl Chloride	3.185	76	13042	0.52	ppb	#	100
15) Methyl Acetate	3.171	43	17124	0.55	ppb		100
16) Carbon disulfide	3.032	76	66646	0.59	ppb		100
18) Methylene Chloride	3.313	49	33035	0.48	ppb		91
19) Acrylonitrile	3.510	53	6320	0.50	ppb	#	45
20) trans-1,2-Dichloroethy...	3.588	61	35232	0.50	ppb		99
21) tert-Butyl Methyl Ethe...	3.577	73	57658	0.45	ppb	#	88
22) 1,1-Dichloroethane	4.003	63	44489	0.47	ppb		99
23) Vinyl Acetate	4.050	43	39275m	0.43	ppb		
24) Diisopropyl ether (DIPE)	4.047	45	84732	0.40	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.392	59	72399	0.40	ppb	#	99
26) cis-1,2-Dichloroethylene	4.534	61	39968	0.47	ppb		98
28) 2,2-Dichloropropane	4.543	77	37533	0.47	ppb		95
29) Tetrahydrofuran	4.776	42	7372	0.58	ppb	#	70
30) Bromochloromethane	4.762	49	22572	0.51	ppb		96
31) Chloroform	4.865	83	44367	0.50	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	37318	0.46	ppb	#	82
33) Cyclohexane	5.096	56	36845m	0.48	ppb		
34) 1,1-Dichloropropylene	5.171	75	32067	0.46	ppb		90
36) Carbon Tetrachloride	5.169	117	34423	0.46	ppb	#	54
37) tert-Amyl alcohol (TAA)	5.366	59	16589m	3.98	ppb		
38) 1,2-Dichloroethane	5.399	62	29401	0.46	ppb	#	87
39) Benzene	5.344	78	90123	0.47	ppb	#	1
40) tert-Amyl methyl ether...	5.486	73	57271	0.40	ppb	#	99
42) Trichloroethylene	5.987	95	24478	0.46	ppb		94
43) Methyl Cyclohexane	6.223	83	28384	0.39	ppb	#	79
44) Methyl Methacrylate	6.281	69	11964	0.42	ppb	#	79
45) Dibromomethane	6.312	93	12991	0.46	ppb		92
46) Bromodichloromethane	6.485	83	30465	0.45	ppb	#	90
47) 1,2-Dichloropropane	6.226	63	24921	0.45	ppb	#	83
48) 1,4-Dioxane	6.304	88	3282m	11.19	ppb		
49) 2-nitropropane	6.665	43	5855	0.42	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.763	63	8553	0.45	ppb		93
51) cis-1,3-Dichloropropene	6.910	75	35341	0.43	ppb		96
52) 4-Methyl-2-Pentanone	7.038	43	28646	0.45	ppb	#	85
54) Toluene	7.244	91	97149	0.48	ppb		98

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616875.D
Acq On : 8 Oct 2019 4:40 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV6100819A 0.500 PPB AQU
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 19:32:21 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

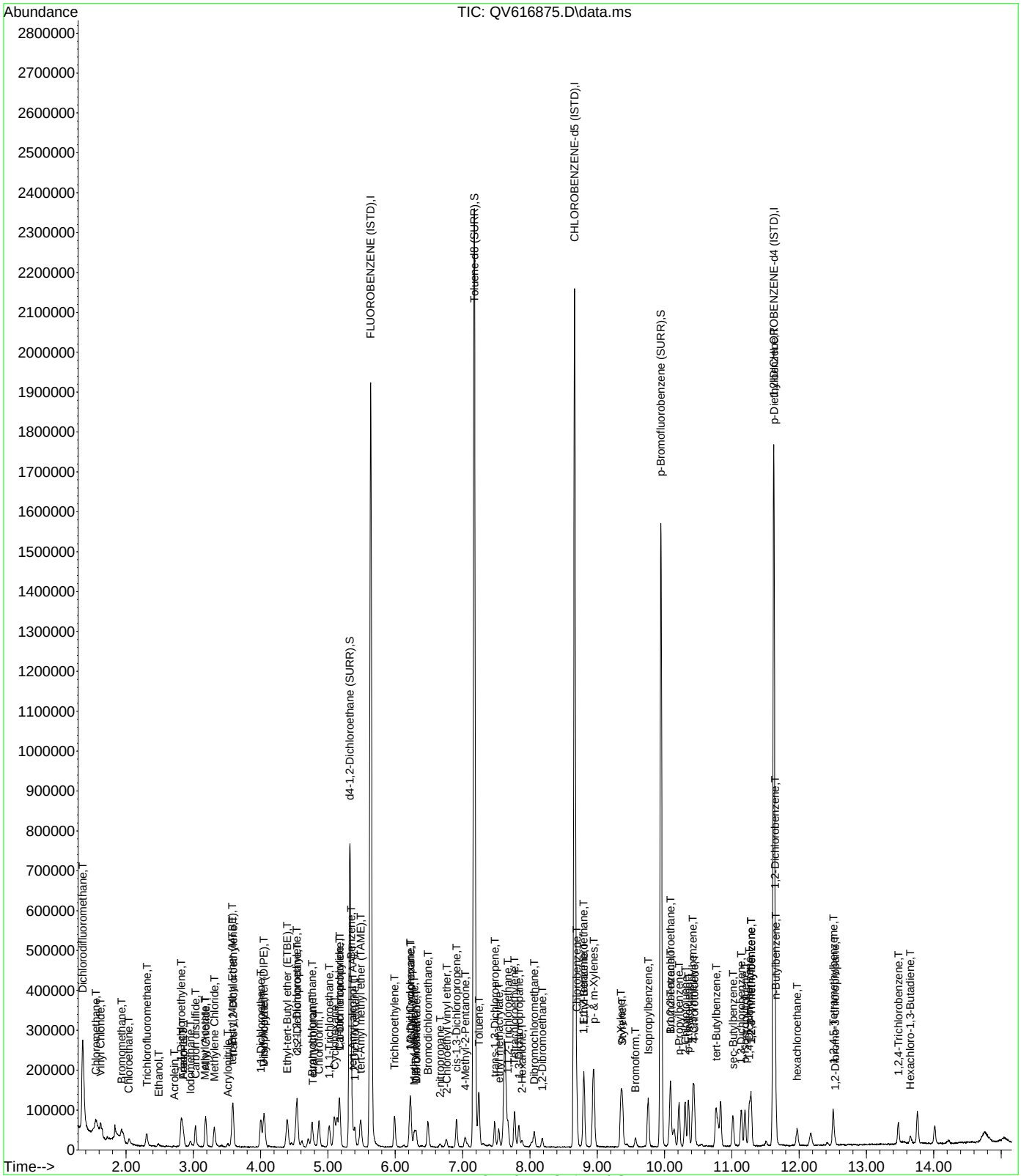
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) trans-1,3-Dichloropropene	7.478	75	31228	0.44	ppb		99
56) ethyl methacrylate	7.539	69	23256	0.41	ppb	#	100
57) 1,1,2-Trichloroethane	7.670	97	17832	0.47	ppb		91
58) 1,3-Dichloropropane	7.837	76	28574	0.44	ppb	#	89
59) Tetrachloroethylene	7.770	166	26524	0.46	ppb	#	77
60) 2-Hexanone	7.881	43	12616	0.40	ppb		94
61) Dibromochloromethane	8.062	129	20005	0.42	ppb		98
62) 1,2-Dibromoethane	8.182	107	16066	0.42	ppb		95
63) Chlorobenzene	8.694	112	57819	0.45	ppb	#	51
64) 1,1,1,2-tetrachloroethane	8.794	131	21054	0.42	ppb	#	72
65) Ethyl Benzene	8.802	91	97503	0.45	ppb		100
66) p- & m-Xylenes	8.950	91	152827	0.91	ppb		96
67) o-Xylene	9.353	91	77578	0.45	ppb		99
68) Styrene	9.373	104	59102	0.43	ppb	#	75
69) Bromoform	9.565	173	10665	0.40	ppb		99
71) p-Ethyltoluene	10.355	105	77935	0.44	ppb		83
72) Isopropylbenzene	9.759	105	89999	0.41	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.088	83	17073	0.39	ppb	#	96
75) Bromobenzene	10.088	77	36384	0.41	ppb		91
78) n-Propylbenzene	10.216	91	97085	0.41	ppb	#	96
79) 2-Chlorotoluene	10.307	91	63879	0.43	ppb		99
80) 4-Chlorotoluene	10.441	91	71679	0.41	ppb		98
81) 1,3,5-Trimethylbenzene	10.421	105	66290	0.40	ppb	#	63
82) tert-Butylbenzene	10.766	119	64642m	0.41	ppb		
83) 1,2,4-Trimethylbenzene	11.284	105	78699	0.47	ppb		95
84) sec-Butylbenzene	11.017	105	62075	0.40	ppb	#	93
85) 1,3-Dichlorobenzene	11.139	146	41142	0.42	ppb		99
86) p-Isopropyltoluene	11.198	119	58374	0.39	ppb		98
87) 1,4-Dichlorobenzene	11.256	146	42240	0.43	ppb		99
88) 1,2,3-Trimethylbenzene	11.284	105	78954	0.13	ppb		99
89) p-Diethylbenzene	11.626	105	28541	0.45	ppb	#	98
90) 1,2-Dichlorobenzene	11.643	146	37252	0.41	ppb	#	86
91) n-Butylbenzene	11.651	91	52934	0.42	ppb		96
92) hexachloroethane	11.968	117	9203	0.36	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.533	75	3020	0.40	ppb	#	68
94) 1,2,4,5-Tetramethylben...	12.508	119	53532	0.45	ppb		99
96) 1,2,4-Trichlorobenzene	13.474	180	17449	0.46	ppb		96
97) Hexachloro-1,3-Butadiene	13.649	225	3910	0.53	ppb	#	83

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616875.D
Acq On : 8 Oct 2019 4:40 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL1
Misc : QBQV6100819A 0.500 PPB AQU
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 19:32:21 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616876.D
Acq On : 8 Oct 2019 5:07 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV6100819A 2.00 PPB AQU
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 19:32:53 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	389518	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1360126	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	495716	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	545171	10.06	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 100.60%				
53) Toluene-d8 (SURR)	7.172	98	1767761	9.96	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 99.60%				
73) p-Bromofluorobenzene (...	9.949	95	618364	10.04	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 100.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	88355m	2.49	ppb		
3) Chloromethane	1.557	50	124118	2.49	ppb	#	47
4) Vinyl Chloride	1.621	62	120789	2.45	ppb	#	54
5) Bromomethane	1.930	94	63566m	2.55	ppb		
6) Chloroethane	2.044	64	73142	2.43	ppb		93
7) Trichlorofluoromethane	2.309	101	154681	2.30	ppb		100
8) Ethanol	2.473	45	33463	111.79	ppb	#	1
9) Freon-113	2.843	101	84675	1.70	ppb		99
10) 1,1-Dichloroethylene	2.818	61	177378	2.08	ppb		92
11) Acrolein	2.715	56	5955m	1.68	ppb		
12) Acetone	2.845	43	40997	2.41	ppb	#	96
13) Iodomethane	2.957	142	96526	1.63	ppb		100
14) Allyl Chloride	3.182	76	59661	2.10	ppb	#	100
15) Methyl Acetate	3.177	43	62681	1.78	ppb		99
16) Carbon disulfide	3.032	76	273649	2.14	ppb		100
18) Methylene Chloride	3.313	49	156941	2.04	ppb		92
19) Acrylonitrile	3.513	53	28728	2.03	ppb	#	45
20) trans-1,2-Dichloroethy...	3.591	61	161690	2.02	ppb		99
21) tert-Butyl Methyl Ethe...	3.580	73	291599	2.02	ppb	#	99
22) 1,1-Dichloroethane	4.000	63	219402	2.04	ppb		99
23) Vinyl Acetate	4.047	43	156045	1.50	ppb	#	100
24) Diisopropyl ether (DIPE)	4.050	45	394051	1.67	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.395	59	338385	1.66	ppb	#	85
26) cis-1,2-Dichloroethylene	4.537	61	196485	2.04	ppb	#	75
28) 2,2-Dichloropropane	4.543	77	180657	2.02	ppb		94
29) Tetrahydrofuran	4.774	42	30784	2.15	ppb	#	48
30) Bromochloromethane	4.760	49	103968	2.08	ppb		93
31) Chloroform	4.865	83	202406	2.04	ppb	#	97
32) 1,1,1-Trichloroethane	5.016	97	186325	2.02	ppb		98
33) Cyclohexane	5.099	56	151927	1.75	ppb		88
34) 1,1-Dichloropropylene	5.171	75	154803	1.98	ppb		89
36) Carbon Tetrachloride	5.171	117	169348	2.02	ppb	#	54
37) tert-Amyl alcohol (TAA)	5.363	59	80257	17.09	ppb	#	82
38) 1,2-Dichloroethane	5.400	62	147115	2.06	ppb		99
39) Benzene	5.347	78	438733	2.03	ppb	#	43
40) tert-Amyl methyl ether...	5.483	73	269027	1.66	ppb	#	100
42) Trichloroethylene	5.989	95	118332	2.01	ppb		96
43) Methyl Cyclohexane	6.220	83	130587	1.63	ppb	#	78
44) Methyl Methacrylate	6.282	69	61401	1.94	ppb		91
45) Dibromomethane	6.312	93	64145	2.04	ppb		94
46) Bromodichloromethane	6.485	83	146566	1.95	ppb		95
47) 1,2-Dichloropropane	6.226	63	124036	2.00	ppb	#	83
48) 1,4-Dioxane	6.295	88	16535	50.82	ppb	#	86
49) 2-nitropropane	6.668	43	30776	1.99	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.760	63	35476	1.68	ppb	#	92
51) cis-1,3-Dichloropropene	6.908	75	180271	1.98	ppb		92
52) 4-Methyl-2-Pentanone	7.036	43	142172	2.03	ppb	#	85
54) Toluene	7.241	91	457925	2.06	ppb		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616876.D
Acq On : 8 Oct 2019 5:07 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV6100819A 2.00 PPB AQU
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 19:32:53 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

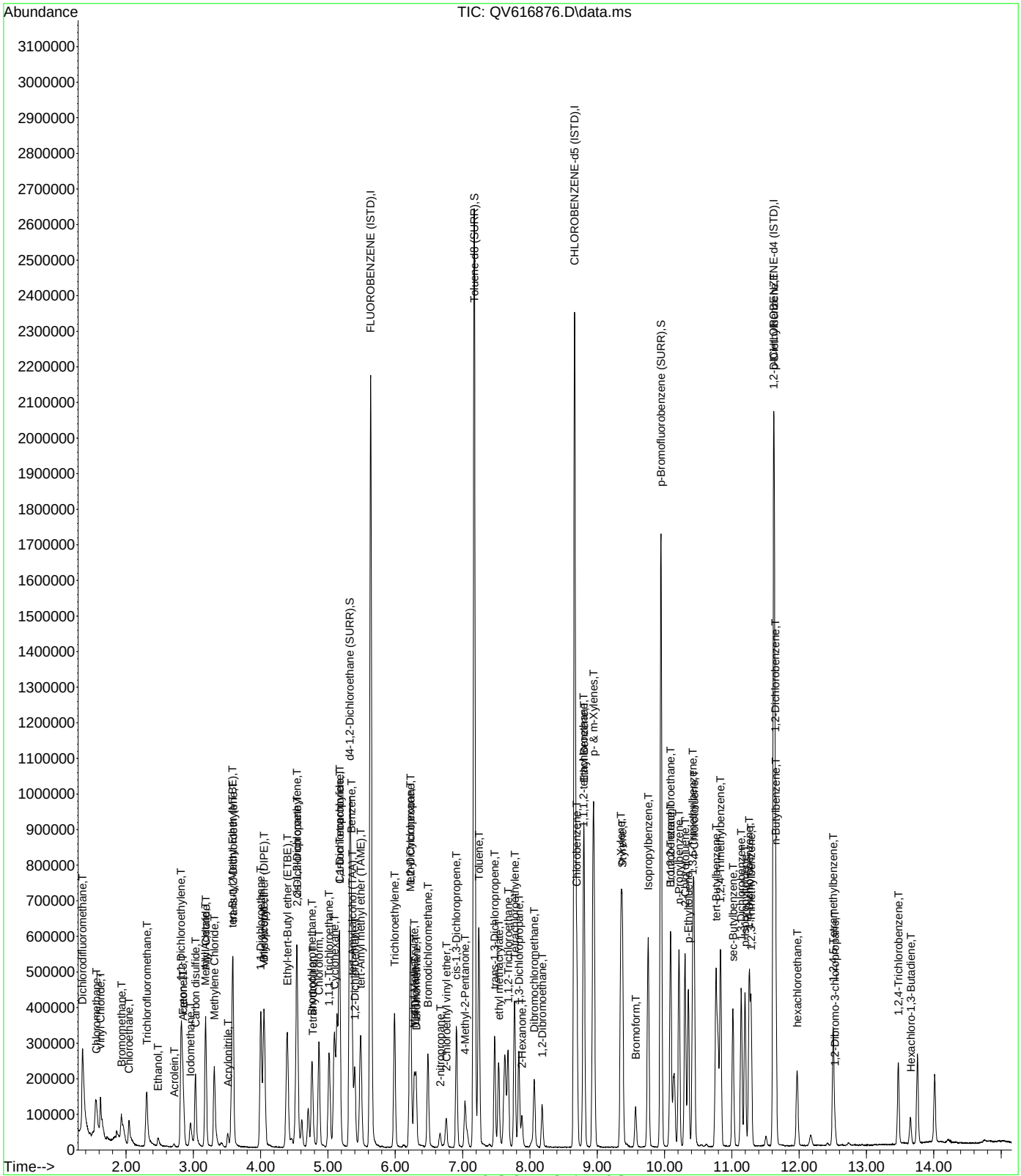
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) trans-1,3-Dichloropropene	7.475	75	154823	1.96	ppb		99
56) ethyl methacrylate	7.539	69	122941	1.97	ppb	#	100
57) 1,1,2-Trichloroethane	7.675	97	86602	2.05	ppb		94
58) 1,3-Dichloropropane	7.837	76	144963	2.03	ppb		96
59) Tetrachloroethylene	7.776	166	127865	2.00	ppb	#	100
60) 2-Hexanone	7.881	43	69950	2.00	ppb		98
61) Dibromochloromethane	8.065	129	102981	1.95	ppb		98
62) 1,2-Dibromoethane	8.182	107	82305	1.96	ppb		95
63) Chlorobenzene	8.697	112	290506	2.04	ppb	#	89
64) 1,1,1,2-tetrachloroethane	8.794	131	107481	1.95	ppb		98
65) Ethyl Benzene	8.805	91	481618	2.01	ppb		98
66) p- & m-Xylenes	8.947	91	746145	4.01	ppb		97
67) o-Xylene	9.350	91	383308	2.02	ppb		99
68) Styrene	9.375	104	300175	1.97	ppb		97
69) Bromoform	9.570	173	55088	1.86	ppb		99
71) p-Ethyltoluene	10.355	105	305715	1.66	ppb	#	82
72) Isopropylbenzene	9.757	105	441498	1.96	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	87686	1.94	ppb	#	98
75) Bromobenzene	10.088	77	180388	1.98	ppb		92
78) n-Propylbenzene	10.216	91	481419	1.96	ppb		99
79) 2-Chlorotoluene	10.305	91	307549	1.97	ppb		98
80) 4-Chlorotoluene	10.441	91	352677	1.95	ppb		98
81) 1,3,5-Trimethylbenzene	10.419	105	337788	1.96	ppb	#	62
82) tert-Butylbenzene	10.767	119	319247	1.95	ppb		93
83) 1,2,4-Trimethylbenzene	10.831	105	335553	1.95	ppb		98
84) sec-Butylbenzene	11.017	105	307591	1.91	ppb		98
85) 1,3-Dichlorobenzene	11.139	146	198562	1.95	ppb		99
86) p-Isopropyltoluene	11.195	119	283109	1.83	ppb		97
87) 1,4-Dichlorobenzene	11.256	146	203207	1.98	ppb		98
88) 1,2,3-Trimethylbenzene	11.287	105	245835	0.39	ppb		100
89) p-Diethylbenzene	11.626	105	110062	1.66	ppb	#	93
90) 1,2-Dichlorobenzene	11.646	146	183998	1.97	ppb	#	87
91) n-Butylbenzene	11.654	91	245447	1.87	ppb		96
92) hexachloroethane	11.974	117	50495	1.89	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.530	75	16192	2.07	ppb	#	27
94) 1,2,4,5-Tetramethylben...	12.505	119	200904	1.64	ppb		99
96) 1,2,4-Trichlorobenzene	13.474	180	77311	1.97	ppb		96
97) Hexachloro-1,3-Butadiene	13.657	225	15695	2.05	ppb	#	81

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616876.D
Acq On : 8 Oct 2019 5:07 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL2
Misc : QBQV6100819A 2.00 PPB AQU
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 08 19:32:53 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616877.D
Acq On : 8 Oct 2019 5:33 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV6100819A 4.00 PPB AQU
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 08 19:35:17 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	402908	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1400708	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	518198	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	554775	9.89	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 98.90%				
53) Toluene-d8 (SURR)	7.172	98	1838755	10.06	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 100.60%				
73) p-Bromofluorobenzene (...	9.946	95	638497	9.92	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	127795m	3.48	ppb		
3) Chloromethane	1.552	50	176638	3.42	ppb	#	44
4) Vinyl Chloride	1.621	62	181705m	3.56	ppb		
5) Bromomethane	1.930	94	92036m	3.57	ppb		
6) Chloroethane	2.044	64	111902	3.59	ppb		92
7) Trichlorofluoromethane	2.306	101	239690	3.44	ppb		99
8) Ethanol	2.475	45	59105	190.88	ppb	#	1
9) Freon-113	2.845	101	146975	2.85	ppb	#	69
10) 1,1-Dichloroethylene	2.820	61	276728	3.14	ppb		95
11) Acrolein	2.709	56	9944	2.72	ppb	#	83
12) Acetone	2.843	43	56942	3.23	ppb	#	95
13) Iodomethane	2.954	142	166707	2.73	ppb		99
14) Allyl Chloride	3.182	76	90007	3.07	ppb	#	100
15) Methyl Acetate	3.174	43	105063	2.89	ppb		99
16) Carbon disulfide	3.032	76	417450	3.16	ppb		100
18) Methylene Chloride	3.310	49	244242	3.07	ppb		92
19) Acrylonitrile	3.513	53	43025	2.94	ppb	#	70
20) trans-1,2-Dichloroethy...	3.588	61	250872	3.03	ppb		98
21) tert-Butyl Methyl Ethe...	3.577	73	444836	2.99	ppb	#	88
22) 1,1-Dichloroethane	3.997	63	339930	3.05	ppb		99
23) Vinyl Acetate	4.050	43	292187	2.72	ppb	#	100
24) Diisopropyl ether (DIPE)	4.050	45	671259	2.75	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.395	59	575342	2.73	ppb	#	85
26) cis-1,2-Dichloroethylene	4.537	61	304095	3.05	ppb		99
28) 2,2-Dichloropropane	4.545	77	282605	3.06	ppb		93
29) Tetrahydrofuran	4.776	42	46849	3.16	ppb	#	52
30) Bromochloromethane	4.760	49	161364	3.12	ppb		94
31) Chloroform	4.865	83	313926	3.06	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	288431	3.02	ppb	#	73
33) Cyclohexane	5.093	56	285096	3.17	ppb		93
34) 1,1-Dichloropropylene	5.171	75	246716	3.05	ppb		91
36) Carbon Tetrachloride	5.171	117	264396	3.04	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.366	59	126563	26.06	ppb		95
38) 1,2-Dichloroethane	5.399	62	222713	3.02	ppb		99
39) Benzene	5.349	78	683543	3.06	ppb	#	54
40) tert-Amyl methyl ether...	5.483	73	449919	2.69	ppb	#	100
42) Trichloroethylene	5.987	95	184264	3.04	ppb		95
43) Methyl Cyclohexane	6.223	83	236160	2.86	ppb	#	81
44) Methyl Methacrylate	6.284	69	93405	2.86	ppb	#	85
45) Dibromomethane	6.309	93	96584	2.98	ppb		95
46) Bromodichloromethane	6.485	83	229068	2.96	ppb		95
47) 1,2-Dichloropropane	6.229	63	192371	3.01	ppb	#	99
48) 1,4-Dioxane	6.293	88	19892	59.36	ppb		100
49) 2-nitropropane	6.663	43	46303	2.90	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.760	63	62485	2.87	ppb	#	92
51) cis-1,3-Dichloropropene	6.910	75	278441	2.97	ppb		93
52) 4-Methyl-2-Pentanone	7.038	43	212056	2.94	ppb	#	85
54) Toluene	7.241	91	707291	3.08	ppb		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616877.D
Acq On : 8 Oct 2019 5:33 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV6100819A 4.00 PPB AQU
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 08 19:35:17 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

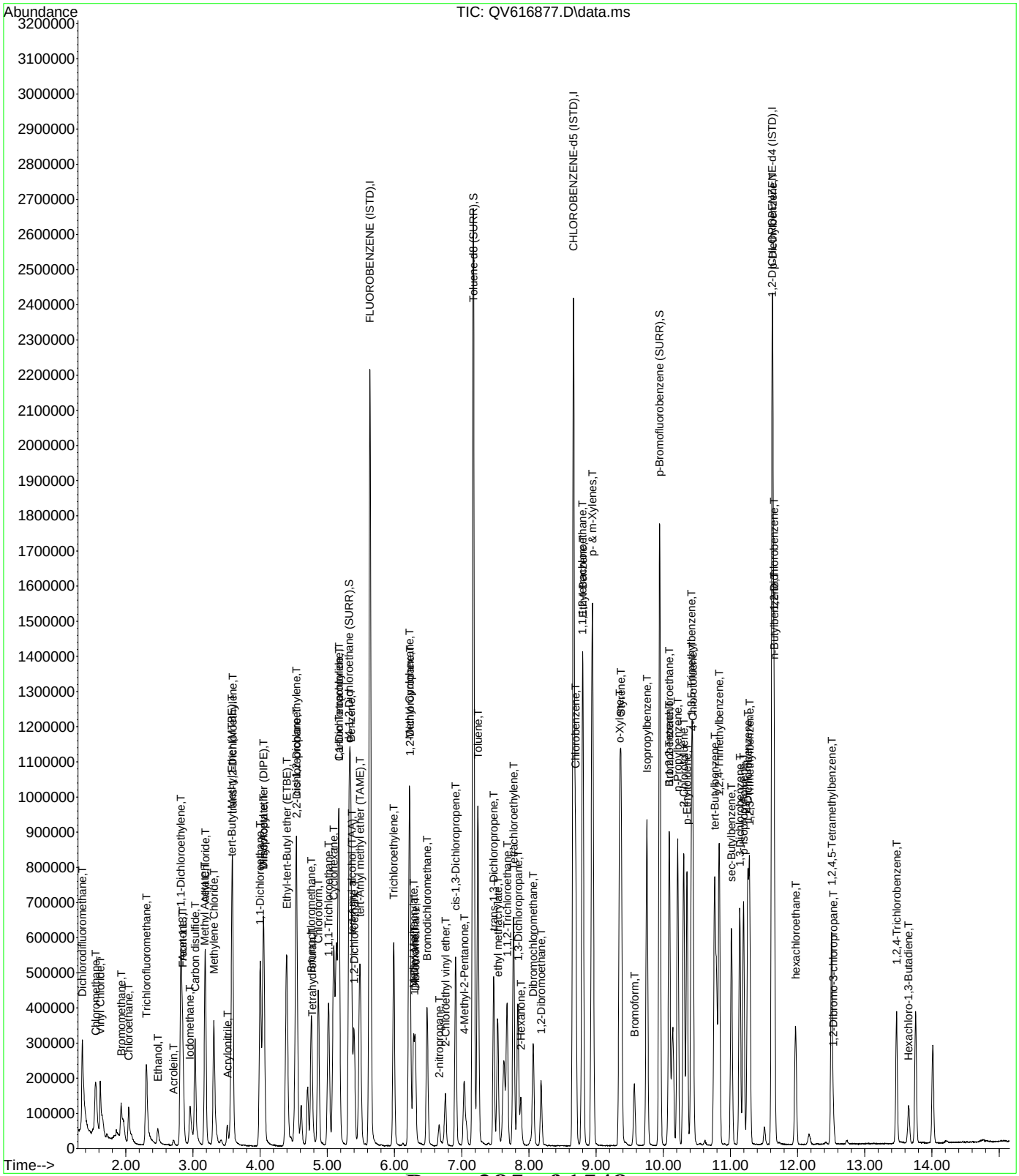
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) trans-1,3-Dichloropropene	7.475	75	239047	2.93	ppb	#	89
56) ethyl methacrylate	7.539	69	187818	2.93	ppb	#	100
57) 1,1,2-Trichloroethane	7.675	97	130050	2.98	ppb		96
58) 1,3-Dichloropropane	7.839	76	221022	3.00	ppb		96
59) Tetrachloroethylene	7.773	166	200035	3.03	ppb	#	77
60) 2-Hexanone	7.881	43	105107	2.91	ppb	#	27
61) Dibromochloromethane	8.065	129	158011	2.90	ppb		98
62) 1,2-Dibromoethane	8.182	107	130365	3.01	ppb		97
63) Chlorobenzene	8.694	112	447512	3.05	ppb		91
64) 1,1,1,2-tetrachloroethane	8.797	131	168575	2.97	ppb		96
65) Ethyl Benzene	8.805	91	752600	3.05	ppb		99
66) p- & m-Xylenes	8.947	91	1170705	6.10	ppb		97
67) o-Xylene	9.350	91	592833	3.04	ppb		99
68) Styrene	9.372	104	467330	2.98	ppb		97
69) Bromoform	9.570	173	88466	2.89	ppb		98
71) p-Ethyltoluene	10.355	105	565999m	2.94	ppb		
72) Isopropylbenzene	9.756	105	694750	2.95	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	136551	2.88	ppb	#	99
75) Bromobenzene	10.088	77	285057	2.99	ppb		91
78) n-Propylbenzene	10.216	91	757070	2.95	ppb		100
79) 2-Chlorotoluene	10.305	91	481973	2.96	ppb		99
80) 4-Chlorotoluene	10.441	91	552995	2.93	ppb		98
81) 1,3,5-Trimethylbenzene	10.421	105	525675	2.92	ppb	#	63
82) tert-Butylbenzene	10.766	119	498321	2.91	ppb		94
83) 1,2,4-Trimethylbenzene	10.833	105	527951	2.94	ppb		97
84) sec-Butylbenzene	11.014	105	493706	2.93	ppb		99
85) 1,3-Dichlorobenzene	11.142	146	313024	2.94	ppb		99
86) p-Isopropyltoluene	11.198	119	459195	2.83	ppb		98
87) 1,4-Dichlorobenzene	11.259	146	316546	2.95	ppb		98
88) 1,2,3-Trimethylbenzene	11.287	105	478202	0.73	ppb		100
89) p-Diethylbenzene	11.629	105	197376	2.85	ppb	#	92
90) 1,2-Dichlorobenzene	11.648	146	285763	2.92	ppb		99
91) n-Butylbenzene	11.651	91	397936	2.90	ppb		96
92) hexachloroethane	11.971	117	79906	2.86	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.530	75	23679	2.89	ppb		86
94) 1,2,4,5-Tetramethylben...	12.508	119	363586	2.84	ppb		99
96) 1,2,4-Trichlorobenzene	13.474	180	121805	2.98	ppb		96
97) Hexachloro-1,3-Butadiene	13.649	225	24753	3.09	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616877.D
Acq On : 8 Oct 2019 5:33 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL3
Misc : QBQV6100819A 4.00 PPB AQU
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 08 19:35:17 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616878.D
Acq On : 8 Oct 2019 5:59 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL4
Misc : QBQV6100819A 10.0 PPB AQU
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 08 19:23:14 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:22:45 2019
Response via : Initial Calibration

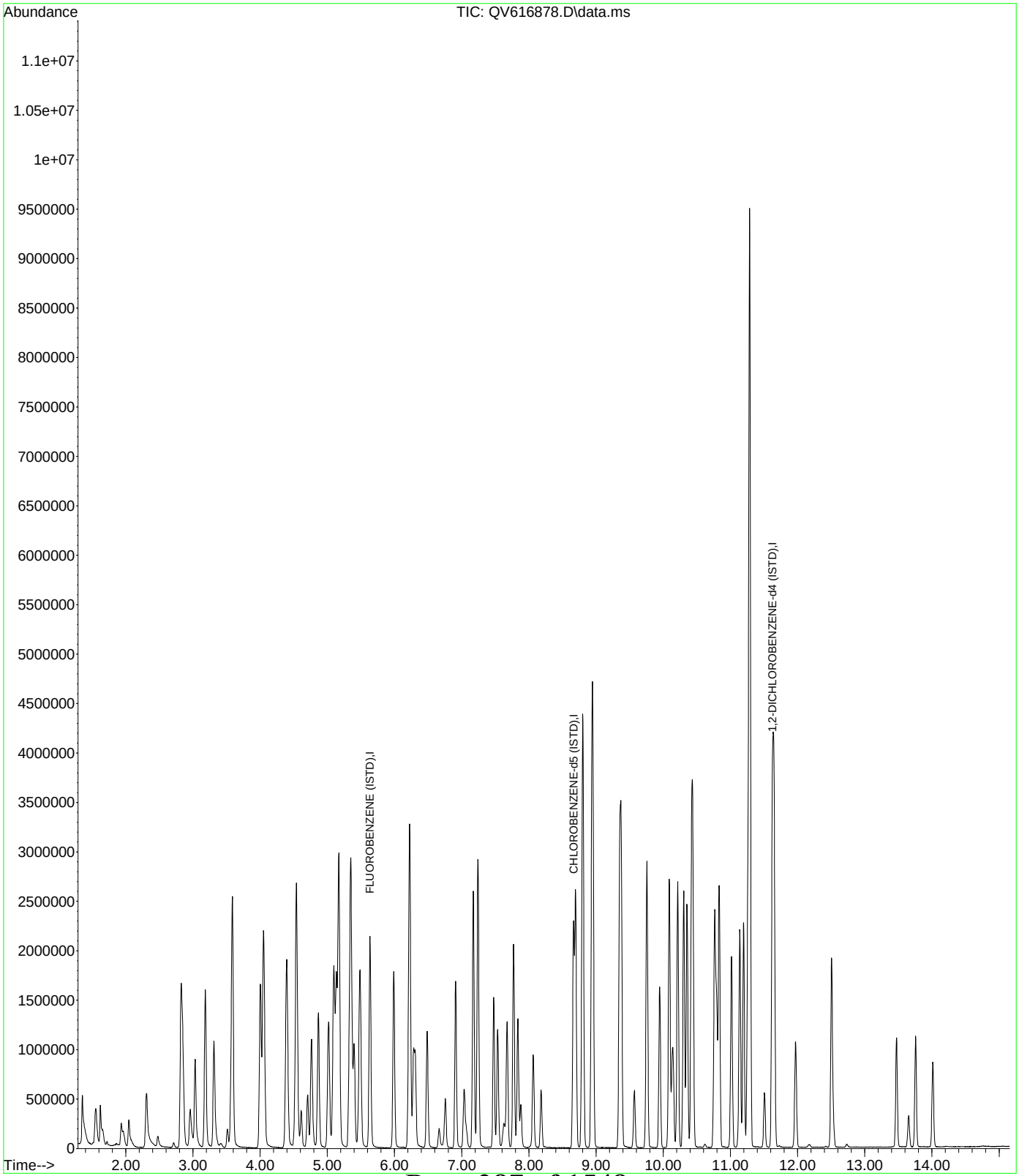
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.633	70	377421	10.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.666	117	1311031	10.00	ppb	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	472778	10.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	5.324	65	525337	0.00	ppb	0.00
Spiked Amount 10.000	Range 69 - 130		Recovery =	0.00%#		
53) Toluene-d8 (SURR)	7.172	98	1711232	0.00	ppb	0.00
Spiked Amount 10.000	Range 81 - 117		Recovery =	0.00%#		
73) p-Bromofluorobenzene (...	9.948	95	587489	0.00	ppb	0.00
Spiked Amount 10.000	Range 79 - 122		Recovery =	0.00%#		
Target Compounds						Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616878.D
Acq On : 8 Oct 2019 5:59 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL4
Misc : QBQV6100819A 10.0 PPB AQU
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 08 19:23:14 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:22:45 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616879.D
Acq On : 8 Oct 2019 6:26 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV6100819A 20.0 PPB AQU
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 19:36:02 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.636	70	393622	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.666	117	1381402	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	511963	10.00	ppb	#	0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	554916	10.13	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 101.30%				
53) Toluene-d8 (SURR)	7.175	98	1802534	10.00	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 100.00%				
73) p-Bromofluorobenzene (...	9.949	95	622767	9.79	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.90%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	892512m	24.89	ppb		
3) Chloromethane	1.552	50	1255382	24.87	ppb	#	43
4) Vinyl Chloride	1.621	62	1289443	25.86	ppb	#	48
5) Bromomethane	1.933	94	632469m	25.14	ppb		
6) Chloroethane	2.047	64	792631	26.06	ppb		90
7) Trichlorofluoromethane	2.309	101	1735715	25.52	ppb		98
8) Ethanol	2.478	45	397452	1313.89	ppb	#	1
9) Freon-113	2.843	101	1105484	21.98	ppb	#	78
10) 1,1-Dichloroethylene	2.820	61	1914868	22.25	ppb		97
11) Acrolein	2.715	56	80042	22.39	ppb	#	83
12) Acetone	2.843	43	351482	20.43	ppb	#	96
13) Iodomethane	2.960	142	1468511	24.58	ppb		100
14) Allyl Chloride	3.185	76	645990	22.54	ppb	#	100
15) Methyl Acetate	3.174	43	760034	21.41	ppb		99
16) Carbon disulfide	3.032	76	2893822	22.43	ppb		100
18) Methylene Chloride	3.310	49	1728147	22.27	ppb		91
19) Acrylonitrile	3.510	53	307002	21.44	ppb	#	42
20) trans-1,2-Dichloroethy...	3.588	61	1819319	22.52	ppb		99
21) tert-Butyl Methyl Ethe...	3.577	73	3170434	21.79	ppb	#	88
22) 1,1-Dichloroethane	4.000	63	2449911	22.50	ppb		99
23) Vinyl Acetate	4.047	43	2142549	20.40	ppb	#	100
24) Diisopropyl ether (DIPE)	4.050	45	4855055	20.37	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.395	59	4166898	20.20	ppb	#	98
26) cis-1,2-Dichloroethylene	4.537	61	2184545	22.44	ppb		99
28) 2,2-Dichloropropane	4.543	77	2024469	22.41	ppb	#	65
29) Tetrahydrofuran	4.774	42	308100	21.26	ppb	#	47
30) Bromochloromethane	4.762	49	1090156	21.54	ppb		93
31) Chloroform	4.865	83	2220231	22.12	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	2108318	22.63	ppb		97
33) Cyclohexane	5.096	56	2108786	24.01	ppb	#	86
34) 1,1-Dichloropropylene	5.171	75	1810674	22.95	ppb		91
36) Carbon Tetrachloride	5.171	117	1948319	22.96	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.366	59	964848	203.35	ppb	#	82
38) 1,2-Dichloroethane	5.400	62	1599998	22.19	ppb	#	87
39) Benzene	5.347	78	4863746	22.30	ppb	#	70
40) tert-Amyl methyl ether...	5.486	73	3334360	20.41	ppb	#	100
42) Trichloroethylene	5.989	95	1338984	22.42	ppb		95
43) Methyl Cyclohexane	6.220	83	1779175	21.83	ppb	#	82
44) Methyl Methacrylate	6.282	69	688617	21.38	ppb	#	28
45) Dibromomethane	6.312	93	700387	21.91	ppb		95
46) Bromodichloromethane	6.485	83	1670746	21.86	ppb		96
47) 1,2-Dichloropropane	6.226	63	1384813	21.99	ppb	#	99
48) 1,4-Dioxane	6.298	88	144202	436.34	ppb	#	78
49) 2-nitropropane	6.666	43	343928	21.87	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	446859	20.79	ppb	#	93
51) cis-1,3-Dichloropropene	6.910	75	2036688	22.00	ppb		92
52) 4-Methyl-2-Pentanone	7.036	43	1527491	21.45	ppb		89
54) Toluene	7.241	91	4978842	22.01	ppb		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616879.D
Acq On : 8 Oct 2019 6:26 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV6100819A 20.0 PPB AQU
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 19:36:02 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

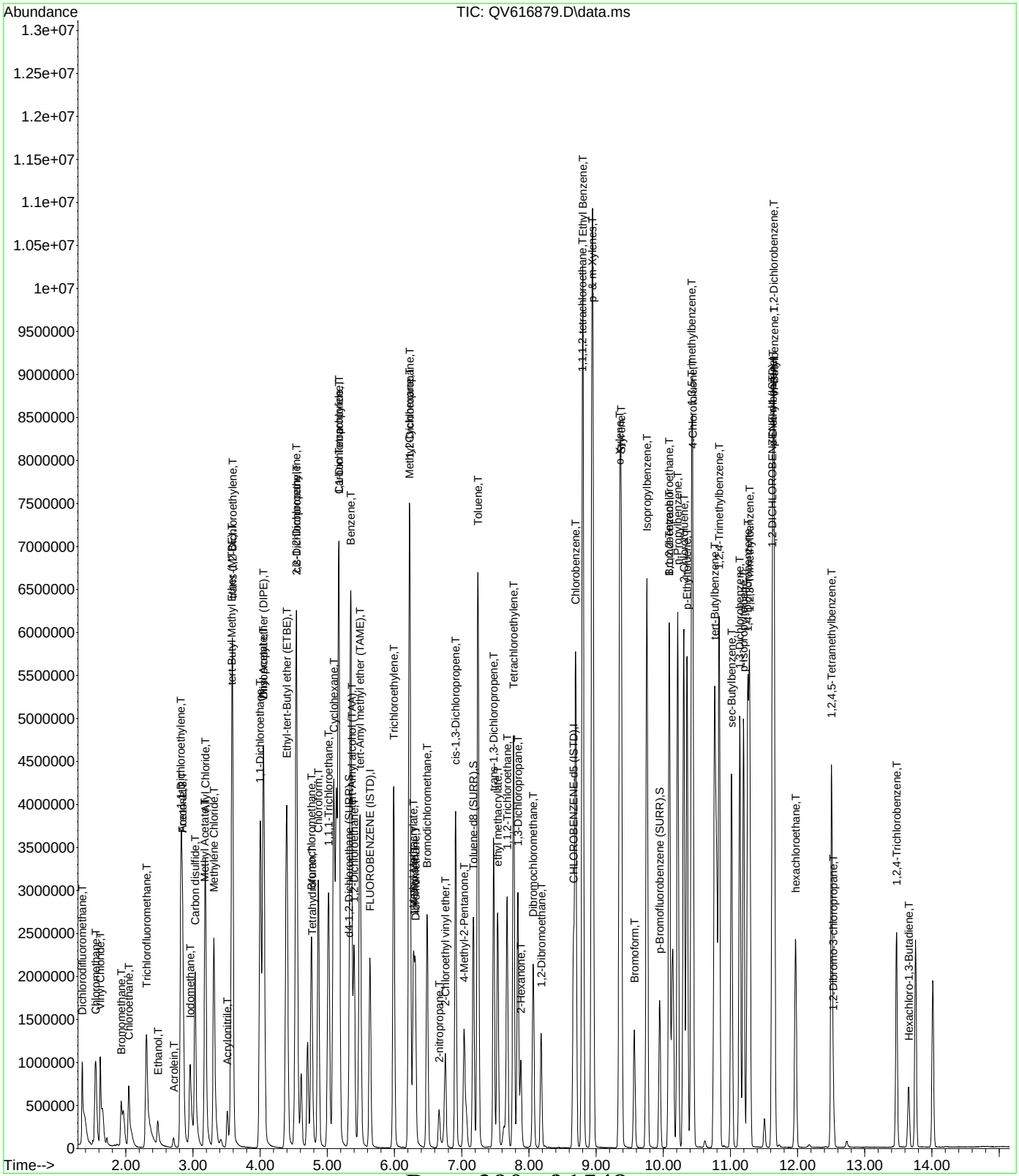
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) trans-1,3-Dichloropropene	7.475	75	1755234	21.84	ppb		99
56) ethyl methacrylate	7.536	69	1371689	21.67	ppb	#	100
57) 1,1,2-Trichloroethane	7.675	97	924134	21.50	ppb		96
58) 1,3-Dichloropropane	7.837	76	1572316	21.65	ppb	#	61
59) Tetrachloroethylene	7.773	166	1457155	22.40	ppb	#	77
60) 2-Hexanone	7.879	43	758633	21.32	ppb	#	29
61) Dibromochloromethane	8.065	129	1179274	21.94	ppb		98
62) 1,2-Dibromoethane	8.185	107	921092	21.58	ppb		96
63) Chlorobenzene	8.697	112	3170538	21.91	ppb		93
64) 1,1,1,2-tetrachloroethane	8.794	131	1232693	22.05	ppb		97
65) Ethyl Benzene	8.805	91	5354642	21.99	ppb		99
66) p- & m-Xylenes	8.947	91	8277892	43.77	ppb		97
67) o-Xylene	9.350	91	4229620	21.96	ppb		100
68) Styrene	9.375	104	3389240	21.95	ppb		97
69) Bromoform	9.570	173	668891	22.18	ppb	#	80
71) p-Ethyltoluene	10.355	105	3979879	20.91	ppb		83
72) Isopropylbenzene	9.757	105	4921042	21.15	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	976548	20.87	ppb	#	99
75) Bromobenzene	10.090	77	1996476	21.18	ppb		92
78) n-Propylbenzene	10.216	91	5345814	21.12	ppb		99
79) 2-Chlorotoluene	10.307	91	3424151	21.27	ppb		98
80) 4-Chlorotoluene	10.441	91	3960689	21.24	ppb		98
81) 1,3,5-Trimethylbenzene	10.424	105	3731908	20.97	ppb	#	63
82) tert-Butylbenzene	10.767	119	3589068	21.20	ppb		93
83) 1,2,4-Trimethylbenzene	10.833	105	3744609	21.07	ppb		98
84) sec-Butylbenzene	11.017	105	3513691	21.08	ppb		99
85) 1,3-Dichlorobenzene	11.139	146	2216144	21.10	ppb		99
86) p-Isopropyltoluene	11.195	119	3259526	20.35	ppb		98
87) 1,4-Dichlorobenzene	11.259	146	2250298	21.19	ppb		98
88) 1,2,3-Trimethylbenzene	11.287	105	3455043	5.34	ppb		100
89) p-Diethylbenzene	11.629	105	1464192	21.37	ppb	#	98
90) 1,2-Dichlorobenzene	11.646	146	2033158	21.03	ppb	#	88
91) n-Butylbenzene	11.651	91	2891699	21.32	ppb		95
92) hexachloroethane	11.971	117	597140	21.65	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.530	75	169146	20.90	ppb		87
94) 1,2,4,5-Tetramethylben...	12.505	119	2642043	20.86	ppb		99
96) 1,2,4-Trichlorobenzene	13.474	180	843556	20.86	ppb		97
97) Hexachloro-1,3-Butadiene	13.655	225	168234	21.25	ppb		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616879.D
Acq On : 8 Oct 2019 6:26 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL5
Misc : QBQV6100819A 20.0 PPB AQU
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 08 19:36:02 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616880.D
Acq On : 8 Oct 2019 6:52 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV6100819A 40.0 PPB AQU
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 20:19:08 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.636	70	388232	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1344822	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.624	152	502517	10.00	ppb	#	0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	538837	9.97	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.70%				
53) Toluene-d8 (SURR)	7.175	98	1780424	10.14	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 101.40%				
73) p-Bromofluorobenzene (...	9.946	95	605882	9.70	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	1340949m	37.92	ppb		
3) Chloromethane	1.552	50	2025676	40.69	ppb	#	44
4) Vinyl Chloride	1.621	62	2013668	40.94	ppb	#	47
5) Bromomethane	1.930	94	1064741m	42.91	ppb		
6) Chloroethane	2.044	64	1273056	42.43	ppb		90
7) Trichlorofluoromethane	2.309	101	2689450	40.10	ppb		98
8) Ethanol	2.473	45	623029	2088.19	ppb	#	1
9) Freon-113	2.843	101	1727037	34.81	ppb		99
10) 1,1-Dichloroethylene	2.820	61	3013443	35.50	ppb		97
11) Acrolein	2.712	56	132092	37.45	ppb	#	81
12) Acetone	2.846	43	540586	31.86	ppb	#	97
13) Iodomethane	2.957	142	2296848	38.98	ppb		99
14) Allyl Chloride	3.185	76	968967	34.27	ppb	#	100
15) Methyl Acetate	3.171	43	1212635	34.64	ppb		99
16) Carbon disulfide	3.032	76	4571513	35.93	ppb		100
18) Methylene Chloride	3.313	49	2753858	35.97	ppb		91
19) Acrylonitrile	3.510	53	507732	35.96	ppb	#	68
20) trans-1,2-Dichloroethy...	3.588	61	2934493	36.82	ppb		99
21) tert-Butyl Methyl Ethe...	3.580	73	5096566	35.51	ppb	#	88
22) 1,1-Dichloroethane	4.000	63	3877897	36.11	ppb		99
23) Vinyl Acetate	4.050	43	3203030	30.91	ppb	#	100
24) Diisopropyl ether (DIPE)	4.050	45	7291788	31.01	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.392	59	6277381	30.86	ppb	#	98
26) cis-1,2-Dichloroethylene	4.537	61	3486691	36.32	ppb		99
28) 2,2-Dichloropropane	4.543	77	3174329	35.63	ppb	#	65
29) Tetrahydrofuran	4.776	42	509970	35.68	ppb	#	48
30) Bromochloromethane	4.762	49	1723027	34.52	ppb		93
31) Chloroform	4.865	83	3550629	35.87	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	3332954	36.26	ppb	#	82
33) Cyclohexane	5.099	56	3064460	35.38	ppb	#	83
34) 1,1-Dichloropropylene	5.169	75	2886461	37.09	ppb		91
36) Carbon Tetrachloride	5.171	117	3085551	36.86	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.366	59	1502640	321.08	ppb		96
38) 1,2-Dichloroethane	5.400	62	2583050	36.33	ppb		100
39) Benzene	5.350	78	7740383	35.98	ppb	#	71
40) tert-Amyl methyl ether...	5.486	73	5037276	31.26	ppb	#	100
42) Trichloroethylene	5.989	95	2147931	36.95	ppb		95
43) Methyl Cyclohexane	6.220	83	2895614	36.50	ppb	#	83
44) Methyl Methacrylate	6.282	69	1125762	35.90	ppb	#	28
45) Dibromomethane	6.309	93	1131002	36.34	ppb		96
46) Bromodichloromethane	6.485	83	2688262	36.13	ppb		95
47) 1,2-Dichloropropane	6.229	63	2230363	36.38	ppb	#	100
48) 1,4-Dioxane	6.298	88	228235	709.40	ppb	#	78
49) 2-nitropropane	6.663	43	566267	36.98	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	708551	33.86	ppb	#	92
51) cis-1,3-Dichloropropene	6.910	75	3262715	36.19	ppb		92
52) 4-Methyl-2-Pentanone	7.038	43	2487519	35.88	ppb		89
54) Toluene	7.241	91	7862320	35.70	ppb		98

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616880.D
Acq On : 8 Oct 2019 6:52 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV6100819A 40.0 PPB AQU
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 20:19:08 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration

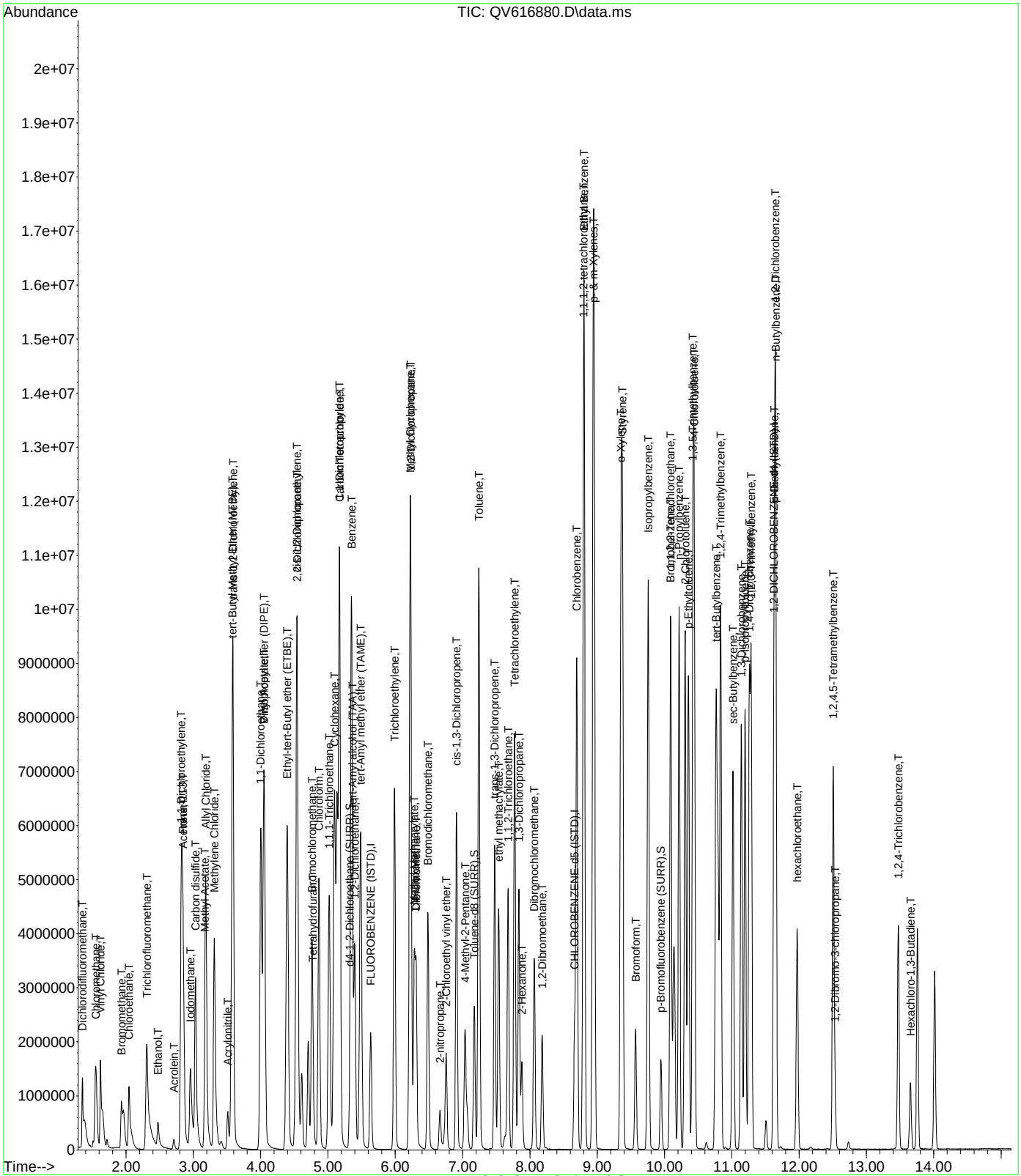
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
55) trans-1,3-Dichloropropene	7.475	75	2826558	36.13	ppb		99
56) ethyl methacrylate	7.536	69	2222163	36.06	ppb	#	100
57) 1,1,2-Trichloroethane	7.676	97	1491320	35.63	ppb		96
58) 1,3-Dichloropropane	7.837	76	2528439	35.76	ppb	#	61
59) Tetrachloroethylene	7.773	166	2329264	36.78	ppb	#	100
60) 2-Hexanone	7.881	43	1227086	35.41	ppb	#	30
61) Dibromochloromethane	8.065	129	1909199	36.49	ppb		97
62) 1,2-Dibromoethane	8.182	107	1485445	35.75	ppb		96
63) Chlorobenzene	8.697	112	5023422	35.66	ppb		93
64) 1,1,1,2-tetrachloroethane	8.797	131	1966130	36.12	ppb		98
65) Ethyl Benzene	8.805	91	8436846	35.60	ppb		100
66) p- & m-Xylenes	8.947	91	12927164	70.21	ppb		98
67) o-Xylene	9.353	91	6660170	35.53	ppb		100
68) Styrene	9.375	104	5390711	35.86	ppb		97
69) Bromoform	9.570	173	1103235	37.58	ppb		99
71) p-Ethyltoluene	10.355	105	6307108	33.76	ppb	#	82
72) Isopropylbenzene	9.757	105	7766757	34.01	ppb		97
74) 1,1,2,2-Tetrachloroethane	10.090	83	1595027	34.72	ppb	#	69
75) Bromobenzene	10.088	77	3222082	34.82	ppb		91
78) n-Propylbenzene	10.216	91	8432924	33.94	ppb		99
79) 2-Chlorotoluene	10.307	91	5443453	34.44	ppb		98
80) 4-Chlorotoluene	10.441	91	6309630	34.47	ppb		98
81) 1,3,5-Trimethylbenzene	10.422	105	5950957	34.07	ppb	#	64
82) tert-Butylbenzene	10.767	119	5736206	34.52	ppb		93
83) 1,2,4-Trimethylbenzene	10.833	105	5950415	34.11	ppb		98
84) sec-Butylbenzene	11.017	105	5680965	34.73	ppb		98
85) 1,3-Dichlorobenzene	11.142	146	3570199	34.64	ppb		99
86) p-Isopropyltoluene	11.198	119	5262175	33.47	ppb		97
87) 1,4-Dichlorobenzene	11.259	146	3636866	34.90	ppb		97
88) 1,2,3-Trimethylbenzene	11.287	105	5598494	8.82	ppb		99
89) p-Diethylbenzene	11.629	105	2386310	35.48	ppb	#	98
90) 1,2-Dichlorobenzene	11.646	146	3281331	34.57	ppb	#	88
91) n-Butylbenzene	11.651	91	4739898	35.60	ppb		93
92) hexachloroethane	11.971	117	982973	36.31	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.533	75	279925	35.23	ppb		88
94) 1,2,4,5-Tetramethylben...	12.505	119	4285163	34.46	ppb		99
96) 1,2,4-Trichlorobenzene	13.474	180	1415924	35.68	ppb		97
97) Hexachloro-1,3-Butadiene	13.655	225	284455	36.60	ppb		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616880.D
Acq On : 8 Oct 2019 6:52 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL6
Misc : QBQV6100819A 40.0 PPB AQU
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 08 20:19:08 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 19:24:07 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616881.D
Acq On : 8 Oct 2019 7:19 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL7
Misc : QBQV6100819A 80.0 PPB AQU
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 08 20:21:01 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:20:10 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	376164	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1280100	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	486480	10.00	ppb	#	0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.327	65	522805	9.98	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.80%				
53) Toluene-d8 (SURR)	7.175	98	1691669	10.10	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 101.00%				
73) p-Bromofluorobenzene (...	9.948	95	576958	9.71	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.354	85	2497805m	69.91	ppb		
3) Chloromethane	1.552	50	3731509	72.19	ppb	#	45
4) Vinyl Chloride	1.621	62	3698573	71.11	ppb	#	47
5) Bromomethane	1.933	94	2049857m	75.37	ppb		
6) Chloroethane	2.047	64	2341449	73.23	ppb		90
7) Trichlorofluoromethane	2.308	101	5005354	74.13	ppb		98
8) Ethanol	2.475	45	1144859	3432.07	ppb	#	1
9) Freon-113	2.843	101	3297750	76.29	ppb		99
10) 1,1-Dichloroethylene	2.820	61	5523388	70.17	ppb		95
11) Acrolein	2.712	56	271807	81.57	ppb	#	83
12) Acetone	2.845	43	1039691	76.85	ppb	#	96
13) Iodomethane	2.959	142	4118605	70.72	ppb		100
14) Allyl Chloride	3.188	76	1846702	69.28	ppb	#	100
15) Methyl Acetate	3.174	43	2380608	74.52	ppb		99
16) Carbon disulfide	3.035	76	8294904	72.26	ppb		100
17) tert-Butyl Alcohol (TBA)	3.416	59	355578	Below Cal		#	1
18) Methylene Chloride	3.313	49	5166741	72.41	ppb		90
19) Acrylonitrile	3.513	53	993129	76.09	ppb	#	45
20) trans-1,2-Dichloroethy...	3.588	61	5444314	72.83	ppb		99
21) tert-Butyl Methyl Ethe...	3.580	73	10003383	76.55	ppb	#	88
22) 1,1-Dichloroethane	4.003	63	6896469	69.30	ppb	#	97
23) Vinyl Acetate	4.050	43	6322496	74.47	ppb	#	100
24) Diisopropyl ether (DIPE)	4.050	45	13937433	71.61	ppb	#	98
25) Ethyl-tert-Butyl ether...	4.395	59	12152316	72.66	ppb	#	98
26) cis-1,2-Dichloroethylene	4.540	61	6419412	72.04	ppb		99
27) 2-Butanone	4.515	72	353113	Below Cal		#	95
28) 2,2-Dichloropropane	4.543	77	5908755	71.65	ppb	#	85
29) Tetrahydrofuran	4.773	42	1018418	73.83	ppb	#	47
30) Bromochloromethane	4.762	49	3248657	69.82	ppb		93
31) Chloroform	4.865	83	6641051	71.72	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	6228331	73.42	ppb	#	82
33) Cyclohexane	5.096	56	6152878	77.07	ppb	#	86
34) 1,1-Dichloropropylene	5.171	75	5444032	75.27	ppb		91
36) Carbon Tetrachloride	5.174	117	5801503	74.48	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.369	59	3005587	776.51	ppb		96
38) 1,2-Dichloroethane	5.399	62	4932919	74.95	ppb		99
39) Benzene	5.349	78	14102292	70.76	ppb	#	71
40) tert-Amyl methyl ether...	5.486	73	9902423	74.55	ppb	#	100
42) Trichloroethylene	5.989	95	4036199	76.30	ppb		95
43) Methyl Cyclohexane	6.223	83	5428121	81.11	ppb	#	84
44) Methyl Methacrylate	6.284	69	2278509	83.48	ppb	#	28
45) Dibromomethane	6.309	93	2217106	79.01	ppb		96
46) Bromodichloromethane	6.485	83	5143057	77.70	ppb		95
47) 1,2-Dichloropropane	6.229	63	4276591	77.76	ppb	#	99
48) 1,4-Dioxane	6.295	88	436029	1398.33	ppb	#	86
49) 2-nitropropane	6.665	43	1118945	82.60	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	1359756	76.74	ppb	#	93
51) cis-1,3-Dichloropropene	6.910	75	6211830	77.63	ppb		92

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616881.D
Acq On : 8 Oct 2019 7:19 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL7
Misc : QBQV6100819A 80.0 PPB AQU
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 08 20:21:01 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:20:10 2019
Response via : Initial Calibration

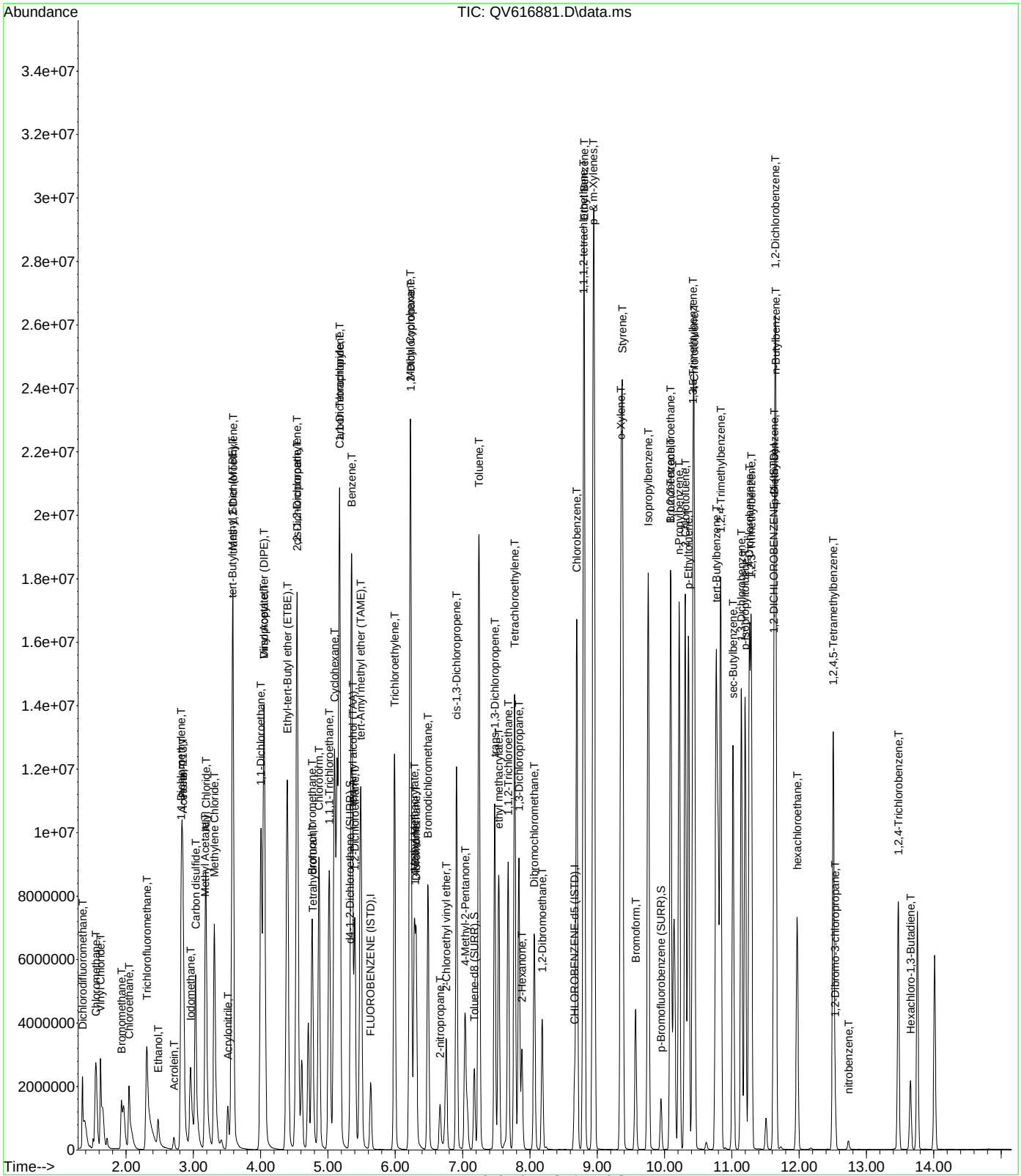
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 4-Methyl-2-Pentanone	7.038	43	4874053	78.79	ppb		89
54) Toluene	7.244	91	14057874	69.86	ppb		98
55) trans-1,3-Dichloropropene	7.478	75	5427701	78.33	ppb		99
56) ethyl methacrylate	7.536	69	4320831	79.91	ppb	#	100
57) 1,1,2-Trichloroethane	7.678	97	2870997	76.27	ppb		97
58) 1,3-Dichloropropane	7.837	76	4848209	78.02	ppb	#	61
59) Tetrachloroethylene	7.773	166	4337388	75.54	ppb	#	77
60) 2-Hexanone	7.881	43	2376788	78.96	ppb	#	31
61) Dibromochloromethane	8.065	129	3655206	79.40	ppb		97
62) 1,2-Dibromoethane	8.182	107	2844544	77.70	ppb		96
63) Chlorobenzene	8.696	112	9216154	72.73	ppb		92
64) 1,1,1,2-tetrachloroethane	8.797	131	3651492	75.86	ppb		98
65) Ethyl Benzene	8.808	91	14659074	68.89	ppb		98
66) p- & m-Xylenes	8.941	91	21484727m	130.24	ppb		
67) o-Xylene	9.353	91	11978704	71.11	ppb		100
68) Styrene	9.375	104	9772714	73.31	ppb		97
69) Bromoform	9.570	173	2149162	83.95	ppb	#	80
71) p-Ethyltoluene	10.355	105	11162869	69.46	ppb	#	82
72) Isopropylbenzene	9.756	105	13533199	67.33	ppb		95
74) 1,1,2,2-Tetrachloroethane	10.090	83	3067372	76.90	ppb	#	69
75) Bromobenzene	10.090	77	5930952	72.33	ppb		92
76) trans-1,4-Dichloro-2-b...	10.146	75	3507108	Below Cal		#	59
77) 1,2,3-Trichloropropane	10.152	110	895927	Below Cal			71
78) n-Propylbenzene	10.218	91	14551046	66.63	ppb		97
79) 2-Chlorotoluene	10.307	91	9768956	69.64	ppb		98
80) 4-Chlorotoluene	10.441	91	11344273	70.39	ppb		98
81) 1,3,5-Trimethylbenzene	10.424	105	10534028	69.10	ppb	#	63
82) tert-Butylbenzene	10.769	119	10245946	70.21	ppb		94
83) 1,2,4-Trimethylbenzene	10.836	105	10620338	67.81	ppb		99
84) sec-Butylbenzene	11.017	105	10033170	70.32	ppb		97
85) 1,3-Dichlorobenzene	11.142	146	6523115	71.65	ppb		98
86) p-Isopropyltoluene	11.198	119	9359627	70.19	ppb		96
87) 1,4-Dichlorobenzene	11.262	146	6636452	71.63	ppb		97
88) 1,2,3-Trimethylbenzene	11.289	105	10073548	46.21	ppb		99
89) p-Diethylbenzene	11.629	105	4290709	73.36	ppb	#	97
90) 1,2-Dichlorobenzene	11.646	146	5975406	71.54	ppb	#	88
91) n-Butylbenzene	11.654	91	8462469	72.26	ppb		93
92) hexachloroethane	11.971	117	1827048	77.94	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.533	75	534028	76.00	ppb	#	53
94) 1,2,4,5-Tetramethylben...	12.505	119	7794074	72.77	ppb		99
95) nitrobenzene	12.733	77	135961	94.58	ppb	#	100
96) 1,2,4-Trichlorobenzene	13.474	180	2604981	72.75	ppb		97
97) Hexachloro-1,3-Butadiene	13.654	225	512925	70.14	ppb		98
98) Naphthalene	13.757	128	6390306	Below Cal			99
99) 1,2,3-Trichlorobenzene	14.013	180	2037231	Below Cal			97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616881.D
Acq On : 8 Oct 2019 7:19 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL7
Misc : QBQV6100819A 80.0 PPB AQU
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 08 20:21:01 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:20:10 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616882.D
Acq On : 8 Oct 2019 7:45 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL8
Misc : QBQV6100819A 120. PPB AQU
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 20:22:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:21:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.636	70	358495	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.666	117	1213427	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	477117	10.00	ppb	#	0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.327	65	496957	9.96	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.60%				
53) Toluene-d8 (SURR)	7.175	98	1622199	10.21	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 102.10%				
73) p-Bromofluorobenzene (...	9.946	95	558882	9.63	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 96.30%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	3745514m	112.01	ppb		
3) Chloromethane	1.552	50	5869951	120.85	ppb	#	43
4) Vinyl Chloride	1.621	62	5670765	116.25	ppb	#	53
5) Bromomethane	1.930	94	3325486m	129.37	ppb		
6) Chloroethane	2.044	64	3646324	121.12	ppb		90
7) Trichlorofluoromethane	2.308	101	7565892	118.81	ppb		98
8) Ethanol	2.478	45	1927454	6188.44	ppb	#	1
9) Freon-113	2.843	101	4998884	122.15	ppb		99
10) 1,1-Dichloroethylene	2.823	61	8470338	114.92	ppb		96
11) Acrolein	2.712	56	423847	133.09	ppb	#	83
12) Acetone	2.845	43	1503756	121.40	ppb	#	95
13) Iodomethane	2.959	142	5975085	119.33	ppb		99
14) Allyl Chloride	3.188	76	2840235	113.99	ppb	#	100
15) Methyl Acetate	3.174	43	3577269	118.66	ppb		99
16) Carbon disulfide	3.032	76	12750140	127.39	ppb		100
17) tert-Butyl Alcohol (TBA)	3.418	59	531704	132.81	ppb	#	1
18) Methylene Chloride	3.313	49	8032498	119.74	ppb		90
19) Acrylonitrile	3.513	53	1503732	121.73	ppb	#	67
20) trans-1,2-Dichloroethy...	3.591	61	8257065	117.40	ppb		99
21) tert-Butyl Methyl Ethe...	3.580	73	15159217	122.47	ppb	#	88
22) 1,1-Dichloroethane	4.006	63	10550132	113.40	ppb	#	97
23) Vinyl Acetate	4.053	43	9504113	118.64	ppb	#	100
24) Diisopropyl ether (DIPE)	4.053	45	20824817	113.98	ppb	#	98
25) Ethyl-tert-Butyl ether...	4.395	59	18363626	116.74	ppb	#	98
26) cis-1,2-Dichloroethylene	4.540	61	9814876	117.23	ppb		99
27) 2-Butanone	4.515	72	538753	155.59	ppb	#	95
28) 2,2-Dichloropropane	4.543	77	9021779	116.52	ppb		94
29) Tetrahydrofuran	4.776	42	1513710	116.43	ppb	#	47
30) Bromochloromethane	4.762	49	4949288	113.68	ppb		93
31) Chloroform	4.868	83	9925953	114.17	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	9599580	120.14	ppb	#	82
33) Cyclohexane	5.099	56	9808183	129.59	ppb	#	88
34) 1,1-Dichloropropylene	5.174	75	8426048	123.28	ppb		91
36) Carbon Tetrachloride	5.174	117	8892296	120.99	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.369	59	4537744	1235.31	ppb		96
38) 1,2-Dichloroethane	5.402	62	7675175	123.47	ppb		99
39) Benzene	5.344	78	19607689m	104.96	ppb		
40) tert-Amyl methyl ether...	5.488	73	15099789	120.45	ppb	#	99
42) Trichloroethylene	5.989	95	6274280	125.96	ppb		95
43) Methyl Cyclohexane	6.223	83	8325892	130.98	ppb	#	85
44) Methyl Methacrylate	6.284	69	3471256	133.33	ppb		91
45) Dibromomethane	6.309	93	3249538	122.38	ppb		96
46) Bromodichloromethane	6.487	83	7881484	126.13	ppb		95
47) 1,2-Dichloropropane	6.229	63	6618699	127.47	ppb	#	100
48) 1,4-Dioxane	6.298	88	640621	2207.07	ppb	#	79
49) 2-nitropropane	6.665	43	1686220	130.71	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	2035880	121.92	ppb	#	93
51) cis-1,3-Dichloropropene	6.910	75	9461501	125.28	ppb		91

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616882.D
Acq On : 8 Oct 2019 7:45 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL8
Misc : QBQV6100819A 120. PPB AQU
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 20:22:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:21:27 2019
Response via : Initial Calibration

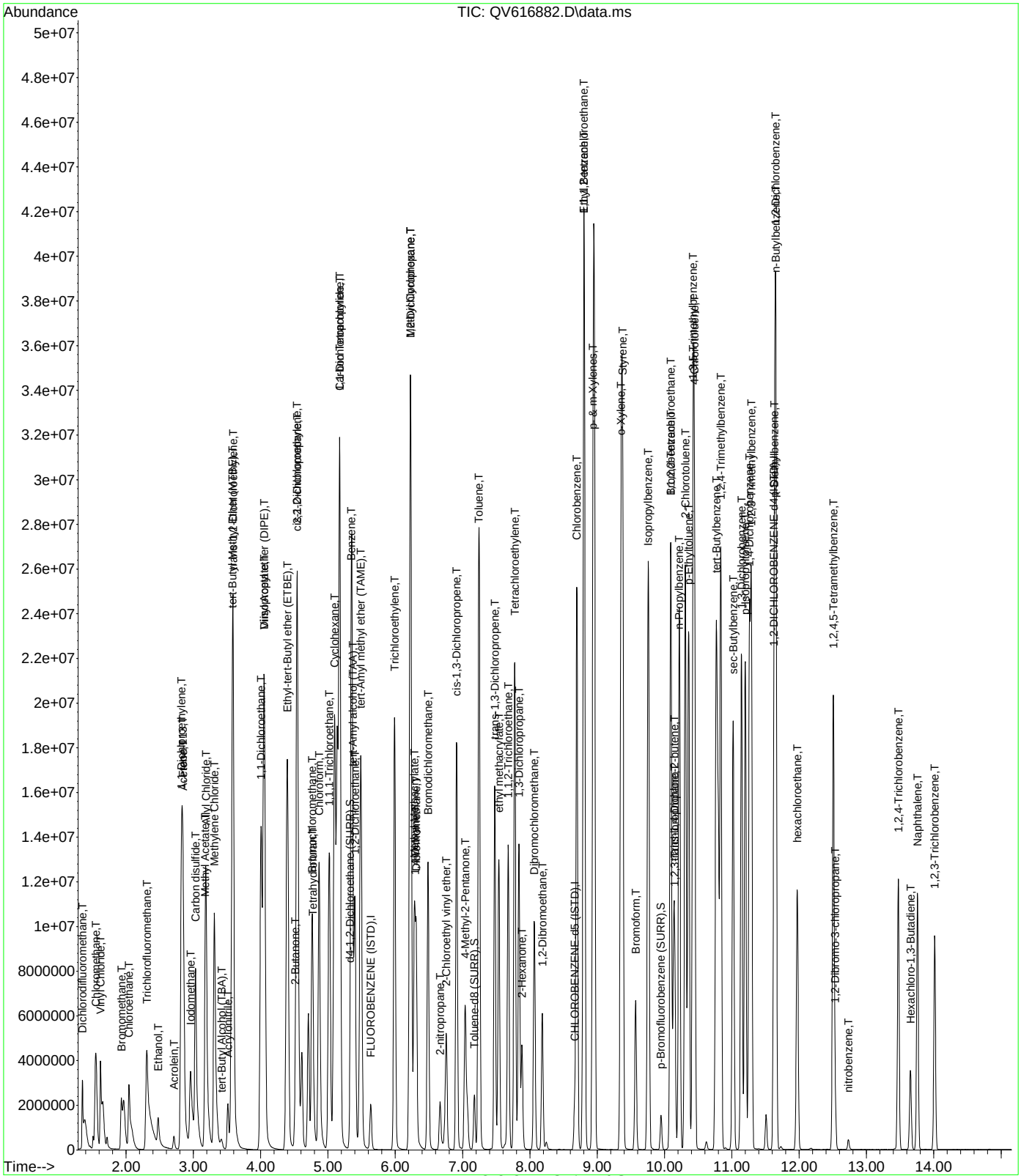
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 4-Methyl-2-Pentanone	7.038	43	7287293	124.55	ppb		89
54) Toluene	7.239	91	19061053m	101.77	ppb		
55) trans-1,3-Dichloropropene	7.478	75	8193851	125.12	ppb		99
56) ethyl methacrylate	7.539	69	6537075	127.56	ppb	#	100
57) 1,1,2-Trichloroethane	7.678	97	4337584	122.38	ppb		97
58) 1,3-Dichloropropane	7.837	76	7266447	126.29	ppb	#	61
59) Tetrachloroethylene	7.775	166	6624990	122.70	ppb	#	100
60) 2-Hexanone	7.881	43	3518556	123.54	ppb	#	29
61) Dibromochloromethane	8.065	129	5513200	126.47	ppb		97
62) 1,2-Dibromoethane	8.184	107	4268906	123.53	ppb		96
63) Chlorobenzene	8.696	112	13585103	114.59	ppb		91
64) 1,1,1,2-tetrachloroethane	8.799	131	5397888	119.19	ppb		98
65) Ethyl Benzene	8.799	91	18979984m	96.00	ppb		
66) p- & m-Xylenes	8.936	91	25533458m	167.75	ppb		
67) o-Xylene	9.353	91	17117271	108.92	ppb		99
68) Styrene	9.378	104	14225795	113.93	ppb		95
69) Bromoform	9.570	173	3276723	134.08	ppb		99
71) p-Ethyltoluene	10.357	105	16415472	106.14	ppb		84
72) Isopropylbenzene	9.754	105	18753331m	97.34	ppb		
74) 1,1,2,2-Tetrachloroethane	10.093	83	4619326	118.73	ppb	#	98
75) Bromobenzene	10.093	77	9047297	114.06	ppb		91
76) trans-1,4-Dichloro-2-b...	10.146	75	5301735	134.90	ppb	#	58
77) 1,2,3-Trichloropropane	10.152	110	1355744	137.80	ppb		69
78) n-Propylbenzene	10.213	91	19237580m	92.01	ppb		
79) 2-Chlorotoluene	10.310	91	14504111	107.42	ppb		97
80) 4-Chlorotoluene	10.444	91	16736706	107.73	ppb		99
81) 1,3,5-Trimethylbenzene	10.424	105	15633748m	106.64	ppb		
82) tert-Butylbenzene	10.769	119	15533185	110.47	ppb		95
83) 1,2,4-Trimethylbenzene	10.836	105	15764578	104.91	ppb		97
84) sec-Butylbenzene	11.020	105	15230538	110.75	ppb		95
85) 1,3-Dichlorobenzene	11.145	146	9926835	112.86	ppb		97
86) p-Isopropyltoluene	11.200	119	14214244	110.63	ppb		94
87) 1,4-Dichlorobenzene	11.262	146	10007805	111.81	ppb		95
88) 1,2,3-Trimethylbenzene	11.289	105	14960962	74.47	ppb		96
89) p-Diethylbenzene	11.629	105	6735211	118.83	ppb	#	98
90) 1,2-Dichlorobenzene	11.648	146	8938778	110.79	ppb	#	88
91) n-Butylbenzene	11.654	91	13061829	115.31	ppb		93
92) hexachloroethane	11.971	117	2914513	127.23	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.533	75	827987	121.01	ppb		88
94) 1,2,4,5-Tetramethylben...	12.508	119	12057342	116.29	ppb		98
95) nitrobenzene	12.731	77	224973	126.46	ppb	#	100
96) 1,2,4-Trichlorobenzene	13.474	180	4153058	119.81	ppb		97
97) Hexachloro-1,3-Butadiene	13.654	225	845671	120.02	ppb		99
98) Naphthalene	13.757	128	9755740	151.05	ppb		99
99) 1,2,3-Trichlorobenzene	14.013	180	3280803	162.14	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616882.D
Acq On : 8 Oct 2019 7:45 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL8
Misc : QBQV6100819A 120. PPB AQU
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 20:22:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:21:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616883.D
Acq On : 8 Oct 2019 8:18 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL9
Misc : QBQV6100819A 160. PPB AQU
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 08 20:38:33 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:23:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.636	70	359108	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.666	117	1195719	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.626	152	469856	10.00	ppb	#	0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.327	65	478708	9.58	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 95.80%				
53) Toluene-d8 (SURR)	7.175	98	1595585	10.16	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 101.60%				
73) p-Bromofluorobenzene (...	9.949	95	557853	9.81	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 98.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	5172807m	155.73	ppb		
3) Chloromethane	1.549	50	8125304	166.85	ppb	#	43
4) Vinyl Chloride	1.621	62	7940128m	163.13	ppb		
5) Bromomethane	1.927	94	4904597m	188.63	ppb		
6) Chloroethane	2.041	64	5112016	169.32	ppb		90
7) Trichlorofluoromethane	2.309	101	10551374	165.62	ppb		98
8) Ethanol	2.475	45	2253606	7195.01	ppb	#	1
9) Freon-113	2.843	101	6930540	168.69	ppb	#	69
10) 1,1-Dichloroethylene	2.820	61	11866568	161.58	ppb		96
11) Acrolein	2.712	56	567754	175.58	ppb	#	83
12) Acetone	2.843	43	1955685	156.90	ppb	#	95
13) Iodomethane	2.957	142	7495763	150.34	ppb		99
14) Allyl Chloride	3.185	76	3900381	157.26	ppb	#	100
15) Methyl Acetate	3.171	43	4834007	160.30	ppb		99
16) Carbon disulfide	3.032	76	17816866	171.01	ppb		100
17) tert-Butyl Alcohol (TBA)	3.419	59	653274	146.42	ppb	#	1
18) Methylene Chloride	3.310	49	10984716	163.52	ppb		89
19) Acrylonitrile	3.513	53	2033986	164.08	ppb	#	67
20) trans-1,2-Dichloroethy...	3.591	61	11311463	160.99	ppb		99
21) tert-Butyl Methyl Ethe...	3.577	73	19959912	160.57	ppb	#	88
22) 1,1-Dichloroethane	4.003	63	14451498	156.14	ppb		99
23) Vinyl Acetate	4.050	43	13011701	162.38	ppb	#	100
24) Diisopropyl ether (DIPE)	4.039	45	25044940m	137.71	ppb		
25) Ethyl-tert-Butyl ether...	4.390	59	23500115m	149.65	ppb		
26) cis-1,2-Dichloroethylene	4.540	61	13298806	159.04	ppb		99
27) 2-Butanone	4.515	72	719231	159.90	ppb	#	95
28) 2,2-Dichloropropane	4.545	77	12244200	158.45	ppb	#	65
29) Tetrahydrofuran	4.776	42	1974762	152.20	ppb	#	45
30) Bromochloromethane	4.762	49	6785901	156.63	ppb		92
31) Chloroform	4.868	83	13135275	151.75	ppb	#	84
32) 1,1,1-Trichloroethane	5.021	97	13099124	163.64	ppb	#	82
33) Cyclohexane	5.099	56	12623314	164.85	ppb	#	84
34) 1,1-Dichloropropylene	5.174	75	11548498	168.10	ppb		92
36) Carbon Tetrachloride	5.174	117	12029542	163.22	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.372	59	5961527	1614.20	ppb		95
38) 1,2-Dichloroethane	5.402	62	10055534	160.91	ppb	#	98
39) Benzene	5.338	78	22674693m	123.10	ppb		
40) tert-Amyl methyl ether...	5.486	73	19926891	158.61	ppb	#	99
42) Trichloroethylene	5.989	95	8596446	174.05	ppb		94
43) Methyl Cyclohexane	6.223	83	11013398	173.84	ppb	#	85
44) Methyl Methacrylate	6.284	69	4665710	179.38	ppb	#	28
45) Dibromomethane	6.312	93	3887503	148.20	ppb	#	61
46) Bromodichloromethane	6.485	83	10541155	170.11	ppb		95
47) 1,2-Dichloropropane	6.229	63	8891515	172.44	ppb	#	100
48) 1,4-Dioxane	6.295	88	808008	2853.65	ppb	#	86
49) 2-nitropropane	6.666	43	2218710	172.61	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.760	63	2792343	169.36	ppb	#	92
51) cis-1,3-Dichloropropene	6.910	75	12509747	167.17	ppb		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616883.D
Acq On : 8 Oct 2019 8:18 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL9
Misc : QBQV6100819A 160. PPB AQU
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 08 20:38:33 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:23:16 2019
Response via : Initial Calibration

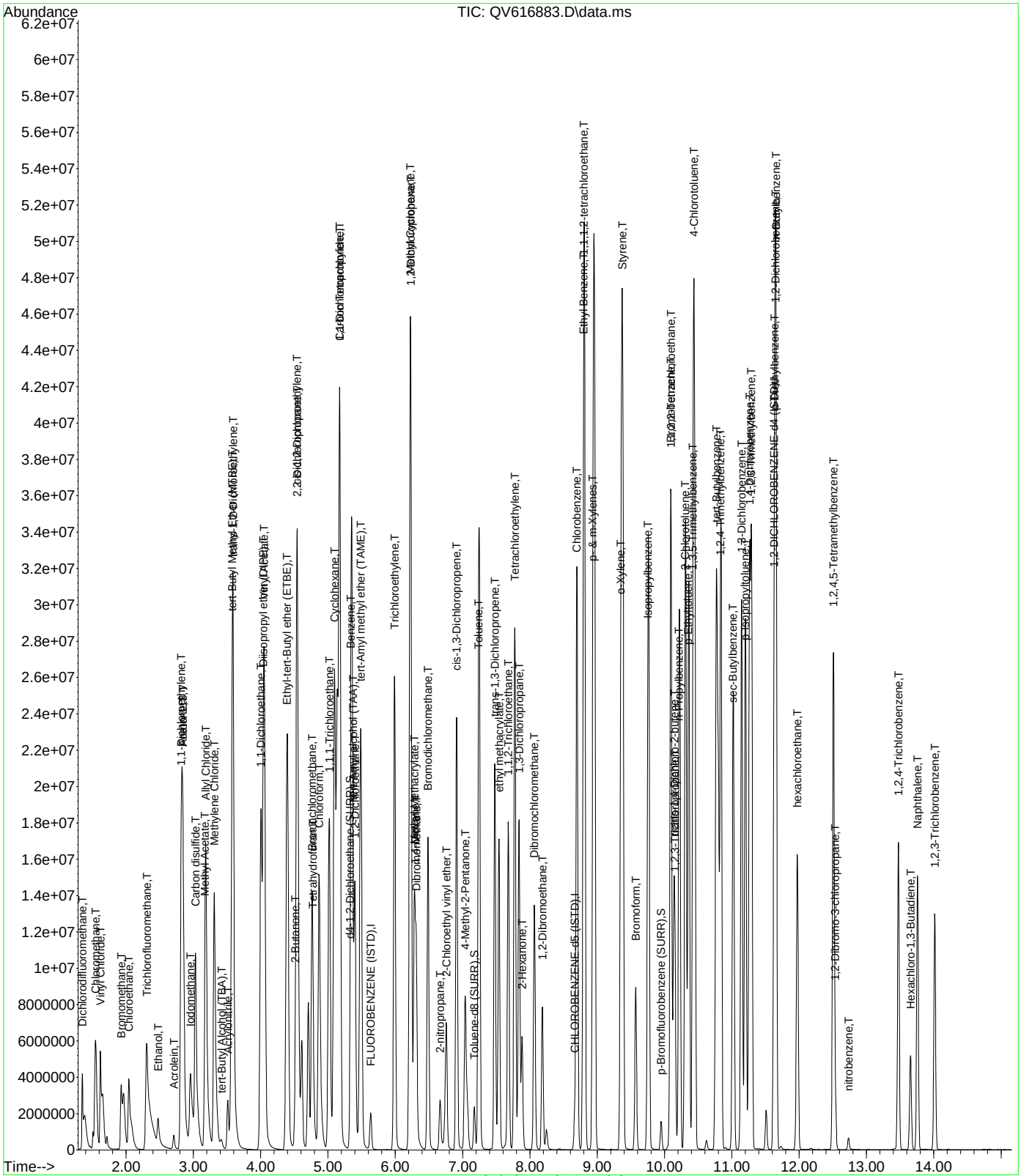
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 4-Methyl-2-Pentanone	7.041	43	9602237	165.76	ppb		89
54) Toluene	7.233	91	21663782m	119.65	ppb		
55) trans-1,3-Dichloropropene	7.478	75	10837350	167.04	ppb		99
56) ethyl methacrylate	7.542	69	8608753	169.14	ppb	#	100
57) 1,1,2-Trichloroethane	7.678	97	5749580	164.21	ppb		97
58) 1,3-Dichloropropane	7.840	76	9640484	164.28	ppb	#	88
59) Tetrachloroethylene	7.776	166	8819575	165.30	ppb	#	100
60) 2-Hexanone	7.884	43	4678900	166.10	ppb	#	29
61) Dibromochloromethane	8.065	129	7299772	168.80	ppb		96
62) 1,2-Dibromoethane	8.187	107	5664504	165.73	ppb		96
63) Chlorobenzene	8.694	112	17250163	148.50	ppb		88
64) 1,1,1,2-tetrachloroethane	8.800	131	7088701	158.98	ppb		99
65) Ethyl Benzene	8.797	91	21641375m	113.93	ppb		
66) p- & m-Xylenes	8.933	91	28080928m	194.54	ppb		
67) o-Xylene	9.348	91	20328943m	132.81	ppb		
68) Styrene	9.375	104	17659933m	144.45	ppb		
69) Bromoform	9.570	173	4445864	181.95	ppb		99
71) p-Ethyltoluene	10.352	105	20955131m	139.61	ppb		
72) Isopropylbenzene	9.751	105	21615637m	116.68	ppb		
74) 1,1,2,2-Tetrachloroethane	10.096	83	6182579	161.58	ppb	#	69
75) Bromobenzene	10.093	77	12060224	155.36	ppb		91
76) trans-1,4-Dichloro-2-b...	10.149	75	7188738	166.86	ppb	#	58
77) 1,2,3-Trichloropropane	10.154	110	1833203	167.02	ppb		71
78) n-Propylbenzene	10.210	91	22033254m	110.22	ppb		
79) 2-Chlorotoluene	10.305	91	20894949m	159.22	ppb		
80) 4-Chlorotoluene	10.438	91	20338263m	134.66	ppb		
81) 1,3,5-Trimethylbenzene	10.419	105	18739476m	131.64	ppb		
82) tert-Butylbenzene	10.772	119	20824841	151.89	ppb		96
83) 1,2,4-Trimethylbenzene	10.831	105	18968635m	130.23	ppb		
84) sec-Butylbenzene	11.014	105	19121328m	142.57	ppb		
85) 1,3-Dichlorobenzene	11.145	146	13248606	154.10	ppb		95
86) p-Isopropyltoluene	11.195	119	18178499m	145.09	ppb		
87) 1,4-Dichlorobenzene	11.265	146	13367922	152.96	ppb		93
88) 1,2,3-Trimethylbenzene	11.284	105	18430673m	97.79	ppb		
89) p-Diethylbenzene	11.632	105	9229579	165.55	ppb	#	95
90) 1,2-Dichlorobenzene	11.649	146	11542390	146.68	ppb	#	87
91) n-Butylbenzene	11.657	91	17432970	157.05	ppb	#	89
92) hexachloroethane	11.971	117	4113314	180.98	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.533	75	1143817	169.58	ppb		88
94) 1,2,4,5-Tetramethylben...	12.508	119	16187758	159.15	ppb		96
95) nitrobenzene	12.734	77	325834	161.89	ppb	#	100
96) 1,2,4-Trichlorobenzene	13.474	180	5774829	169.20	ppb		97
97) Hexachloro-1,3-Butadiene	13.655	225	1233329	177.74	ppb		99
98) Naphthalene	13.757	128	12965164	165.54	ppb		99
99) 1,2,3-Trichlorobenzene	14.016	180	4501743	164.85	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616883.D
Acq On : 8 Oct 2019 8:18 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CAL9
Misc : QBQV6100819A 160. PPB AQU
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 08 20:38:33 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:23:16 2019
Response via : Initial Calibration



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YE90028 **Laboratory ID:** Y9E2910-SCV1

Sequence: Y9E2910 **Standard ID:** Y19E135

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
1,1,1-Trichloroethane	50.0	56.5	12.9	
1,1-Dichloroethane	50.0	51.0	2.0	
1,1-Dichloroethylene	50.0	50.1	0.2	
1,2,4-Trimethylbenzene	50.0	52.3	4.7	
1,2-Dichlorobenzene	50.0	52.1	4.3	
1,2-Dichloroethane	50.0	52.2	4.4	
1,3,5-Trimethylbenzene	50.0	53.2	6.3	
1,3-Dichlorobenzene	50.0	51.8	3.6	
1,4-Dichlorobenzene	50.0	51.3	2.6	
1,4-Dioxane	1050	1150	9.7	
2-Butanone	50.0	57.3	14.6	
Acetone	50.0	39.8	-20.4	
Benzene	50.0	53.8	7.6	
Carbon tetrachloride	50.0	47.7	-4.6	
Chlorobenzene	50.0	52.5	5.0	
Chloroform	50.0	52.7	5.4	
cis-1,2-Dichloroethylene	50.0	52.2	4.3	
Ethyl Benzene	50.0	54.8	9.6	
Methyl tert-butyl ether (MTBE)	50.0	51.9	3.9	
Methylene chloride	50.0	54.7	9.4	
Naphthalene	50.0	53.2	6.3	
n-Butylbenzene	50.0	51.8	3.5	
n-Propylbenzene	50.0	52.6	5.1	
o-Xylene	50.0	53.9	7.7	
p- & m- Xylenes	100	109	9.2	
sec-Butylbenzene	50.0	57.2	14.3	
tert-Butylbenzene	50.0	52.9	5.7	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YE90028 **Laboratory ID:** Y9E2910-SCV1

Sequence: Y9E2910 **Standard ID:** Y19E135

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
Tetrachloroethylene	50.0	49.9	-0.2	
Toluene	50.0	53.3	6.7	
trans-1,2-Dichloroethylene	50.0	52.8	5.6	
Trichloroethylene	50.0	53.7	7.4	
Vinyl Chloride	50.0	58.2	16.4	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404452.D
Acq On : 17 May 2019 7:13 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV4051719A
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 20 16:34:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Mon May 20 16:34:05 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.969	70	335897	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.940	117	1296564	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	678155	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.699	65	458211	48.73	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 97.46%				
54) Toluene-d8 (SURR)	6.460	98	1684729	50.30	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.60%				
73) p-Bromofluorobenzene (...	9.201	95	709983	50.43	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 100.86%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.157	85	212029	52.62	ppb	#	86
3) Chloromethane	1.363	50	472516m	53.67	ppb		
4) Vinyl Chloride	1.380	62	389659	58.18	ppb		99
5) Bromomethane	1.630	94	108274m	50.97	ppb		
6) Allyl Chloride	2.687	76	122823	46.61	ppb	#	100
7) Chloroethane	1.708	64	153858	50.62	ppb		98
8) Trichlorofluoromethane	1.903	101	380669	50.80	ppb		97
10) Freon-113	1.903	101	380669	50.39	ppb	#	91
11) 1,1-Dichloroethylene	2.356	61	410433	50.09	ppb		91
12) Acrolein	2.320	56	15576	24.40	ppb		92
13) Acetone	2.465	43	94266	39.79	ppb	#	45
14) Iodomethane	2.509	142	203481m	39.82	ppb		
15) Methyl Acetate	2.729	43	216135	43.67	ppb		95
16) Carbon disulfide	2.546	76	677000	51.44	ppb		100
17) tert-Butyl Alcohol (TBA)	2.974	59	148707	267.07	ppb	#	1
18) Methylene Chloride	2.818	49	446734	54.69	ppb		84
19) Acrylonitrile	3.077	53	97921	54.94	ppb	#	90
20) trans-1,2-Dichloroethy...	3.030	61	399205	52.80	ppb		92
21) tert-Butyl Methyl Ethe...	3.021	73	639494	51.94	ppb	#	92
22) 1,1-Dichloroethane	3.422	63	499413	51.01	ppb	#	99
23) Vinyl Acetate	3.464	43	223547m	20.98	ppb		
24) Diisopropyl ether (DIPE)	3.436	45	1027357	54.06	ppb		96
25) Ethyl-tert-Butyl ether...	3.759	59	853401	53.88	ppb	#	79
26) cis-1,2-Dichloroethylene	3.948	61	460963	52.17	ppb	#	80
27) 2-Butanone	3.984	72	27503m	57.28	ppb		
28) 2,2-Dichloropropane	3.914	77	381858	52.66	ppb	#	77
29) Tetrahydrofuran	4.209	42	90800	53.53	ppb		79
30) Bromochloromethane	4.173	49	243221	51.71	ppb		83
31) Chloroform	4.243	83	448025	52.71	ppb		100
32) 1,1,1-Trichloroethane	4.360	97	422763	56.46	ppb	#	73
33) Cyclohexane	4.373	56	538173	52.81	ppb		88
34) 1,1-Dichloropropylene	4.510	75	366259	53.24	ppb		81
36) Carbon Tetrachloride	4.499	117	313559	47.71	ppb		100
37) tert-Amyl alcohol (TAA)	4.780	59	268939	51.12	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	345057	52.21	ppb		99
39) Benzene	4.707	78	1105680	53.78	ppb	#	85
40) tert-Amyl methyl ether...	4.782	73	801626	55.35	ppb	#	89
42) Trichloroethylene	5.303	95	271369	53.68	ppb		85
43) Methyl Cyclohexane	5.428	83	491602	54.35	ppb	#	70
44) Methyl Methacrylate	5.637	69	165109	57.29	ppb	#	98
45) Dibromomethane	5.670	93	138641	52.28	ppb		96
46) Bromodichloromethane	5.820	83	320226	49.54	ppb		97
47) 1,2-Dichloropropane	5.536	63	275601	52.29	ppb	#	98
48) 1,4-Dioxane	5.687	88	62759	1151.97	ppb		84
49) 2-Chloroethyl vinyl ether	6.098	63	165331	72.20	ppb		97
50) 2-nitropropane	6.071	43	51574	47.19	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	402001	54.14	ppb		91
52) ethyl methacrylate	6.852	69	306894	49.02	ppb	#	100

Data Path : C:\msdchem\1\data\051719\
Data File : QV404452.D
Acq On : 17 May 2019 7:13 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV4051719A
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 20 16:34:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Mon May 20 16:34:05 2019
Response via : Initial Calibration
InstName : QVOA4

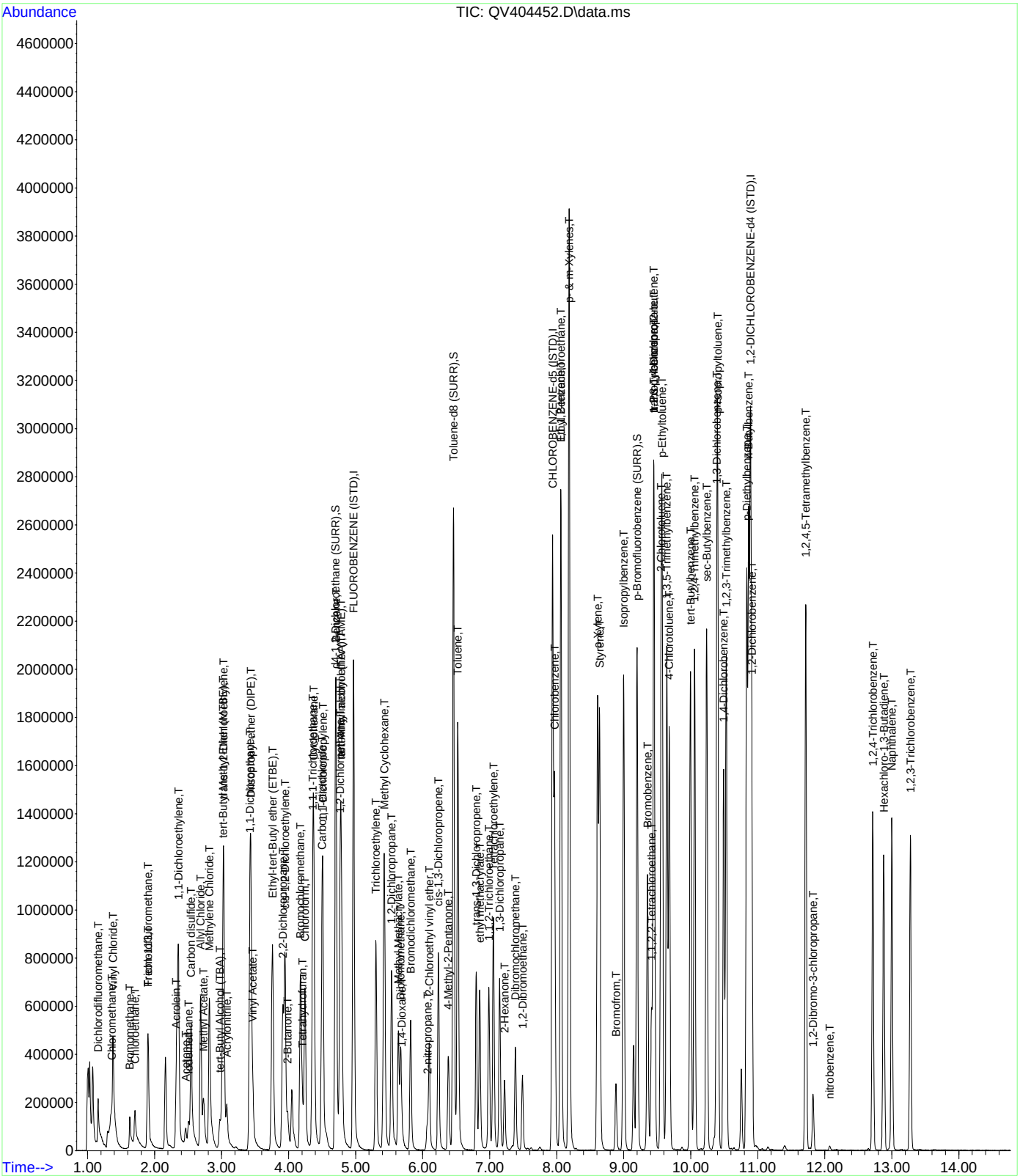
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.382	43	287604	55.09	ppb	#	87
55) Toluene	6.524	91	1229186	53.34	ppb		99
56) trans-1,3-Dichloropropene	6.800	75	344808	47.04	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	198791	50.89	ppb		95
58) 1,3-Dichloropropane	7.147	76	363373	53.30	ppb	#	90
59) Tetrachloroethylene	7.056	166	256306	49.92	ppb	#	72
60) 2-Hexanone	7.223	43	200274	56.24	ppb		94
61) Dibromochloromethane	7.384	129	206319	48.78	ppb		97
62) 1,2-Dibromoethane	7.490	107	205230	55.02	ppb		98
63) Chlorobenzene	7.968	112	698648	52.51	ppb	#	86
64) 1,1,1,2-tetrachloroethane	8.063	131	221198	47.71	ppb	#	54
65) Ethyl Benzene	8.063	91	1403183	54.82	ppb		95
66) p- & m-Xylenes	8.185	91	2211337	109.23	ppb		93
67) o-Xylene	8.611	91	1101178	53.86	ppb		97
68) Styrene	8.641	104	820190	54.60	ppb	#	100
69) Bromofrom	8.884	173	118930	46.35	ppb	#	81
71) p-Ethyltoluene	9.574	105	1344268	55.72	ppb	#	97
72) Isopropylbenzene	9.000	105	1330408	52.54	ppb		95
74) 1,1,2,2-Tetrachloroethane	9.415	83	289027	54.64	ppb	#	100
75) Bromobenzene	9.357	77	504255	52.54	ppb		81
76) trans-1,4-Dichloro-2-b...	9.448	75	333513	54.91	ppb	#	55
77) 1,2,3-Trichloropropane	9.448	110	85117	54.89	ppb		93
78) n-Propylbenzene	9.448	91	1739735	52.56	ppb		95
79) 2-Chlorotoluene	9.557	91	1118104	52.47	ppb		98
80) 4-Chlorotoluene	9.679	91	998340	51.26	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	1118994	53.16	ppb		95
82) tert-Butylbenzene	9.996	119	969522	52.87	ppb		89
83) 1,2,4-Trimethylbenzene	10.058	105	1122800	52.33	ppb		91
84) sec-Butylbenzene	10.238	105	1569165	57.15	ppb		96
86) 1,3-Dichlorobenzene	10.389	146	604586	51.82	ppb		95
87) p-Isopropyltoluene	10.403	119	1330755	55.15	ppb		96
88) 1,4-Dichlorobenzene	10.492	146	581766	51.28	ppb		94
89) 1,2,3-Trimethylbenzene	10.531	105	1149306	57.67	ppb		96
90) nitrobenzene	12.072	77	5470	51.74	ppb	#	100
91) p-Diethylbenzene	10.837	105	801675	62.05	ppb		93
92) 1,2-Dichlorobenzene	10.912	146	565255	52.13	ppb	#	87
93) n-Butylbenzene	10.864	91	1512854m	51.77	ppb		
94) 1,2-Dibromo-3-chloropr...	11.824	75	55863	50.30	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.716	119	1205334	54.56	ppb		95
96) 1,2,4-Trichlorobenzene	12.717	180	410575	51.09	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.882	225	238859	53.66	ppb		86
98) Naphthalene	13.001	128	1027957	53.15	ppb		99
99) 1,2,3-Trichlorobenzene	13.279	180	374320	51.33	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\051719\
Data File : QV404452.D
Acq On : 17 May 2019 7:13 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV4051719A
ALS Vial : 17 Sample Multiplier: 1

Quant Time: May 20 16:34:23 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Mon May 20 16:34:05 2019
Response via : Initial Calibration
InstName : QVOA4



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90003 **Laboratory ID:** Y9J0230-SCV1

Sequence: Y9J0230 **Standard ID:** Y19I366

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
1,1,1-Trichloroethane	50.0	51.3	2.6	
1,1-Dichloroethane	50.0	52.8	5.5	
1,1-Dichloroethylene	50.0	53.4	6.9	
1,2,4-Trimethylbenzene	50.0	54.8	9.7	
1,2-Dichlorobenzene	50.0	53.6	7.2	
1,2-Dichloroethane	50.0	53.6	7.1	
1,3,5-Trimethylbenzene	50.0	55.3	10.5	
1,3-Dichlorobenzene	50.0	52.6	5.3	
1,4-Dichlorobenzene	50.0	52.5	5.0	
1,4-Dioxane	1050	1160	10.8	
2-Butanone	50.0	55.5	11.0	
Acetone	50.0	46.2	-7.7	
Benzene	50.0	55.0	9.9	
Carbon tetrachloride	50.0	52.2	4.4	
Chlorobenzene	50.0	52.4	4.9	
Chloroform	50.0	51.5	3.1	
cis-1,2-Dichloroethylene	50.0	52.5	5.0	
Ethyl Benzene	50.0	55.7	11.4	
Methyl tert-butyl ether (MTBE)	50.0	55.7	11.4	
Methylene chloride	50.0	60.1	20.2	
Naphthalene	50.0	47.0	-5.9	
n-Butylbenzene	50.0	56.4	12.9	
n-Propylbenzene	50.0	56.5	13.0	
o-Xylene	50.0	54.0	7.9	
p- & m- Xylenes	100	99.6	-0.4	
sec-Butylbenzene	50.0	59.4	18.8	
tert-Butylbenzene	50.0	48.6	-2.7	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90003 **Laboratory ID:** Y9J0230-SCV1

Sequence: Y9J0230 **Standard ID:** Y19I366

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
Tetrachloroethylene	50.0	46.8	-6.4	
Toluene	50.0	55.2	10.4	
trans-1,2-Dichloroethylene	50.0	55.0	10.0	
Trichloroethylene	50.0	52.4	4.7	
Vinyl Chloride	50.0	57.1	14.2	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110064.D
Acq On : 2 Oct 2019 3:06 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 02 16:36:38 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.107	70	1078327	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4320597	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1894764	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1524094	49.12	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 98.24%				
54) Toluene-d8 (SURR)	6.624	98	5430446	49.90	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 99.80%				
73) p-Bromofluorobenzene (...	9.350	95	2226003	50.38	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 100.76%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	1332305	74.63	ppb		100
3) Chloromethane	1.382	50	1345805	62.71	ppb		98
4) Vinyl Chloride	1.468	62	1019797	57.11	ppb		99
5) Bromomethane	1.724	94	286999	60.46	ppb		97
6) Allyl Chloride	2.809	76	513505	50.93	ppb	#	100
7) Chloroethane	1.813	64	557651	61.43	ppb		99
8) Trichlorofluoromethane	2.033	101	1287992	60.29	ppb		97
10) Freon-113	2.033	101	1287992	60.29	ppb	#	91
11) 1,1-Dichloroethylene	2.484	61	1437416	53.45	ppb		96
12) Acrolein	2.414	56	103148	85.12	ppb		94
13) Acetone	2.559	43	333429	46.17	ppb	#	44
14) Iodomethane	2.620	142	598235	41.49	ppb	#	20
15) Methyl Acetate	2.845	43	830114	53.47	ppb		97
16) Carbon disulfide	2.670	76	3009811	54.97	ppb		100
17) tert-Butyl Alcohol (TBA)	3.062	59	724327	261.81	ppb	#	1
18) Methylene Chloride	2.923	49	1454347	60.11	ppb		92
19) Acrylonitrile	3.151	53	390520	53.05	ppb	#	89
20) trans-1,2-Dichloroethy...	3.163	61	1421763	55.01	ppb		95
21) tert-Butyl Methyl Ethe...	3.176	73	2972503	55.69	ppb		100
22) 1,1-Dichloroethane	3.538	63	1791292	52.77	ppb	#	96
23) Vinyl Acetate	3.599	43	4053368	61.90	ppb		100
24) Diisopropyl ether (DIPE)	3.613	45	3746459	58.65	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	3371208	58.36	ppb	#	79
26) cis-1,2-Dichloroethylene	4.061	61	1617046	52.50	ppb		96
27) 2-Butanone	4.086	72	151212	55.49	ppb		84
28) 2,2-Dichloropropane	4.056	77	1565006	51.35	ppb		99
29) Tetrahydrofuran	4.323	42	341059	48.54	ppb		89
30) Bromochloromethane	4.275	49	845846	52.92	ppb		87
31) Chloroform	4.351	83	1694602	51.53	ppb	#	92
32) 1,1,1-Trichloroethane	4.512	97	1569073	51.32	ppb	#	85
33) Cyclohexane	4.559	56	1996557	58.86	ppb		92
34) 1,1-Dichloropropylene	4.662	75	1395586	52.97	ppb		87
36) Carbon Tetrachloride	4.659	117	1292876	52.20	ppb		99
37) tert-Amyl alcohol (TAA)	4.879	59	1302203	592.72	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1370012	53.56	ppb		99
39) Benzene	4.854	78	4157367	54.95	ppb	#	95
40) tert-Amyl methyl ether...	4.963	73	3060328	58.61	ppb	#	89
42) Trichloroethylene	5.452	95	1023759	52.36	ppb		88
43) Methyl Cyclohexane	5.630	83	2048362	58.50	ppb	#	83
44) Methyl Methacrylate	5.783	69	770387	53.46	ppb	#	81
45) Dibromomethane	5.775	93	568937	52.23	ppb		98
46) Bromodichloromethane	5.931	83	1281045	53.17	ppb		98
47) 1,2-Dichloropropane	5.667	63	1021382	51.98	ppb	#	100
48) 1,4-Dioxane	5.800	88	290466	1163.62	ppb		85
49) 2-Chloroethyl vinyl ether	6.226	63	746841	71.38	ppb		98
50) 2-nitropropane	6.156	43	271240	48.59	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1651269	51.61	ppb		96
52) ethyl methacrylate	7.013	69	1302592	49.76	ppb	#	100

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110064.D
Acq On : 2 Oct 2019 3:06 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 02 16:36:38 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

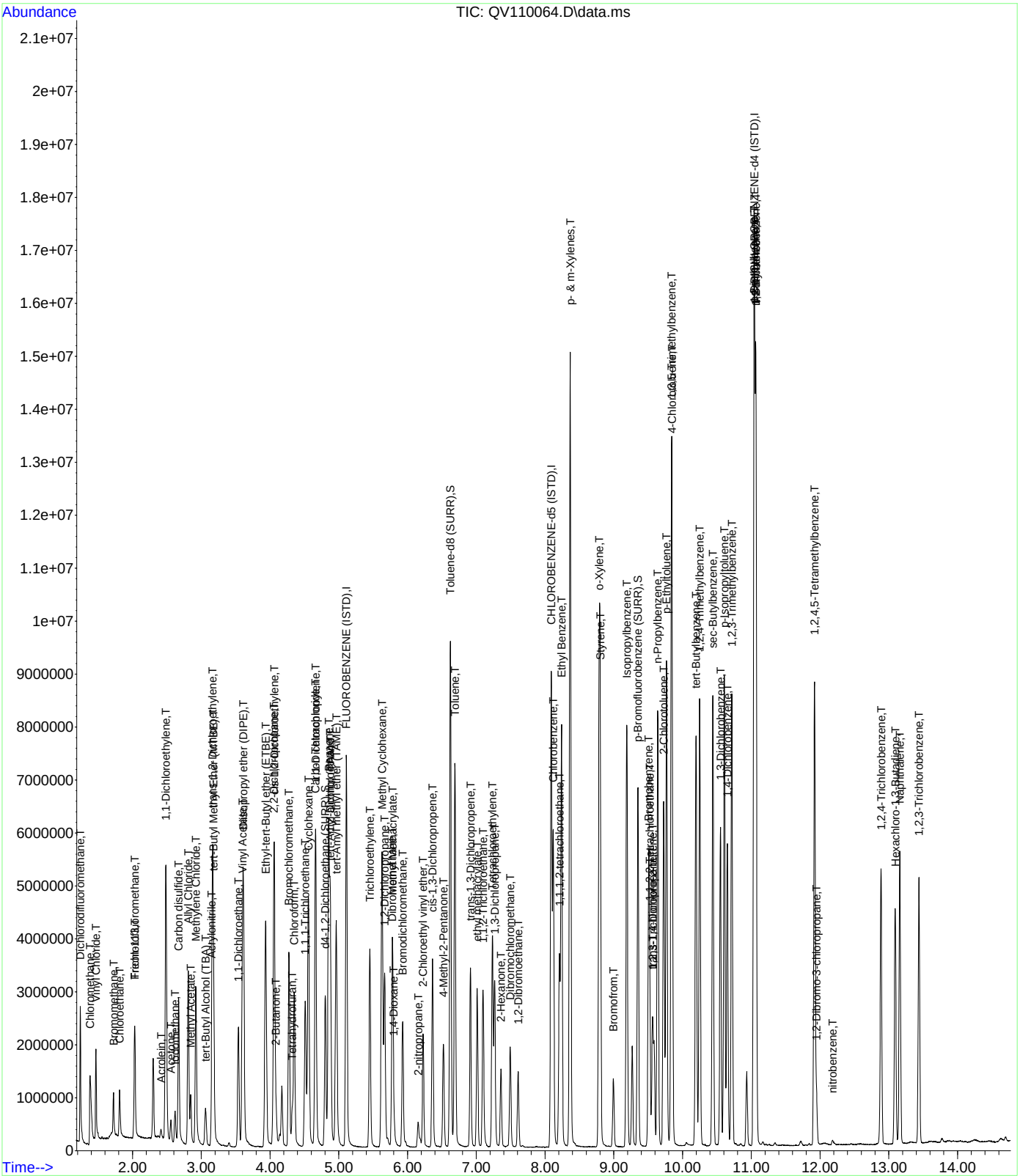
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.521	43	1225134	41.80	ppb		95
55) Toluene	6.688	91	4515988	55.22	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1503293	51.33	ppb		99
57) 1,1,2-Trichloroethane	7.099	97	829756	51.19	ppb		99
58) 1,3-Dichloropropane	7.269	76	1516408	53.09	ppb	#	94
59) Tetrachloroethylene	7.233	166	1001108	46.79	ppb		97
60) 2-Hexanone	7.358	43	880020	56.24	ppb		95
61) Dibromochloromethane	7.495	129	856532	53.12	ppb		97
62) 1,2-Dibromoethane	7.609	107	862301	53.16	ppb		98
63) Chlorobenzene	8.121	112	2773333	52.44	ppb		91
64) 1,1,1,2-tetrachloroethane	8.210	131	877234	53.33	ppb	#	56
65) Ethyl Benzene	8.240	91	5200868	55.69	ppb		97
66) p- & m-Xylenes	8.365	91	8106006	99.61	ppb		94
67) o-Xylene	8.788	91	4109407	53.95	ppb		98
68) Styrene	8.805	104	3231307	53.79	ppb	#	100
69) Bromofrom	8.994	173	517994	52.66	ppb	#	81
71) p-Ethyltoluene	9.768	105	5566797	63.62	ppb	#	97
72) Isopropylbenzene	9.189	105	5114360	54.12	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.523	83	1118553	53.59	ppb	#	100
75) Bromobenzene	9.506	77	1942282	54.52	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	1327301	53.40	ppb	#	95
77) 1,2,3-Trichloropropane	9.565	110	350313	51.65	ppb		73
78) n-Propylbenzene	9.640	91	6207163	56.49	ppb		97
79) 2-Chlorotoluene	9.726	91	3556108	53.32	ppb		99
80) 4-Chlorotoluene	9.846	91	4185085	54.89	ppb		81
81) 1,3,5-Trimethylbenzene	9.840	105	4352371m	55.26	ppb		
82) tert-Butylbenzene	10.196	119	3661040	48.63	ppb		91
83) 1,2,4-Trimethylbenzene	10.249	105	4322377	54.84	ppb		91
84) sec-Butylbenzene	10.441	105	5868767	59.38	ppb		97
86) 1,3-Dichlorobenzene	10.552	146	2134054	52.65	ppb		95
87) p-Isopropyltoluene	10.608	119	4845678	56.86	ppb		95
88) 1,4-Dichlorobenzene	10.652	146	2132516	52.49	ppb		95
89) 1,2,3-Trimethylbenzene	10.716	105	4757647	57.21	ppb		96
90) nitrobenzene	12.180	77	26676	56.86	ppb	#	100
91) p-Diethylbenzene	11.042	105	3005678m	66.85	ppb		
92) 1,2-Dichlorobenzene	11.067	146	1941623m	53.60	ppb		
93) n-Butylbenzene	11.067	91	5213330m	56.44	ppb		
94) 1,2-Dibromo-3-chloropr...	11.949	75	265268	54.32	ppb	#	79
95) 1,2,4,5-Tetramethylben...	11.921	119	4610395m	59.86	ppb		
96) 1,2,4-Trichlorobenzene	12.889	180	1462266	52.55	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.095	225	829113	54.32	ppb		87
98) Naphthalene	13.159	128	4009110	47.03	ppb		98
99) 1,2,3-Trichlorobenzene	13.440	180	1380537	53.10	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110064.D
Acq On : 2 Oct 2019 3:06 pm
Operator : LLJ
Sample : SEQ-SCV1
Misc : QV1100219A 20.0 PPB SOIL
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 02 16:36:38 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90014 **Laboratory ID:** Y9J1113-SCV1

Sequence: Y9J1113 **Standard ID:** Y19I365

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
1,1,1-Trichloroethane	10.0	9.90	-1.0	
1,1-Dichloroethane	10.0	9.86	-1.4	
1,1-Dichloroethylene	10.0	10.3	2.9	
1,2,4-Trimethylbenzene	10.0	9.63	-3.7	
1,2-Dichlorobenzene	10.0	9.62	-3.8	
1,2-Dichloroethane	10.0	9.45	-5.5	
1,3,5-Trimethylbenzene	10.0	9.95	-0.5	
1,3-Dichlorobenzene	10.0	9.33	-6.7	
1,4-Dichlorobenzene	10.0	9.27	-7.3	
1,4-Dioxane	210	198	-5.7	
2-Butanone	10.0	8.72	-12.8	
Acetone	10.0	8.45	-15.5	
Benzene	10.0	10.6	5.9	
Carbon tetrachloride	10.0	9.98	-0.2	
Chlorobenzene	10.0	9.77	-2.3	
Chloroform	10.0	9.54	-4.6	
cis-1,2-Dichloroethylene	10.0	9.70	-3.0	
Ethyl Benzene	10.0	10.6	6.5	
Methyl tert-butyl ether (MTBE)	10.0	10.4	3.9	
Methylene chloride	10.0	10.7	7.1	
Naphthalene	10.0	12.8	28.0	
n-Butylbenzene	10.0	10.4	4.3	
n-Propylbenzene	10.0	10.3	2.8	
o-Xylene	10.0	10.1	0.6	
p- & m- Xylenes	20.0	18.2	-8.8	
sec-Butylbenzene	10.0	10.7	7.3	
tert-Butylbenzene	10.0	8.33	-16.7	

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90014 **Laboratory ID:** Y9J1113-SCV1

Sequence: Y9J1113 **Standard ID:** Y19I365

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DIFF	QC LIMIT
Tetrachloroethylene	10.0	9.10	-9.0	
Toluene	10.0	10.4	3.5	
trans-1,2-Dichloroethylene	10.0	10.3	2.7	
Trichloroethylene	10.0	9.68	-3.2	
Vinyl Chloride	10.0	11.7	16.8	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616885.D
Acq On : 8 Oct 2019 9:10 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV6100819A ICV AQU
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 21:27:10 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:41:05 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	345757	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.666	117	1236656	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.623	152	485262	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	466829	9.75	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 97.50%				
53) Toluene-d8 (SURR)	7.172	98	1598569	9.83	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 98.30%				
73) p-Bromofluorobenzene (...	9.946	95	572959	9.78	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	495939m	15.55	ppb		
3) Chloromethane	1.549	50	601020	12.76	ppb	#	44
4) Vinyl Chloride	1.621	62	548491	11.68	ppb	#	47
5) Bromomethane	1.933	94	366334m	14.35	ppb		
6) Chloroethane	2.047	64	359148	12.28	ppb		90
7) Trichlorofluoromethane	2.306	101	781169	12.69	ppb		98
9) Freon-113	2.843	101	421177	10.58	ppb		99
10) 1,1-Dichloroethylene	2.820	61	728155	10.29	ppb		97
11) Acrolein	2.709	56	30155	9.58	ppb	#	80
12) Acetone	2.843	43	120323	8.45	ppb	#	96
13) Iodomethane	2.965	142	425952	9.03	ppb		99
14) Allyl Chloride	3.185	76	232928	9.77	ppb	#	100
15) Methyl Acetate	3.174	43	275115	9.47	ppb		99
16) Carbon disulfide	3.032	76	1141181	10.36	ppb		100
17) tert-Butyl Alcohol (TBA)	3.419	59	215194	50.15	ppb	#	1
18) Methylene Chloride	3.310	49	694602	10.71	ppb		91
19) Acrylonitrile	3.510	53	114692	9.58	ppb	#	42
20) trans-1,2-Dichloroethy...	3.586	61	695162	10.27	ppb		99
21) tert-Butyl Methyl Ethe...	3.577	73	1243523	10.39	ppb	#	88
22) 1,1-Dichloroethane	4.000	63	876358	9.86	ppb	#	97
23) Vinyl Acetate	4.050	43	811927	10.51	ppb	#	100
24) Diisopropyl ether (DIPE)	4.047	45	1866473	10.83	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.395	59	1626367	10.83	ppb	#	85
26) cis-1,2-Dichloroethylene	4.537	61	780236	9.70	ppb		98
27) 2-Butanone	4.515	72	43177	8.72	ppb	#	95
28) 2,2-Dichloropropane	4.543	77	708572	9.53	ppb		93
29) Tetrahydrofuran	4.774	42	114708	9.23	ppb	#	48
30) Bromochloromethane	4.760	49	392923	9.44	ppb		93
31) Chloroform	4.865	83	790687	9.54	ppb	#	84
32) 1,1,1-Trichloroethane	5.018	97	765261	9.90	ppb		97
33) Cyclohexane	5.093	56	935075	12.64	ppb		94
34) 1,1-Dichloropropylene	5.169	75	665779	10.01	ppb		91
36) Carbon Tetrachloride	5.171	117	709899	9.98	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.366	59	360551	101.30	ppb	#	82
38) 1,2-Dichloroethane	5.397	62	568984	9.45	ppb		99
39) Benzene	5.347	78	1830024	10.59	ppb	#	67
40) tert-Amyl methyl ether...	5.483	73	1313734	10.87	ppb	#	100
42) Trichloroethylene	5.987	95	499245	9.68	ppb		95
43) Methyl Cyclohexane	6.220	83	658724	9.96	ppb	#	84
44) Methyl Methacrylate	6.279	69	257979	9.46	ppb		91
45) Dibromomethane	6.309	93	248910	9.25	ppb		96
46) Bromodichloromethane	6.485	83	597116	9.25	ppb		96
47) 1,2-Dichloropropane	6.226	63	486095	9.04	ppb	#	83
48) 1,4-Dioxane	6.290	88	57314	198.10	ppb	#	80
49) 2-nitropropane	6.663	43	119302	8.90	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	205875	12.00	ppb	#	92
51) cis-1,3-Dichloropropene	6.910	75	705468	9.07	ppb		92
52) 4-Methyl-2-Pentanone	7.038	43	405508m	6.74	ppb		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616885.D
Acq On : 8 Oct 2019 9:10 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV6100819A ICV AQU
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 21:27:10 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:41:05 2019
Response via : Initial Calibration

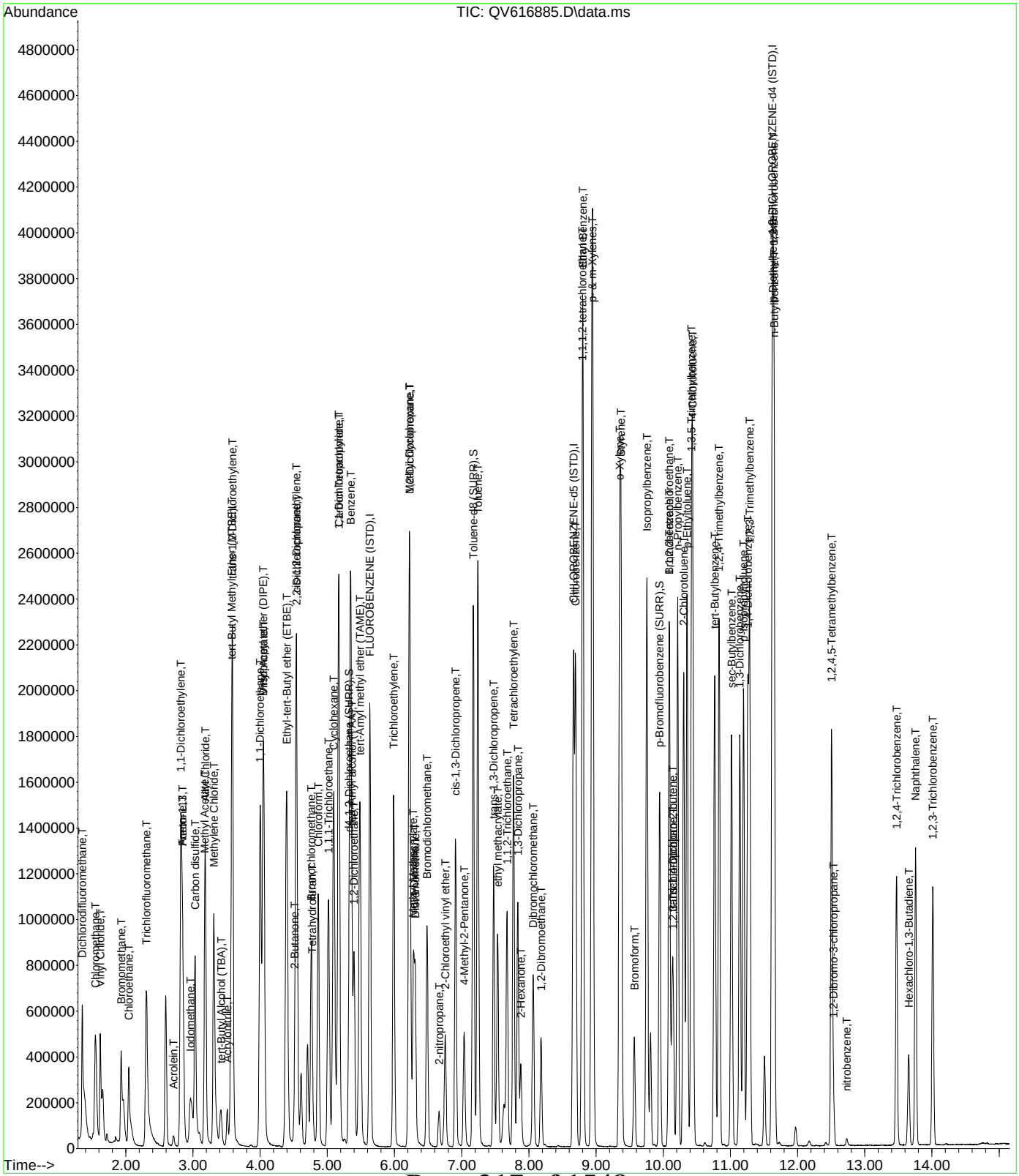
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
54) Toluene	7.241	91	1884413	10.35	ppb		99
55) trans-1,3-Dichloropropene	7.475	75	612576	9.09	ppb		99
56) ethyl methacrylate	7.536	69	471184	8.89	ppb	#	100
57) 1,1,2-Trichloroethane	7.675	97	331869	9.14	ppb		95
58) 1,3-Dichloropropane	7.837	76	577620	9.48	ppb	#	62
59) Tetrachloroethylene	7.773	166	503947	9.10	ppb	#	100
60) 2-Hexanone	7.881	43	274106	9.37	ppb	#	29
61) Dibromochloromethane	8.065	129	421866	9.37	ppb		97
62) 1,2-Dibromoethane	8.182	107	336028	9.47	ppb		95
63) Chlorobenzene	8.694	112	1164315	9.77	ppb		94
64) 1,1,1,2-tetrachloroethane	8.794	131	447930	9.72	ppb		97
65) Ethyl Benzene	8.805	91	2025804	10.65	ppb		99
66) p- & m-Xylenes	8.947	91	3108301	18.25	ppb		97
67) o-Xylene	9.350	91	1563179	10.06	ppb		99
68) Styrene	9.373	104	1223252	9.78	ppb		97
69) Bromoform	9.570	173	237026	9.24	ppb	#	79
71) p-Ethyltoluene	10.355	105	1745772	11.42	ppb	#	68
72) Isopropylbenzene	9.757	105	1859510	10.02	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	368522	9.32	ppb	#	69
75) Bromobenzene	10.090	77	734032	9.19	ppb		92
76) trans-1,4-Dichloro-2-b...	10.143	75	396746	8.80	ppb	#	58
77) 1,2,3-Trichloropropane	10.149	110	109725	9.32	ppb		65
78) n-Propylbenzene	10.216	91	2048028	10.28	ppb		100
79) 2-Chlorotoluene	10.305	91	1267636	9.36	ppb		98
80) 4-Chlorotoluene	10.438	91	1454679	9.49	ppb		98
81) 1,3,5-Trimethylbenzene	10.421	105	1433615	9.95	ppb	#	65
82) tert-Butylbenzene	10.766	119	1172522	8.33	ppb		97
83) 1,2,4-Trimethylbenzene	10.830	105	1419301	9.63	ppb		98
84) sec-Butylbenzene	11.017	105	1468616	10.73	ppb		99
85) 1,3-Dichlorobenzene	11.139	146	824745	9.33	ppb		99
86) p-Isopropyltoluene	11.195	119	1324072	10.34	ppb		98
87) 1,4-Dichlorobenzene	11.259	146	832869	9.27	ppb		98
88) 1,2,3-Trimethylbenzene	11.287	105	1456341m	7.82	ppb		
89) p-Diethylbenzene	11.629	105	670646	11.60	ppb	#	82
90) 1,2-Dichlorobenzene	11.646	146	774313	9.62	ppb	#	87
91) n-Butylbenzene	11.651	91	1193295	10.43	ppb	#	79
93) 1,2-Dibromo-3-chloropr...	12.533	75	68250	9.73	ppb		87
94) 1,2,4,5-Tetramethylben...	12.505	119	1087470	10.36	ppb		99
95) nitrobenzene	12.731	77	14690	8.87	ppb	#	100
96) 1,2,4-Trichlorobenzene	13.474	180	400021	11.28	ppb		97
97) Hexachloro-1,3-Butadiene	13.654	225	94599	13.04	ppb		98
98) Naphthalene	13.755	128	1125253	12.80	ppb		99
99) 1,2,3-Trichlorobenzene	14.013	180	386404	13.78	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616885.D
Acq On : 8 Oct 2019 9:10 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-SCV1
Misc : QBQV6100819A ICV AQU
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 21:27:10 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:41:05 2019
Response via : Initial Calibration



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA1	Calibration:	YJ90003
Lab File ID:	QV110106.D	Calibration Date:	10/02/19 10:02
Sequence:	Y9J0834	Injection Date:	10/04/19
Lab Sample ID:	Y9J0834-CCV1	Injection Time:	10:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1,1-Trichloroethane	A	50.0	54.6	1.417707	1.547271	0.1	9.1	20	
1,1-Dichloroethane	A	50.0	55.4	1.573876	1.744042	0.2	10.8	20	
1,1-Dichloroethylene	A	50.0	56.1	1.246909	1.398525	0.1	12.2	20	
1,2,4-Trimethylbenzene	A	50.0	53.4	2.079849	2.22027		6.8	20	
1,2-Dichlorobenzene	A	50.0	53.7	0.9558222	1.026409	0.4	7.4	20	
1,2-Dichloroethane	A	50.0	55.5	1.185959	1.316751	0.1	11.0	20	
1,3,5-Trimethylbenzene	A	50.0	55.0	2.078346	2.287153		10.0	20	
1,3-Dichlorobenzene	A	50.0	51.2	1.069514	1.09431	0.6	2.3	20	
1,4-Dichlorobenzene	A	50.0	51.3	1.072147	1.100014	0.5	2.6	20	
1,4-Dioxane	A	1000	1100	2.888746E-03	3.175811E-03		9.9	20	
2-Butanone	L	50.0	50.7	0.1452165	0.1288295	0.1	1.4	20	
Acetone	A	50.0	48.1	0.3348299	0.3220279	0.1	-3.8	20	
Benzene	A	50.0	56.2	3.508319	3.939631	0.5	12.3	20	
Carbon tetrachloride	A	50.0	53.6	1.148381	1.23168	0.1	7.3	20	
Chlorobenzene	A	50.0	54.2	0.612037	0.6638793	0.5	8.5	20	
Chloroform	A	50.0	55.2	1.524872	1.684588	0.2	10.5	20	
cis-1,2-Dichloroethylene	A	50.0	54.5	1.428305	1.557785	0.1	9.1	20	
Ethyl Benzene	A	50.0	57.5	1.080732	1.242219	0.1	14.9	20	
Methyl tert-butyl ether (MTBE)	A	50.0	55.1	2.475068	2.726569	0.1	10.2	20	
Methylene chloride	A	50.0	55.1	1.121864	1.236055	0.1	10.2	20	
Naphthalene	A	50.0	46.6	2.249725	2.096469		-6.8	20	
n-Butylbenzene	A	50.0	58.0	2.437565	2.827124		16.0	20	
n-Propylbenzene	A	50.0	57.0	2.899396	3.305267		14.0	20	
o-Xylene	A	50.0	56.1	0.8814508	0.9895105	0.3	12.3	20	
p- & m- Xylenes	Q	100	104	0.812928	0.9788021	0.1	4.4	20	
sec-Butylbenzene	A	50.0	56.6	2.608001	2.952154		13.2	20	
tert-Butylbenzene	A	50.0	52.6	1.986437	2.089733		5.2	20	
Tetrachloroethylene	A	50.0	67.4	0.2476251	0.3337955	0.2	34.8	20	*
Toluene	A	50.0	56.8	0.9464306	1.074339	0.4	13.5	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA1	Calibration:	YJ90003
Lab File ID:	QV110106.D	Calibration Date:	10/02/19 10:02
Sequence:	Y9J0834	Injection Date:	10/04/19
Lab Sample ID:	Y9J0834-CCV1	Injection Time:	10:06

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
trans-1,2-Dichloroethylene	A	50.0	54.9	1.198425	1.315324	0.1	9.8	20
Trichloroethylene	A	50.0	56.2	0.2262641	0.2542335	0.2	12.4	20
Vinyl Chloride	A	50.0	59.7	0.8279608	0.988613	0.1	19.4	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110106.D
Acq On : 4 Oct 2019 10:06 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 04 10:21:25 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1058927	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4193637	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1910137	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1525919	50.08	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.16%				
54) Toluene-d8 (SURR)	6.624	98	5361567	50.76	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.52%				
73) p-Bromofluorobenzene (...	9.350	95	2173021	48.79	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 97.58%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	963732	54.97	ppb		100
3) Chloromethane	1.385	50	1257258	59.65	ppb		98
4) Vinyl Chloride	1.468	62	1046869	59.70	ppb		99
5) Bromomethane	1.724	94	279594	59.98	ppb		98
6) Allyl Chloride	2.812	76	555436	56.10	ppb	#	100
7) Chloroethane	1.813	64	552296	61.95	ppb		99
8) Trichlorofluoromethane	2.030	101	1238291	59.03	ppb		98
9) Ethanol	2.242	45	629272	2972.79	ppb		82
10) Freon-113	2.030	101	1238291	59.03	ppb	#	92
11) 1,1-Dichloroethylene	2.487	61	1480936	56.08	ppb		94
12) Acrolein	2.417	56	52879	39.40	ppb		94
13) Acetone	2.556	43	341004	48.09	ppb	#	45
14) Iodomethane	2.620	142	724371	51.23	ppb	#	20
15) Methyl Acetate	2.846	43	903212	59.24	ppb		96
16) Carbon disulfide	2.670	76	2988306	55.58	ppb		100
17) tert-Butyl Alcohol (TBA)	3.063	59	135433	49.85	ppb	#	1
18) Methylene Chloride	2.921	49	1308892	55.09	ppb		92
19) Acrylonitrile	3.149	53	397674	55.01	ppb		97
20) trans-1,2-Dichloroethy...	3.160	61	1392832	54.88	ppb		95
21) tert-Butyl Methyl Ethe...	3.171	73	2887238	55.08	ppb		100
22) 1,1-Dichloroethane	3.538	63	1846813	55.41	ppb	#	96
23) Vinyl Acetate	3.600	43	2985342	46.43	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	3603251	57.44	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.936	59	3228692	56.92	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	1649581	54.53	ppb	#	82
27) 2-Butanone	4.081	72	136421	50.72	ppb		80
28) 2,2-Dichloropropane	4.056	77	1432010	47.85	ppb	#	77
29) Tetrahydrofuran	4.323	42	354070	51.31	ppb		88
30) Bromochloromethane	4.273	49	886085	56.45	ppb		86
31) Chloroform	4.351	83	1783856	55.24	ppb	#	93
32) 1,1,1-Trichloroethane	4.512	97	1638447	54.57	ppb		98
33) Cyclohexane	4.557	56	1842425	55.31	ppb		94
34) 1,1-Dichloropropylene	4.662	75	1409828	54.49	ppb		87
36) Carbon Tetrachloride	4.660	117	1304259	53.63	ppb		99
37) tert-Amyl alcohol (TAA)	4.877	59	1185554	549.51	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1394343	55.51	ppb		99
39) Benzene	4.852	78	4171782	56.15	ppb	#	95
40) tert-Amyl methyl ether...	4.963	73	2875757	56.08	ppb		98
42) Trichloroethylene	5.450	95	1066163	56.18	ppb		87
43) Methyl Cyclohexane	5.628	83	1918218	56.44	ppb	#	82
44) Methyl Methacrylate	5.784	69	786063	56.20	ppb	#	98
45) Dibromomethane	5.775	93	589639	55.76	ppb		98
46) Bromodichloromethane	5.928	83	1316539	56.29	ppb		97
47) 1,2-Dichloropropane	5.664	63	1064439	55.81	ppb	#	100
48) 1,4-Dioxane	5.803	88	266364	1099.37	ppb		85
49) 2-Chloroethyl vinyl ether	6.226	63	563784	55.52	ppb		98
50) 2-nitropropane	6.151	43	252995	46.69	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1587269	51.11	ppb		95

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110106.D
Acq On : 4 Oct 2019 10:06 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 04 10:21:25 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

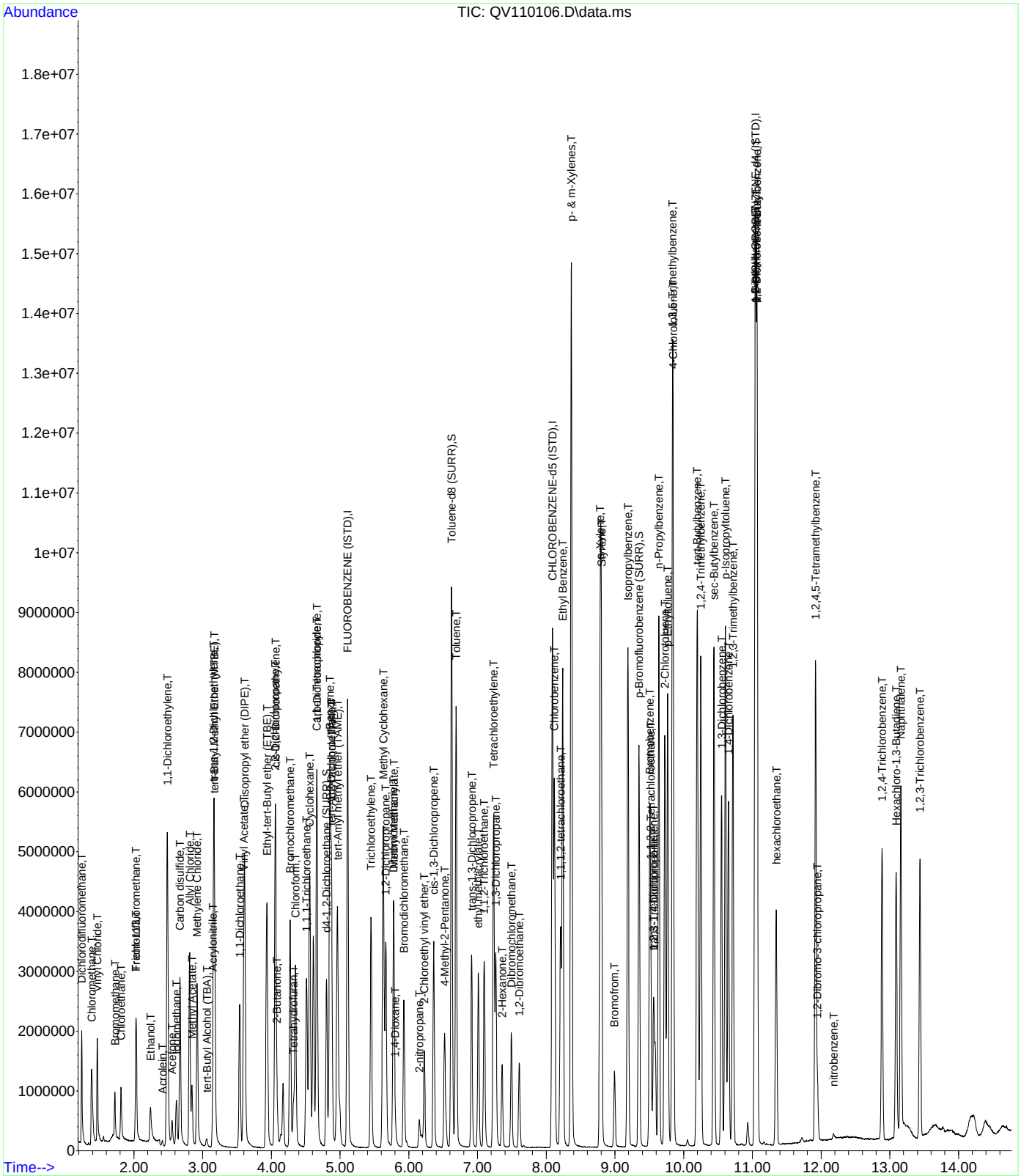
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.011	69	1313595	51.70	ppb	#	100
53) 4-Methyl-2-Pentanone	6.521	43	1469774	51.66	ppb		85
55) Toluene	6.688	91	4505386	56.76	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1425444	50.14	ppb		99
57) 1,1,2-Trichloroethane	7.097	97	854505	54.31	ppb		98
58) 1,3-Dichloropropane	7.267	76	1530157	55.19	ppb	#	94
59) Tetrachloroethylene	7.233	166	1399817	67.40	ppb	#	72
60) 2-Hexanone	7.358	43	798591	52.58	ppb		96
61) Dibromochloromethane	7.495	129	850523	54.35	ppb		97
62) 1,2-Dibromoethane	7.606	107	848676	53.90	ppb		99
63) Chlorobenzene	8.118	112	2784069	54.24	ppb		90
64) 1,1,1,2-tetrachloroethane	8.210	131	867750	54.35	ppb	#	55
65) Ethyl Benzene	8.240	91	5209415	57.47	ppb		96
66) p- & m-Xylenes	8.363	91	8209481	104.39	ppb		94
67) o-Xylene	8.786	91	4149648	56.13	ppb		98
68) Styrene	8.802	104	3241379	55.59	ppb	#	100
69) Bromofrom	8.992	173	520032	54.47	ppb		99
71) p-Ethyltoluene	9.765	105	4846189	54.94	ppb	#	97
72) Isopropylbenzene	9.189	105	5394118	56.62	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	1100531	52.30	ppb	#	100
75) Bromobenzene	9.506	77	1930731	53.76	ppb		80
76) trans-1,4-Dichloro-2-b...	9.562	75	1261266	50.33	ppb	#	87
77) 1,2,3-Trichloropropane	9.562	110	351169	51.36	ppb		69
78) n-Propylbenzene	9.640	91	6313513	57.00	ppb		96
79) 2-Chlorotoluene	9.726	91	3593662	53.45	ppb		99
80) 4-Chlorotoluene	9.846	91	4190743	54.52	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	4368776m	55.02	ppb		
82) tert-Butylbenzene	10.196	119	3991676	52.60	ppb		94
83) 1,2,4-Trimethylbenzene	10.249	105	4241020	53.38	ppb		91
84) sec-Butylbenzene	10.441	105	5639018	56.60	ppb		96
85) hexachloroethane	11.348	117	693997	49.96	ppb	#	100
86) 1,3-Dichlorobenzene	10.552	146	2090282	51.16	ppb		95
87) p-Isopropyltoluene	10.608	119	4655758	54.19	ppb		95
88) 1,4-Dichlorobenzene	10.653	146	2101177	51.30	ppb		95
89) 1,2,3-Trimethylbenzene	10.717	105	3955630	47.19	ppb		96
90) nitrobenzene	12.183	77	24653	52.78	ppb	#	100
91) p-Diethylbenzene	11.042	105	2398109	52.91	ppb	#	22
92) 1,2-Dichlorobenzene	11.064	146	1960582	53.69	ppb	#	88
93) n-Butylbenzene	11.067	91	5400194	57.99	ppb		94
94) 1,2-Dibromo-3-chloropr...	11.943	75	261385	53.17	ppb	#	80
95) 1,2,4,5-Tetramethylben...	11.921	119	4109768	52.93	ppb		94
96) 1,2,4-Trichlorobenzene	12.887	180	1335101	47.59	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.093	225	790616	51.39	ppb		88
98) Naphthalene	13.159	128	4004543	46.59	ppb		98
99) 1,2,3-Trichlorobenzene	13.438	180	1298981	49.56	ppb		78

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110106.D
Acq On : 4 Oct 2019 10:06 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 04 10:21:25 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA1	Calibration:	YJ90003
Lab File ID:	QV110133.D	Calibration Date:	10/02/19 10:02
Sequence:	Y9J0836	Injection Date:	10/04/19
Lab Sample ID:	Y9J0836-CCV1	Injection Time:	22:31

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,1-Trichloroethane	A	50.0	48.0	1.417707	1.36191	0.1	-3.9	20
1,1-Dichloroethane	A	50.0	49.8	1.573876	1.56653	0.2	-0.5	20
1,1-Dichloroethylene	A	50.0	49.4	1.246909	1.230826	0.1	-1.3	20
1,2,4-Trimethylbenzene	A	50.0	49.6	2.079849	2.063137		-0.8	20
1,2-Dichlorobenzene	A	50.0	51.3	0.9558222	0.9801259	0.4	2.5	20
1,2-Dichloroethane	A	50.0	51.6	1.185959	1.223045	0.1	3.1	20
1,3,5-Trimethylbenzene	A	50.0	51.1	2.078346	2.122808		2.1	20
1,3-Dichlorobenzene	A	50.0	48.0	1.069514	1.02568	0.6	-4.1	20
1,4-Dichlorobenzene	A	50.0	48.2	1.072147	1.034478	0.5	-3.5	20
1,4-Dioxane	A	1000	970	2.888746E-03	2.801402E-03		-3.0	20
2-Butanone	L	50.0	54.2	0.1452165	0.1370879	0.1	8.4	20
Acetone	A	50.0	54.5	0.3348299	0.3646656	0.1	8.9	20
Benzene	A	50.0	50.5	3.508319	3.542645	0.5	1.0	20
Carbon tetrachloride	A	50.0	45.5	1.148381	1.044659	0.1	-9.0	20
Chlorobenzene	A	50.0	50.6	0.612037	0.6189633	0.5	1.1	20
Chloroform	A	50.0	49.9	1.524872	1.52139	0.2	-0.2	20
cis-1,2-Dichloroethylene	A	50.0	50.2	1.428305	1.434592	0.1	0.4	20
Ethyl Benzene	A	50.0	52.7	1.080732	1.13958	0.1	5.4	20
Methyl tert-butyl ether (MTBE)	A	50.0	50.4	2.475068	2.496193	0.1	0.9	20
Methylene chloride	A	50.0	50.8	1.121864	1.140795	0.1	1.7	20
Naphthalene	A	50.0	42.2	2.249725	1.899513		-15.6	20
n-Butylbenzene	A	50.0	53.7	2.437565	2.619949		7.5	20
n-Propylbenzene	A	50.0	52.0	2.899396	3.016127		4.0	20
o-Xylene	A	50.0	52.1	0.8814508	0.9178554	0.3	4.1	20
p- & m- Xylenes	Q	100	97.9	0.812928	0.9233434	0.1	-2.1	20
sec-Butylbenzene	A	50.0	50.9	2.608001	2.653857		1.8	20
tert-Butylbenzene	A	50.0	48.4	1.986437	1.923431		-3.2	20
Tetrachloroethylene	A	50.0	51.3	0.2476251	0.2541806	0.2	2.6	20
Toluene	A	50.0	51.7	0.9464306	0.9778466	0.4	3.3	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA1	Calibration:	YJ90003
Lab File ID:	QV110133.D	Calibration Date:	10/02/19 10:02
Sequence:	Y9J0836	Injection Date:	10/04/19
Lab Sample ID:	Y9J0836-CCV1	Injection Time:	22:31

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
trans-1,2-Dichloroethylene	A	50.0	49.8	1.198425	1.1928	0.1	-0.5	20
Trichloroethylene	A	50.0	49.8	0.2262641	0.2255333	0.2	-0.3	20
Vinyl Chloride	A	50.0	56.9	0.8279608	0.9415481	0.1	13.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110133.D
Acq On : 4 Oct 2019 10:31 pm
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419B
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 07 09:38:51 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	980619	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3868081	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1819501	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1416140	50.19	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.38%				
54) Toluene-d8 (SURR)	6.624	98	4933996	50.65	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.30%				
73) p-Bromofluorobenzene (...	9.348	95	2019765	47.61	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 95.22%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	798614	49.19	ppb		100
3) Chloromethane	1.385	50	1116416	57.20	ppb		98
4) Vinyl Chloride	1.468	62	923300	56.86	ppb	#	86
5) Bromomethane	1.722	94	238628	55.28	ppb		98
6) Allyl Chloride	2.809	76	456644	49.81	ppb	#	100
7) Chloroethane	1.813	64	482560	58.45	ppb		99
8) Trichlorofluoromethane	2.030	101	1065795	54.86	ppb		97
9) Ethanol	2.242	45	567905	2897.13	ppb		82
10) Freon-113	2.030	101	1065795	54.86	ppb	#	92
11) 1,1-Dichloroethylene	2.484	61	1206971	49.36	ppb		95
12) Acrolein	2.414	56	60809	52.06	ppb		93
13) Acetone	2.556	43	357598	54.46	ppb	#	43
14) Iodomethane	2.617	142	592609	45.22	ppb	#	50
15) Methyl Acetate	2.846	43	696821	49.36	ppb		96
16) Carbon disulfide	2.670	76	2452436	49.26	ppb		100
17) tert-Butyl Alcohol (TBA)	3.063	59	109948	43.70	ppb	#	1
18) Methylene Chloride	2.921	49	1118685	50.84	ppb		91
19) Acrylonitrile	3.149	53	338775	50.60	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	1169682	49.77	ppb		95
21) tert-Butyl Methyl Ethe...	3.174	73	2447814	50.43	ppb		100
22) 1,1-Dichloroethane	3.538	63	1536169	49.77	ppb	#	99
23) Vinyl Acetate	3.600	43	3022267	50.76	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	3027145	52.11	ppb		97
25) Ethyl-tert-Butyl ether...	3.933	59	2737634	52.11	ppb	#	98
26) cis-1,2-Dichloroethylene	4.059	61	1406788	50.22	ppb		94
27) 2-Butanone	4.084	72	134431	54.18	ppb		88
28) 2,2-Dichloropropane	4.056	77	1273283	45.95	ppb	#	77
29) Tetrahydrofuran	4.323	42	303709	47.53	ppb		87
30) Bromochloromethane	4.273	49	752701	51.79	ppb		86
31) Chloroform	4.351	83	1491904	49.89	ppb	#	93
32) 1,1,1-Trichloroethane	4.512	97	1335515	48.03	ppb	#	85
33) Cyclohexane	4.559	56	1512382	49.03	ppb		94
34) 1,1-Dichloropropylene	4.662	75	1175242	49.05	ppb		82
36) Carbon Tetrachloride	4.662	117	1024412	45.48	ppb	#	58
37) tert-Amyl alcohol (TAA)	4.877	59	987779	494.40	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1199341	51.56	ppb		99
39) Benzene	4.852	78	3473985	50.49	ppb	#	96
40) tert-Amyl methyl ether...	4.963	73	2455045	51.70	ppb	#	89
42) Trichloroethylene	5.450	95	872381	49.84	ppb		88
43) Methyl Cyclohexane	5.628	83	1569844	50.08	ppb	#	83
44) Methyl Methacrylate	5.784	69	641310	49.71	ppb	#	98
45) Dibromomethane	5.775	93	501424	51.41	ppb	#	72
46) Bromodichloromethane	5.928	83	1072259	49.71	ppb		99
47) 1,2-Dichloropropane	5.667	63	894949	50.87	ppb	#	100
48) 1,4-Dioxane	5.798	88	216721	969.76	ppb		84
49) 2-Chloroethyl vinyl ether	6.226	63	479377	51.18	ppb		98
50) 2-nitropropane	6.156	43	167444	33.51	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1400104	48.88	ppb		95

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110133.D
Acq On : 4 Oct 2019 10:31 pm
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419B
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 07 09:38:51 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

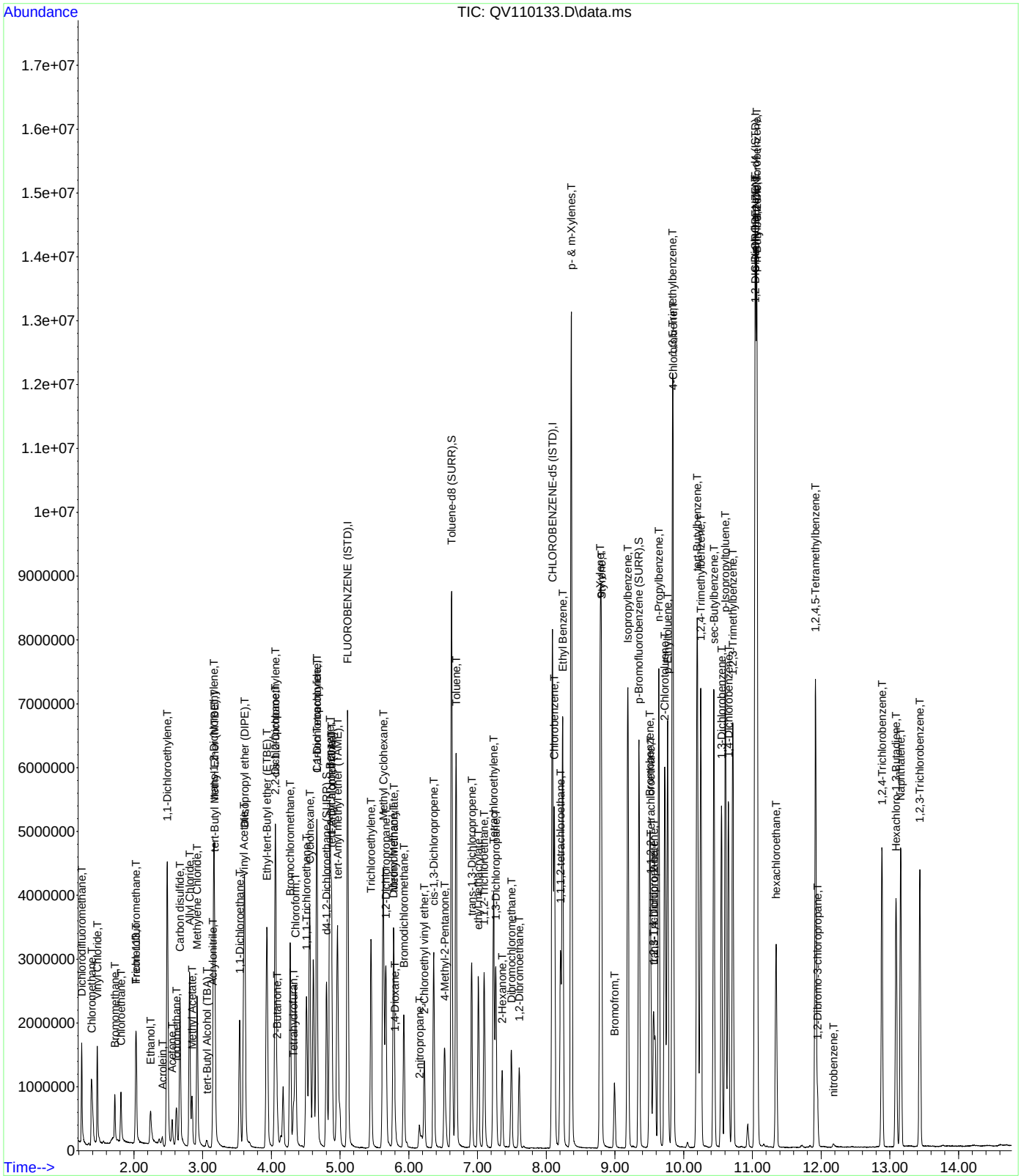
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	7.011	69	1171036	49.97	ppb	#	100
53) 4-Methyl-2-Pentanone	6.521	43	1249711	47.62	ppb		85
55) Toluene	6.688	91	3782390	51.66	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1271066	48.48	ppb		99
57) 1,1,2-Trichloroethane	7.097	97	741649	51.10	ppb		99
58) 1,3-Dichloropropane	7.267	76	1292766	50.56	ppb	#	93
59) Tetrachloroethylene	7.233	166	983191	51.32	ppb	#	72
60) 2-Hexanone	7.358	43	719315	51.35	ppb		95
61) Dibromochloromethane	7.495	129	690784	47.85	ppb		97
62) 1,2-Dibromoethane	7.606	107	727536	50.10	ppb		100
63) Chlorobenzene	8.118	112	2394200	50.57	ppb		92
64) 1,1,1,2-tetrachloroethane	8.207	131	718045	48.76	ppb	#	55
65) Ethyl Benzene	8.240	91	4407987	52.72	ppb		96
66) p- & m-Xylenes	8.363	91	7143134	97.90	ppb		93
67) o-Xylene	8.786	91	3550339	52.07	ppb		98
68) Styrene	8.802	104	2811312	52.27	ppb	#	100
69) Bromofrom	8.994	173	406071	46.11	ppb		99
71) p-Ethyltoluene	9.765	105	4242769	50.50	ppb	#	100
72) Isopropylbenzene	9.186	105	4573415	50.40	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	986329	49.21	ppb	#	100
75) Bromobenzene	9.506	77	1684391	49.24	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	1125373	47.14	ppb	#	95
77) 1,2,3-Trichloropropane	9.562	110	306390	47.04	ppb		70
78) n-Propylbenzene	9.640	91	5487846	52.01	ppb		96
79) 2-Chlorotoluene	9.723	91	3148937	49.17	ppb		99
80) 4-Chlorotoluene	9.846	91	3771203	51.51	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	3862452m	51.07	ppb		
82) tert-Butylbenzene	10.196	119	3499684	48.41	ppb		95
83) 1,2,4-Trimethylbenzene	10.249	105	3753880	49.60	ppb		91
84) sec-Butylbenzene	10.441	105	4828696	50.88	ppb		96
85) hexachloroethane	11.342	117	542907	41.03	ppb	#	100
86) 1,3-Dichlorobenzene	10.550	146	1866226	47.95	ppb		95
87) p-Isopropyltoluene	10.605	119	4129523	50.46	ppb		95
88) 1,4-Dichlorobenzene	10.653	146	1882233	48.24	ppb		94
89) 1,2,3-Trimethylbenzene	10.714	105	3691093	46.24	ppb		96
90) nitrobenzene	12.177	77	15628	36.47	ppb	#	100
91) p-Diethylbenzene	11.036	105	2177272	50.43	ppb	#	22
92) 1,2-Dichlorobenzene	11.064	146	1783340m	51.27	ppb		
93) n-Butylbenzene	11.067	91	4766999m	53.74	ppb		
94) 1,2-Dibromo-3-chloropr...	11.946	75	224237	48.20	ppb	#	78
95) 1,2,4,5-Tetramethylben...	11.918	119	3711521	50.19	ppb		94
96) 1,2,4-Trichlorobenzene	12.887	180	1292383	48.37	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.090	225	690981	47.15	ppb		88
98) Naphthalene	13.157	128	3456165	42.22	ppb		99
99) 1,2,3-Trichlorobenzene	13.435	180	1205194	48.27	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110133.D
Acq On : 4 Oct 2019 10:31 pm
Operator : LLJ
Sample : SEQ-CCV1
Misc : QV1100419B
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 07 09:38:51 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA4	Calibration:	YE90028
Lab File ID:	QV407280.D	Calibration Date:	05/20/19 11:38
Sequence:	Y9J0915	Injection Date:	10/07/19
Lab Sample ID:	Y9J0915-CCV1	Injection Time:	09:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,1-Trichloroethane	A	50.0	49.4	1.114524	1.101941	0.1	-1.1	20
1,1-Dichloroethane	A	50.0	45.2	1.457485	1.317185	0.2	-9.6	20
1,1-Dichloroethylene	A	50.0	34.0	1.219713	0.8303307	0.1	-31.9	20 *
1,2,4-Trimethylbenzene	A	50.0	43.7	1.582008	1.381863		-12.7	20
1,2-Dichlorobenzene	A	50.0	44.8	0.7994701	0.7159969	0.4	-10.4	20
1,2-Dichloroethane	A	50.0	43.6	0.9838524	0.8573371	0.1	-12.9	20
1,3,5-Trimethylbenzene	A	50.0	44.0	1.5519	1.365313		-12.0	20
1,3-Dichlorobenzene	A	50.0	45.3	0.8601658	0.7795683	0.6	-9.4	20
1,4-Dichlorobenzene	A	50.0	47.3	0.8364223	0.7907484	0.5	-5.5	20
1,4-Dioxane	A	1000	770	2.100933E-03	1.617597E-03		-23.0	20 *
2-Butanone	A	50.0	48.0	7.147061E-02	6.865889E-02	0.1	-3.9	20
Acetone	A	50.0	37.7	0.3526266	0.2660735	0.1	-24.5	20 *
Benzene	A	50.0	45.1	3.060623	2.760509	0.5	-9.8	20
Carbon tetrachloride	L	50.0	46.0	0.8637203	0.8972309	0.1	-8.0	20
Chlorobenzene	A	50.0	45.4	0.5130765	0.4658645	0.5 *	-9.2	20
Chloroform	A	50.0	48.0	1.265293	1.215805	0.2	-3.9	20
cis-1,2-Dichloroethylene	A	50.0	45.0	1.315255	1.184567	0.1	-9.9	20
Ethyl Benzene	A	50.0	42.9	0.987093	0.8464202	0.1	-14.3	20
Methyl tert-butyl ether (MTBE)	A	50.0	46.3	1.832696	1.698058	0.1	-7.3	20
Methylene chloride	A	50.0	42.3	1.215974	1.028878	0.1	-15.4	20
Naphthalene	A	50.0	46.6	1.42597	1.329108		-6.8	20
n-Butylbenzene	A	50.0	43.6	2.154376	1.877613		-12.8	20
n-Propylbenzene	A	50.0	42.5	2.440359	2.075486		-15.0	20
o-Xylene	A	50.0	42.7	0.7884089	0.6729052	0.3	-14.7	20
p- & m- Xylenes	A	100	84.0	0.7807342	0.6559685	0.1	-16.0	20
sec-Butylbenzene	A	50.0	43.8	2.024429	1.772412		-12.4	20
tert-Butylbenzene	A	50.0	45.2	1.352087	1.222221		-9.6	20
Tetrachloroethylene	A	50.0	48.6	0.1979815	0.1923833	0.2 *	-2.8	20
Toluene	A	50.0	41.3	0.8886345	0.7334334	0.4	-17.5	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA4	Calibration:	YE90028
Lab File ID:	QV407280.D	Calibration Date:	05/20/19 11:38
Sequence:	Y9J0915	Injection Date:	10/07/19
Lab Sample ID:	Y9J0915-CCV1	Injection Time:	09:40

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
trans-1,2-Dichloroethylene	A	50.0	45.5	1.12542	1.024681	0.1	-9.0	20
Trichloroethylene	A	50.0	45.6	0.1949594	0.1777871	0.2 *	-8.8	20
Vinyl Chloride	A	50.0	35.1	0.9969523	0.6992891	0.1	-29.9	20 *

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407280.D
Acq On : 7 Oct 2019 9:40 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV4100719A
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 07 09:57:22 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.966	70	202989	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	851108	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	437115	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.699	65	280494	49.36	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery =	98.72%			
54) Toluene-d8 (SURR)	6.460	98	1083842	49.30	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery =	98.60%			
73) p-Bromofluorobenzene (...	9.198	95	439017	48.38	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery =	96.76%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.155	85	129680	53.25	ppb		99
3) Chloromethane	1.327	50	178208	33.49	ppb	#	66
4) Vinyl Chloride	1.374	62	141948	35.07	ppb		99
5) Bromomethane	1.628	94	55652	43.35	ppb		98
6) Allyl Chloride	2.685	76	70816	44.47	ppb	#	100
7) Chloroethane	1.705	64	64741	35.25	ppb		99
8) Trichlorofluoromethane	1.897	101	165981	36.65	ppb		97
9) Ethanol	2.167	45	53232	1123.53	ppb		82
10) Freon-113	1.897	101	165981	36.35	ppb	#	91
11) 1,1-Dichloroethylene	2.351	61	168548	34.04	ppb		96
12) Acrolein	2.315	56	6521	13.23	ppb		94
13) Acetone	2.462	43	54010	37.73	ppb	#	44
14) Iodomethane	2.501	142	143168	45.92	ppb	#	20
15) Methyl Acetate	2.727	43	101436	33.91	ppb		96
16) Carbon disulfide	2.540	76	385106	48.42	ppb		100
17) tert-Butyl Alcohol (TBA)	2.980	59	9742m	28.95	ppb		
18) Methylene Chloride	2.816	49	208851	42.31	ppb		90
19) Acrylonitrile	3.074	53	48914	45.41	ppb		99
20) trans-1,2-Dichloroethy...	3.027	61	207999	45.52	ppb		95
21) tert-Butyl Methyl Ethe...	3.019	73	344687	46.33	ppb		99
22) 1,1-Dichloroethane	3.419	63	267374	45.19	ppb	#	99
23) Vinyl Acetate	3.464	43	280978	43.63	ppb		100
24) Diisopropyl ether (DIPE)	3.433	45	516733	44.99	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.756	59	441493	46.12	ppb	#	97
26) cis-1,2-Dichloroethylene	3.945	61	240454	45.03	ppb		95
27) 2-Butanone	3.984	72	13937	48.03	ppb	#	40
28) 2,2-Dichloropropane	3.915	77	202876	46.30	ppb	#	77
29) Tetrahydrofuran	4.207	42	43940	42.87	ppb		82
30) Bromochloromethane	4.171	49	128533	45.22	ppb		89
31) Chloroform	4.243	83	246795	48.04	ppb		99
32) 1,1,1-Trichloroethane	4.360	97	223682	49.44	ppb	#	74
33) Cyclohexane	4.371	56	285616	46.38	ppb		90
34) 1,1-Dichloropropylene	4.507	75	189077	45.48	ppb		92
36) Carbon Tetrachloride	4.493	117	182128	46.00	ppb		99
37) tert-Amyl alcohol (TAA)	4.777	59	109928	359.05	ppb	#	100
38) 1,2-Dichloroethane	4.769	62	174030m	43.57	ppb		
39) Benzene	4.705	78	560353	45.10	ppb	#	82
40) tert-Amyl methyl ether...	4.785	73	392150	44.80	ppb	#	88
42) Trichloroethylene	5.303	95	151316	45.60	ppb		91
43) Methyl Cyclohexane	5.428	83	268335	45.19	ppb	#	78
44) Methyl Methacrylate	5.637	69	82713	43.72	ppb	#	99
45) Dibromomethane	5.670	93	77667	44.62	ppb	#	64
46) Bromodichloromethane	5.820	83	174802	41.68	ppb		98
47) 1,2-Dichloropropane	5.537	63	149395	43.18	ppb	#	99
48) 1,4-Dioxane	5.695	88	27535	769.94	ppb		85
49) 2-Chloroethyl vinyl ether	6.099	63	70242	46.73	ppb		98
50) 2-nitropropane	6.065	43	28195	40.31	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	220124	45.16	ppb		98

Data Path : C:\msdchem\1\data\100719\
Data File : QV407280.D
Acq On : 7 Oct 2019 9:40 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV4100719A
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 07 09:57:22 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

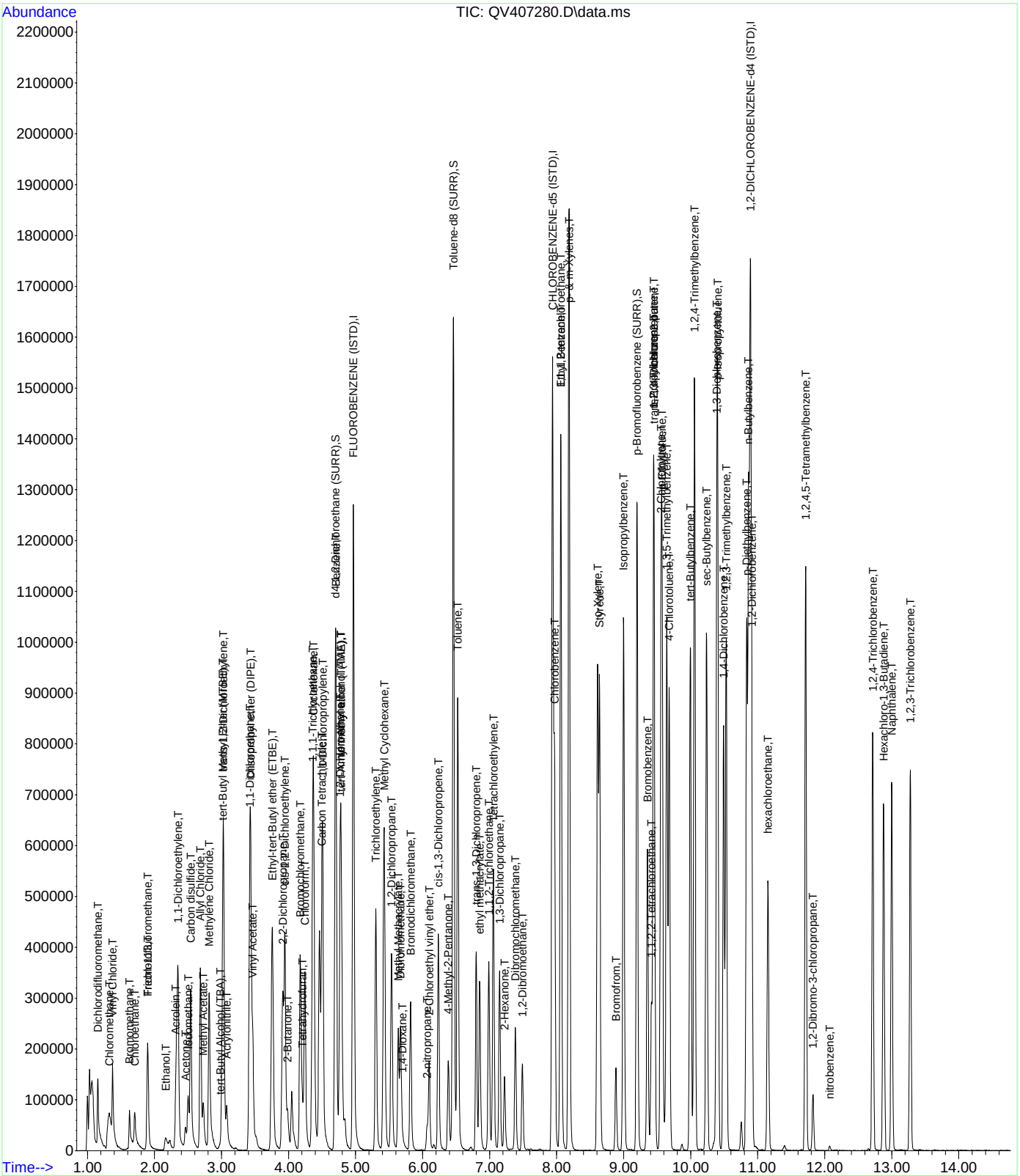
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) ethyl methacrylate	6.850	69	157695	38.79	ppb	#	100
53) 4-Methyl-2-Pentanone	6.382	43	124470	36.32	ppb	#	91
55) Toluene	6.524	91	624231	41.27	ppb		100
56) trans-1,3-Dichloropropene	6.800	75	190572	40.12	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	116076	45.27	ppb		100
58) 1,3-Dichloropropane	7.150	76	193424	43.22	ppb	#	93
59) Tetrachloroethylene	7.056	166	163739	48.59	ppb	#	72
60) 2-Hexanone	7.223	43	94619	40.47	ppb		96
61) Dibromochloromethane	7.384	129	124892	45.31	ppb	#	95
62) 1,2-Dibromoethane	7.487	107	115462	47.16	ppb		99
63) Chlorobenzene	7.968	112	396501	45.40	ppb		92
64) 1,1,1,2-tetrachloroethane	8.063	131	131139	43.46	ppb	#	54
65) Ethyl Benzene	8.063	91	720395	42.87	ppb		97
66) p- & m-Xylenes	8.185	91	1116600	84.02	ppb		94
67) o-Xylene	8.611	91	572715	42.67	ppb		98
68) Styrene	8.639	104	435880	44.21	ppb	#	100
69) Bromofrom	8.884	173	73953	44.27	ppb	#	81
71) p-Ethyltoluene	9.574	105	680485	43.76	ppb	#	97
72) Isopropylbenzene	8.998	105	735905	45.09	ppb		97
74) 1,1,2,2-Tetrachloroethane	9.412	83	144807	42.47	ppb	#	100
75) Bromobenzene	9.354	77	257988	41.71	ppb		89
76) trans-1,4-Dichloro-2-b...	9.451	75	159049	40.63	ppb	#	59
77) 1,2,3-Trichloropropane	9.448	110	43403	43.42	ppb		98
78) n-Propylbenzene	9.448	91	907226	42.52	ppb		97
79) 2-Chlorotoluene	9.557	91	578871	42.15	ppb		99
80) 4-Chlorotoluene	9.679	91	540024	43.02	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	596799	43.99	ppb		96
82) tert-Butylbenzene	9.994	119	534251	45.20	ppb		94
83) 1,2,4-Trimethylbenzene	10.058	105	604033	43.67	ppb		94
84) sec-Butylbenzene	10.236	105	774748	43.78	ppb		98
85) hexachloroethane	11.151	117	102896	42.03	ppb	#	100
86) 1,3-Dichlorobenzene	10.389	146	340761	45.32	ppb		98
87) p-Isopropyltoluene	10.403	119	703365	45.22	ppb		97
88) 1,4-Dichlorobenzene	10.492	146	345648	47.27	ppb		97
89) 1,2,3-Trimethylbenzene	10.531	105	593701	46.22	ppb		98
90) nitrobenzene	12.072	77	3705	53.79	ppb	#	100
91) p-Diethylbenzene	10.834	105	362267	43.50	ppb	#	24
92) 1,2-Dichlorobenzene	10.912	146	312973	44.78	ppb		98
93) n-Butylbenzene	10.862	91	820733	43.58	ppb		94
94) 1,2-Dibromo-3-chloropr...	11.822	75	26954	38.75	ppb	#	92
95) 1,2,4,5-Tetramethylben...	11.716	119	663710	46.61	ppb		97
96) 1,2,4-Trichlorobenzene	12.718	180	268455	51.82	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.879	225	147268	51.32	ppb		82
98) Naphthalene	12.999	128	580973	46.60	ppb		99
99) 1,2,3-Trichlorobenzene	13.277	180	242414	51.57	ppb		76

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407280.D
Acq On : 7 Oct 2019 9:40 am
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV4100719A
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 07 09:57:22 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA6	Calibration:	YJ90014
Lab File ID:	QV616945.D	Calibration Date:	10/08/19 15:48
Sequence:	Y9J1024	Injection Date:	10/09/19
Lab Sample ID:	Y9J1024-CCV1	Injection Time:	23:28

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,1,1-Trichloroethane	A	10.0	9.90	2.218196	2.212218	0.1	-0.3	20
1,1-Dichloroethane	A	10.0	10.3	2.545966	2.642996	0.2	3.8	20
1,1-Dichloroethylene	A	10.0	10.3	2.029954	2.113841	0.1	4.1	20
1,2,4-Trimethylbenzene	A	10.0	9.86	2.981414	2.994619		0.4	20
1,2-Dichlorobenzene	A	10.0	9.99	1.630641	1.657208	0.4	1.6	20
1,2-Dichloroethane	A	10.0	9.99	1.730046	1.74008	0.1	0.6	20
1,3,5-Trimethylbenzene	A	10.0	10.0	2.906925	2.973352		2.3	20
1,3-Dichlorobenzene	A	10.0	9.85	1.793649	1.794601	0.6	0.05	20
1,4-Dichlorobenzene	A	10.0	9.80	1.823086	1.814233	0.5	-0.5	20
1,4-Dioxane	A	200	206	2.332943E-03	2.411604E-03		3.4	20
2-Butanone	Q	10.0	9.17	0.1252058	0.1299815	0.1	-8.3	20
Acetone	Q	10.0	8.85	0.42532	0.362035	0.1	-11.5	20
Benzene	A	10.0	10.6	4.929968	5.319361	0.5	7.9	20
Carbon tetrachloride	A	10.0	9.84	2.04451	2.024346	0.1	-1.0	20
Chlorobenzene	A	10.0	10.1	0.9532627	0.9756833	0.5	2.4	20
Chloroform	A	10.0	10.1	2.377451	2.430928	0.2	2.2	20
cis-1,2-Dichloroethylene	A	10.0	9.76	2.308826	2.271048	0.1	-1.6	20
Ethyl Benzene	A	10.0	10.6	1.509664	1.627905	0.1	7.8	20
Methyl tert-butyl ether (MTBE)	A	10.0	10.2	3.433721	3.544284	0.1	3.2	20
Methylene chloride	A	10.0	10.2	1.863196	1.905196	0.1	2.3	20
Naphthalene	Q	10.0	9.48	1.714279	1.778993		-5.2	20
n-Butylbenzene	A	10.0	9.61	2.321236	2.266882		-2.3	20
n-Propylbenzene	A	10.0	10.3	4.002652	4.229168		5.7	20
o-Xylene	A	10.0	10.3	1.238737	1.292157	0.3	4.3	20
p- & m- Xylenes	Q	20.0	18.3	1.127794	1.259921	0.1	-8.5	20
sec-Butylbenzene	A	10.0	9.91	2.765532	2.794376		1.0	20
tert-Butylbenzene	A	10.0	9.67	2.850856	2.806474		-1.6	20
Tetrachloroethylene	A	10.0	10.6	0.4449759	0.4734836	0.2	6.4	20
Toluene	A	10.0	10.3	1.451097	1.51864	0.4	4.7	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	QVOA6	Calibration:	YJ90014
Lab File ID:	QV616945.D	Calibration Date:	10/08/19 15:48
Sequence:	Y9J1024	Injection Date:	10/09/19
Lab Sample ID:	Y9J1024-CCV1	Injection Time:	23:28

		CONC. (ug/L)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
trans-1,2-Dichloroethylene	A	10.0	9.95	1.946025	1.947592	0.1	0.08	20
Trichloroethylene	A	10.0	9.55	0.4151986	0.3981735	0.2	-4.1	20
Vinyl Chloride	A	10.0	11.1	1.369773	1.503211	0.1	9.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616945.D
Acq On : 9 Oct 2019 11:28 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV6100919B
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 10 08:27:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	327739	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1178780	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	452724	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.322	65	451430	9.95	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.50%				
53) Toluene-d8 (SURR)	7.172	98	1522594	9.82	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 98.20%				
73) p-Bromofluorobenzene (...	9.943	95	532379	9.74	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	341821m	11.31	ppb		
3) Chloromethane	1.538	50	467698	10.47	ppb	#	44
4) Vinyl Chloride	1.621	62	492661	11.07	ppb	#	48
5) Bromomethane	1.930	94	89650	3.70	ppb		66
6) Chloroethane	2.044	64	307652	11.09	ppb		90
7) Trichlorofluoromethane	2.306	101	693516	11.88	ppb		98
8) Ethanol	2.467	45	129012	456.42	ppb	#	1
9) Freon-113	2.843	101	393905	10.44	ppb	#	69
10) 1,1-Dichloroethylene	2.818	61	692788	10.32	ppb		97
11) Acrolein	2.712	56	28715	9.63	ppb	#	83
12) Acetone	2.843	43	118653	8.85	ppb	#	97
13) Iodomethane	2.957	142	84970	1.90	ppb		99
14) Allyl Chloride	3.179	76	227458	10.07	ppb	#	100
15) Methyl Acetate	3.168	43	293325	10.66	ppb		99
16) Carbon disulfide	3.029	76	1038650	9.95	ppb		100
17) tert-Butyl Alcohol (TBA)	3.416	59	40413	9.58	ppb	#	1
18) Methylene Chloride	3.307	49	624407	10.16	ppb		90
19) Acrylonitrile	3.508	53	113472	10.00	ppb	#	45
20) trans-1,2-Dichloroethy...	3.585	61	638302	9.95	ppb		99
21) tert-Butyl Methyl Ethe...	3.574	73	1161600	10.23	ppb	#	88
22) 1,1-Dichloroethane	3.997	63	866213	10.28	ppb		100
23) Vinyl Acetate	4.044	43	777954	10.62	ppb	#	100
24) Diisopropyl ether (DIPE)	4.047	45	1799921	11.01	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.389	59	1587398	11.16	ppb	#	99
26) cis-1,2-Dichloroethylene	4.534	61	744311	9.76	ppb		98
27) 2-Butanone	4.512	72	42600	9.17	ppb	#	95
28) 2,2-Dichloropropane	4.543	77	538637	7.65	ppb	#	65
29) Tetrahydrofuran	4.776	42	115440	9.80	ppb	#	46
30) Bromochloromethane	4.757	49	409992	10.39	ppb		92
31) Chloroform	4.865	83	796710	10.14	ppb	#	84
32) 1,1,1-Trichloroethane	5.015	97	725030	9.90	ppb	#	82
33) Cyclohexane	5.096	56	744185	10.61	ppb	#	87
34) 1,1-Dichloropropylene	5.166	75	625729	9.92	ppb		91
36) Carbon Tetrachloride	5.166	117	663457	9.84	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.366	59	356139	105.56	ppb		96
38) 1,2-Dichloroethane	5.397	62	570292	9.99	ppb		100
39) Benzene	5.344	78	1743362	10.64	ppb	#	67
40) tert-Amyl methyl ether...	5.483	73	1287959	11.24	ppb	#	90
42) Trichloroethylene	5.986	95	469359	9.55	ppb		96
43) Methyl Cyclohexane	6.217	83	629839	9.99	ppb	#	83
44) Methyl Methacrylate	6.281	69	249077	9.58	ppb	#	28
45) Dibromomethane	6.306	93	255582	9.97	ppb		96
46) Bromodichloromethane	6.482	83	591277	9.61	ppb		96
47) 1,2-Dichloropropane	6.223	63	496060	9.68	ppb	#	100
48) 1,4-Dioxane	6.287	88	56855	206.16	ppb	#	86
49) 2-nitropropane	6.663	43	115207	9.01	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.754	63	162062	9.91	ppb	#	93
51) cis-1,3-Dichloropropene	6.907	75	699140	9.43	ppb		91

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616945.D
Acq On : 9 Oct 2019 11:28 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV6100919B
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 10 08:27:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

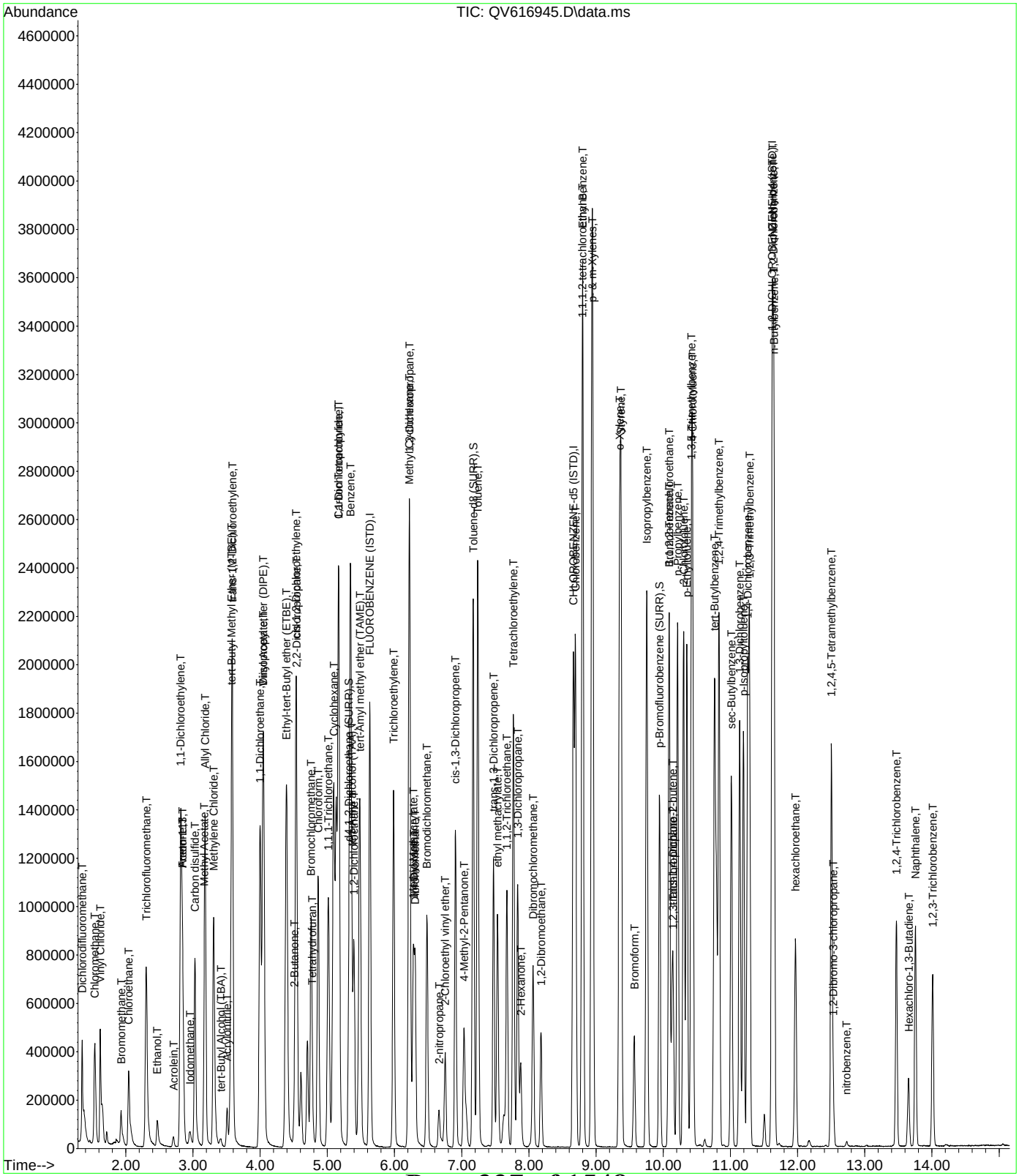
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
52) 4-Methyl-2-Pentanone	7.035	43	547155	9.54	ppb		91
54) Toluene	7.239	91	1790143	10.32	ppb		99
55) trans-1,3-Dichloropropene	7.475	75	603206	9.39	ppb		100
56) ethyl methacrylate	7.533	69	491004	9.72	ppb	#	100
57) 1,1,2-Trichloroethane	7.670	97	341032	9.85	ppb		96
58) 1,3-Dichloropropane	7.834	76	580258	9.99	ppb	#	61
59) Tetrachloroethylene	7.770	166	558133	10.57	ppb	#	77
60) 2-Hexanone	7.878	43	264553	9.49	ppb	#	25
61) Dibromochloromethane	8.065	129	414240	9.66	ppb		98
62) 1,2-Dibromoethane	8.182	107	337733	9.98	ppb		95
63) Chlorobenzene	8.694	112	1150116	10.12	ppb		94
64) 1,1,1,2-tetrachloroethane	8.794	131	440407	10.03	ppb		97
65) Ethyl Benzene	8.802	91	1918942	10.59	ppb		98
66) p- & m-Xylenes	8.944	91	2970339	18.30	ppb		97
67) o-Xylene	9.350	91	1523169	10.29	ppb		100
68) Styrene	9.372	104	1224082	10.27	ppb		98
69) Bromoform	9.570	173	230884	9.44	ppb		99
71) p-Ethyltoluene	10.352	105	1462858	10.26	ppb	#	82
72) Isopropylbenzene	9.754	105	1766103	10.20	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	358038	9.70	ppb	#	98
75) Bromobenzene	10.088	77	723769	9.71	ppb		92
76) trans-1,4-Dichloro-2-b...	10.143	75	393217	9.35	ppb	#	56
77) 1,2,3-Trichloropropane	10.149	110	107989	9.83	ppb		65
78) n-Propylbenzene	10.213	91	1914646	10.30	ppb		100
79) 2-Chlorotoluene	10.305	91	1224735	9.69	ppb		98
80) 4-Chlorotoluene	10.438	91	1421113	9.94	ppb		98
81) 1,3,5-Trimethylbenzene	10.419	105	1346108	10.01	ppb	#	64
82) tert-Butylbenzene	10.764	119	1270558	9.67	ppb		93
83) 1,2,4-Trimethylbenzene	10.830	105	1355736	9.86	ppb		98
84) sec-Butylbenzene	11.014	105	1265081	9.91	ppb		99
85) 1,3-Dichlorobenzene	11.136	146	812459	9.85	ppb		98
86) p-Isopropyltoluene	11.198	119	1173161	9.82	ppb		98
87) 1,4-Dichlorobenzene	11.256	146	821347	9.80	ppb		98
88) 1,2,3-Trimethylbenzene	11.284	105	1314676	7.57	ppb		100
89) p-Diethylbenzene	11.626	105	527775	9.79	ppb	#	79
90) 1,2-Dichlorobenzene	11.643	146	750258	9.99	ppb	#	87
91) n-Butylbenzene	11.648	91	1026272	9.61	ppb	#	79
92) hexachloroethane	11.968	117	203186	9.14	ppb	#	100
93) 1,2-Dibromo-3-chloropr...	12.530	75	61664	9.43	ppb		87
94) 1,2,4,5-Tetramethylben...	12.503	119	984644	10.05	ppb		99
95) nitrobenzene	12.728	77	8598	5.57	ppb	#	100
96) 1,2,4-Trichlorobenzene	13.471	180	315618	9.54	ppb		98
97) Hexachloro-1,3-Butadiene	13.654	225	65786	9.72	ppb		99
98) Naphthalene	13.755	128	805393	9.48	ppb		99
99) 1,2,3-Trichlorobenzene	14.010	180	246532	9.42	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616945.D
Acq On : 9 Oct 2019 11:28 pm
InstName : MSVOA6
Operator : LLJ
Sample : SEQ-CCV1
Misc : QBQV6100919B
ALS Vial : 29 Sample Multiplier: 1

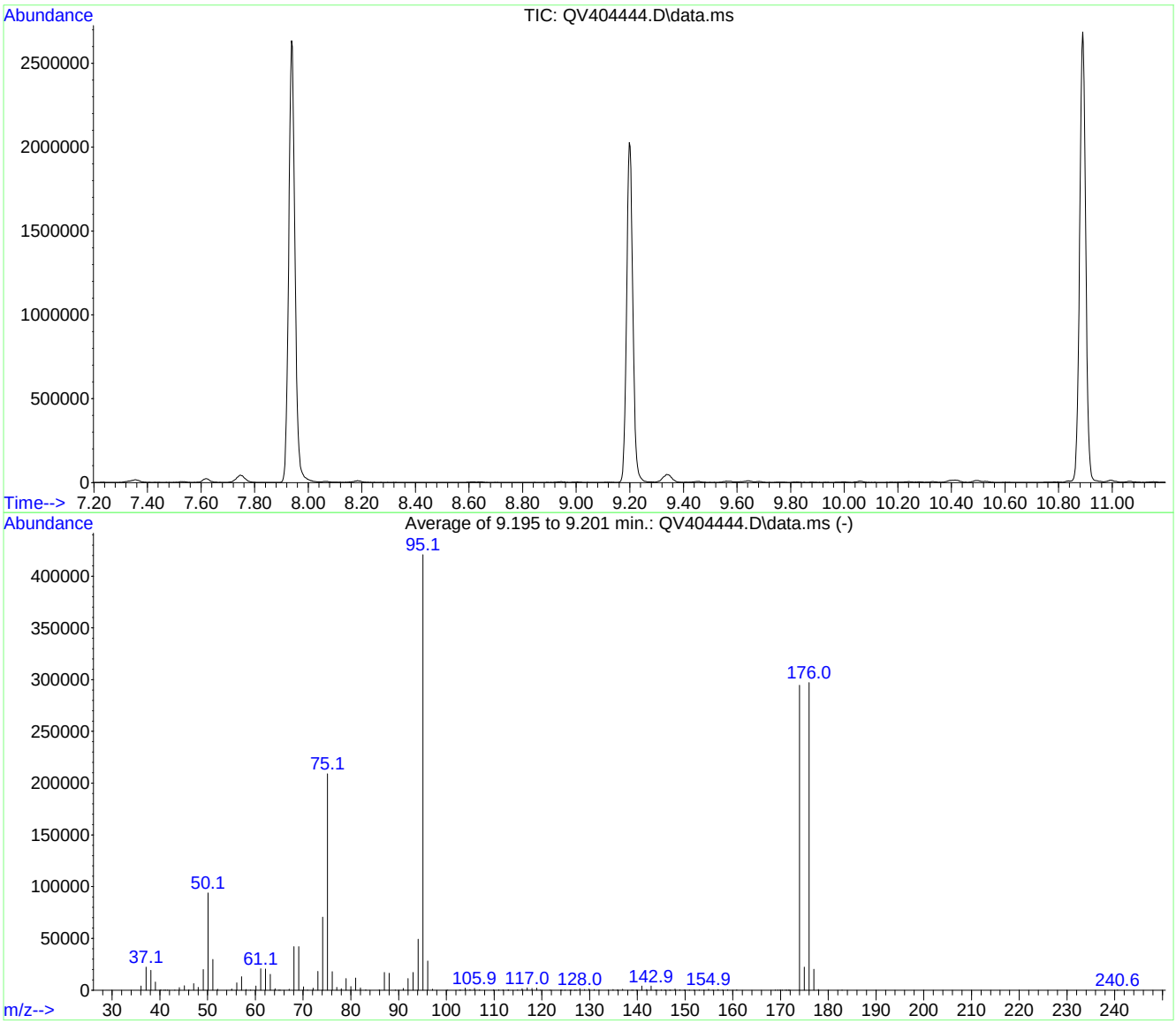
Quant Time: Oct 10 08:27:52 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\051719\
Data File : QV404444.D
Acq On : 17 May 2019 3:39 pm
Operator : LLJ
Sample : SEQ-TUN1
Misc : QBQV4051719A
ALS Vial : 9 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ4C0020.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Mon May 20 16:34:05 2019



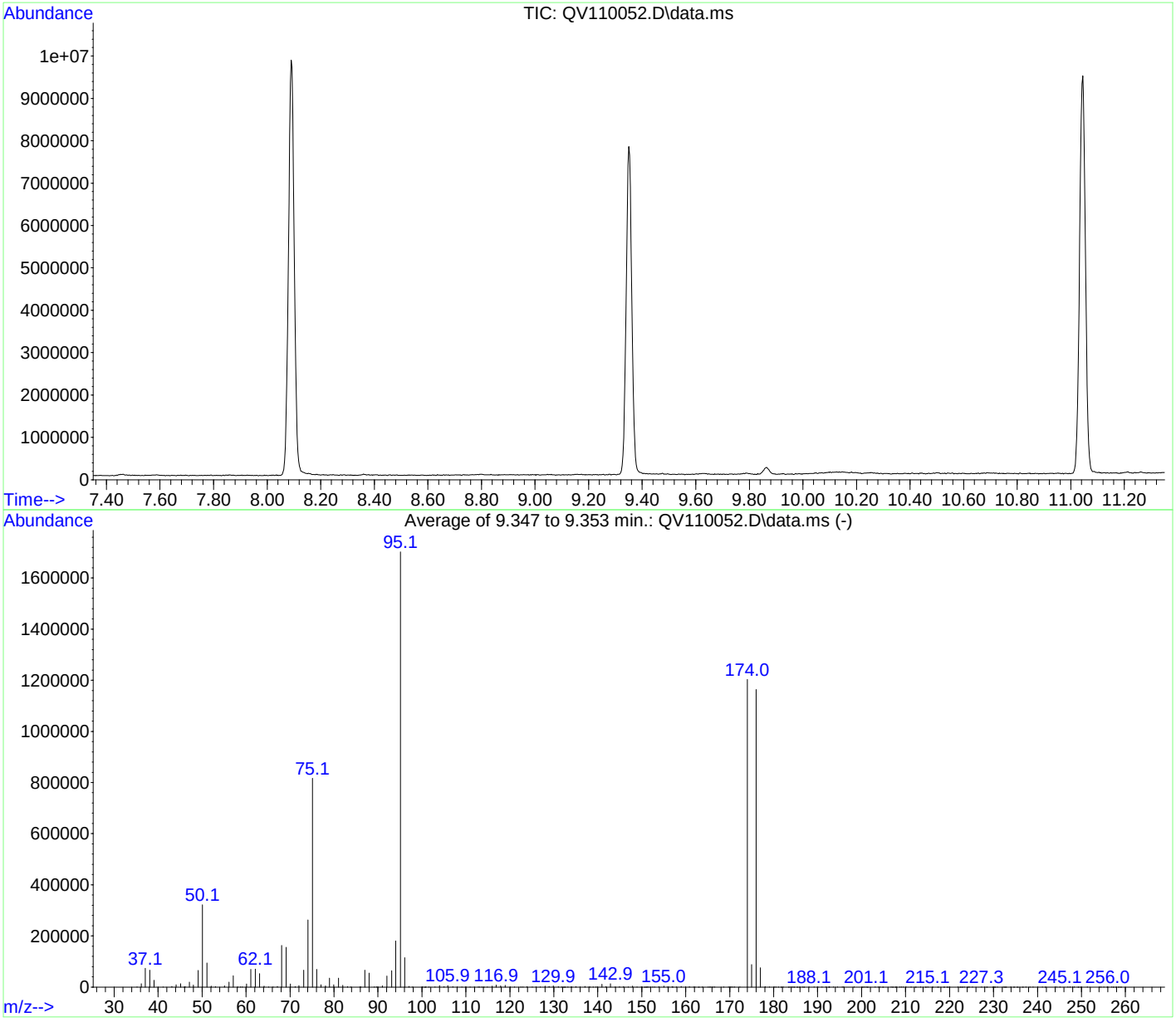
Spectrum Information: Average of 9.195 to 9.201 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.3	93906	PASS
75	95	30	60	49.7	209067	PASS
95	95	100	100	100.0	420629	PASS
96	95	5	9	6.7	28163	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.0	294528	PASS
175	174	5	9	7.6	22360	PASS
176	174	95	101	100.9	297045	PASS
177	176	5	9	6.8	20195	PASS

Data Path : C:\msdchem\1\data\100219A\
Data File : QV110052.D
Acq On : 2 Oct 2019 10:09 am
Operator : LLJ
Sample : SEQ-TUN1
Misc : QV1100219A
ALS Vial : 8 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ1S0024.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Wed Oct 02 16:34:57 2019



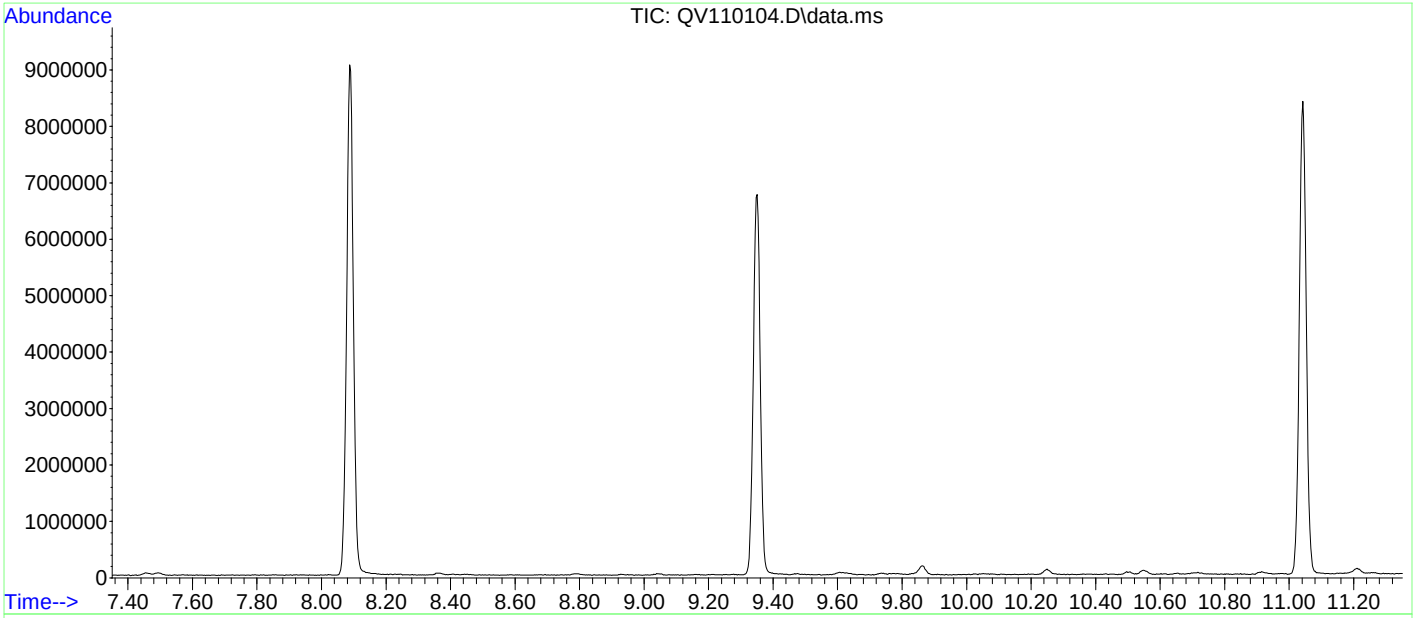
Spectrum Information: Average of 9.347 to 9.353 min.

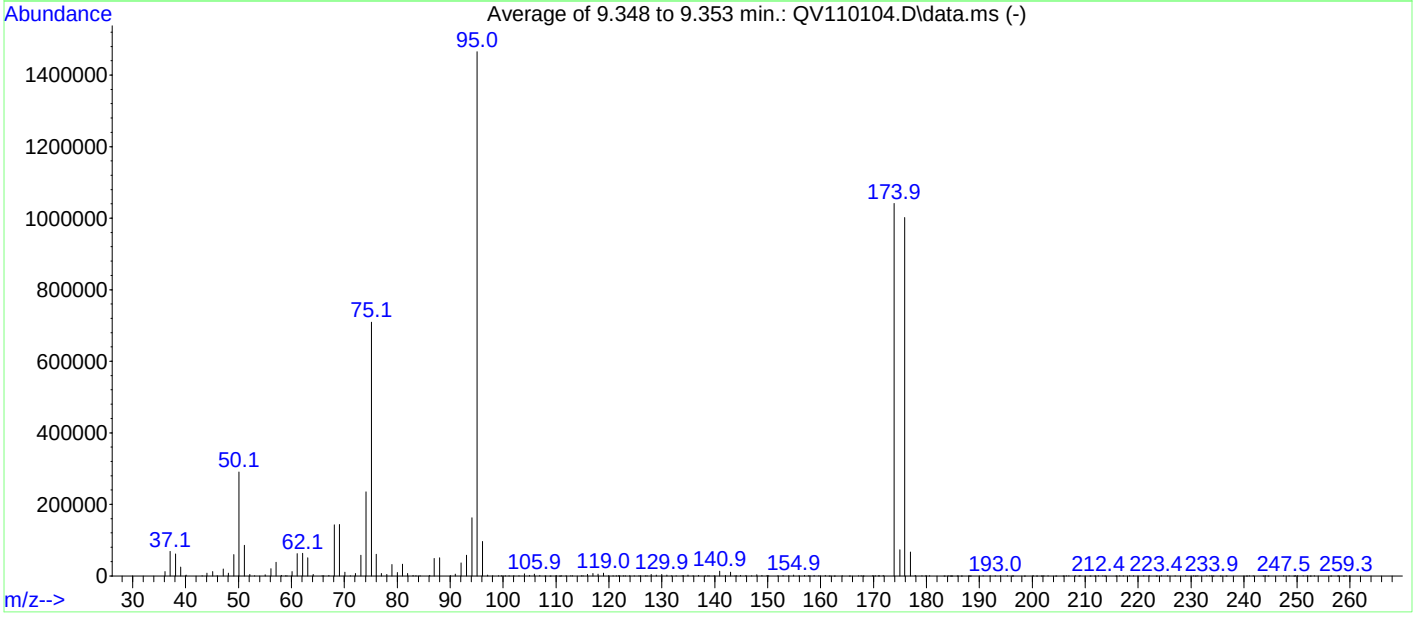
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.9	321709	PASS
75	95	30	60	48.0	816299	PASS
95	95	100	100	100.0	1701984	PASS
96	95	5	9	6.7	114486	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	70.7	1203226	PASS
175	174	5	9	7.3	87888	PASS
176	174	95	101	96.8	1164288	PASS
177	176	5	9	6.5	75219	PASS

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110104.D
Acq On : 4 Oct 2019 9:05 am
Operator : LLJ
Sample : SEQ-TUN1
Misc : QV1100419A
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ1S0024.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Wed Oct 02 16:34:57 2019





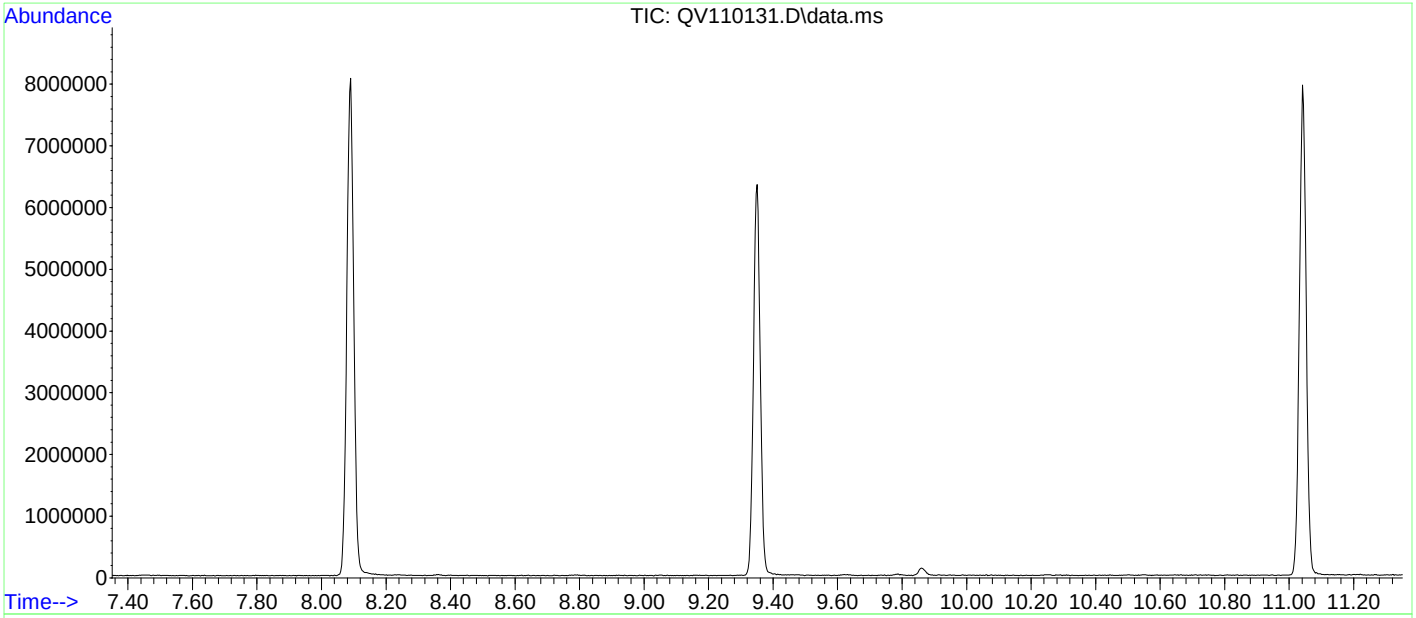
Spectrum Information: Average of 9.348 to 9.353 min.

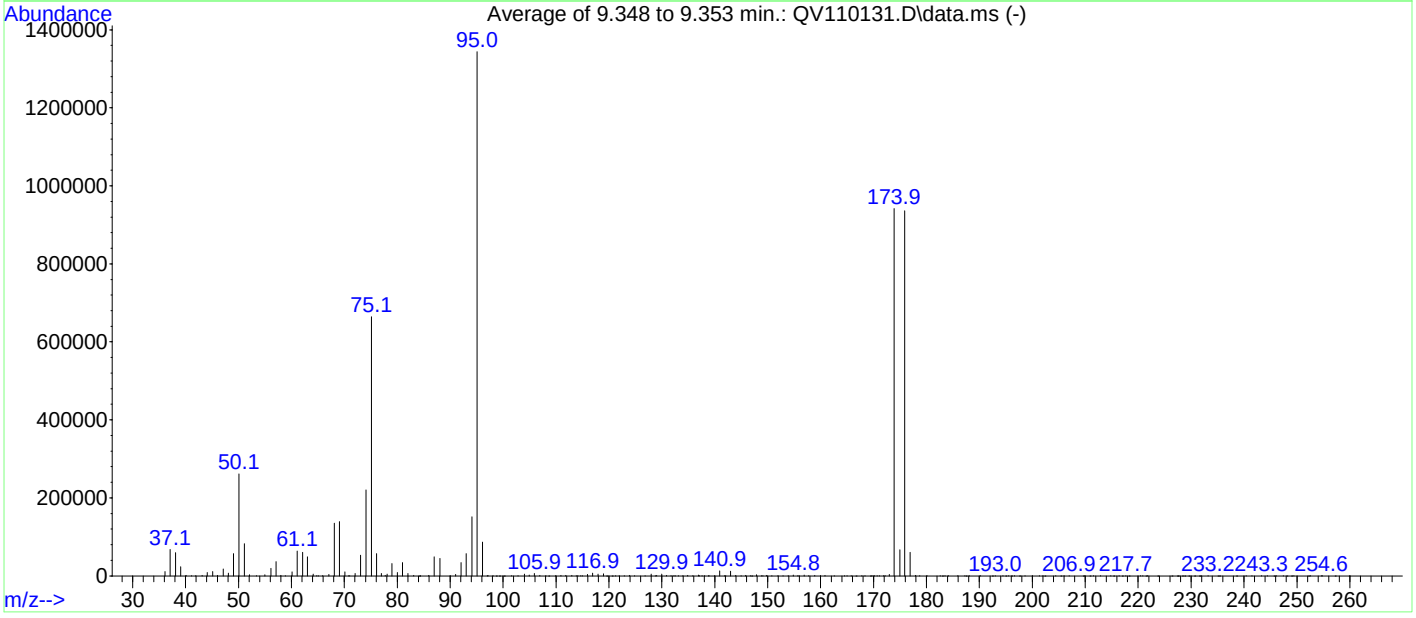
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	290773	PASS
75	95	30	60	48.4	709632	PASS
95	95	100	100	100.0	1465092	PASS
96	95	5	9	6.6	96702	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.1	1041441	PASS
175	174	5	9	7.0	72949	PASS
176	174	95	101	96.2	1001984	PASS
177	176	5	9	6.7	66805	PASS

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110131.D
Acq On : 4 Oct 2019 9:38 pm
Operator : LLJ
Sample : SEQ-TUN1
Misc : QV1100419B
ALS Vial : 27 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ1S0024.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Wed Oct 02 16:34:57 2019





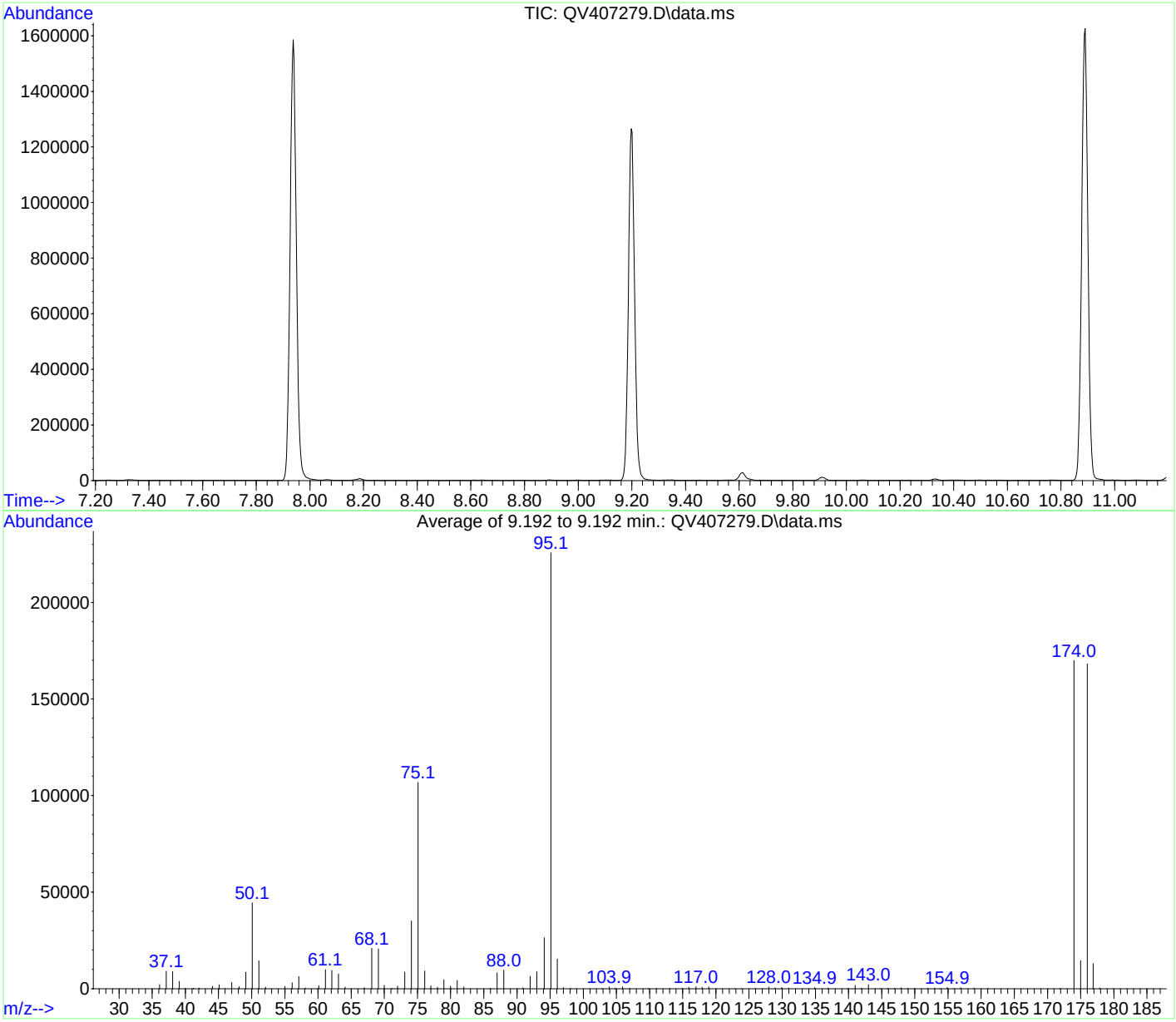
Spectrum Information: Average of 9.348 to 9.353 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	261768	PASS
75	95	30	60	49.5	664800	PASS
95	95	100	100	100.0	1343660	PASS
96	95	5	9	6.5	86899	PASS
173	174	0.00	2	0.4	4031	PASS
174	95	50	100	70.1	942037	PASS
175	174	5	9	7.1	67237	PASS
176	174	95	101	99.4	935994	PASS
177	176	5	9	6.5	60720	PASS

Data Path : C:\msdchem\1\data\100719\
Data File : QV407279.D
Acq On : 7 Oct 2019 9:14 am
Operator : LLJ
Sample : SEQ-TUN1
Misc : QBQV4100719A
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\methods\VQ4C0020.M
Title : Volatile Organics EPA 8260C-SOIL
Last Update : Wed Jun 05 12:22:25 2019



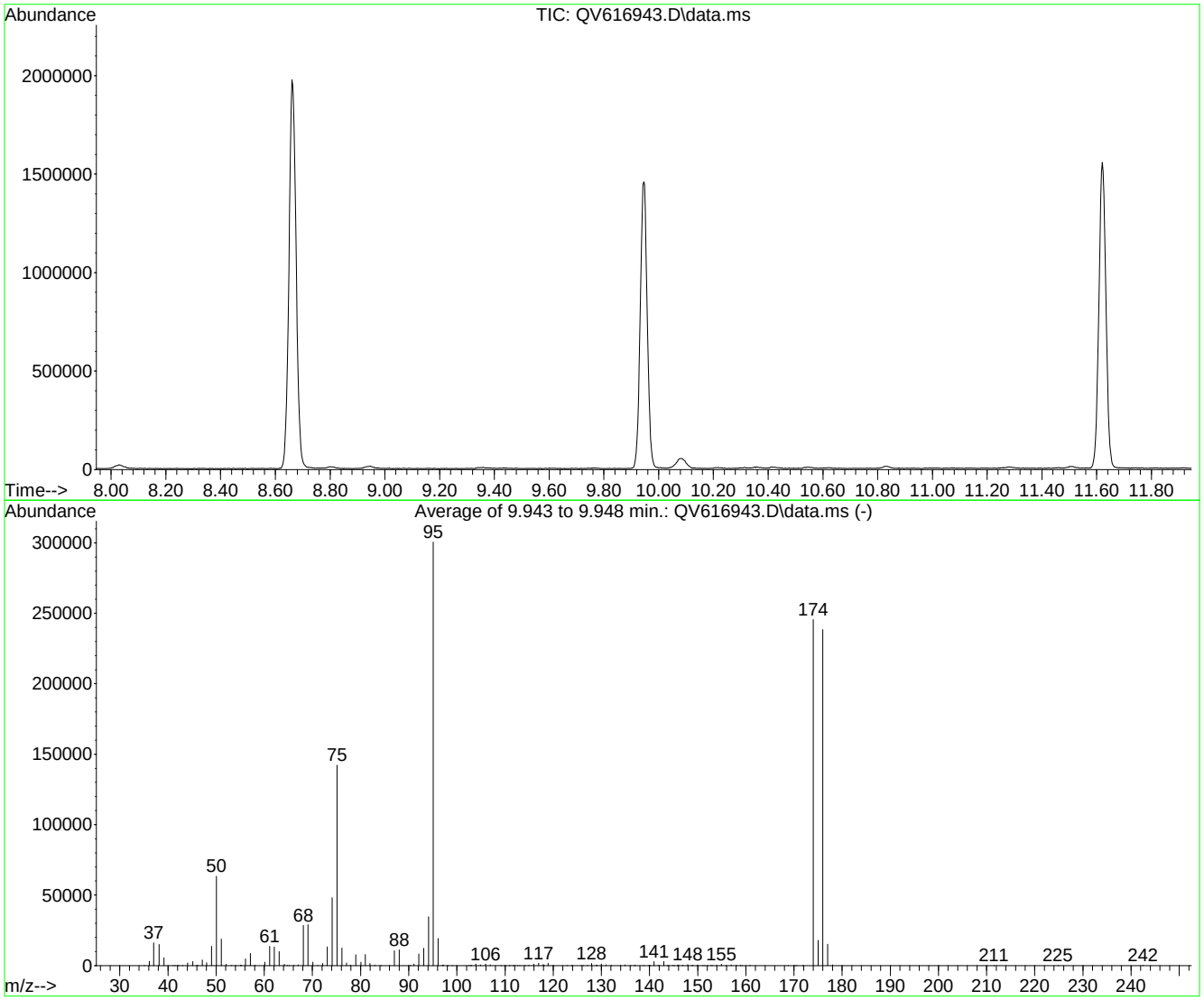
Spectrum Information: Average of 9.192 to 9.192 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	44456	PASS
75	95	30	60	47.3	106776	PASS
95	95	100	100	100.0	225664	PASS
96	95	5	9	6.8	15391	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	75.3	169920	PASS
175	174	5	9	8.5	14507	PASS
176	174	95	101	99.0	168192	PASS
177	176	5	9	7.7	13029	PASS

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616943.D
Acq On : 9 Oct 2019 10:35 pm
Operator : LLJ
InstName : MSVOA6
Sample : SEQ-TUN1
Misc : QBQV6100919B
ALS Vial : 27 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\2\METHODS\VQ6LO061.M
Title : Volatile Organics EPA 8260C-Waters
Last Update : Tue Oct 08 20:41:05 2019



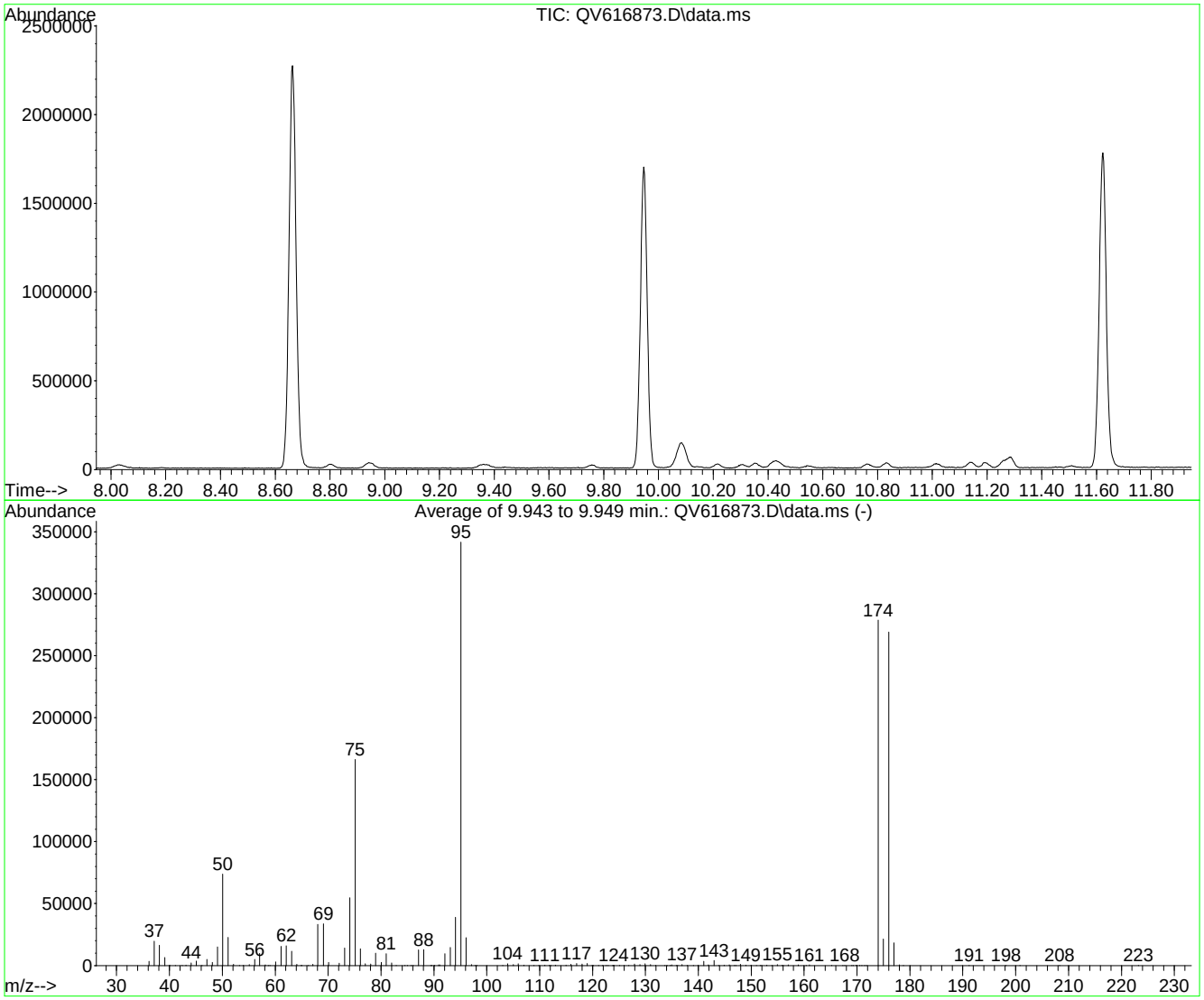
AutoFind: Scans 3112, 3113, 3114; Background Corrected with Scan 3093

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.1	63424	PASS
75	95	30	60	47.3	142177	PASS
95	95	100	100	100.0	300480	PASS
96	95	5	9	6.4	19263	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.7	245568	PASS
175	174	5	9	7.3	17912	PASS
176	174	95	101	97.1	238400	PASS
177	176	5	9	6.4	15183	PASS

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616873.D
Acq On : 8 Oct 2019 3:48 pm
Operator : LLJ
InstName : MSVOA6
Sample : SEQ-TUN1
Misc : QBQV6100819A
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\2\METHODS\VQ6LO061.M
Title : Volatile Organics EPA 8260C-Waters
Last Update : Tue Oct 08 20:41:05 2019



Spectrum Information: Average of 9.943 to 9.949 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	73885	PASS
75	95	30	60	48.7	166379	PASS
95	95	100	100	100.0	341525	PASS
96	95	5	9	6.6	22590	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.6	278699	PASS
175	174	5	9	7.7	21451	PASS
176	174	95	101	96.5	269013	PASS
177	176	5	9	6.8	18365	PASS

METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90131-BLK1	File ID:	QV110111.D
Prepared:	10/04/19 06:52	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 12:40	Instrument:	QVOA1		
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0052	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90131-BLK1	File ID:	QV110111.D
Prepared:	10/04/19 06:52	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 12:40	Instrument:	QVOA1		
Batch:	BJ90131	Sequence:	Y9J0834	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.2	102	77 - 125	
SURR: Toluene-d8	50.0	50.9	102	85 - 120	
SURR: p-Bromofluorobenzene	50.0	47.5	94.9	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	1046384	5.11	1058927	5.11	
ISTD: Chlorobenzene-d5	4143373	8.09	4193637	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1956312	11.045	1910137	11.045	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110111.D
Acq On : 4 Oct 2019 12:40 pm
Operator : LLJ
Sample : BJ90131-BLK1
Misc : QV1100419A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 07 11:13:05 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

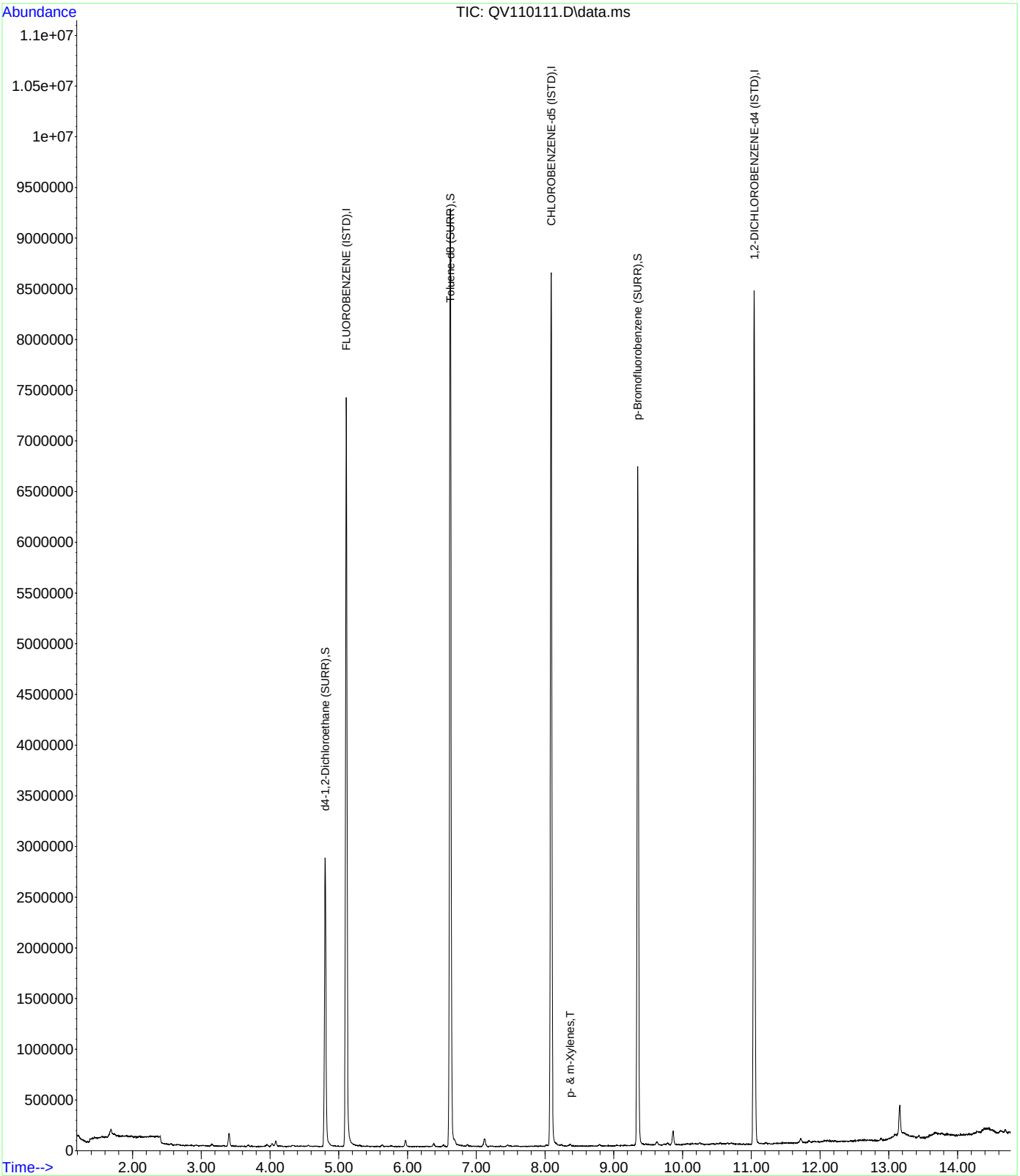
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.110	70	1046384	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4143373	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1956312	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.802	65	1540450	51.16	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 102.32%			
54) Toluene-d8 (SURR)	6.624	98	5316194	50.94	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.88%			
73) p-Bromofluorobenzene (...	9.348	95	2164990	47.46	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.92%			
Target Compounds						Qvalue
66) p- & m-Xylenes	8.363	91	5234	5.22	ppb	# 88

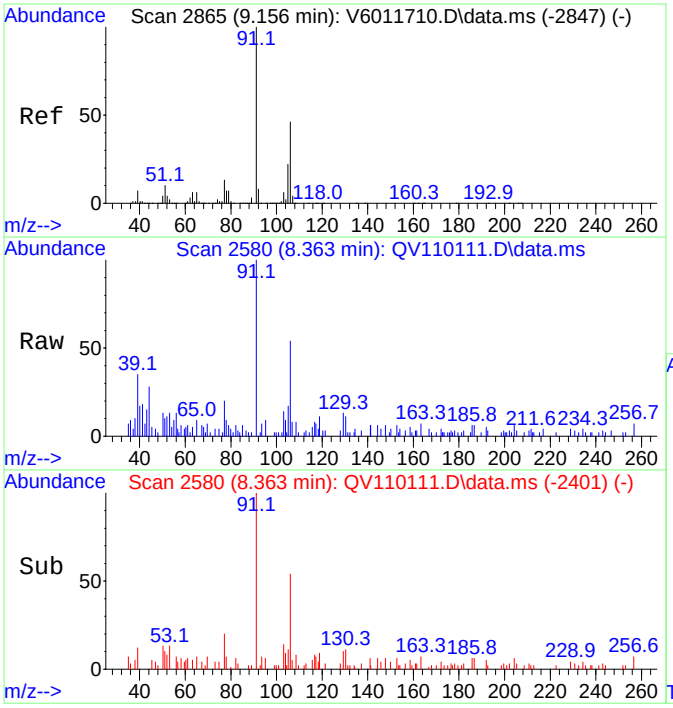
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110111.D
Acq On : 4 Oct 2019 12:40 pm
Operator : LLJ
Sample : BJ90131-BLK1
Misc : QV1100419A
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 07 11:13:05 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

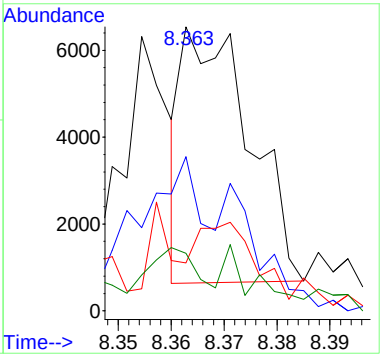




#66
p- & m-Xylenes
Concen: 5.22 ppb
RT: 8.363 min Scan# 2580
Delta R.T. -0.002 min
Lab File: QV110111.D
Acq: 4 Oct 2019 12:40 pm

Tgt Ion: 91 Resp: 5234

Ion	Ratio	Lower	Upper
91	100		
106	58.1	34.8	72.2
105	30.4	15.9	33.1
77	0.0	8.7	18.1#



METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK1	File ID:	QV110136.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 23:50	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0053	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK1	File ID:	QV110136.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/04/19 23:50	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.1	102	77 - 125	
SURR: Toluene-d8	50.0	50.3	101	85 - 120	
SURR: p-Bromofluorobenzene	50.0	47.6	95.3	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	981283	5.107	980619	5.11	
ISTD: Chlorobenzene-d5	3938253	8.09	3868081	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1829760	11.042	1819501	11.042	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110136.D
Acq On : 4 Oct 2019 11:50 pm
Operator : LLJ
Sample : BJ90132-BLK1
Misc : QV1100419B
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 07 11:27:47 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

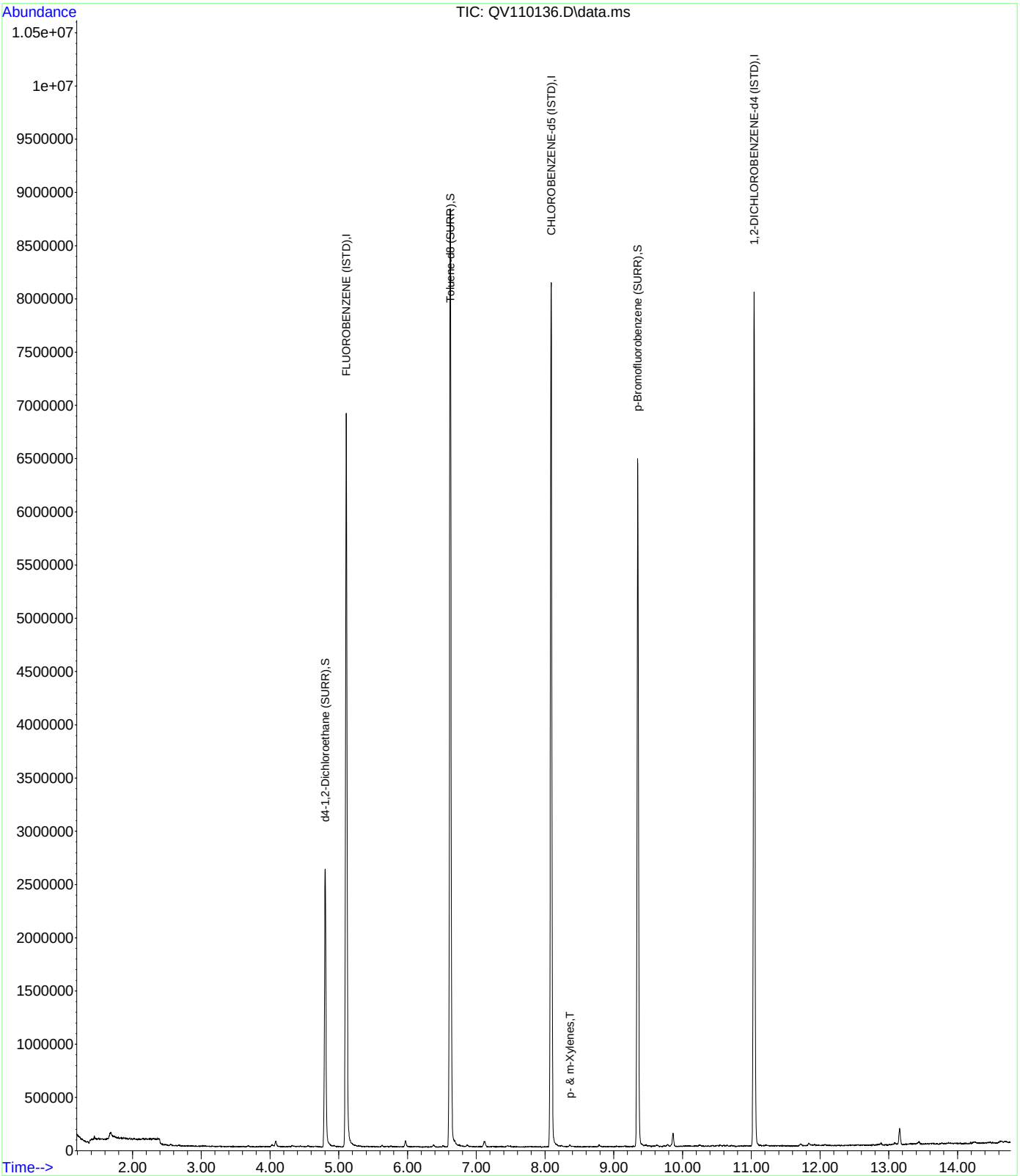
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.107	70	981283	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3938253	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1829760	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.804	65	1443263	51.12	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 102.24%			
54) Toluene-d8 (SURR)	6.621	98	4986175	50.27	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.54%			
73) p-Bromofluorobenzene (...	9.348	95	2033017	47.65	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 95.30%			
Target Compounds						Qvalue
14) Iodomethane	2.623	142	3366	Below Cal	#	40
66) p- & m-Xylenes	8.360	91	9712	5.28	ppb	# 62

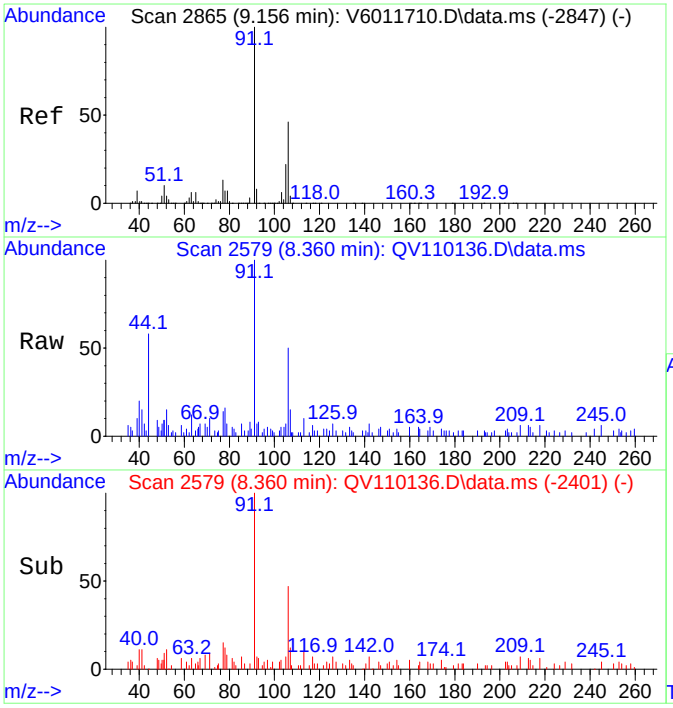
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110136.D
Acq On : 4 Oct 2019 11:50 pm
Operator : LLJ
Sample : BJ90132-BLK1
Misc : QV1100419B
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 07 11:27:47 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

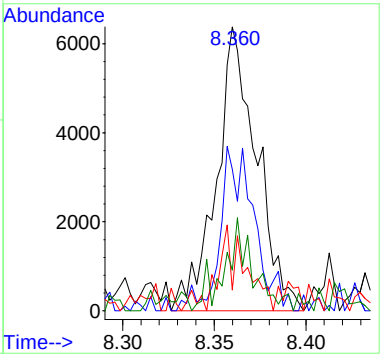




#66
p- & m-Xylenes
Concen: 5.28 ppb
RT: 8.360 min Scan# 2579
Delta R.T. -0.005 min
Lab File: QV110136.D
Acq: 4 Oct 2019 11:50 pm

Tgt Ion: 91 Resp: 9712

Ion	Ratio	Lower	Upper
91	100		
106	19.7	34.8	72.2#
105	8.5	15.9	33.1#
77	16.6	8.7	18.1



FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK2	File ID:	QV110137.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/05/19 00:17	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0050	U
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.0052	J
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90132-BLK2	File ID:	QV110137.D
Prepared:	10/04/19 06:55	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/05/19 00:17	Instrument:	QVOA1		
Batch:	BJ90132	Sequence:	Y9J0836	Calibration:	YJ90003

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	51.3	103	77 - 125	
SURR: Toluene-d8	50.0	50.4	101	85 - 120	
SURR: p-Bromofluorobenzene	50.0	48.2	96.4	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	989248	5.11	980619	5.11	
ISTD: Chlorobenzene-d5	3941239	8.09	3868081	8.09	
ISTD: 1,2-Dichlorobenzene-d4	1812997	11.042	1819501	11.042	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110137.D
Acq On : 5 Oct 2019 12:17 am
Operator : LLJ
Sample : BI90132-BLK2
Misc : QV1100419B
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 07 11:29:54 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

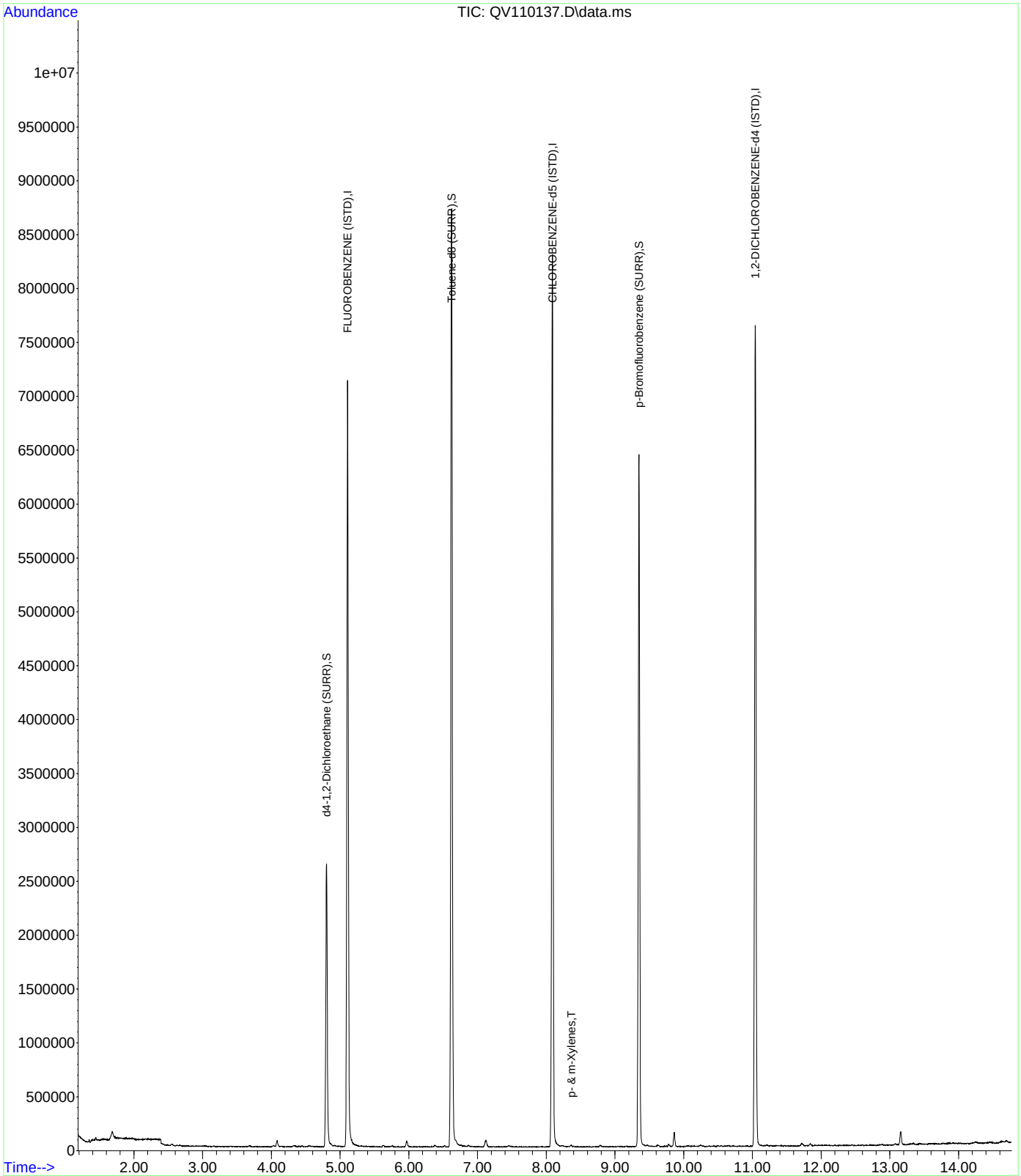
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	5.110	70	989248	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3941239	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1812997	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.804	65	1459559	51.28	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 102.56%			
54) Toluene-d8 (SURR)	6.624	98	5000624	50.38	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.76%			
73) p-Bromofluorobenzene (...	9.350	95	2037201	48.19	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.38%			
Target Compounds						Qvalue
66) p- & m-Xylenes	8.363	91	7618	5.25	ppb	# 87

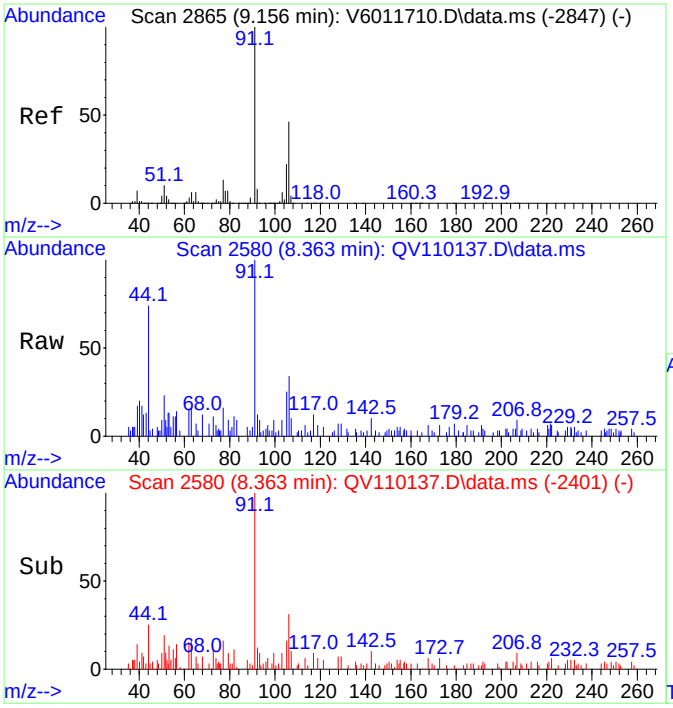
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110137.D
Acq On : 5 Oct 2019 12:17 am
Operator : LLJ
Sample : BI90132-BLK2
Misc : QV1100419B
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 07 11:29:54 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

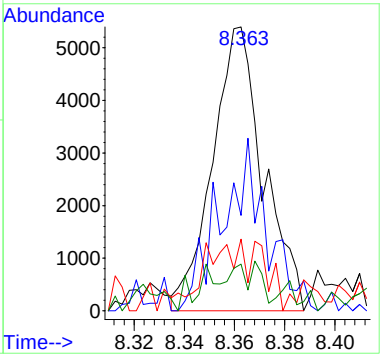




#66
p- & m-Xylenes
Concen: 5.25 ppb
RT: 8.363 min Scan# 2580
Delta R.T. -0.002 min
Lab File: QV110137.D
Acq: 5 Oct 2019 12:17 am

Tgt Ion: 91 Resp: 7618

Ion	Ratio	Lower	Upper
91	100		
106	53.6	34.8	72.2
105	9.3	15.9	33.1#
77	0.0	8.7	18.1#



METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90136-BLK1	File ID:	QV407283.D
Prepared:	10/07/19 06:43	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/07/19 11:08	Instrument:	QVOA4		
Batch:	BJ90136	Sequence:	Y9J0915	Calibration:	YE90028

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
71-55-6	1,1,1-Trichloroethane	0.0050	U
75-34-3	1,1-Dichloroethane	0.0050	U
75-35-4	1,1-Dichloroethylene	0.0050	U
95-63-6	1,2,4-Trimethylbenzene	0.0050	U
95-50-1	1,2-Dichlorobenzene	0.0050	U
107-06-2	1,2-Dichloroethane	0.0050	U
108-67-8	1,3,5-Trimethylbenzene	0.0050	U
541-73-1	1,3-Dichlorobenzene	0.0050	U
106-46-7	1,4-Dichlorobenzene	0.0050	U
123-91-1	1,4-Dioxane	0.10	U
78-93-3	2-Butanone	0.0063	
67-64-1	Acetone	0.010	U
71-43-2	Benzene	0.0050	U
56-23-5	Carbon tetrachloride	0.0050	U
108-90-7	Chlorobenzene	0.0050	U
67-66-3	Chloroform	0.0050	U
156-59-2	cis-1,2-Dichloroethylene	0.0050	U
100-41-4	Ethyl Benzene	0.0050	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.0050	U
75-09-2	Methylene chloride	0.010	U
91-20-3	Naphthalene	0.010	U
104-51-8	n-Butylbenzene	0.0050	U
103-65-1	n-Propylbenzene	0.0050	U
95-47-6	o-Xylene	0.0050	U
179601-23-1	p- & m- Xylenes	0.010	U
135-98-8	sec-Butylbenzene	0.0050	U
98-06-6	tert-Butylbenzene	0.0050	U
127-18-4	Tetrachloroethylene	0.0050	U
108-88-3	Toluene	0.0050	U
156-60-5	trans-1,2-Dichloroethylene	0.0050	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90136-BLK1	File ID:	QV407283.D
Prepared:	10/07/19 06:43	Preparation:	EPA 5035A	Initial/Final:	5 g / 5 ml
Analyzed:	10/07/19 11:08	Instrument:	QVOA4		
Batch:	BJ90136	Sequence:	Y9J0915	Calibration:	YE90028

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
79-01-6	Trichloroethylene	0.0050	U
75-01-4	Vinyl Chloride	0.0050	U
1330-20-7	Xylenes, Total	0.015	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	50.0	50.1	100	77 - 125	
SURR: Toluene-d8	50.0	49.3	98.7	85 - 120	
SURR: p-Bromofluorobenzene	50.0	47.7	95.4	76 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	192373	4.966	202989	4.966	
ISTD: Chlorobenzene-d5	800132	7.938	851108	7.938	
ISTD: 1,2-Dichlorobenzene-d4	407950	10.89	437115	10.89	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407283.D
Acq On : 7 Oct 2019 11:08 am
Operator : LLJ
Sample : BJ90136-BLK1
Misc : QBQV4100719A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 08 12:39:12 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

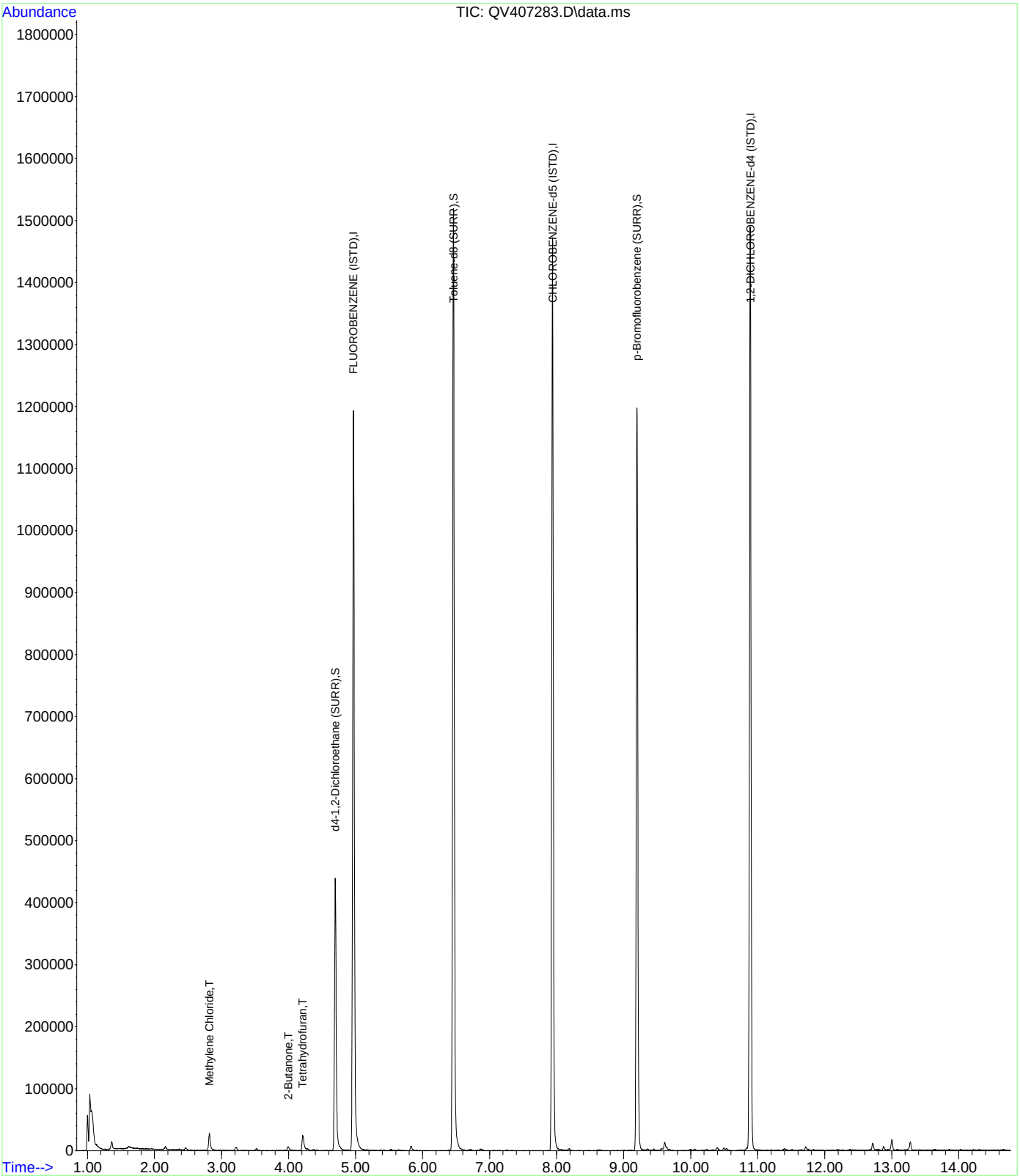
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) FLUOROBENZENE (ISTD)	4.966	70	192373	50.00	ppb	# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	800132	50.00	ppb	# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	407950	50.00	ppb	0.00
System Monitoring Compounds						
35) d4-1,2-Dichloroethane ...	4.696	65	269907	50.12	ppb	0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 100.24%			
54) Toluene-d8 (SURR)	6.460	98	1019761	49.34	ppb	0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 98.68%			
73) p-Bromofluorobenzene (...	9.198	95	404126	47.72	ppb	0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 95.44%			
Target Compounds						Qvalue
18) Methylene Chloride	2.818	49	15994	3.42	ppb	90
27) 2-Butanone	3.995	72	1744	6.34	ppb #	1
29) Tetrahydrofuran	4.210	42	16549	17.04	ppb	80

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407283.D
Acq On : 7 Oct 2019 11:08 am
Operator : LLJ
Sample : BJ90136-BLK1
Misc : QBQV4100719A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 08 12:39:12 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4



METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Water	Laboratory ID:	BJ90578-BLK1	File ID:	QV616949.D
Prepared:	10/09/19 06:01	Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL
Analyzed:	10/10/19 01:12	Instrument:	QVOA6		
Batch:	BJ90578	Sequence:	Y9J1024	Calibration:	YJ90014

CAS NO.	COMPOUND	CONC. (ug/L)	Q
71-55-6	1,1,1-Trichloroethane	0.500	U
75-34-3	1,1-Dichloroethane	0.500	U
75-35-4	1,1-Dichloroethylene	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
95-50-1	1,2-Dichlorobenzene	0.500	U
107-06-2	1,2-Dichloroethane	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
541-73-1	1,3-Dichlorobenzene	0.500	U
106-46-7	1,4-Dichlorobenzene	0.500	U
123-91-1	1,4-Dioxane	80.0	U
78-93-3	2-Butanone	0.500	U
67-64-1	Acetone	2.00	U
71-43-2	Benzene	0.500	U
56-23-5	Carbon tetrachloride	0.500	U
108-90-7	Chlorobenzene	0.500	U
67-66-3	Chloroform	0.500	U
156-59-2	cis-1,2-Dichloroethylene	0.500	U
100-41-4	Ethyl Benzene	0.500	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
75-09-2	Methylene chloride	2.00	U
91-20-3	Naphthalene	2.00	U
104-51-8	n-Butylbenzene	0.500	U
103-65-1	n-Propylbenzene	0.500	U
95-47-6	o-Xylene	0.500	U
179601-23-1	p- & m- Xylenes	1.00	U
135-98-8	sec-Butylbenzene	0.500	U
98-06-6	tert-Butylbenzene	0.500	U
127-18-4	Tetrachloroethylene	0.500	U
108-88-3	Toluene	0.500	U
156-60-5	trans-1,2-Dichloroethylene	0.500	U

FORM I

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Water	Laboratory ID:	BJ90578-BLK1	File ID:	QV616949.D
Prepared:	10/09/19 06:01	Preparation:	EPA 5030B	Initial/Final:	25 mL / 25 mL
Analyzed:	10/10/19 01:12	Instrument:	QVOA6		
Batch:	BJ90578	Sequence:	Y9J1024	Calibration:	YJ90014

CAS NO.	COMPOUND	CONC. (ug/L)	Q
79-01-6	Trichloroethylene	0.500	U
75-01-4	Vinyl Chloride	0.500	U
1330-20-7	Xylenes, Total	1.50	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
SURR: 1,2-Dichloroethane-d4	10.0	10.0	100	70 - 130	
SURR: Toluene-d8	10.0	9.88	98.8	70 - 130	
SURR: p-Bromofluorobenzene	10.0	10.0	100	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: Fluorobenzene	329997	5.633	327739	5.633	
ISTD: Chlorobenzene-d5	1162375	8.66	1178780	8.663	
ISTD: 1,2-Dichlorobenzene-d4	439910	11.621	452724	11.621	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100919A\
Data File : QV616949.D
Acq On : 10 Oct 2019 1:12 am
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BLK1
Misc : QBQV6100919B
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 10 08:32:53 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

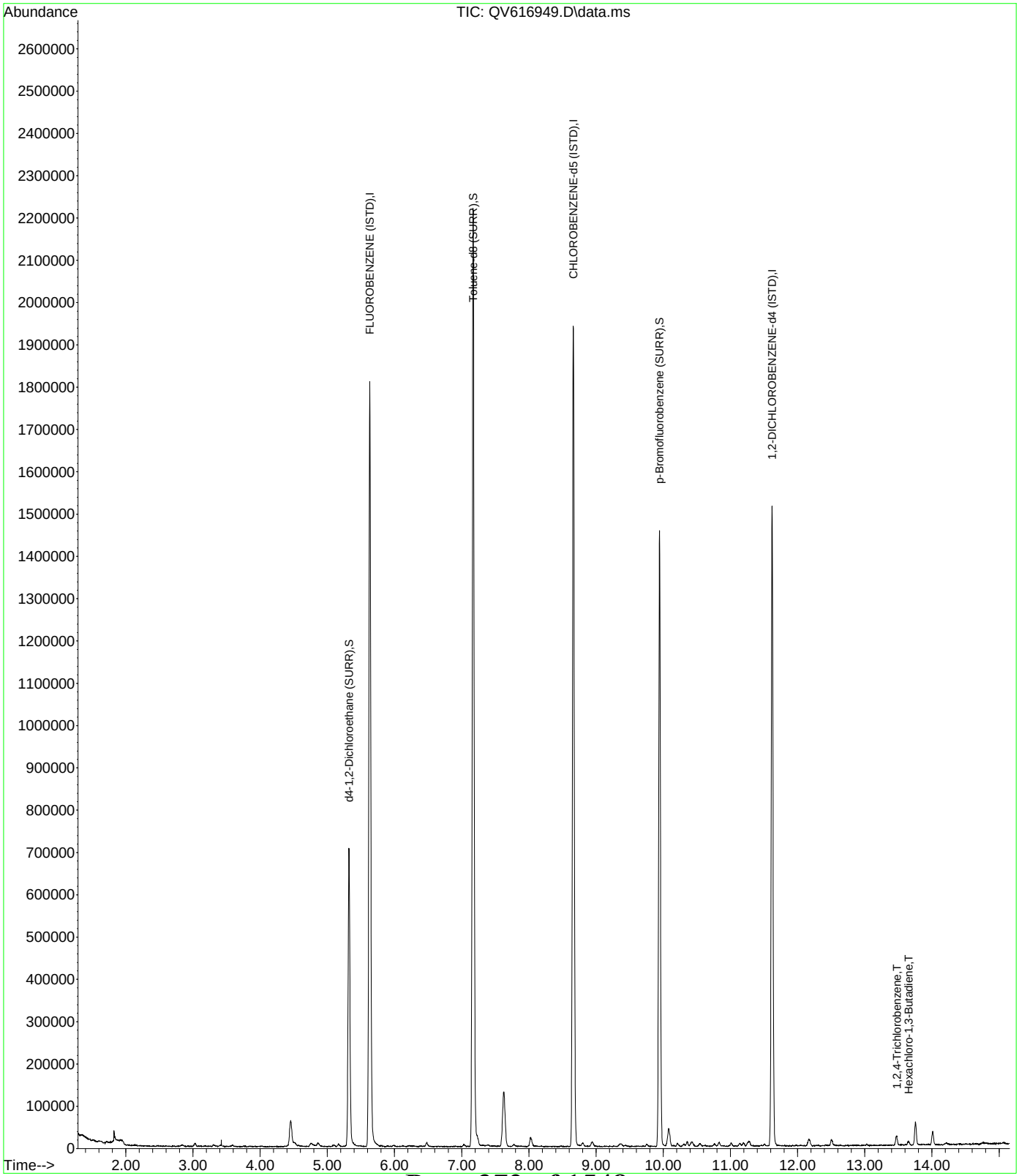
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	329997	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.660	117	1162375	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	439910	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	457150	10.00	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 100.00%				
53) Toluene-d8 (SURR)	7.169	98	1511440	9.88	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 98.80%				
73) p-Bromofluorobenzene (...	9.946	95	531117	10.00	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 100.00%				
Target Compounds							Qvalue
12) Acetone	2.845	43	4465	Below Cal			99
27) 2-Butanone	4.515	72	1435m	Below Cal			
66) p- & m-Xylenes	8.941	91	8138	Below Cal		#	54
96) 1,2,4-Trichlorobenzene	13.476	180	7071	0.22	ppb		94
97) Hexachloro-1,3-Butadiene	13.652	225	1663	0.25	ppb	#	67
98) Naphthalene	13.755	128	47897	Below Cal			98

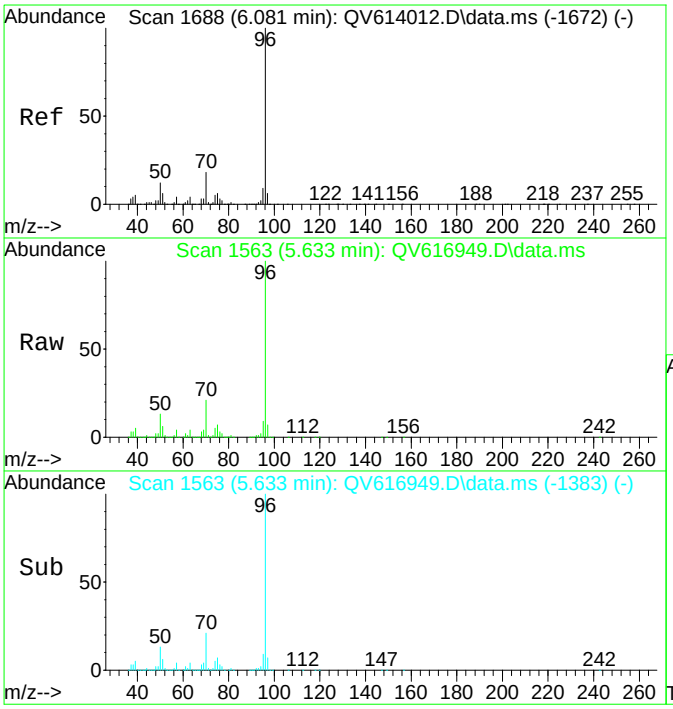
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100919A\
Data File : QV616949.D
Acq On : 10 Oct 2019 1:12 am
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BLK1
Misc : QBQV6100919B
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 10 08:32:53 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

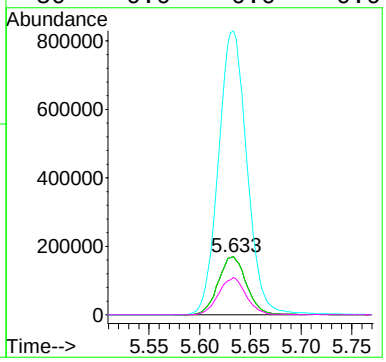


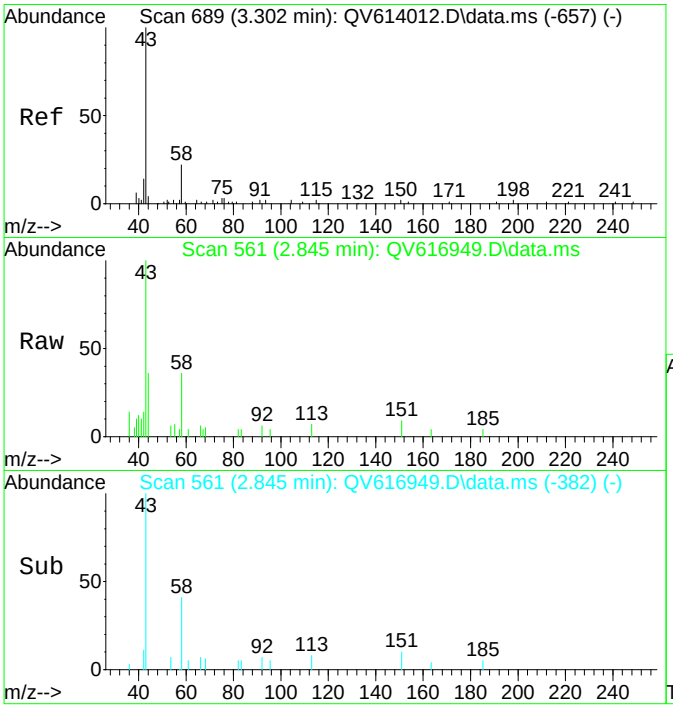


#1
FLUOROBENZENE (ISTD)
Concen: 10.00 ppb
RT: 5.633 min Scan# 1563
Delta R.T. 0.000 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 70 Resp: 329997

Ion	Ratio	Lower	Upper
70	100		
70	100.0	65.0	135.0
96	492.3	341.1	708.3
50	0.0	0.0	0.0

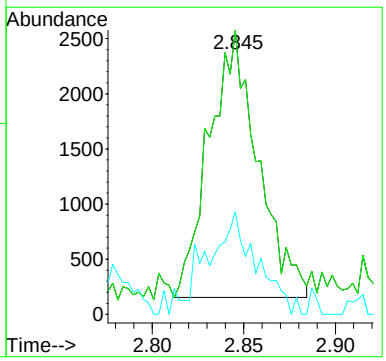


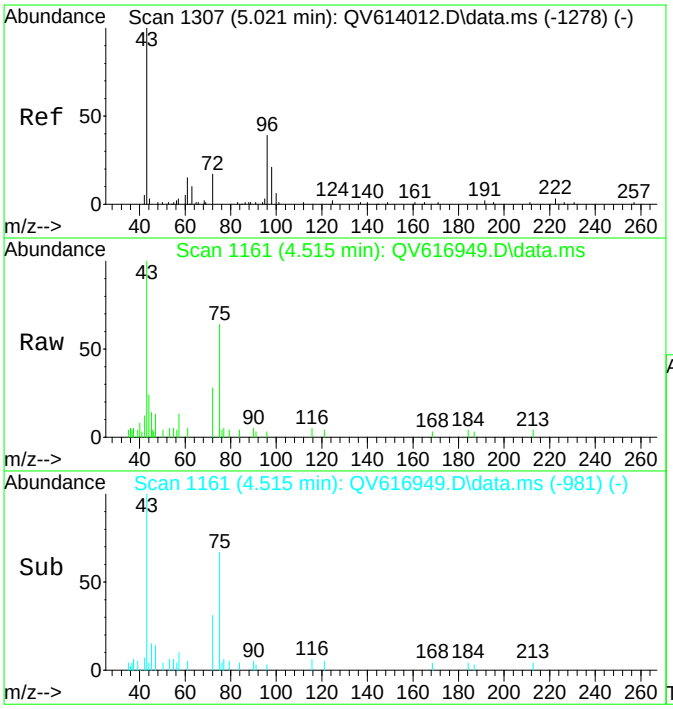


#12
Acetone
Concen: Below Cal
RT: 2.845 min Scan# 561
Delta R.T. -0.003 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 43 Resp: 4465

Ion	Ratio	Lower	Upper
43	100		
43	100.0	80.0	120.0
58	8.4	6.0	18.1

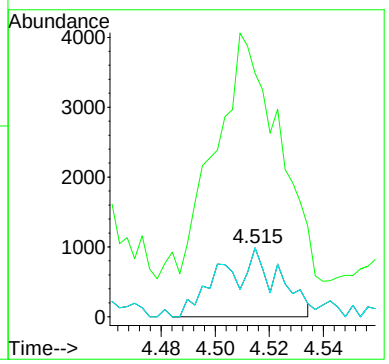


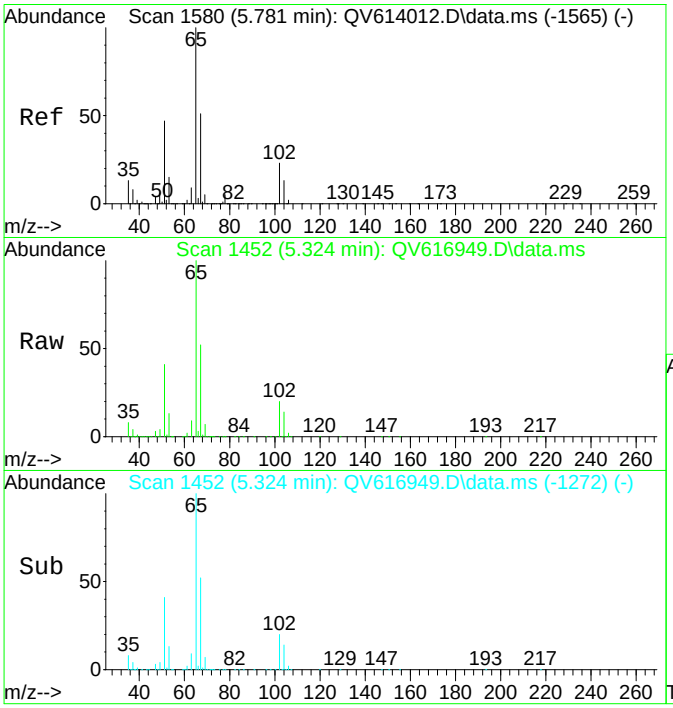


#27
2-Butanone
Concen: Below Cal m
RT: 4.515 min Scan# 1161
Delta R.T. -0.000 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 72 Resp: 1435

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	0.0
72	15.5	47.4	142.3#

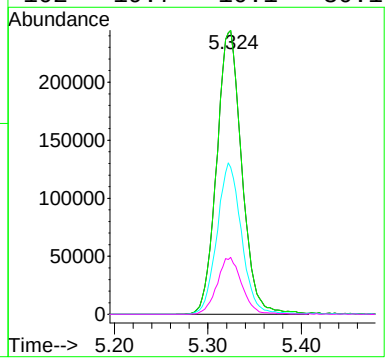


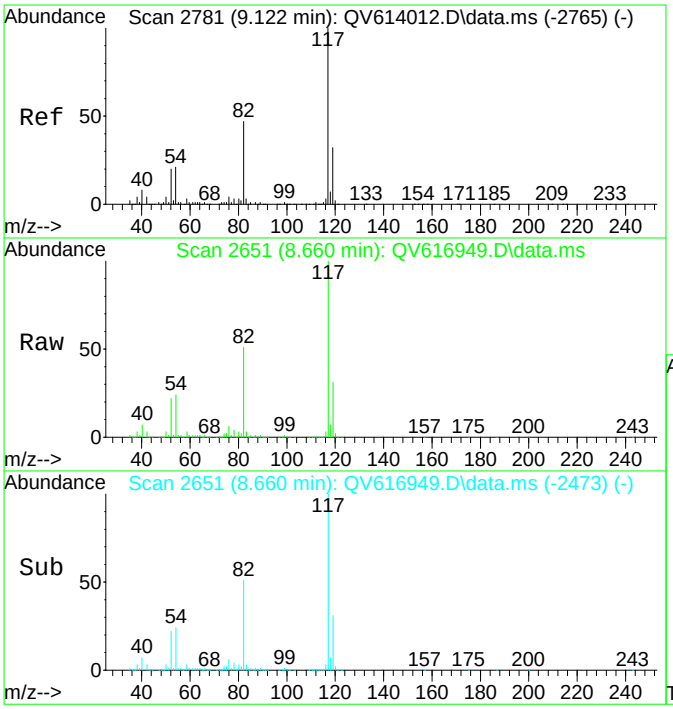


#35
d4-1,2-Dichloroethane (SURR)
Concen: 10.00 ppb
RT: 5.324 min Scan# 1452
Delta R.T. 0.000 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 65 Resp: 457150

Ion	Ratio	Lower	Upper
65	100		
65	100.0	65.0	135.0
67	0.0	34.0	70.6#
102	19.7	10.1	30.1

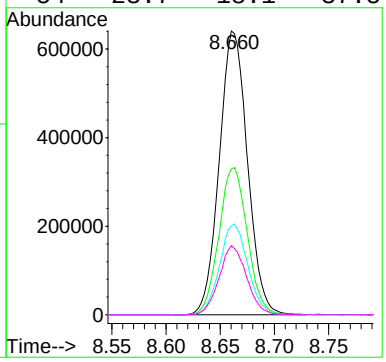


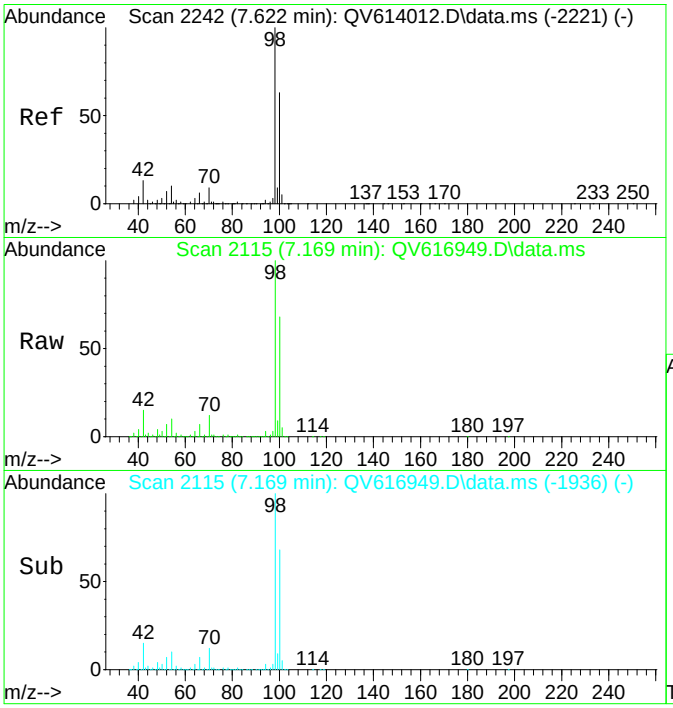


#41
CHLOROBENZENE-d5 (ISTD)
Concen: 10.00 ppb
RT: 8.660 min Scan# 2651
Delta R.T. -0.006 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion:117 Resp: 1162375

Ion	Ratio	Lower	Upper
117	100		
82	52.2	34.5	71.7
119	32.0	20.9	43.3
54	23.7	18.1	37.5

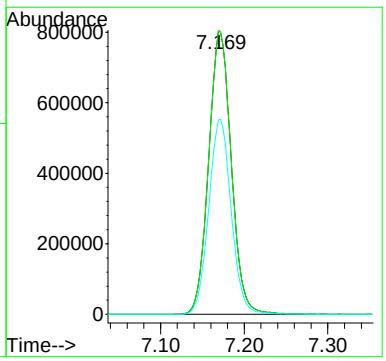


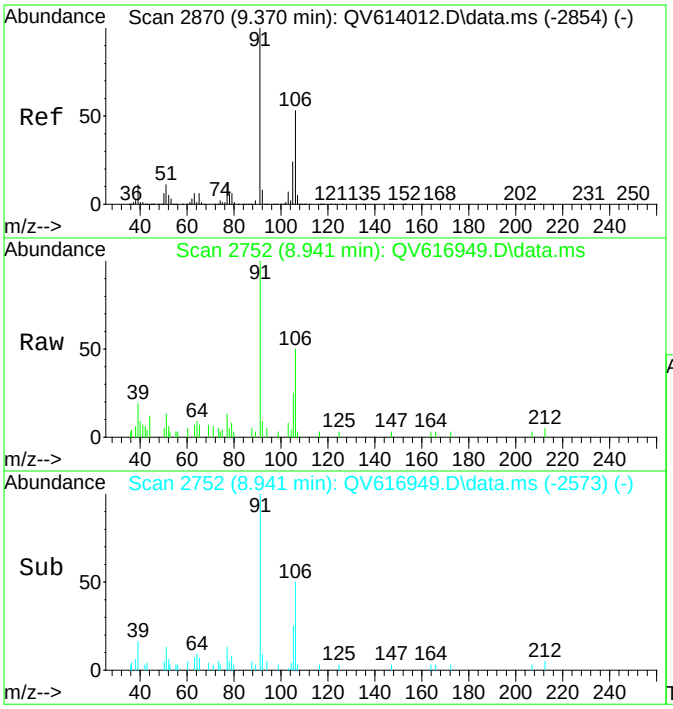


#53
Toluene-d8 (SURR)
Concen: 9.88 ppb
RT: 7.169 min Scan# 2115
Delta R.T. -0.003 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 98 Resp: 1511440

Ion	Ratio	Lower	Upper
98	100		
98	100.0	65.0	135.0
100	68.6	44.2	91.8

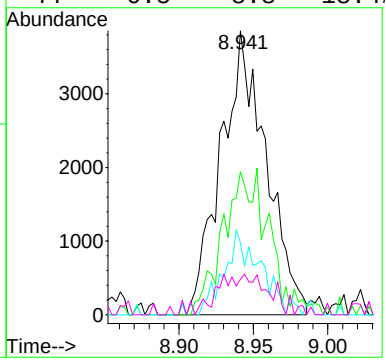


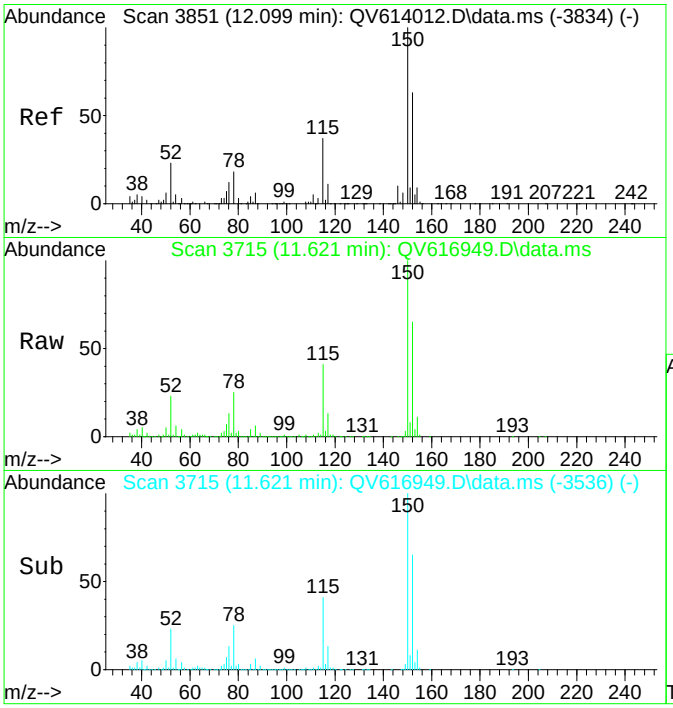


#66
p- & m-Xylenes
Concen: Below Cal
RT: 8.941 min Scan# 2752
Delta R.T. -0.003 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 91 Resp: 8138

Ion	Ratio	Lower	Upper
91	100		
106	0.0	34.1	70.9#
105	23.2	16.2	33.6
77	6.5	8.8	18.4#

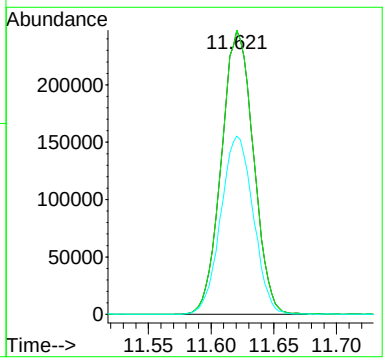


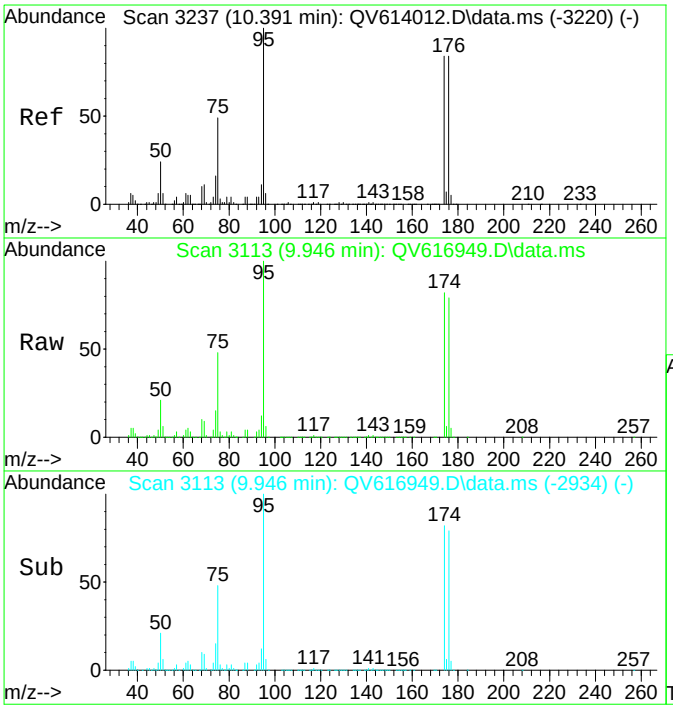


#70
1,2-DICHLOROBENZENE-d4 (ISTD)
Concen: 10.00 ppb
RT: 11.621 min Scan# 3715
Delta R.T. -0.002 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion:152 Resp: 439910

Ion	Ratio	Lower	Upper
152	100		
152	100.0	50.0	150.0
115	63.6	29.8	89.3

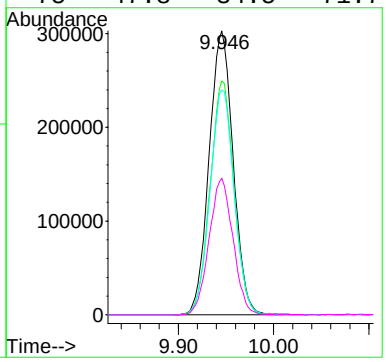


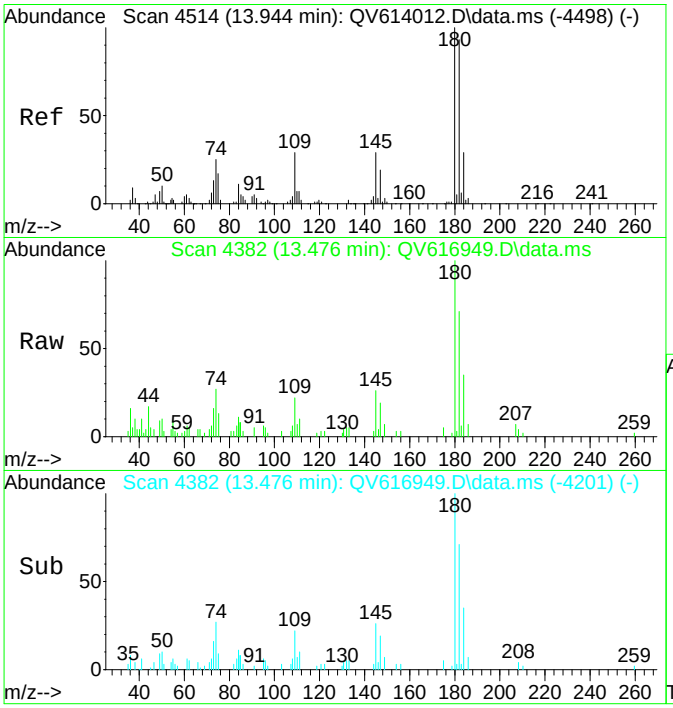


#73
p-Bromofluorobenzene (SURR)
Concen: 10.00 ppb
RT: 9.946 min Scan# 3113
Delta R.T. -0.002 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion: 95 Resp: 531117

Ion	Ratio	Lower	Upper
95	100		
174	81.8	62.5	129.9
176	79.6	60.7	126.1
75	47.8	34.5	71.7

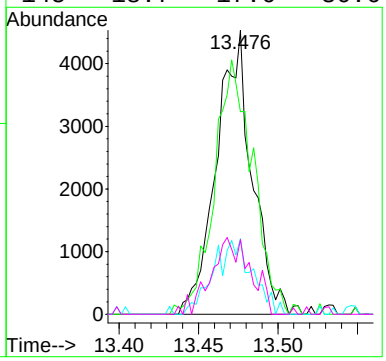


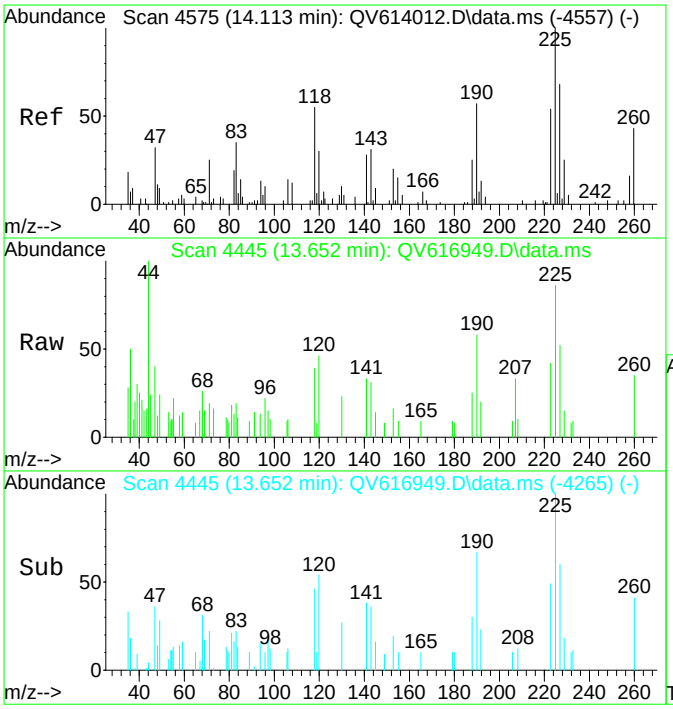


#96
1,2,4-Trichlorobenzene
Concen: 0.22 ppb
RT: 13.476 min Scan# 4382
Delta R.T. 0.002 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion:180 Resp: 7071

Ion	Ratio	Lower	Upper
180	100		
182	97.0	62.5	129.9
74	19.1	17.5	36.3
145	18.7	17.6	36.6

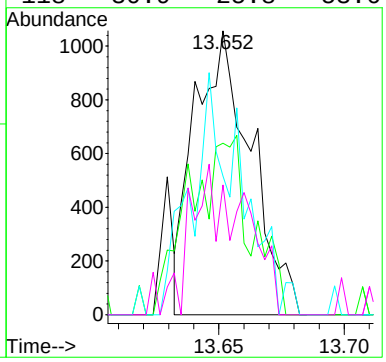


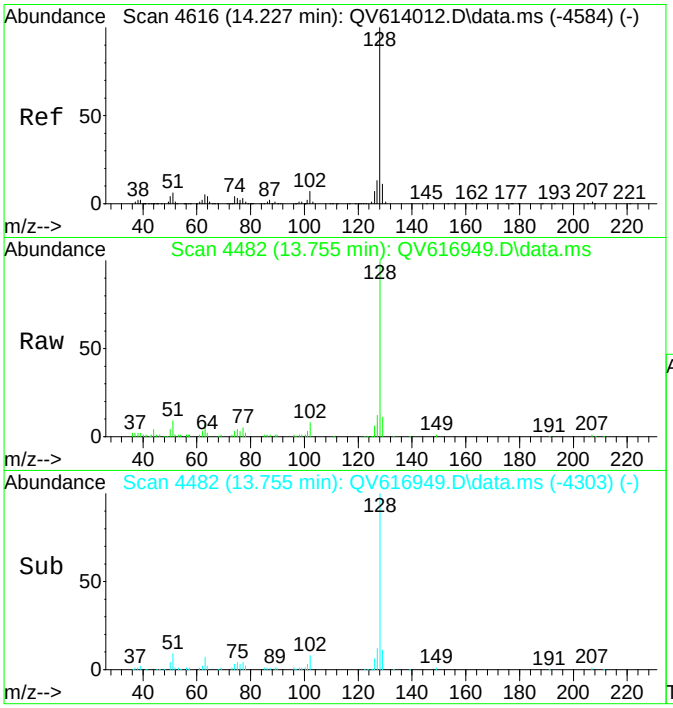


#97
Hexachloro-1,3-Butadiene
Concen: 0.25 ppb
RT: 13.652 min Scan# 4445
Delta R.T. -0.000 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion:225 Resp: 1663

Ion	Ratio	Lower	Upper
225	100		
227	19.1	41.5	86.1#
223	47.8	41.0	85.0
118	30.9	25.8	53.6

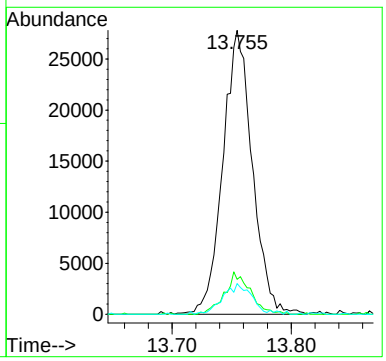




#98
Naphthalene
Concen: Below Cal
RT: 13.755 min Scan# 4482
Delta R.T. -0.002 min
Lab File: QV616949.D
Acq: 10 Oct 2019 1:12 am

Tgt Ion:128 Resp: 47897

Ion	Ratio	Lower	Upper
128	100		
127	13.0	8.9	18.5
129	10.3	7.3	15.3



LCS RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110107.D
Acq On : 4 Oct 2019 10:39 am
Operator : LLJ
Sample : BJ90131-BS1
Misc : QV1100419A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 10:59:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.108	70	1070048	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4279436	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1982298	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1574900	51.15	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 102.30%				
54) Toluene-d8 (SURR)	6.624	98	5418853	50.28	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.56%				
73) p-Bromofluorobenzene (...	9.350	95	2237343	48.40	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 96.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	1338561	75.56	ppb		100
3) Chloromethane	1.382	50	1438186	67.53	ppb		98
4) Vinyl Chloride	1.468	62	1123571	63.41	ppb		99
5) Bromomethane	1.724	94	340849	72.36	ppb		99
6) Allyl Chloride	2.809	76	604262	60.40	ppb	#	100
7) Chloroethane	1.813	64	654816	72.69	ppb		99
8) Trichlorofluoromethane	2.033	101	1492296	70.40	ppb		98
10) Freon-113	2.033	101	1492296	70.40	ppb	#	93
11) 1,1-Dichloroethylene	2.484	61	1612431	60.42	ppb		95
12) Acrolein	2.412	56	118406	98.97	ppb		95
13) Acetone	2.556	43	378429	52.81	ppb	#	44
14) Iodomethane	2.617	142	865200	60.61	ppb	#	20
15) Methyl Acetate	2.846	43	886648	57.55	ppb		96
16) Carbon disulfide	2.670	76	3320986	61.13	ppb		100
17) tert-Butyl Alcohol (TBA)	3.057	59	757481	275.91	ppb	#	1
18) Methylene Chloride	2.921	49	1664595	69.33	ppb		91
19) Acrylonitrile	3.152	53	455451	62.35	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	1599730	62.37	ppb	#	66
21) tert-Butyl Methyl Ethe...	3.174	73	3350326	63.25	ppb		100
22) 1,1-Dichloroethane	3.538	63	2017073	59.88	ppb	#	99
23) Vinyl Acetate	3.597	43	4668116	71.84	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	4135498	65.24	ppb	#	95
25) Ethyl-tert-Butyl ether...	3.933	59	3733585	65.13	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	1883517	61.62	ppb	#	69
27) 2-Butanone	4.084	72	170169	63.37	ppb		88
28) 2,2-Dichloropropane	4.056	77	1842789	60.94	ppb	#	77
29) Tetrahydrofuran	4.323	42	377917	54.20	ppb		90
30) Bromochloromethane	4.276	49	971461	61.25	ppb		86
31) Chloroform	4.351	83	1940053	59.45	ppb	#	93
32) 1,1,1-Trichloroethane	4.512	97	1755077	57.85	ppb	#	74
33) Cyclohexane	4.557	56	2146106	63.76	ppb		90
34) 1,1-Dichloropropylene	4.662	75	1570637	60.07	ppb		85
36) Carbon Tetrachloride	4.660	117	1411195	57.42	ppb		99
37) tert-Amyl alcohol (TAA)	4.874	59	1337816	613.64	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1586129	62.49	ppb		99
39) Benzene	4.852	78	4747523	63.23	ppb	#	95
40) tert-Amyl methyl ether...	4.960	73	3390902	65.44	ppb	#	89
42) Trichloroethylene	5.450	95	1150204	59.39	ppb		87
43) Methyl Cyclohexane	5.631	83	2164699	62.42	ppb	#	82
44) Methyl Methacrylate	5.784	69	887281	62.17	ppb	#	81
45) Dibromomethane	5.775	93	660705	61.23	ppb	#	71
46) Bromodichloromethane	5.931	83	1448940	60.71	ppb		98
47) 1,2-Dichloropropane	5.664	63	1164102	59.81	ppb	#	100
48) 1,4-Dioxane	5.798	88	298922	1209.02	ppb		84
49) 2-Chloroethyl vinyl ether	6.226	63	795078	76.72	ppb		98
50) 2-nitropropane	6.154	43	277122	50.12	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1879421	59.30	ppb		95
52) ethyl methacrylate	7.013	69	1502883	57.97	ppb	#	100

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110107.D
Acq On : 4 Oct 2019 10:39 am
Operator : LLJ
Sample : BJ90131-BS1
Misc : QV1100419A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 10:59:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

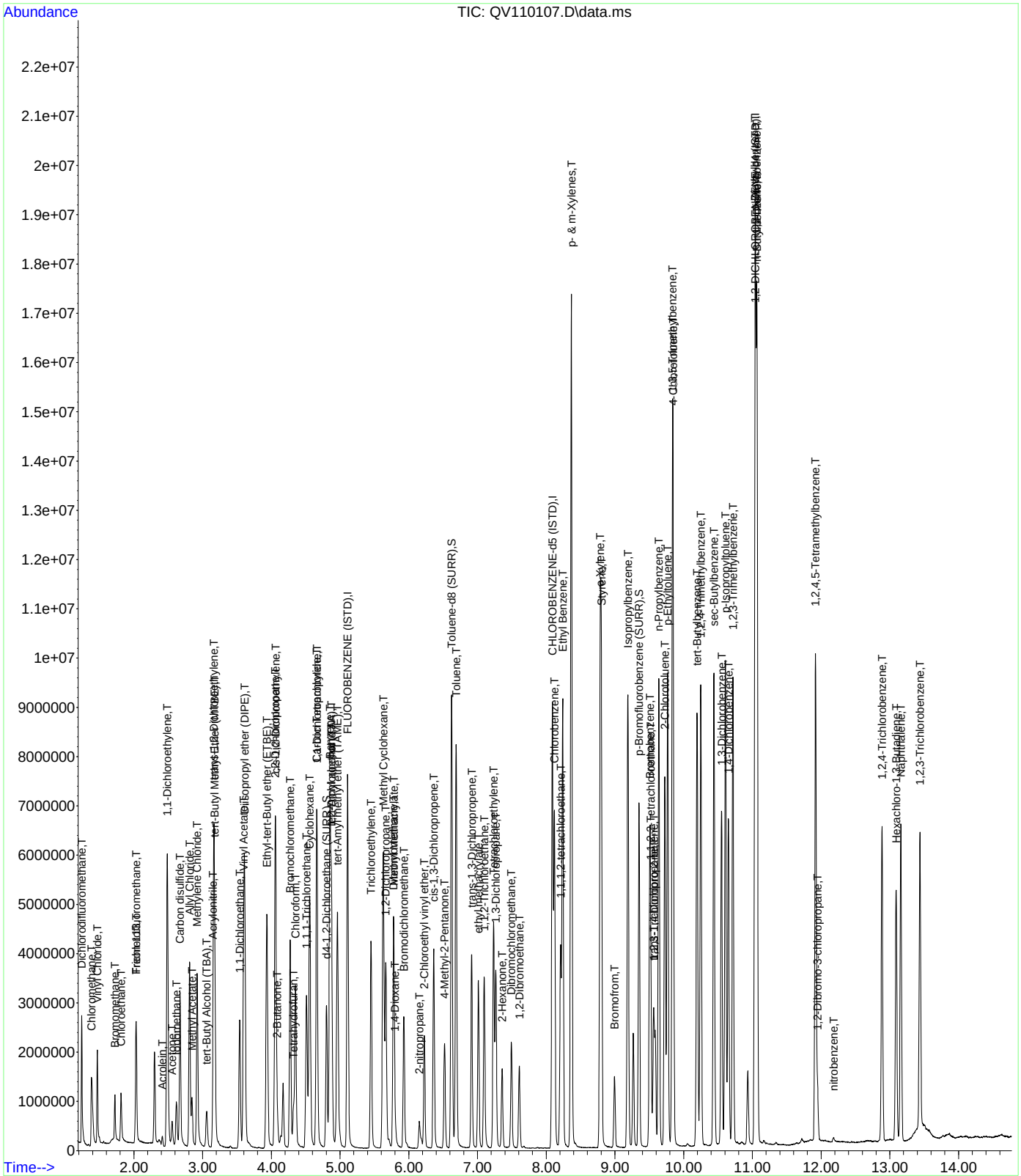
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.518	43	1318808	45.42	ppb		95
55) Toluene	6.688	91	5114622	63.14	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1723605	59.42	ppb		99
57) 1,1,2-Trichloroethane	7.100	97	933784	58.16	ppb		99
58) 1,3-Dichloropropane	7.267	76	1725021	60.98	ppb	#	94
59) Tetrachloroethylene	7.233	166	1134464	53.53	ppb	#	72
60) 2-Hexanone	7.358	43	957619	61.79	ppb		94
61) Dibromochloromethane	7.492	129	974928	61.05	ppb		96
62) 1,2-Dibromoethane	7.609	107	966391	60.15	ppb		100
63) Chlorobenzene	8.121	112	3136427	59.87	ppb		91
64) 1,1,1,2-tetrachloroethane	8.210	131	966147	59.30	ppb	#	56
65) Ethyl Benzene	8.240	91	5879881	63.57	ppb		96
66) p- & m-Xylenes	8.366	91	9324414	117.80	ppb		94
67) o-Xylene	8.786	91	4669326	61.89	ppb		98
68) Styrene	8.802	104	3684795	61.93	ppb	#	100
69) Bromofrom	8.994	173	579264	59.46	ppb	#	80
71) p-Ethyltoluene	9.765	105	5978437	65.31	ppb	#	100
72) Isopropylbenzene	9.189	105	5832862	59.00	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	1310644	60.02	ppb	#	100
75) Bromobenzene	9.509	77	2216838	59.48	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	1502350	57.77	ppb	#	96
77) 1,2,3-Trichloropropane	9.565	110	403124	56.81	ppb		71
78) n-Propylbenzene	9.640	91	7040658	61.25	ppb		96
79) 2-Chlorotoluene	9.726	91	4024080	57.68	ppb		99
80) 4-Chlorotoluene	9.846	91	4830797	60.56	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	4965866m	60.27	ppb		
82) tert-Butylbenzene	10.193	119	4041717	51.32	ppb		90
83) 1,2,4-Trimethylbenzene	10.249	105	4908290	59.53	ppb		91
84) sec-Butylbenzene	10.441	105	6604841	63.88	ppb		96
86) 1,3-Dichlorobenzene	10.552	146	2442491	57.60	ppb		95
87) p-Isopropyltoluene	10.608	119	5478330	61.44	ppb		96
88) 1,4-Dichlorobenzene	10.653	146	2431645	57.21	ppb		95
89) 1,2,3-Trimethylbenzene	10.717	105	5092946	58.55	ppb		96
90) nitrobenzene	12.180	77	25514	52.66	ppb	#	100
91) p-Diethylbenzene	11.039	105	3348958	71.20	ppb		96
92) 1,2-Dichlorobenzene	11.064	146	2279987	60.17	ppb	#	88
93) n-Butylbenzene	11.067	91	6023168m	62.33	ppb		
94) 1,2-Dibromo-3-chloropr...	11.946	75	292358	57.02	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.918	119	5039586	62.55	ppb		94
96) 1,2,4-Trichlorobenzene	12.887	180	1748447	60.06	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.093	225	917044	57.43	ppb		88
98) Naphthalene	13.159	128	4682308	52.50	ppb		98
99) 1,2,3-Trichlorobenzene	13.438	180	1638786	60.25	ppb		78

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110107.D
Acq On : 4 Oct 2019 10:39 am
Operator : LLJ
Sample : BJ90131-BS1
Misc : QV1100419A
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 10:59:08 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110108.D
Acq On : 4 Oct 2019 11:05 am
Operator : LLJ
Sample : BJ90131-BSD1
Misc : QV1100419A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 12:23:02 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	1065557	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	4201564	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.045	152	1934655	50.00	ppb		# 0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1527435	49.82	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.64%				
54) Toluene-d8 (SURR)	6.624	98	5339207	50.45	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 100.90%				
73) p-Bromofluorobenzene (...	9.350	95	2190057	48.55	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 97.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	1339524	75.93	ppb		100
3) Chloromethane	1.382	50	1424152	67.15	ppb		98
4) Vinyl Chloride	1.468	62	1094872	62.05	ppb		99
5) Bromomethane	1.724	94	348953	74.39	ppb		98
6) Allyl Chloride	2.812	76	592542	59.48	ppb	#	100
7) Chloroethane	1.813	64	624762	69.65	ppb		100
8) Trichlorofluoromethane	2.033	101	1442206	68.32	ppb		98
10) Freon-113	2.033	101	1442206	68.32	ppb	#	92
11) 1,1-Dichloroethylene	2.484	61	1596290	60.07	ppb		96
12) Acrolein	2.414	56	126933	106.58	ppb		95
13) Acetone	2.556	43	360386	50.51	ppb	#	44
14) Iodomethane	2.620	142	821356	57.77	ppb	#	20
15) Methyl Acetate	2.845	43	863800	56.31	ppb		97
16) Carbon disulfide	2.673	76	3276280	60.56	ppb		100
17) tert-Butyl Alcohol (TBA)	3.057	59	748014	273.61	ppb	#	1
18) Methylene Chloride	2.921	49	1638495	68.53	ppb		91
19) Acrylonitrile	3.151	53	441005	60.62	ppb		96
20) trans-1,2-Dichloroethy...	3.163	61	1581918	61.94	ppb		95
21) tert-Butyl Methyl Ethe...	3.174	73	3204938	60.76	ppb		100
22) 1,1-Dichloroethane	3.538	63	2013985	60.05	ppb	#	99
23) Vinyl Acetate	3.597	43	4494803	69.47	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	4031630	63.87	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	3614722	63.32	ppb	#	98
26) cis-1,2-Dichloroethylene	4.061	61	1862948	61.20	ppb	#	81
27) 2-Butanone	4.086	72	156992	58.47	ppb		80
28) 2,2-Dichloropropane	4.056	77	1800984	59.81	ppb		98
29) Tetrahydrofuran	4.326	42	384209	55.34	ppb		87
30) Bromochloromethane	4.273	49	956589	60.57	ppb		87
31) Chloroform	4.351	83	1897359	58.39	ppb		99
32) 1,1,1-Trichloroethane	4.512	97	1711536	56.65	ppb	#	85
33) Cyclohexane	4.559	56	2084510	62.19	ppb		91
34) 1,1-Dichloropropylene	4.662	75	1568357	60.24	ppb		84
36) Carbon Tetrachloride	4.662	117	1412333	57.71	ppb		98
37) tert-Amyl alcohol (TAA)	4.876	59	1321887	608.89	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1521457	60.20	ppb	#	98
39) Benzene	4.851	78	4669719	62.46	ppb	#	95
40) tert-Amyl methyl ether...	4.960	73	3308604	64.12	ppb		98
42) Trichloroethylene	5.452	95	1133434	59.61	ppb		87
43) Methyl Cyclohexane	5.628	83	2107510	61.90	ppb	#	82
44) Methyl Methacrylate	5.783	69	861418	61.48	ppb	#	98
45) Dibromomethane	5.775	93	629930	59.46	ppb		98
46) Bromodichloromethane	5.928	83	1414271	60.36	ppb		99
47) 1,2-Dichloropropane	5.667	63	1111604	58.17	ppb	#	100
48) 1,4-Dioxane	5.800	88	292006	1202.93	ppb		84
49) 2-Chloroethyl vinyl ether	6.226	63	772335	75.91	ppb		98
50) 2-nitropropane	6.154	43	280885	51.74	ppb	#	100
51) cis-1,3-Dichloropropene	6.365	75	1822802	58.58	ppb		95
52) ethyl methacrylate	7.013	69	1446637	56.83	ppb	#	100

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110108.D
Acq On : 4 Oct 2019 11:05 am
Operator : LLJ
Sample : BJ90131-BSD1
Misc : QV1100419A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 12:23:02 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

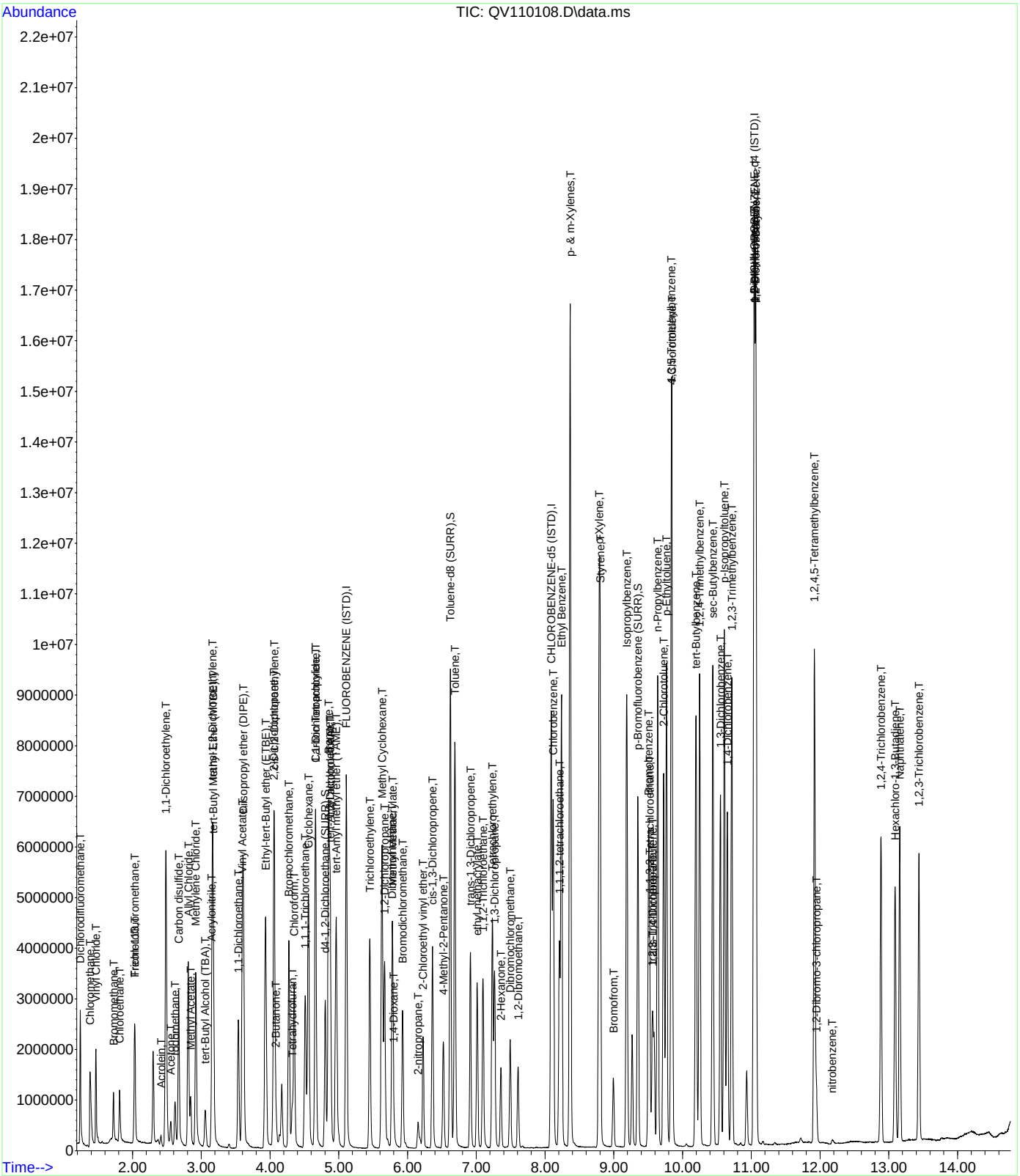
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.521	43	1292268	45.34	ppb		96
55) Toluene	6.688	91	5011534	63.01	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1687612	59.25	ppb	#	88
57) 1,1,2-Trichloroethane	7.099	97	916329	58.13	ppb		98
58) 1,3-Dichloropropane	7.266	76	1669614	60.11	ppb	#	94
59) Tetrachloroethylene	7.233	166	1112970	53.49	ppb	#	72
60) 2-Hexanone	7.358	43	929500	61.09	ppb		95
61) Dibromochloromethane	7.495	129	941305	60.03	ppb		96
62) 1,2-Dibromoethane	7.609	107	939989	59.59	ppb		100
63) Chlorobenzene	8.121	112	3082746	59.94	ppb		91
64) 1,1,1,2-tetrachloroethane	8.210	131	949707	59.37	ppb	#	56
65) Ethyl Benzene	8.240	91	5802598	63.89	ppb		96
66) p- & m-Xylenes	8.365	91	9150161	117.73	ppb		94
67) o-Xylene	8.788	91	4580204	61.84	ppb		98
68) Styrene	8.802	104	3631608	62.16	ppb	#	100
69) Bromofrom	8.997	173	551306	57.64	ppb		99
71) p-Ethyltoluene	9.765	105	5895981	66.00	ppb	#	97
72) Isopropylbenzene	9.189	105	5744346	59.53	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.523	83	1269939	59.59	ppb	#	100
75) Bromobenzene	9.506	77	2176384	59.84	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	1465556	57.74	ppb	#	96
77) 1,2,3-Trichloropropane	9.562	110	388649	56.12	ppb		71
78) n-Propylbenzene	9.637	91	6953814	61.98	ppb		96
79) 2-Chlorotoluene	9.726	91	3922218	57.60	ppb		100
80) 4-Chlorotoluene	9.846	91	4685225	60.18	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	4861591m	60.45	ppb		
82) tert-Butylbenzene	10.196	119	4009525	52.17	ppb		91
83) 1,2,4-Trimethylbenzene	10.249	105	4821449	59.91	ppb		91
84) sec-Butylbenzene	10.441	105	6522840	64.64	ppb		96
86) 1,3-Dichlorobenzene	10.552	146	2406289	58.15	ppb		95
87) p-Isopropyltoluene	10.608	119	5452526	62.66	ppb		95
88) 1,4-Dichlorobenzene	10.652	146	2398557	57.82	ppb		95
89) 1,2,3-Trimethylbenzene	10.716	105	5029311	59.25	ppb		96
90) nitrobenzene	12.174	77	26001	54.65	ppb	#	100
91) p-Diethylbenzene	11.042	105	3260272	71.02	ppb		96
92) 1,2-Dichlorobenzene	11.064	146	2216004m	59.92	ppb		
93) n-Butylbenzene	11.067	91	5776820m	61.25	ppb		
94) 1,2-Dibromo-3-chloropr...	11.946	75	287919	57.51	ppb	#	80
95) 1,2,4,5-Tetramethylben...	11.918	119	4925444	62.64	ppb		94
96) 1,2,4-Trichlorobenzene	12.887	180	1684533	59.29	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.092	225	911167	58.47	ppb		88
98) Naphthalene	13.159	128	4512406	51.84	ppb		98
99) 1,2,3-Trichlorobenzene	13.437	180	1567118	59.03	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110108.D
Acq On : 4 Oct 2019 11:05 am
Operator : LLJ
Sample : BJ90131-BSD1
Misc : QV1100419A
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 12:23:02 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



LCS RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110134.D
Acq On : 4 Oct 2019 10:57 pm
Operator : LLJ
Sample : BJ90132-BS1
Misc : QV1100419B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 07 09:39:09 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	989735	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3950108	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1849252	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.804	65	1439072	50.53	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 101.06%				
54) Toluene-d8 (SURR)	6.624	98	5034545	50.60	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.20%				
73) p-Bromofluorobenzene (...	9.350	95	2033755	47.16	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.32%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	875718	53.44	ppb		100
3) Chloromethane	1.382	50	1039644	52.78	ppb		98
4) Vinyl Chloride	1.466	62	797970	48.69	ppb		99
5) Bromomethane	1.722	94	241353	55.40	ppb		98
6) Allyl Chloride	2.812	76	408181	44.11	ppb	#	100
7) Chloroethane	1.811	64	467320	56.09	ppb		98
8) Trichlorofluoromethane	2.030	101	1044461	53.27	ppb		98
10) Freon-113	2.030	101	1044461	53.27	ppb	#	92
11) 1,1-Dichloroethylene	2.484	61	1101772	44.64	ppb		96
12) Acrolein	2.414	56	93797	84.29	ppb		95
13) Acetone	2.559	43	277007	41.79	ppb	#	21
14) Iodomethane	2.617	142	565301	42.72	ppb	#	20
15) Methyl Acetate	2.846	43	624625	43.84	ppb		96
16) Carbon disulfide	2.670	76	2257734	44.93	ppb		100
17) tert-Butyl Alcohol (TBA)	3.060	59	559218	220.22	ppb	#	1
18) Methylene Chloride	2.921	49	1135694	51.14	ppb		91
19) Acrylonitrile	3.152	53	317894	47.05	ppb		97
20) trans-1,2-Dichloroethy...	3.160	61	1104526	46.56	ppb		94
21) tert-Butyl Methyl Ethe...	3.174	73	2261363	46.16	ppb	#	93
22) 1,1-Dichloroethane	3.538	63	1384984	44.46	ppb	#	99
23) Vinyl Acetate	3.597	43	3087428	51.37	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	2794675	47.66	ppb		97
25) Ethyl-tert-Butyl ether...	3.933	59	2501804	47.18	ppb	#	98
26) cis-1,2-Dichloroethylene	4.059	61	1253457	44.33	ppb		95
27) 2-Butanone	4.086	72	120702	47.84	ppb		78
28) 2,2-Dichloropropane	4.059	77	1158102	41.40	ppb	#	77
29) Tetrahydrofuran	4.323	42	279251	43.30	ppb		88
30) Bromochloromethane	4.276	49	672200	45.82	ppb		86
31) Chloroform	4.348	83	1313682	43.52	ppb		100
32) 1,1,1-Trichloroethane	4.512	97	1179625	42.03	ppb		98
33) Cyclohexane	4.557	56	1438184	46.19	ppb		93
34) 1,1-Dichloropropylene	4.662	75	1066037	44.08	ppb		81
36) Carbon Tetrachloride	4.660	117	906992	39.90	ppb		99
37) tert-Amyl alcohol (TAA)	4.874	59	981651	486.81	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1078214	45.93	ppb		99
39) Benzene	4.852	78	3212706	46.26	ppb	#	96
40) tert-Amyl methyl ether...	4.960	73	2281012	47.59	ppb		98
42) Trichloroethylene	5.450	95	795846	44.52	ppb		86
43) Methyl Cyclohexane	5.628	83	1471746	45.98	ppb	#	82
44) Methyl Methacrylate	5.784	69	617861	46.90	ppb	#	98
45) Dibromomethane	5.775	93	445012	44.68	ppb		98
46) Bromodichloromethane	5.928	83	961809	43.66	ppb		98
47) 1,2-Dichloropropane	5.664	63	784517	43.67	ppb	#	100
48) 1,4-Dioxane	5.800	88	217130	951.42	ppb		85
49) 2-Chloroethyl vinyl ether	6.226	63	546762	57.16	ppb		98
50) 2-nitropropane	6.154	43	152597	29.90	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1218450	41.65	ppb		95
52) ethyl methacrylate	7.013	69	1025854	42.87	ppb	#	100

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110134.D
Acq On : 4 Oct 2019 10:57 pm
Operator : LLJ
Sample : BJ90132-BS1
Misc : QV1100419B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 07 09:39:09 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

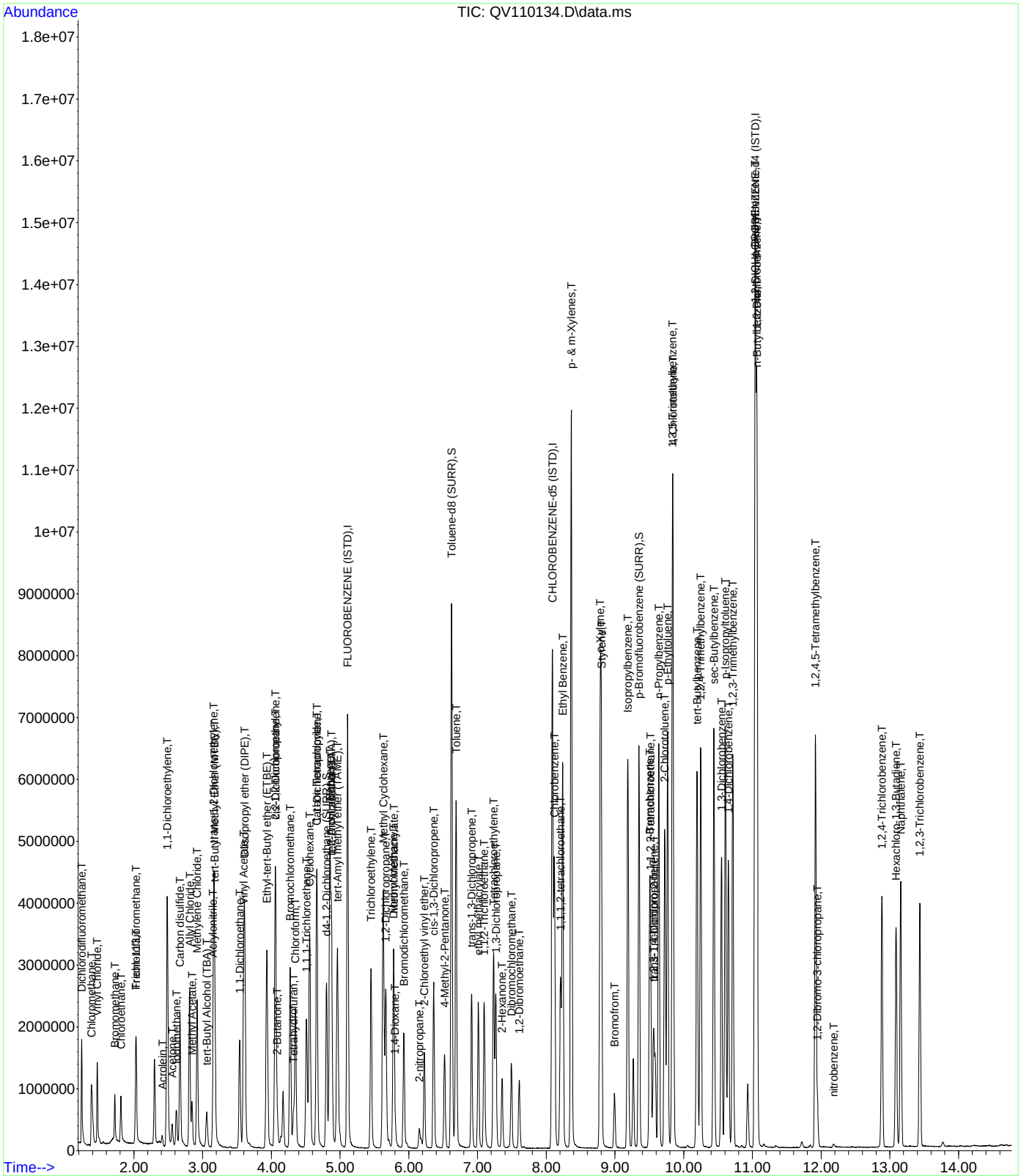
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.521	43	940666	35.10	ppb		95
55) Toluene	6.688	91	3454972	46.21	ppb		100
56) trans-1,3-Dichloropropene	6.913	75	1111219	41.50	ppb		99
57) 1,1,2-Trichloroethane	7.097	97	648941	43.79	ppb		98
58) 1,3-Dichloropropane	7.269	76	1173155	44.93	ppb	#	93
59) Tetrachloroethylene	7.233	166	767708	39.24	ppb	#	72
60) 2-Hexanone	7.356	43	676914	47.32	ppb		94
61) Dibromochloromethane	7.495	129	614948	41.72	ppb		97
62) 1,2-Dibromoethane	7.606	107	654134	44.11	ppb		100
63) Chlorobenzene	8.121	112	2133857	44.13	ppb		91
64) 1,1,1,2-tetrachloroethane	8.207	131	641249	42.64	ppb	#	56
65) Ethyl Benzene	8.238	91	4044633	47.37	ppb		96
66) p- & m-Xylenes	8.363	91	6387057	84.87	ppb		94
67) o-Xylene	8.786	91	3169263	45.51	ppb		98
68) Styrene	8.802	104	2507133	45.65	ppb	#	100
69) Bromofrom	8.994	173	353586	39.32	ppb		99
71) p-Ethyltoluene	9.765	105	4074963	47.72	ppb	#	97
72) Isopropylbenzene	9.186	105	3993556	43.30	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.517	83	899910	44.17	ppb	#	100
75) Bromobenzene	9.506	77	1511312	43.47	ppb		80
76) trans-1,4-Dichloro-2-b...	9.565	75	1011594	41.70	ppb	#	87
77) 1,2,3-Trichloropropane	9.562	110	281659	42.55	ppb		69
78) n-Propylbenzene	9.640	91	4800515	44.77	ppb		96
79) 2-Chlorotoluene	9.723	91	2747826	42.22	ppb		99
80) 4-Chlorotoluene	9.843	91	3299311	44.34	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	3447827m	44.85	ppb		
82) tert-Butylbenzene	10.193	119	2784259	37.90	ppb		90
83) 1,2,4-Trimethylbenzene	10.246	105	3367260	43.77	ppb		91
84) sec-Butylbenzene	10.441	105	4561995	47.30	ppb		96
86) 1,3-Dichlorobenzene	10.550	146	1663039	42.04	ppb		94
87) p-Isopropyltoluene	10.605	119	3758899	45.19	ppb		95
88) 1,4-Dichlorobenzene	10.650	146	1654675	41.73	ppb		94
89) 1,2,3-Trimethylbenzene	10.714	105	3495844	43.13	ppb		95
90) nitrobenzene	12.186	77	15341m	35.27	ppb		
91) p-Diethylbenzene	11.036	105	2301587	52.45	ppb	#	23
92) 1,2-Dichlorobenzene	11.064	146	1599799m	45.25	ppb		
93) n-Butylbenzene	11.067	91	4248986m	47.13	ppb		
94) 1,2-Dibromo-3-chloropr...	11.943	75	198308	42.26	ppb	#	79
95) 1,2,4,5-Tetramethylben...	11.918	119	3376781	44.92	ppb		94
96) 1,2,4-Trichlorobenzene	12.884	180	1137558	41.89	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.090	225	630911	42.36	ppb		89
98) Naphthalene	13.159	128	3146811	37.82	ppb		98
99) 1,2,3-Trichlorobenzene	13.435	180	1074538	42.34	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110134.D
Acq On : 4 Oct 2019 10:57 pm
Operator : LLJ
Sample : BJ90132-BS1
Misc : QV1100419B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 07 09:39:09 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110135.D
Acq On : 4 Oct 2019 11:24 pm
Operator : LLJ
Sample : BJ90132-BSD1
Misc : QV1100419B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 07 09:39:22 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.110	70	988299	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	8.090	117	3911691	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	11.042	152	1852945	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.801	65	1420902	49.97	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery = 99.94%				
54) Toluene-d8 (SURR)	6.624	98	4976906	50.52	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery = 101.04%				
73) p-Bromofluorobenzene (...	9.348	95	2046327	47.36	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery = 94.72%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.240	85	965442	59.01	ppb		100
3) Chloromethane	1.385	50	1145337	58.23	ppb		97
4) Vinyl Chloride	1.468	62	898093	54.88	ppb		99
5) Bromomethane	1.724	94	277058	63.68	ppb		99
6) Allyl Chloride	2.812	76	402382	43.55	ppb	#	100
7) Chloroethane	1.813	64	502059	60.34	ppb		99
8) Trichlorofluoromethane	2.033	101	1132906	57.86	ppb		97
10) Freon-113	2.033	101	1132906	57.86	ppb	#	60
11) 1,1-Dichloroethylene	2.484	61	1135053	46.05	ppb		96
12) Acrolein	2.412	56	95479	86.02	ppb		95
13) Acetone	2.556	43	278166	42.03	ppb	#	45
14) Iodomethane	2.620	142	597185	45.21	ppb	#	20
15) Methyl Acetate	2.846	43	649948	45.68	ppb		96
16) Carbon disulfide	2.670	76	2294242	45.72	ppb		100
17) tert-Butyl Alcohol (TBA)	3.060	59	548670	216.38	ppb	#	1
18) Methylene Chloride	2.921	49	1190449	53.68	ppb		90
19) Acrylonitrile	3.152	53	327805	48.58	ppb		96
20) trans-1,2-Dichloroethy...	3.160	61	1126942	47.57	ppb		94
21) tert-Butyl Methyl Ethe...	3.174	73	2355109	48.14	ppb		100
22) 1,1-Dichloroethane	3.541	63	1410610	45.34	ppb	#	96
23) Vinyl Acetate	3.597	43	3251771	54.19	ppb		100
24) Diisopropyl ether (DIPE)	3.611	45	2923141	49.93	ppb		97
25) Ethyl-tert-Butyl ether...	3.936	59	2622112	49.53	ppb	#	98
26) cis-1,2-Dichloroethylene	4.059	61	1333190	47.22	ppb		94
27) 2-Butanone	4.086	72	125589	49.98	ppb		85
28) 2,2-Dichloropropane	4.056	77	1212558	43.41	ppb		97
29) Tetrahydrofuran	4.326	42	309774	48.10	ppb		86
30) Bromochloromethane	4.273	49	743550	50.76	ppb		86
31) Chloroform	4.351	83	1495797	49.63	ppb		100
32) 1,1,1-Trichloroethane	4.515	97	1340040	47.82	ppb		99
33) Cyclohexane	4.557	56	1622553	52.19	ppb		91
34) 1,1-Dichloropropylene	4.662	75	1209307	50.08	ppb		82
36) Carbon Tetrachloride	4.660	117	1043996	45.99	ppb		98
37) tert-Amyl alcohol (TAA)	4.877	59	1049795	521.36	ppb	#	100
38) 1,2-Dichloroethane	4.874	62	1227196	52.35	ppb		99
39) Benzene	4.852	78	3603492	51.96	ppb	#	95
40) tert-Amyl methyl ether...	4.963	73	2600469	54.34	ppb	#	89
42) Trichloroethylene	5.450	95	882207	49.84	ppb		88
43) Methyl Cyclohexane	5.628	83	1646212	51.93	ppb	#	82
44) Methyl Methacrylate	5.781	69	684060	52.44	ppb	#	98
45) Dibromomethane	5.775	93	503736	51.07	ppb	#	72
46) Bromodichloromethane	5.931	83	1082050	49.60	ppb		99
47) 1,2-Dichloropropane	5.667	63	881481	49.55	ppb	#	100
48) 1,4-Dioxane	5.800	88	241110	1066.87	ppb		86
49) 2-Chloroethyl vinyl ether	6.226	63	612427	64.65	ppb		98
50) 2-nitropropane	6.154	43	166161	32.88	ppb	#	100
51) cis-1,3-Dichloropropene	6.362	75	1386045	47.85	ppb		95
52) ethyl methacrylate	7.011	69	1140108	48.11	ppb	#	100

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110135.D
Acq On : 4 Oct 2019 11:24 pm
Operator : LLJ
Sample : BJ90132-BSD1
Misc : QV1100419B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 07 09:39:22 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1

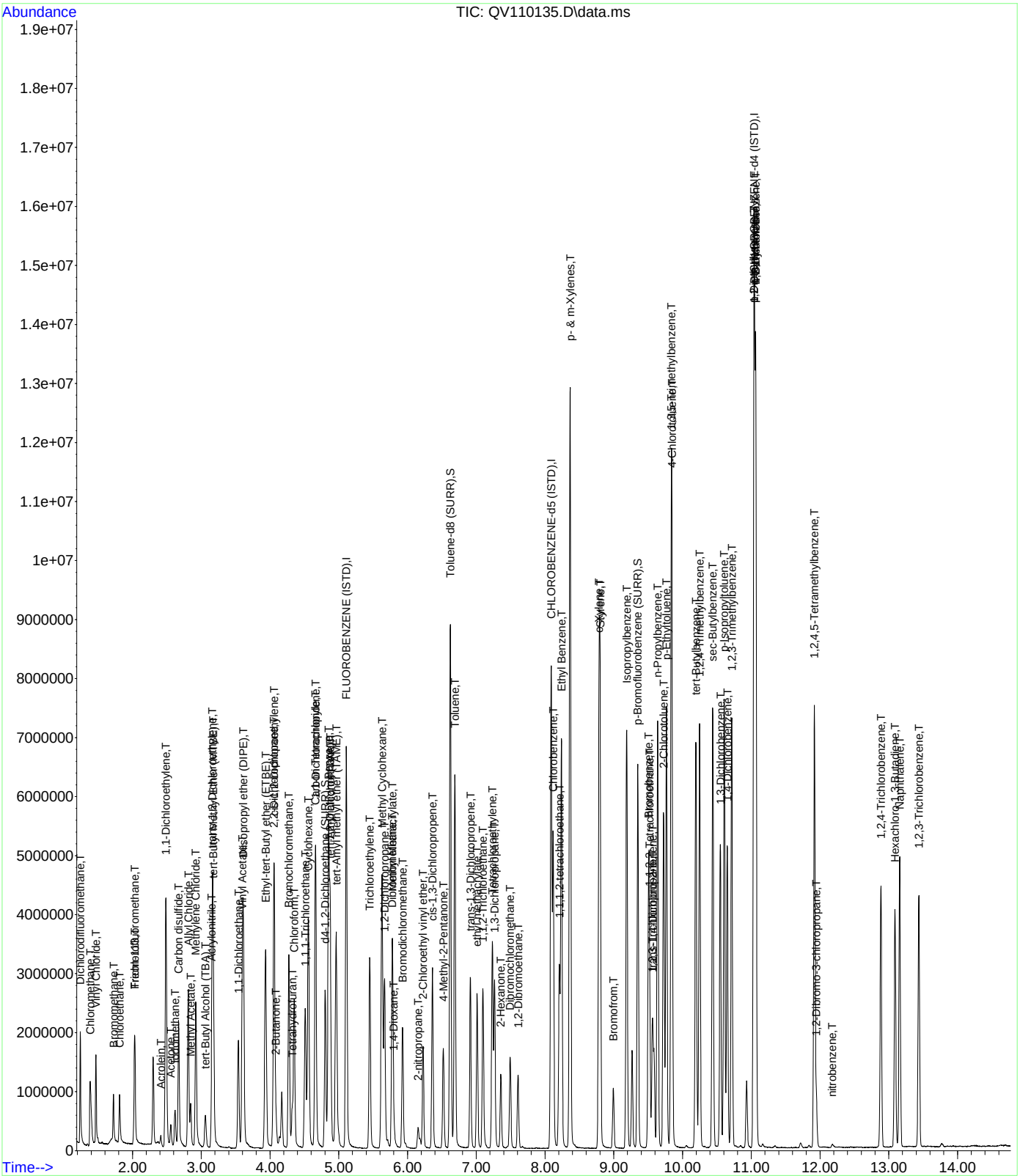
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.521	43	1038763	39.14	ppb		96
55) Toluene	6.688	91	3917044	52.90	ppb		100
56) trans-1,3-Dichloropropene	6.916	75	1254420	47.31	ppb		99
57) 1,1,2-Trichloroethane	7.097	97	710617	48.42	ppb		97
58) 1,3-Dichloropropane	7.267	76	1313923	50.81	ppb	#	93
59) Tetrachloroethylene	7.233	166	861242	44.46	ppb		98
60) 2-Hexanone	7.356	43	739797	52.22	ppb		94
61) Dibromochloromethane	7.492	129	705649	48.34	ppb		97
62) 1,2-Dibromoethane	7.609	107	736521	50.15	ppb		100
63) Chlorobenzene	8.121	112	2394382	50.01	ppb		92
64) 1,1,1,2-tetrachloroethane	8.210	131	730760	49.07	ppb	#	54
65) Ethyl Benzene	8.238	91	4517373	53.43	ppb		96
66) p- & m-Xylenes	8.366	91	7141889	96.69	ppb		93
67) o-Xylene	8.786	91	3577203	51.87	ppb		98
68) Styrene	8.802	104	2819622	51.84	ppb	#	100
69) Bromofrom	8.994	173	407845	45.80	ppb		99
71) p-Ethyltoluene	9.765	105	4481740	52.38	ppb	#	100
72) Isopropylbenzene	9.189	105	4452526	48.18	ppb		96
74) 1,1,2,2-Tetrachloroethane	9.520	83	1004157	49.19	ppb	#	100
75) Bromobenzene	9.506	77	1682950	48.31	ppb		81
76) trans-1,4-Dichloro-2-b...	9.565	75	1135423	46.71	ppb	#	88
77) 1,2,3-Trichloropropane	9.562	110	310934	46.88	ppb		70
78) n-Propylbenzene	9.640	91	5345781	49.75	ppb		96
79) 2-Chlorotoluene	9.726	91	3069936	47.07	ppb		99
80) 4-Chlorotoluene	9.846	91	3635811	48.76	ppb		81
81) 1,3,5-Trimethylbenzene	9.837	105	3807446m	49.43	ppb		
82) tert-Butylbenzene	10.193	119	3130710	42.53	ppb		90
83) 1,2,4-Trimethylbenzene	10.249	105	3680059	47.75	ppb		91
84) sec-Butylbenzene	10.438	105	5096481	52.73	ppb		96
86) 1,3-Dichlorobenzene	10.552	146	1841517	46.46	ppb		95
87) p-Isopropyltoluene	10.605	119	4185274	50.22	ppb		95
88) 1,4-Dichlorobenzene	10.653	146	1846660	46.48	ppb		95
89) 1,2,3-Trimethylbenzene	10.717	105	3884933	47.77	ppb		96
90) nitrobenzene	12.174	77	15655	35.90	ppb	#	100
91) p-Diethylbenzene	11.039	105	2505031	56.97	ppb	#	25
92) 1,2-Dichlorobenzene	11.064	146	1784654	50.38	ppb	#	87
93) n-Butylbenzene	11.064	91	4632374m	51.28	ppb		
94) 1,2-Dibromo-3-chloropr...	11.943	75	215978	45.73	ppb	#	81
95) 1,2,4,5-Tetramethylben...	11.918	119	3738592	49.64	ppb		94
96) 1,2,4-Trichlorobenzene	12.887	180	1227012	45.09	ppb	#	100
97) Hexachloro-1,3-Butadiene	13.090	225	690699	46.28	ppb		87
98) Naphthalene	13.159	128	3489965	41.86	ppb		98
99) 1,2,3-Trichlorobenzene	13.438	180	1188844	46.76	ppb		79

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100419A\
Data File : QV110135.D
Acq On : 4 Oct 2019 11:24 pm
Operator : LLJ
Sample : BJ90132-BSD1
Misc : QV1100419B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 07 09:39:22 2019
Quant Method : C:\msdchem\1\methods\VQ1S0024.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Oct 02 16:34:57 2019
Response via : Initial Calibration
InstName : QVOA1



LCS RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407281.D
Acq On : 7 Oct 2019 10:15 am
Operator : LLJ
Sample : BJ90136-BS1
Misc : QBQV4100719A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 11:17:49 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.966	70	204091	50.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	853521	50.00	ppb	#	0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	438095	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	282828	49.51	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery =	99.02%			
54) Toluene-d8 (SURR)	6.460	98	1084930	49.21	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery =	98.42%			
73) p-Bromofluorobenzene (...	9.201	95	437857	48.15	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery =	96.30%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.154	85	140976	57.58	ppb		100
3) Chloromethane	1.319	50	177982	33.27	ppb	#	71
4) Vinyl Chloride	1.374	62	130500	32.07	ppb		100
5) Bromomethane	1.630	94	59720	46.27	ppb		89
6) Allyl Chloride	2.688	76	69129	43.18	ppb	#	100
7) Chloroethane	1.705	64	67773	36.70	ppb		97
8) Trichlorofluoromethane	1.900	101	167300	36.75	ppb		98
10) Freon-113	1.900	101	167300	36.45	ppb	#	92
11) 1,1-Dichloroethylene	2.354	61	165879	33.32	ppb		96
12) Acrolein	2.315	56	10983	29.95	ppb		93
13) Acetone	2.462	43	41668	28.95	ppb	#	44
14) Iodomethane	2.504	142	140514	44.89	ppb	#	20
15) Methyl Acetate	2.729	43	102993	34.25	ppb		95
16) Carbon disulfide	2.543	76	379828	47.50	ppb		100
17) tert-Butyl Alcohol (TBA)	2.971	59	60953	180.16	ppb	#	1
18) Methylene Chloride	2.815	49	225346	45.40	ppb		89
19) Acrylonitrile	3.074	53	45577	42.09	ppb		98
20) trans-1,2-Dichloroethy...	3.030	61	200234	43.59	ppb		96
21) tert-Butyl Methyl Ethe...	3.016	73	337493	45.11	ppb		98
22) 1,1-Dichloroethane	3.419	63	254925	42.85	ppb	#	96
23) Vinyl Acetate	3.467	43	325408	50.25	ppb		100
24) Diisopropyl ether (DIPE)	3.433	45	499141	43.23	ppb		97
25) Ethyl-tert-Butyl ether...	3.756	59	433371	45.03	ppb	#	79
26) cis-1,2-Dichloroethylene	3.945	61	232893	43.38	ppb		95
27) 2-Butanone	3.987	72	14331	49.12	ppb	#	1
28) 2,2-Dichloropropane	3.914	77	194157	44.07	ppb	#	77
29) Tetrahydrofuran	4.209	42	42173	40.92	ppb		81
30) Bromochloromethane	4.173	49	122481	42.86	ppb		89
31) Chloroform	4.246	83	232456	45.01	ppb	#	71
32) 1,1,1-Trichloroethane	4.360	97	208349	45.80	ppb		99
33) Cyclohexane	4.374	56	282410	45.61	ppb		88
34) 1,1-Dichloropropylene	4.507	75	185765	44.44	ppb		90
36) Carbon Tetrachloride	4.499	117	173060	43.69	ppb	#	58
37) tert-Amyl alcohol (TAA)	4.774	59	113135	366.57	ppb	#	100
38) 1,2-Dichloroethane	4.766	62	165617m	41.24	ppb		
39) Benzene	4.705	78	550024	44.03	ppb	#	82
40) tert-Amyl methyl ether...	4.783	73	395022	44.89	ppb	#	90
42) Trichloroethylene	5.303	95	142902	42.94	ppb		93
43) Methyl Cyclohexane	5.425	83	262513	44.09	ppb	#	77
44) Methyl Methacrylate	5.637	69	82655	43.57	ppb	#	81
45) Dibromomethane	5.670	93	73331	42.01	ppb		96
46) Bromodichloromethane	5.820	83	166092	39.64	ppb		98
47) 1,2-Dichloropropane	5.537	63	138879	40.02	ppb	#	81
48) 1,4-Dioxane	5.687	88	27221	759.01	ppb		84
49) 2-Chloroethyl vinyl ether	6.099	63	84253	55.89	ppb		98
50) 2-nitropropane	6.065	43	24311	35.42	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	207994	42.55	ppb		99
52) ethyl methacrylate	6.850	69	146447	36.07	ppb	#	100

Data Path : C:\msdchem\1\data\100719\
Data File : QV407281.D
Acq On : 7 Oct 2019 10:15 am
Operator : LLJ
Sample : BJ90136-BS1
Misc : QBQV4100719A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 11:17:49 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

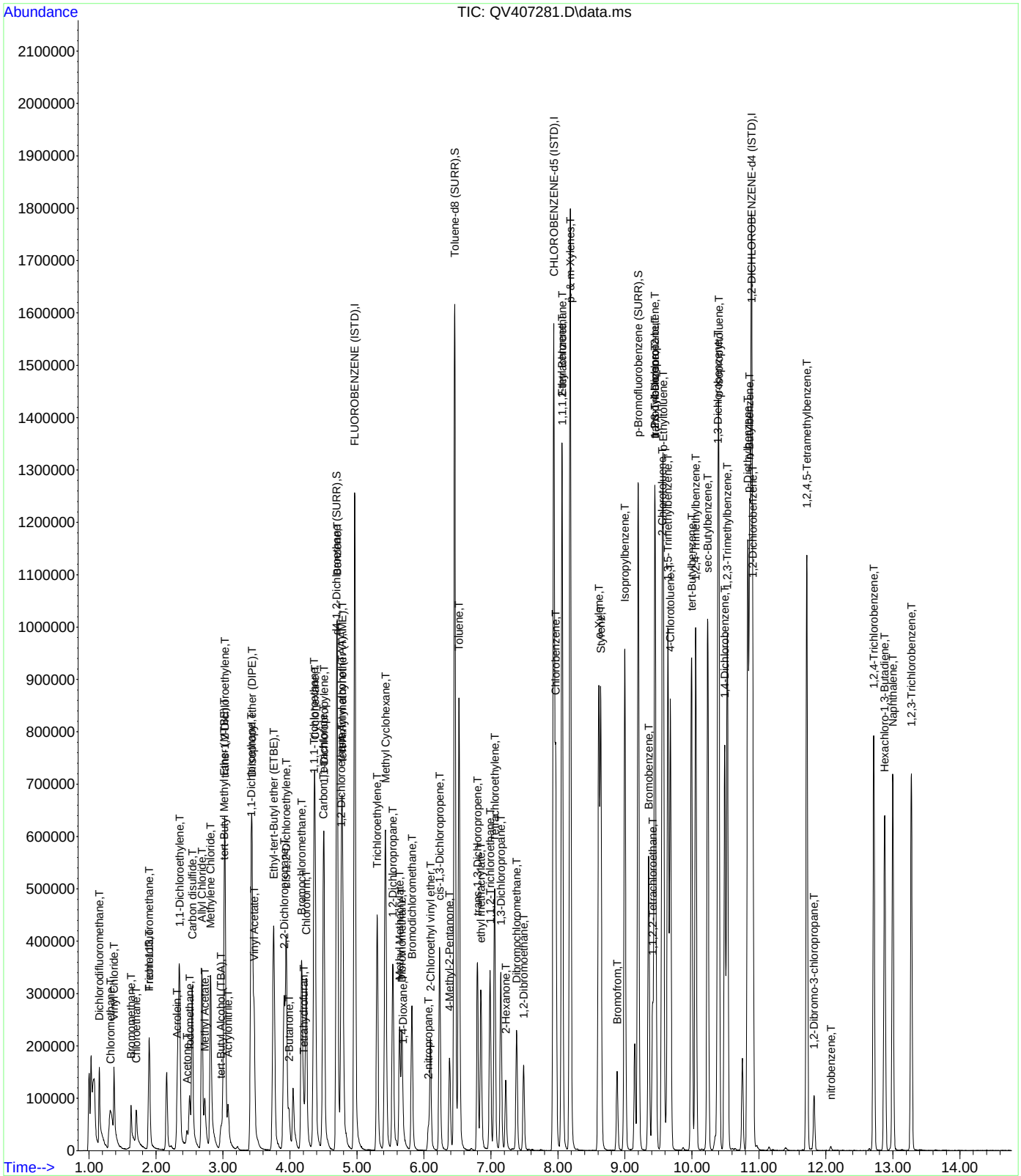
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.382	43	127228	37.02	ppb	#	89
55) Toluene	6.524	91	608945	40.14	ppb		100
56) trans-1,3-Dichloropropene	6.800	75	178648	37.71	ppb		99
57) 1,1,2-Trichloroethane	6.989	97	110022	42.79	ppb		99
58) 1,3-Dichloropropane	7.147	76	186923	41.65	ppb	#	94
59) Tetrachloroethylene	7.056	166	149358	44.19	ppb	#	72
60) 2-Hexanone	7.223	43	89206	38.05	ppb		96
61) Dibromochloromethane	7.384	129	119168	43.32	ppb	#	96
62) 1,2-Dibromoethane	7.487	107	110061	44.83	ppb		99
63) Chlorobenzene	7.965	112	376014	42.93	ppb		92
64) 1,1,1,2-tetrachloroethane	8.066	131	125773	41.72	ppb	#	53
65) Ethyl Benzene	8.063	91	690707	40.99	ppb		97
66) p- & m-Xylenes	8.185	91	1060890	79.60	ppb		95
67) o-Xylene	8.611	91	539539	40.09	ppb		98
68) Styrene	8.642	104	415524	42.02	ppb	#	100
69) Bromofrom	8.884	173	69490	41.91	ppb	#	81
71) p-Ethyltoluene	9.574	105	686995	44.08	ppb	#	97
72) Isopropylbenzene	9.000	105	673816	41.19	ppb		97
74) 1,1,2,2-Tetrachloroethane	9.415	83	140984	41.25	ppb	#	100
75) Bromobenzene	9.354	77	245408	39.58	ppb		90
76) trans-1,4-Dichloro-2-b...	9.448	75	151949	38.73	ppb	#	60
77) 1,2,3-Trichloropropane	9.448	110	42031	41.96	ppb		100
78) n-Propylbenzene	9.448	91	835341	39.07	ppb		97
79) 2-Chlorotoluene	9.557	91	548691	39.86	ppb		98
80) 4-Chlorotoluene	9.679	91	502905	39.97	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	566638	41.67	ppb		96
82) tert-Butylbenzene	9.996	119	501080	42.30	ppb		94
83) 1,2,4-Trimethylbenzene	10.058	105	574449	41.44	ppb		93
84) sec-Butylbenzene	10.236	105	768854	43.35	ppb		98
86) 1,3-Dichlorobenzene	10.389	146	320181	42.48	ppb		97
87) p-Isopropyltoluene	10.403	119	675661	43.34	ppb		97
88) 1,4-Dichlorobenzene	10.492	146	319333	43.57	ppb		97
89) 1,2,3-Trimethylbenzene	10.528	105	594733	46.20	ppb		98
90) nitrobenzene	12.075	77	3230	48.18	ppb	#	100
91) p-Diethylbenzene	10.834	105	398288	47.72	ppb		98
92) 1,2-Dichlorobenzene	10.909	146	295583	42.20	ppb	#	88
93) n-Butylbenzene	10.862	91	792292	41.97	ppb		98
94) 1,2-Dibromo-3-chloropr...	11.822	75	25183	36.42	ppb	#	93
95) 1,2,4,5-Tetramethylben...	11.716	119	643498	45.09	ppb		97
96) 1,2,4-Trichlorobenzene	12.715	180	254959	49.11	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.876	225	141703	49.27	ppb		82
98) Naphthalene	12.999	128	569148	45.55	ppb		99
99) 1,2,3-Trichlorobenzene	13.277	180	233228	49.51	ppb		77

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407281.D
Acq On : 7 Oct 2019 10:15 am
Operator : LLJ
Sample : BJ90136-BS1
Misc : QBQV4100719A
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 07 11:17:49 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407302.D
Acq On : 7 Oct 2019 7:39 pm
Operator : LLJ
Sample : BJ90136-BSD1
Misc : QBQV4100719A
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 08 12:40:10 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	4.966	70	188950	50.00	ppb		# 0.00
41) CHLOROBENZENE-d5 (ISTD)	7.938	117	798971	50.00	ppb		# 0.00
70) 1,2-DICHLOROBENZENE-d4...	10.890	152	405506	50.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	4.696	65	260752	49.30	ppb		0.00
Spiked Amount 50.000	Range 77 - 125		Recovery =	98.60%			
54) Toluene-d8 (SURR)	6.460	98	1018336	49.34	ppb		0.00
Spiked Amount 50.000	Range 85 - 120		Recovery =	98.68%			
73) p-Bromofluorobenzene (...	9.198	95	408513	48.53	ppb		0.00
Spiked Amount 50.000	Range 76 - 130		Recovery =	97.06%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.155	85	148229	65.39	ppb		100
3) Chloromethane	1.327	50	194887	39.35	ppb	#	94
4) Vinyl Chloride	1.374	62	148655	39.46	ppb		100
5) Bromomethane	1.625	94	50339	42.13	ppb		99
6) Allyl Chloride	2.688	76	83963	56.65	ppb	#	100
7) Chloroethane	1.703	64	77774	45.49	ppb		100
8) Trichlorofluoromethane	1.895	101	197295	46.81	ppb		96
10) Freon-113	1.895	101	197295	46.42	ppb	#	91
11) 1,1-Dichloroethylene	2.351	61	190173	41.26	ppb		97
12) Acrolein	2.317	56	12368	38.31	ppb		94
13) Acetone	2.465	43	45883	34.43	ppb	#	21
14) Iodomethane	2.504	142	181586	61.76	ppb	#	20
15) Methyl Acetate	2.729	43	118528	42.57	ppb		95
16) Carbon disulfide	2.540	76	436236	58.92	ppb		100
17) tert-Butyl Alcohol (TBA)	2.974	59	72515	231.51	ppb	#	1
18) Methylene Chloride	2.816	49	254147	55.31	ppb		90
19) Acrylonitrile	3.077	53	53770	53.63	ppb	#	65
20) trans-1,2-Dichloroethy...	3.027	61	238471	56.07	ppb		95
21) tert-Butyl Methyl Ethe...	3.019	73	388980	56.16	ppb		98
22) 1,1-Dichloroethane	3.419	63	296357	53.81	ppb	#	96
23) Vinyl Acetate	3.464	43	375021	62.56	ppb		100
24) Diisopropyl ether (DIPE)	3.436	45	577633	54.03	ppb	#	88
25) Ethyl-tert-Butyl ether...	3.759	59	502712	56.42	ppb	#	97
26) cis-1,2-Dichloroethylene	3.945	61	270728	54.47	ppb		95
27) 2-Butanone	3.984	72	16317	60.41	ppb	#	1
28) 2,2-Dichloropropane	3.915	77	224736	55.10	ppb		97
29) Tetrahydrofuran	4.204	42	49952	52.35	ppb		80
30) Bromochloromethane	4.173	49	141370	53.43	ppb	#	64
31) Chloroform	4.243	83	275882	57.70	ppb	#	92
32) 1,1,1-Trichloroethane	4.360	97	254956	60.53	ppb	#	74
33) Cyclohexane	4.374	56	346106	60.38	ppb		88
34) 1,1-Dichloropropylene	4.507	75	227533	58.80	ppb		89
36) Carbon Tetrachloride	4.496	117	212357	56.65	ppb		100
37) tert-Amyl alcohol (TAA)	4.780	59	140982	479.20	ppb	#	100
38) 1,2-Dichloroethane	4.766	62	203372	54.70	ppb		99
39) Benzene	4.705	78	674337	58.30	ppb	#	87
40) tert-Amyl methyl ether...	4.783	73	476944	58.54	ppb	#	90
42) Trichloroethylene	5.303	95	175908	56.47	ppb		92
43) Methyl Cyclohexane	5.425	83	321547	57.69	ppb	#	77
44) Methyl Methacrylate	5.637	69	102217	57.56	ppb	#	99
45) Dibromomethane	5.670	93	89839	54.98	ppb		97
46) Bromodichloromethane	5.820	83	202345	50.72	ppb		97
47) 1,2-Dichloropropane	5.537	63	169910	52.31	ppb	#	99
48) 1,4-Dioxane	5.692	88	40655	1210.99	ppb		88
49) 2-Chloroethyl vinyl ether	6.099	63	106262	75.30	ppb		98
50) 2-nitropropane	6.068	43	29809	44.66	ppb	#	100
51) cis-1,3-Dichloropropene	6.235	75	250865	54.82	ppb		98
52) ethyl methacrylate	6.853	69	179428	46.61	ppb	#	100

Data Path : C:\msdchem\1\data\100719\
Data File : QV407302.D
Acq On : 7 Oct 2019 7:39 pm
Operator : LLJ
Sample : BJ90136-BSD1
Misc : QBQV4100719A
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 08 12:40:10 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4

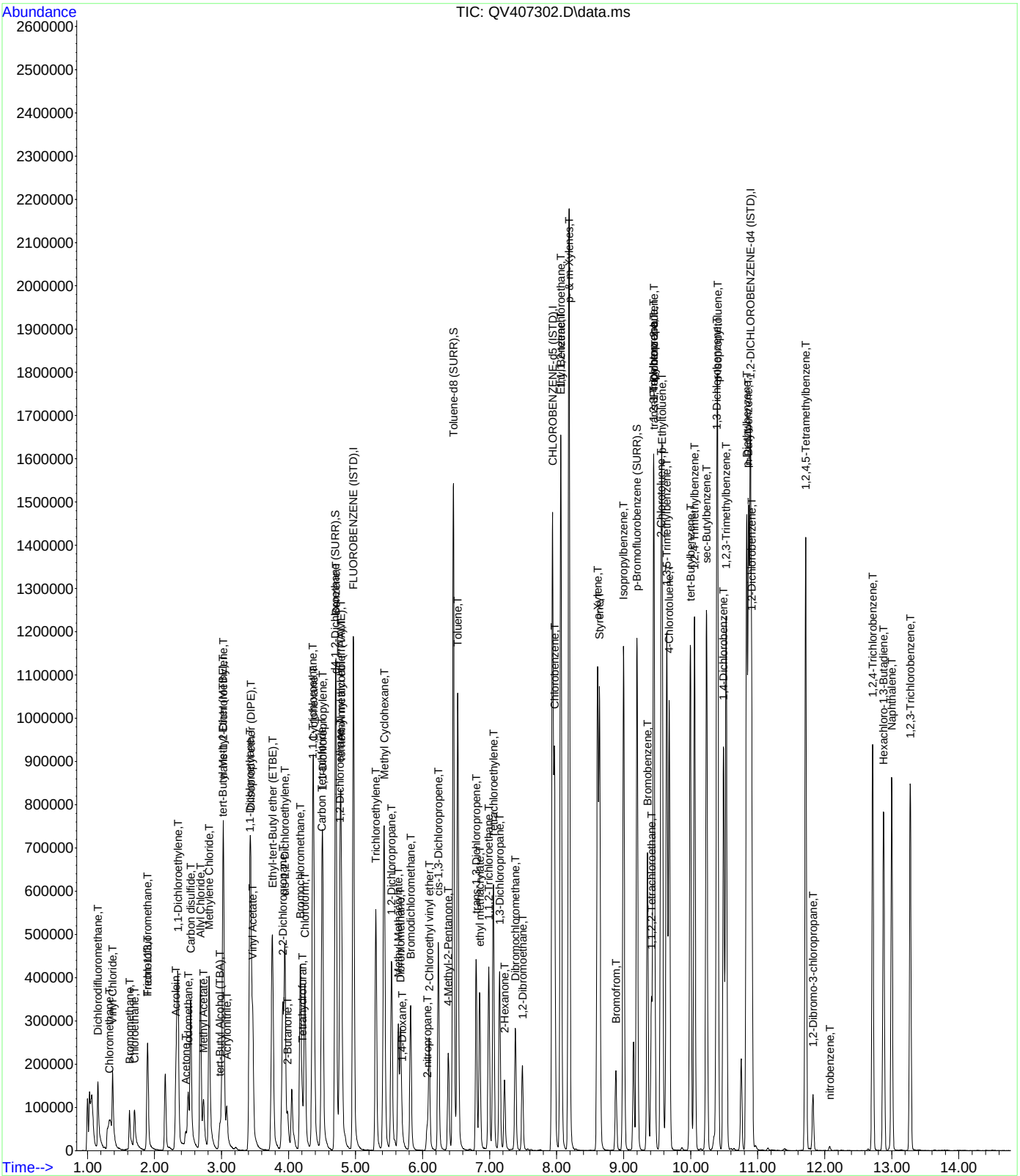
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 4-Methyl-2-Pentanone	6.382	43	156803	48.74	ppb		97
55) Toluene	6.524	91	746176	52.55	ppb		100
56) trans-1,3-Dichloropropene	6.800	75	217070	47.99	ppb		99
57) 1,1,2-Trichloroethane	6.986	97	132821	55.18	ppb		99
58) 1,3-Dichloropropane	7.150	76	229834	54.71	ppb	#	94
59) Tetrachloroethylene	7.056	166	185757	58.72	ppb	#	72
60) 2-Hexanone	7.223	43	110847	50.51	ppb		96
61) Dibromochloromethane	7.384	129	145247	55.11	ppb	#	95
62) 1,2-Dibromoethane	7.490	107	135236	58.84	ppb		99
63) Chlorobenzene	7.968	112	457397	55.79	ppb		93
64) 1,1,1,2-tetrachloroethane	8.063	131	153147	53.14	ppb	#	54
65) Ethyl Benzene	8.060	91	852395	54.04	ppb		97
66) p- & m-Xylenes	8.185	91	1298874	104.11	ppb		94
67) o-Xylene	8.611	91	666333	52.89	ppb		98
68) Styrene	8.639	104	511570	55.27	ppb	#	100
69) Bromofrom	8.884	173	83754	51.99	ppb	#	81
71) p-Ethyltoluene	9.574	105	843351	58.46	ppb	#	97
72) Isopropylbenzene	8.998	105	834604	55.12	ppb		97
74) 1,1,2,2-Tetrachloroethane	9.415	83	172885	54.66	ppb	#	100
75) Bromobenzene	9.354	77	298946	52.10	ppb		89
76) trans-1,4-Dichloro-2-b...	9.451	75	184548	50.81	ppb	#	60
77) 1,2,3-Trichloropropane	9.446	110	51312	55.34	ppb		100
78) n-Propylbenzene	9.448	91	1032533	52.17	ppb		97
79) 2-Chlorotoluene	9.557	91	670500	52.63	ppb		99
80) 4-Chlorotoluene	9.679	91	615639	52.86	ppb		83
81) 1,3,5-Trimethylbenzene	9.643	105	688760	54.72	ppb		96
82) tert-Butylbenzene	9.996	119	614352	56.03	ppb		93
83) 1,2,4-Trimethylbenzene	10.058	105	698451	54.44	ppb		93
84) sec-Butylbenzene	10.236	105	949976	57.86	ppb		98
86) 1,3-Dichlorobenzene	10.389	146	386765	55.44	ppb		98
87) p-Isopropyltoluene	10.403	119	825495	57.21	ppb		97
88) 1,4-Dichlorobenzene	10.489	146	386091	56.92	ppb		97
89) 1,2,3-Trimethylbenzene	10.528	105	720019	60.42	ppb		98
90) nitrobenzene	12.075	77	3718	57.17	ppb	#	100
91) p-Diethylbenzene	10.837	105	483561	62.59	ppb		99
92) 1,2-Dichlorobenzene	10.909	146	357305m	55.11	ppb		
93) n-Butylbenzene	10.862	91	963375	55.14	ppb		100
94) 1,2-Dibromo-3-chloropr...	11.824	75	30309	46.04	ppb	#	36
95) 1,2,4,5-Tetramethylben...	11.716	119	779707	59.03	ppb		97
96) 1,2,4-Trichlorobenzene	12.715	180	302047	62.85	ppb	#	100
97) Hexachloro-1,3-Butadiene	12.876	225	171252	64.33	ppb		83
98) Naphthalene	12.999	128	679365	58.74	ppb		99
99) 1,2,3-Trichlorobenzene	13.277	180	278708	63.91	ppb		77

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100719\
Data File : QV407302.D
Acq On : 7 Oct 2019 7:39 pm
Operator : LLJ
Sample : BJ90136-BSD1
Misc : QBQV4100719A
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 08 12:40:10 2019
Quant Method : C:\msdchem\1\methods\VQ4C0020.M
Quant Title : Volatile Organics EPA 8260C-SOIL
QLast Update : Wed Jun 05 12:22:25 2019
Response via : Initial Calibration
InstName : QVOA4



LCS RAW DATA

SDG: 19J0144
CLASS: VOA
METHOD: EPA 8260C

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616946.D
Acq On : 9 Oct 2019 11:54 pm
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BS1
Misc : QBQV6100919B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 10 08:29:58 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.633	70	338959	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1214706	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	474658	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	459038	9.78	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 97.80%				
53) Toluene-d8 (SURR)	7.172	98	1573560	9.85	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 98.50%				
73) p-Bromofluorobenzene (...	9.946	95	560206	9.77	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.70%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	302923	9.69	ppb	#	1
3) Chloromethane	1.538	50	523429	11.33	ppb	#	45
4) Vinyl Chloride	1.621	62	503464	10.93	ppb	#	48
5) Bromomethane	1.930	94	124160	4.96	ppb		66
6) Chloroethane	2.044	64	340090	11.86	ppb		90
7) Trichlorofluoromethane	2.306	101	768485	12.73	ppb		98
9) Freon-113	2.843	101	406561	10.42	ppb	#	69
10) 1,1-Dichloroethylene	2.817	61	673884	9.71	ppb		95
11) Acrolein	2.709	56	25042	8.12	ppb	#	83
12) Acetone	2.840	43	112107	7.96	ppb	#	96
13) Iodomethane	2.957	142	100252	2.17	ppb		100
14) Allyl Chloride	3.182	76	224884	9.62	ppb	#	100
15) Methyl Acetate	3.168	43	369020	12.96	ppb		99
16) Carbon disulfide	3.029	76	1009761	9.35	ppb		100
17) tert-Butyl Alcohol (TBA)	3.410	59	212647	50.57	ppb	#	1
18) Methylene Chloride	3.307	49	686613	10.80	ppb		90
19) Acrylonitrile	3.507	53	114315	9.74	ppb	#	71
20) trans-1,2-Dichloroethy...	3.585	61	648751	9.78	ppb		99
21) tert-Butyl Methyl Ethe...	3.577	73	1216504	10.36	ppb	#	88
22) 1,1-Dichloroethane	3.997	63	856934	9.84	ppb	#	97
23) Vinyl Acetate	4.047	43	850925	11.23	ppb	#	100
24) Diisopropyl ether (DIPE)	4.047	45	1827680	10.81	ppb	#	99
25) Ethyl-tert-Butyl ether...	4.392	59	1601963	10.89	ppb	#	98
26) cis-1,2-Dichloroethylene	4.534	61	742099	9.41	ppb		97
27) 2-Butanone	4.509	72	40592	8.27	ppb	#	95
28) 2,2-Dichloropropane	4.540	77	541377	7.43	ppb		92
29) Tetrahydrofuran	4.771	42	112086	9.20	ppb	#	45
30) Bromochloromethane	4.760	49	401658	9.85	ppb		92
31) Chloroform	4.862	83	776773	9.56	ppb	#	84
32) 1,1,1-Trichloroethane	5.015	97	714784	9.44	ppb		97
33) Cyclohexane	5.093	56	829586	11.44	ppb		94
34) 1,1-Dichloropropylene	5.168	75	618103	9.48	ppb		91
36) Carbon Tetrachloride	5.168	117	660244	9.47	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.363	59	353270	101.24	ppb		96
38) 1,2-Dichloroethane	5.397	62	553588	9.38	ppb		99
39) Benzene	5.347	78	1776996	10.49	ppb	#	67
40) tert-Amyl methyl ether...	5.483	73	1293542	10.92	ppb	#	100
42) Trichloroethylene	5.989	95	472842	9.33	ppb		96
43) Methyl Cyclohexane	6.217	83	644707	9.92	ppb	#	83
44) Methyl Methacrylate	6.279	69	273232	10.20	ppb	#	28
45) Dibromomethane	6.306	93	245611	9.29	ppb		97
46) Bromodichloromethane	6.482	83	581668	9.18	ppb		96
47) 1,2-Dichloropropane	6.226	63	479604	9.08	ppb	#	100
48) 1,4-Dioxane	6.293	88	59555	209.56	ppb	#	86
49) 2-nitropropane	6.663	43	110691	8.40	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.757	63	191260	11.34	ppb	#	92
51) cis-1,3-Dichloropropene	6.907	75	677847	8.87	ppb		91
52) 4-Methyl-2-Pentanone	7.035	43	365931	6.19	ppb		95

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616946.D
Acq On : 9 Oct 2019 11:54 pm
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BS1
Misc : QBQV6100919B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 10 08:29:58 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

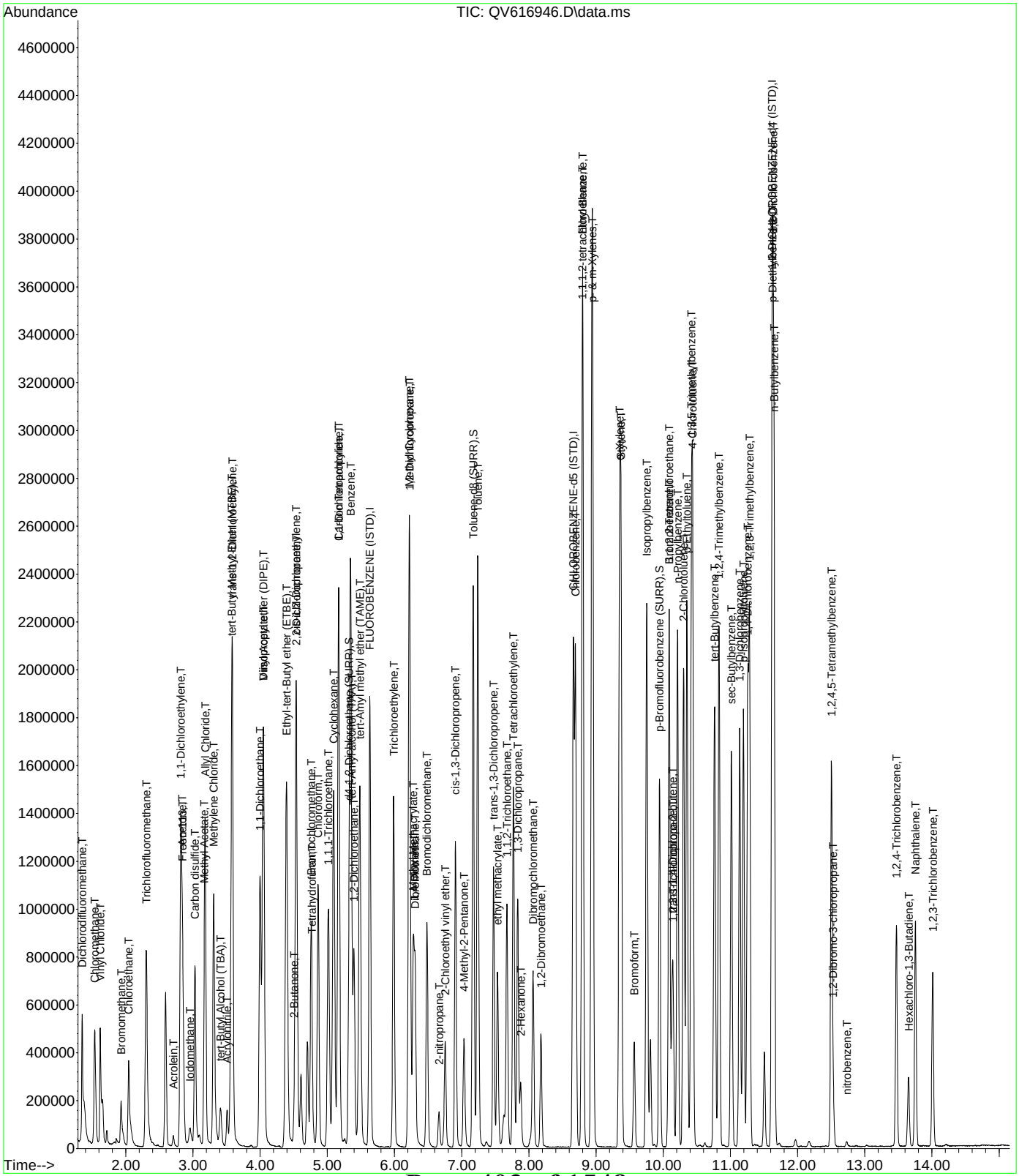
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
54) Toluene	7.241	91	1819707	10.18	ppb		99
55) trans-1,3-Dichloropropene	7.475	75	578434	8.73	ppb	#	91
56) ethyl methacrylate	7.533	69	371453	7.14	ppb	#	100
57) 1,1,2-Trichloroethane	7.673	97	330564	9.27	ppb		95
58) 1,3-Dichloropropane	7.834	76	569659	9.52	ppb	#	88
59) Tetrachloroethylene	7.770	166	468483	8.61	ppb	#	100
60) 2-Hexanone	7.881	43	202774	7.06	ppb	#	3
61) Dibromochloromethane	8.062	129	405408	9.17	ppb		98
62) 1,2-Dibromoethane	8.182	107	332319	9.53	ppb		96
63) Chlorobenzene	8.694	112	1141428	9.75	ppb		94
64) 1,1,1,2-tetrachloroethane	8.794	131	439874	9.72	ppb		97
65) Ethyl Benzene	8.802	91	1951932	10.45	ppb		98
66) p- & m-Xylenes	8.944	91	2988091	17.83	ppb		97
67) o-Xylene	9.350	91	1517484	9.95	ppb		99
68) Styrene	9.372	104	1216989	9.91	ppb		98
69) Bromoform	9.567	173	221569	8.79	ppb	#	80
71) p-Ethyltoluene	10.352	105	1649173	11.03	ppb	#	82
72) Isopropylbenzene	9.754	105	1733212	9.55	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.088	83	362275	9.36	ppb	#	69
75) Bromobenzene	10.090	77	727106	9.30	ppb		91
76) trans-1,4-Dichloro-2-b...	10.140	75	382415	8.67	ppb	#	56
77) 1,2,3-Trichloropropane	10.146	110	106733	9.27	ppb		63
78) n-Propylbenzene	10.213	91	1901440	9.75	ppb		100
79) 2-Chlorotoluene	10.302	91	1207420	9.11	ppb		98
80) 4-Chlorotoluene	10.438	91	1389953	9.27	ppb		98
81) 1,3,5-Trimethylbenzene	10.421	105	1345044	9.54	ppb	#	65
82) tert-Butylbenzene	10.764	119	1077230	7.82	ppb		97
83) 1,2,4-Trimethylbenzene	10.830	105	1357385	9.42	ppb		98
84) sec-Butylbenzene	11.014	105	1344028	10.04	ppb		99
85) 1,3-Dichlorobenzene	11.139	146	792052	9.16	ppb		99
86) p-Isopropyltoluene	11.195	119	1204776	9.62	ppb		98
87) 1,4-Dichlorobenzene	11.256	146	806577	9.18	ppb		98
88) 1,2,3-Trimethylbenzene	11.284	105	1399845	7.68	ppb		99
89) p-Diethylbenzene	11.626	105	615798	10.89	ppb	#	83
90) 1,2-Dichlorobenzene	11.640	146	737332	9.36	ppb		99
91) n-Butylbenzene	11.651	91	1072788	9.59	ppb	#	78
93) 1,2-Dibromo-3-chloropr...	12.528	75	60607	8.84	ppb		86
94) 1,2,4,5-Tetramethylben...	12.505	119	986405	9.61	ppb		99
95) nitrobenzene	12.733	77	8815m	5.44	ppb		
96) 1,2,4-Trichlorobenzene	13.471	180	320852	9.25	ppb		97
97) Hexachloro-1,3-Butadiene	13.654	225	66945	9.43	ppb		98
98) Naphthalene	13.755	128	809055	9.02	ppb		98
99) 1,2,3-Trichlorobenzene	14.016	180	250783	9.14	ppb		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616946.D
Acq On : 9 Oct 2019 11:54 pm
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BS1
Misc : QBQV6100919B
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Oct 10 08:29:58 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616947.D
Acq On : 10 Oct 2019 12:20 am
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BSD1
Misc : QBQV6100919B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 10 08:31:05 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) FLUOROBENZENE (ISTD)	5.630	70	338065	10.00	ppb	#	0.00
41) CHLOROBENZENE-d5 (ISTD)	8.663	117	1223481	10.00	ppb		0.00
70) 1,2-DICHLOROBENZENE-d4...	11.621	152	478021	10.00	ppb		0.00
System Monitoring Compounds							
35) d4-1,2-Dichloroethane ...	5.324	65	465186	9.94	ppb		0.00
Spiked Amount 10.000	Range 69 - 130		Recovery = 99.40%				
53) Toluene-d8 (SURR)	7.172	98	1585536	9.85	ppb		0.00
Spiked Amount 10.000	Range 81 - 117		Recovery = 98.50%				
73) p-Bromofluorobenzene (...	9.943	95	563402	9.76	ppb		0.00
Spiked Amount 10.000	Range 79 - 122		Recovery = 97.60%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.351	85	310366	9.95	ppb	#	1
3) Chloromethane	1.541	50	546549	11.87	ppb	#	44
4) Vinyl Chloride	1.621	62	540608	11.77	ppb	#	48
5) Bromomethane	1.930	94	147814	5.92	ppb		66
6) Chloroethane	2.044	64	361180	12.63	ppb		90
7) Trichlorofluoromethane	2.306	101	804137	13.36	ppb		98
9) Freon-113	2.843	101	422532	10.86	ppb	#	78
10) 1,1-Dichloroethylene	2.818	61	711469	10.28	ppb		96
11) Acrolein	2.706	56	27198	8.84	ppb	#	74
12) Acetone	2.843	43	117053	8.40	ppb	#	97
13) Iodomethane	2.959	142	116425	2.52	ppb		98
14) Allyl Chloride	3.182	76	233704	10.03	ppb	#	100
15) Methyl Acetate	3.168	43	286771	10.10	ppb		99
16) Carbon disulfide	3.029	76	1065785	9.89	ppb		100
17) tert-Butyl Alcohol (TBA)	3.413	59	218094	52.05	ppb	#	1
18) Methylene Chloride	3.307	49	709676	11.19	ppb		91
19) Acrylonitrile	3.508	53	115562	9.87	ppb	#	69
20) trans-1,2-Dichloroethy...	3.586	61	678855	10.26	ppb		99
21) tert-Butyl Methyl Ethe...	3.574	73	1241429	10.60	ppb	#	88
22) 1,1-Dichloroethane	3.997	63	885966	10.20	ppb		100
23) Vinyl Acetate	4.047	43	760270	10.06	ppb	#	100
24) Diisopropyl ether (DIPE)	4.047	45	1859295	11.03	ppb	#	98
25) Ethyl-tert-Butyl ether...	4.390	59	1633549	11.13	ppb	#	98
26) cis-1,2-Dichloroethylene	4.534	61	768213	9.77	ppb		98
27) 2-Butanone	4.515	72	41246	8.47	ppb	#	95
28) 2,2-Dichloropropane	4.540	77	565906	7.79	ppb	#	65
29) Tetrahydrofuran	4.774	42	115357	9.50	ppb	#	48
30) Bromochloromethane	4.757	49	408674	10.04	ppb		92
31) Chloroform	4.863	83	797506	9.84	ppb	#	84
32) 1,1,1-Trichloroethane	5.016	97	743134	9.84	ppb		98
33) Cyclohexane	5.093	56	866220	11.98	ppb		95
34) 1,1-Dichloropropylene	5.169	75	647629	9.96	ppb		91
36) Carbon Tetrachloride	5.171	117	684387	9.84	ppb	#	55
37) tert-Amyl alcohol (TAA)	5.361	59	359303	103.24	ppb		96
38) 1,2-Dichloroethane	5.397	62	576263	9.79	ppb		100
39) Benzene	5.347	78	1852371	10.96	ppb	#	67
40) tert-Amyl methyl ether...	5.486	73	1325759	11.22	ppb	#	100
42) Trichloroethylene	5.987	95	492454	9.65	ppb		96
43) Methyl Cyclohexane	6.220	83	658495	10.06	ppb	#	83
44) Methyl Methacrylate	6.279	69	262710	9.74	ppb	#	28
45) Dibromomethane	6.307	93	254191	9.55	ppb		96
46) Bromodichloromethane	6.485	83	595348	9.32	ppb		95
47) 1,2-Dichloropropane	6.223	63	495142	9.30	ppb	#	100
48) 1,4-Dioxane	6.293	88	62104	216.97	ppb	#	86
49) 2-nitropropane	6.663	43	114827	8.65	ppb	#	100
50) 2-Chloroethyl vinyl ether	6.754	63	196113	11.55	ppb	#	93
51) cis-1,3-Dichloropropene	6.907	75	691269	8.98	ppb		91
52) 4-Methyl-2-Pentanone	7.035	43	404466	6.80	ppb		95

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616947.D
Acq On : 10 Oct 2019 12:20 am
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BSD1
Misc : QBQV6100919B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 10 08:31:05 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration

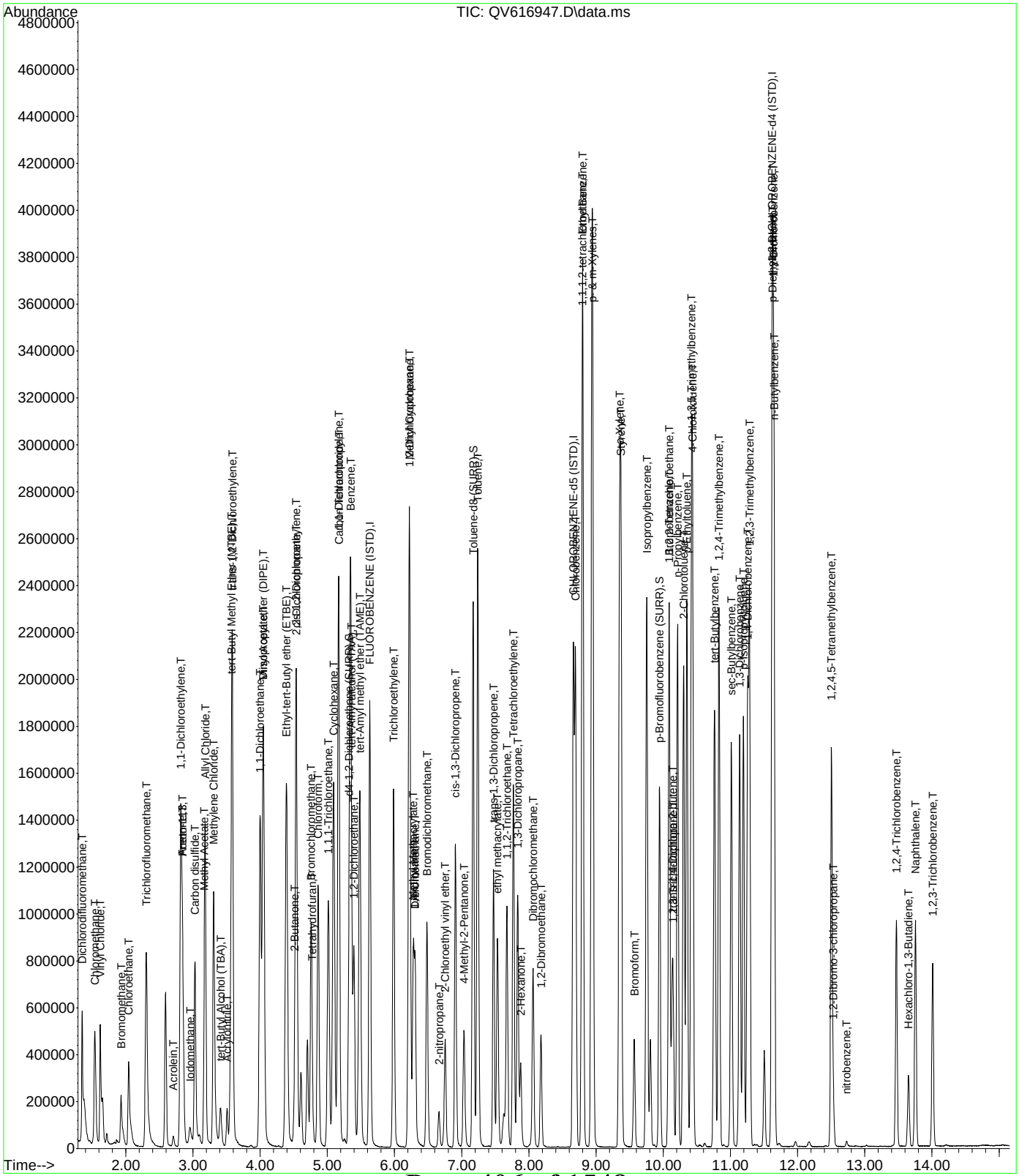
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
54) Toluene	7.239	91	1893948	10.52	ppb		99
55) trans-1,3-Dichloropropene	7.475	75	592889	8.89	ppb		99
56) ethyl methacrylate	7.531	69	471642	9.00	ppb	#	100
57) 1,1,2-Trichloroethane	7.673	97	337649	9.40	ppb		96
58) 1,3-Dichloropropane	7.834	76	589024	9.77	ppb	#	61
59) Tetrachloroethylene	7.770	166	481280	8.78	ppb	#	100
60) 2-Hexanone	7.878	43	270551	9.35	ppb	#	27
61) Dibromochloromethane	8.062	129	414185	9.30	ppb		98
62) 1,2-Dibromoethane	8.182	107	338901	9.65	ppb		94
63) Chlorobenzene	8.694	112	1171676	9.94	ppb		94
64) 1,1,1,2-tetrachloroethane	8.794	131	448230	9.83	ppb		98
65) Ethyl Benzene	8.802	91	2014535	10.71	ppb		99
66) p- & m-Xylenes	8.947	91	3087077	18.32	ppb		97
67) o-Xylene	9.350	91	1564238	10.18	ppb		100
68) Styrene	9.373	104	1245877	10.07	ppb		98
69) Bromoform	9.570	173	227901	8.98	ppb		99
71) p-Ethyltoluene	10.352	105	1688887	11.22	ppb	#	81
72) Isopropylbenzene	9.757	105	1787259	9.78	ppb		98
74) 1,1,2,2-Tetrachloroethane	10.090	83	366150	9.40	ppb	#	98
75) Bromobenzene	10.088	77	739380	9.39	ppb		91
76) trans-1,4-Dichloro-2-b...	10.140	75	389258	8.77	ppb	#	56
77) 1,2,3-Trichloropropane	10.146	110	110267	9.51	ppb		63
78) n-Propylbenzene	10.216	91	1961799	9.99	ppb		100
79) 2-Chlorotoluene	10.305	91	1245699	9.34	ppb		98
80) 4-Chlorotoluene	10.438	91	1438434	9.53	ppb		98
81) 1,3,5-Trimethylbenzene	10.421	105	1402664	9.88	ppb	#	64
82) tert-Butylbenzene	10.764	119	1106780	7.98	ppb		97
83) 1,2,4-Trimethylbenzene	10.830	105	1389451	9.57	ppb		98
84) sec-Butylbenzene	11.014	105	1391783	10.32	ppb		99
85) 1,3-Dichlorobenzene	11.139	146	806363	9.26	ppb		99
86) p-Isopropyltoluene	11.192	119	1241796	9.84	ppb		98
87) 1,4-Dichlorobenzene	11.256	146	820669	9.28	ppb		98
88) 1,2,3-Trimethylbenzene	11.284	105	1421331	7.75	ppb		99
89) p-Diethylbenzene	11.626	105	631363	11.09	ppb	#	82
90) 1,2-Dichlorobenzene	11.643	146	758574	9.56	ppb	#	87
91) n-Butylbenzene	11.651	91	1105430	9.81	ppb	#	79
93) 1,2-Dibromo-3-chloropr...	12.530	75	62444	9.04	ppb		87
94) 1,2,4,5-Tetramethylben...	12.503	119	1015325	9.82	ppb		99
95) nitrobenzene	12.728	77	9631m	5.91	ppb		
96) 1,2,4-Trichlorobenzene	13.471	180	328603	9.40	ppb		97
97) Hexachloro-1,3-Butadiene	13.649	225	70531	9.87	ppb		98
98) Naphthalene	13.755	128	840390	9.35	ppb		98
99) 1,2,3-Trichlorobenzene	14.011	180	257802	9.33	ppb		95

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\100819A\
Data File : QV616947.D
Acq On : 10 Oct 2019 12:20 am
InstName : MSVOA6
Operator : LLJ
Sample : BJ90578-BSD1
Misc : QBQV6100919B
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 10 08:31:05 2019
Quant Method : C:\msdchem\2\METHODS\VQ6LO061.M
Quant Title : Volatile Organics EPA 8260C-Waters
QLast Update : Tue Oct 08 20:39:16 2019
Response via : Initial Calibration



BENCHSHEETS

SDG: 19J0144

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90131

Preparation Date: 10/04/2019 06:52

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:51:36PM**

Matrix: Soil **Preparation: EPA 5035A** **Surrogate used: Y17H090 1 ul**

Lab Number	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	Comments
19J0076-04 B	Volatile Organics, 8260 - Comprehensive	5.8	5				
19J0076-05 B	Volatile Organics, 8260 - Comprehensive	5.74	5				
19J0076-06 B	Volatile Organics, 8260 - Comprehensive	4.72	5				
19J0076-07 B	Volatile Organics, 8260 - Comprehensive	6.38	5				
19J0077-03 B	Volatile Organics, 8260 - Comprehensive	5.36	5				
19J0077-04 B	Volatile Organics, 8260 - Comprehensive	6.1	5				
19J0077-05 B	Volatile Organics, 8260 - Comprehensive	6.32	5				
19J0077-06 B	Volatile Organics, 8260 - Comprehensive	6.45	5				
19J0115-01 C	Volatile Organics, 8260 - Comprehensive	4.75	5				
19J0115-02 C	Volatile Organics, 8260 - Comprehensive	5.05	5				
19J0144-01 B	VOA, 8260 MASTER	5.68	5				
19J0144-06 B	VOA, 8260 MASTER	5.79	5				
19J0148-01 B	Volatile Organics, 8260 - Comprehensive	4.04	5				
19J0148-01 B	Volatile Organics, Tentatively Identified Cmpds	4.04	5				
19J0149-01 B	Volatile Organics, 8260 - Comprehensive	5.98	5				
19J0149-01 B	Volatile Organics, Tentatively Identified Cmpds	5.98	5				
BJ90131-BLK1	QC	5	5				
BJ90131-BS1	QC	5	5	Y19I366		5	
BJ90131-BSD1	QC	5	5	Y19I366		5	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y17B088	VOA - Ottawa Sand Mix	051215			

Preparations Performed by **TMP** **Date:** **10/04/2019 06:52**

BENCHSHEETS

SDG: 19J0144

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90132

Preparation Date: 10/04/2019 06:55

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:24:39AM**

Matrix: Soil **Preparation: EPA 5035A** **Surrogate used: Y17H090 1 ul**

Lab Number	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	Comments
19J0027-08 E	Volatile Organics, TCL (Target Compound List)	5	5				
19J0068-07 E	VOA, 8260 MASTER	5	5				
19J0144-03 B	VOA, 8260 MASTER	5.35	5				
19J0144-04 B	VOA, 8260 MASTER	5.64	5				
19J0144-05 B	VOA, 8260 MASTER	5.34	5				
BJ90132-BLK1	QC	5	5				
BJ90132-BLK2	QC	5	5				
BJ90132-BS1	QC	5	5	Y19I366		5	
BJ90132-BSD1	QC	5	5	Y19I366		5	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y17B088	VOA - Ottawa Sand Mix	051215			

Preparations Performed by **TMP** **Date:** **10/04/2019 06:55**

BENCHSHEETS

SDG: 19J0144

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90136

Preparation Date: 10/07/2019 06:49

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:52:08PM**

Matrix: Soil **Preparation: EPA 5035A** **Surrogate used: Y17H090 1 ul**

Lab Number	Analysis	Initial (g)	Final (ml)	Spike ID	Source ID	ul Spike	Comments
19J0095-03 A	Volatile Organics, 8260 - Comprehensive	5	5				From BJ90368 by TMP on 1
19J0144-02 D	VOA, 8260 MASTER	6.21	5				
19J0159-03 A	Volatile Organics, CP-51 (formerly STARS) Lis	5	5				From BJ90376 by TMP on 1
19J0210-01 C	Volatile Organics, Tentatively Identified Cmpds	5.41	5				
19J0210-01 C	Volatile Organics, 8260 - Comprehensive	5.41	5				
BJ90136-BLK1	QC	5	5				
BJ90136-BS1	QC	5	5	Y19I366		5	
BJ90136-BSD1	QC	5	5	Y19I366		5	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y18B221	Antifoam B Silicone Emulsion	0000171560			

Preparations Performed by **TMP** **Date:** **10/07/2019 06:43**

BENCHSHEETS

SDG: 19J0144

CLASS: VOA

METHOD: EPA 8260C

PREPARATION BENCH SHEET-AQUEOUS: BJ90578

Prepared: **10/09/2019 06:01**

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:56:35PM

Matrix: Water **Preparation EPA 5030B** **Surrogate used: Y17H086** **1** **ul**

Lab Number	Analysis	Initial (mL)	Final (mL)	Spike 1 ID	ul Spike 1	Spike 2 ID	ul Spike 2	Source ID	pH Data			Decanted Y/N	Comments
									Initial	Acid	Basic		
19I1343-19 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-20 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-25 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-26 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-27 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-29 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-30 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-31 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-33 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-34 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-36 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-37 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1343-38 B	VOA, 8260 LOW M	25	25							<2	NA		
19I1357-15 B	VOA, 8260 LOW M	25	25							<2	NA		
19J0038-01 B	Volatile Organics, (	25	25							<2	NA		
19J0038-02 B	Volatile Organics, (	25	25							<2	NA		
19J0038-03 B	Volatile Organics, (	25	25							<2	NA		
19J0115-03 A	Volatile Organics, 8	25	25							<2	NA		
19J0144-07 A	VOA, 8260 LOW M	25	25							<2	NA		
BJ90578-BLK1	QC	25	25										
BJ90578-BS1	QC	25	25	Y19I365	5								
BJ90578-BSD1	QC	25	25	Y19I365	5								

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparation Performed by **LLJ** **Date:** **10/09/2019 06:01**

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: SVOA
METHOD: EPA 8270D

DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0808 Instrument: BNA#6

Calibration: YJ90006

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0808-CCV1)			Lab File ID: SV626728.D		Analyzed: 10/07/19 10:07			
SURR: 2-Fluorophenol	30.0	99.8	0 - 200	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	30.0	100	0 - 200	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	30.0	105	0 - 200	5.41	5.42	-0.0100	+/-1.00	
SURR: 2-Fluorobiphenyl	30.0	91.3	0 - 200	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	30.0	126	0 - 200	8.47	8.47	0.0000	+/-1.00	
SURR: Terphenyl-d14	30.0	103	0 - 200	12.63	12.63375	-0.0037	+/-1.00	
Blank (BJ90324-BLK1)			Lab File ID: SV626729.D		Analyzed: 10/07/19 10:38			
SURR: 2-Fluorophenol	1.66	61.7	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.66	59.8	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.831	72.9	22 - 108	5.41	5.42	-0.0100	+/-1.00	
SURR: 2-Fluorobiphenyl	0.831	66.8	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.66	70.5	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.831	69.6	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
LCS (BJ90324-BS1)			Lab File ID: SV626730.D		Analyzed: 10/07/19 11:10			
SURR: 2-Fluorophenol	1.66	62.0	20 - 108	4.04	4.04	0.0000	+/-1.00	
SURR: Phenol-d5	1.66	58.7	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.831	73.7	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.831	64.3	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.66	74.8	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.831	70.6	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
SB27_6-8 (19J0144-04)			Lab File ID: SV626734.D		Analyzed: 10/07/19 13:17			
SURR: 2-Fluorophenol	1.97	59.8	20 - 108	4.04	4.04	0.0000	+/-1.00	
SURR: Phenol-d5	1.97	58.5	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.986	70.3	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.986	64.8	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.97	70.6	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.986	66.7	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
SB28_0-2 (19J0144-05)			Lab File ID: SV626735.D		Analyzed: 10/07/19 13:48			
SURR: 2-Fluorophenol	1.78	45.7	20 - 108	4.04	4.04	0.0000	+/-1.00	
SURR: Phenol-d5	1.78	44.4	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.890	55.1	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.890	52.2	21 - 113	6.8	6.8	0.0000	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.78	55.8	19 - 110	8.47	8.47	0.0000	+/-1.00	
SURR: Terphenyl-d14	0.890	53.0	24 - 116	12.63	12.63375	-0.0037	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0808	Instrument:	BNA#6
		Calibration:	YJ90006

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB28_5.5-7.5 (19J0144-06)			Lab File ID: SV626736.D		Analyzed: 10/07/19 14:20			
SURR: 2-Fluorophenol	1.79	53.2	20 - 108	4.04	4.04	0.0000	+/-1.00	
SURR: Phenol-d5	1.79	52.6	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.893	61.6	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.893	54.2	21 - 113	6.8	6.8	0.0000	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.79	58.7	19 - 110	8.47	8.47	0.0000	+/-1.00	
SURR: Terphenyl-d14	0.893	53.8	24 - 116	12.62	12.63375	-0.0137	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0832 Instrument: BNA#6

Calibration: YJ90006

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0832-CCV1)			Lab File ID: SV626751.D		Analyzed: 10/08/19 08:57			
SURR: 2-Fluorophenol	30.0	98.9	0 - 200	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	30.0	98.9	0 - 200	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	30.0	106	0 - 200	5.41	5.42	-0.0100	+/-1.00	
SURR: 2-Fluorobiphenyl	30.0	95.9	0 - 200	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	30.0	126	0 - 200	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	30.0	103	0 - 200	12.62	12.63375	-0.0137	+/-1.00	
Blank (BJ90406-BLK1)			Lab File ID: SV626752.D		Analyzed: 10/08/19 09:29			
SURR: 2-Fluorophenol	1.66	53.4	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.66	52.2	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.831	61.8	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.831	59.8	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.66	64.1	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.831	65.8	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
LCS (BJ90406-BS1)			Lab File ID: SV626753.D		Analyzed: 10/08/19 10:01			
SURR: 2-Fluorophenol	1.66	55.7	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.66	53.1	23 - 114	4.74	4.74	0.0000	+/-1.00	
SURR: Nitrobenzene-d5	0.831	63.4	22 - 108	5.41	5.42	-0.0100	+/-1.00	
SURR: 2-Fluorobiphenyl	0.831	58.1	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.66	68.7	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.831	61.8	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
SB19_0-2 (19J0144-01)			Lab File ID: SV626754.D		Analyzed: 10/08/19 10:32			
SURR: 2-Fluorophenol	1.74	56.7	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.74	50.4	23 - 114	4.73	4.74	-0.0100	+/-1.00	
SURR: Nitrobenzene-d5	0.871	59.1	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.871	61.0	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.74	61.8	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.871	62.3	24 - 116	12.62	12.63375	-0.0137	+/-1.00	
SB19_8-9 (19J0144-02)			Lab File ID: SV626755.D		Analyzed: 10/08/19 11:04			
SURR: 2-Fluorophenol	1.88	65.4	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.88	61.4	23 - 114	4.73	4.74	-0.0100	+/-1.00	
SURR: Nitrobenzene-d5	0.938	75.5	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.938	72.3	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.88	73.8	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.938	75.1	24 - 116	12.62	12.63375	-0.0137	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0832	Instrument:	BNA#6
		Calibration:	YJ90006

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB27_0-2 (19J0144-03)			Lab File ID: SV626756.D		Analyzed: 10/08/19 11:35			
SURR: 2-Fluorophenol	1.75	59.0	20 - 108	4.03	4.04	-0.0100	+/-1.00	
SURR: Phenol-d5	1.75	55.3	23 - 114	4.73	4.74	-0.0100	+/-1.00	
SURR: Nitrobenzene-d5	0.877	68.8	22 - 108	5.42	5.42	0.0000	+/-1.00	
SURR: 2-Fluorobiphenyl	0.877	64.2	21 - 113	6.79	6.8	-0.0100	+/-1.00	
SURR: 2,4,6-Tribromophenol	1.75	69.2	19 - 110	8.46	8.47	-0.0100	+/-1.00	
SURR: Terphenyl-d14	0.877	63.8	24 - 116	12.62	12.63375	-0.0137	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90324	Laboratory ID:	BJ90324-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
2-Methylphenol	0.831	0.469	56.5	10 - 136
3- & 4-Methylphenols	0.831	0.431	51.8	29 - 103
Acenaphthene	0.831	0.522	62.8	30 - 121
Acenaphthylene	0.831	0.506	60.9	30 - 115
Anthracene	0.831	0.586	70.5	34 - 118
Benzo(a)anthracene	0.831	0.587	70.6	32 - 122
Benzo(a)pyrene	0.831	0.573	69.0	29 - 133
Benzo(b)fluoranthene	0.831	0.609	73.3	25 - 133
Benzo(g,h,i)perylene	0.831	0.579	69.8	10 - 143
Benzo(k)fluoranthene	0.831	0.541	65.1	25 - 128
Chrysene	0.831	0.559	67.3	32 - 123
Dibenzo(a,h)anthracene	0.831	0.584	70.3	10 - 136
Dibenzofuran	0.831	0.525	63.2	29 - 121
Fluoranthene	0.831	0.582	70.1	33 - 122
Fluorene	0.831	0.548	65.9	29 - 123
Hexachlorobenzene	0.831	0.568	68.4	21 - 124
Indeno(1,2,3-cd)pyrene	0.831	0.569	68.5	10 - 135
Naphthalene	0.831	0.552	66.5	23 - 124
Pentachlorophenol	0.831	0.630	75.8	10 - 139
Phenanthrene	0.831	0.568	68.4	33 - 123
Phenol	0.831	0.487	58.6	23 - 115
Pyrene	0.831	0.588	70.8	32 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90406	Laboratory ID:	BJ90406-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
2-Methylphenol	0.831	0.436	52.5	10 - 136
3- & 4-Methylphenols	0.831	0.374	45.0	29 - 103
Acenaphthene	0.831	0.485	58.4	30 - 121
Acenaphthylene	0.831	0.470	56.6	30 - 115
Anthracene	0.831	0.522	62.8	34 - 118
Benzo(a)anthracene	0.831	0.533	64.2	32 - 122
Benzo(a)pyrene	0.831	0.511	61.6	29 - 133
Benzo(b)fluoranthene	0.831	0.542	65.2	25 - 133
Benzo(g,h,i)perylene	0.831	0.515	62.0	10 - 143
Benzo(k)fluoranthene	0.831	0.492	59.2	25 - 128
Chrysene	0.831	0.500	60.2	32 - 123
Dibenzo(a,h)anthracene	0.831	0.544	65.4	10 - 136
Dibenzofuran	0.831	0.479	57.7	29 - 121
Fluoranthene	0.831	0.513	61.8	33 - 122
Fluorene	0.831	0.481	57.9	29 - 123
Hexachlorobenzene	0.831	0.476	57.3	21 - 124
Indeno(1,2,3-cd)pyrene	0.831	0.519	62.4	10 - 135
Naphthalene	0.831	0.487	58.6	23 - 124
Pentachlorophenol	0.831	0.560	67.4	10 - 139
Phenanthrene	0.831	0.504	60.6	33 - 123
Phenol	0.831	0.506	60.9	23 - 115
Pyrene	0.831	0.519	62.5	32 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90324 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB27_6-8	19J0144-04	SV626734.D	10/04/19 13:58	
SB28_0-2	19J0144-05	SV626735.D	10/04/19 13:58	
SB28_5.5-7.5	19J0144-06	SV626736.D	10/04/19 13:58	
Blank	BJ90324-BLK1	SV626729.D	10/04/19 13:58	
LCS	BJ90324-BS1	SV626730.D	10/04/19 13:58	250 uL PARATHION ADDED

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90406 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	SV626754.D	10/07/19 14:12	
SB19_8-9	19J0144-02	SV626755.D	10/07/19 14:12	
SB27_0-2	19J0144-03	SV626756.D	10/07/19 14:12	
Blank	BJ90406-BLK1	SV626752.D	10/07/19 14:12	
LCS	BJ90406-BS1	SV626753.D	10/07/19 14:12	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90324-BLK1	File ID:	SV626729.D
Prepared:	10/04/19 13:58	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/07/19 10:38	Instrument:	BNA#6		
Batch:	BJ90324	Sequence:	Y9J0808	Calibration:	YJ90006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
95-48-7	2-Methylphenol	0.0416	U
65794-96-9	3- & 4-Methylphenols	0.0416	U
83-32-9	Acenaphthene	0.0416	U
208-96-8	Acenaphthylene	0.0416	U
120-12-7	Anthracene	0.0416	U
56-55-3	Benzo(a)anthracene	0.0416	U
50-32-8	Benzo(a)pyrene	0.0416	U
205-99-2	Benzo(b)fluoranthene	0.0416	U
191-24-2	Benzo(g,h,i)perylene	0.0416	U
207-08-9	Benzo(k)fluoranthene	0.0416	U
218-01-9	Chrysene	0.0416	U
53-70-3	Dibenzo(a,h)anthracene	0.0416	U
132-64-9	Dibenzofuran	0.0416	U
206-44-0	Fluoranthene	0.0416	U
86-73-7	Fluorene	0.0416	U
118-74-1	Hexachlorobenzene	0.0416	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0416	U
91-20-3	Naphthalene	0.0416	U
87-86-5	Pentachlorophenol	0.0416	U
85-01-8	Phenanthrene	0.0416	U
108-95-2	Phenol	0.0416	U
129-00-0	Pyrene	0.0416	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2,4,6-Tribromophenol	1.66	1.17	70.5	19 - 110	
SURR: 2-Fluorobiphenyl	0.831	0.555	66.8	21 - 113	
SURR: 2-Fluorophenol	1.66	1.02	61.7	20 - 108	
SURR: Nitrobenzene-d5	0.831	0.606	72.9	22 - 108	
SURR: Phenol-d5	1.66	0.993	59.8	23 - 114	
SURR: Terphenyl-d14	0.831	0.578	69.6	24 - 116	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90324-BLK1	File ID:	SV626729.D
Prepared:	10/04/19 13:58	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/07/19 10:38	Instrument:	BNA#6		
Batch:	BJ90324	Sequence:	Y9J0808	Calibration:	YJ90006

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1283884	4.98	1310727	4.98	
ISTD: Acenaphthene-d10	2723234	7.48	3140982	7.48	
ISTD: Chrysene-d12	4872214	14.93	5986891	14.94	
ISTD: Naphthalene-d8	4837191	5.93	5413365	5.93	
ISTD: Perylene-d12	5654623	18.05	7460584	18.05	
ISTD: Phenanthrene-d10	5212652	9.48	5811112	9.49	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90406-BLK1	File ID:	SV626752.D
Prepared:	10/07/19 14:12	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/08/19 09:29	Instrument:	BNA#6		
Batch:	BJ90406	Sequence:	Y9J0832	Calibration:	YJ90006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
95-48-7	2-Methylphenol	0.0416	U
65794-96-9	3- & 4-Methylphenols	0.0416	U
83-32-9	Acenaphthene	0.0416	U
208-96-8	Acenaphthylene	0.0416	U
120-12-7	Anthracene	0.0416	U
56-55-3	Benzo(a)anthracene	0.0416	U
50-32-8	Benzo(a)pyrene	0.0416	U
205-99-2	Benzo(b)fluoranthene	0.0416	U
191-24-2	Benzo(g,h,i)perylene	0.0416	U
207-08-9	Benzo(k)fluoranthene	0.0416	U
218-01-9	Chrysene	0.0416	U
53-70-3	Dibenzo(a,h)anthracene	0.0416	U
132-64-9	Dibenzofuran	0.0416	U
206-44-0	Fluoranthene	0.0416	U
86-73-7	Fluorene	0.0416	U
118-74-1	Hexachlorobenzene	0.0416	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0416	U
91-20-3	Naphthalene	0.0416	U
87-86-5	Pentachlorophenol	0.0416	U
85-01-8	Phenanthrene	0.0416	U
108-95-2	Phenol	0.0416	U
129-00-0	Pyrene	0.0416	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2,4,6-Tribromophenol	1.66	1.06	64.1	19 - 110	
SURR: 2-Fluorobiphenyl	0.831	0.496	59.8	21 - 113	
SURR: 2-Fluorophenol	1.66	0.888	53.4	20 - 108	
SURR: Nitrobenzene-d5	0.831	0.513	61.8	22 - 108	
SURR: Phenol-d5	1.66	0.868	52.2	23 - 114	
SURR: Terphenyl-d14	0.831	0.547	65.8	24 - 116	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90406-BLK1	File ID:	SV626752.D
Prepared:	10/07/19 14:12	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/08/19 09:29	Instrument:	BNA#6		
Batch:	BJ90406	Sequence:	Y9J0832	Calibration:	YJ90006

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1344493	4.98	1333046	4.98	
ISTD: Acenaphthene-d10	3003188	7.48	3115909	7.48	
ISTD: Chrysene-d12	5381602	14.93	5994949	14.93	
ISTD: Naphthalene-d8	5319048	5.93	5525424	5.93	
ISTD: Perylene-d12	6430176	18.04	7224087	18.05	
ISTD: Phenanthrene-d10	5701826	9.48	5913317	9.48	

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	SV626689.D	Injection Date:	10/03/19
Instrument ID:	BNA#6	Injection Time:	11:22
Sequence:	Y9J0432	Lab Sample ID:	Y9J0432-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	31.4	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	44.2	PASS
70	Less than 2% of 69	0.596	PASS
127	10 - 80% of 198	55.2	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.99	PASS
275	10 - 60% of 198	30.8	PASS
365	1 - 100% of 198	4.7	PASS
441	0.01 - 24% of 442	16.1	PASS
442	50 - 100% of 198	86.2	PASS
443	15 - 24% of 442	20.9	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	SV626727.D	Injection Date:	10/07/19
Instrument ID:	BNA#6	Injection Time:	09:35
Sequence:	Y9J0808	Lab Sample ID:	Y9J0808-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	28.3	PASS
68	Less than 2% of 69	0	PASS
69	Less than 100% of 198	42.5	PASS
70	Less than 2% of 69	0.441	PASS
127	10 - 80% of 198	53.9	PASS
197	Less than 2% of 198	0	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.56	PASS
275	10 - 60% of 198	27.4	PASS
365	1 - 100% of 198	4.43	PASS
441	0.01 - 24% of 442	14.7	PASS
442	50 - 100% of 198	68.6	PASS
443	15 - 24% of 442	20.3	PASS

FORM V **MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK**

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Lab File ID:	SV626750.D	Injection Date:	10/08/19
Instrument ID:	BNA#6	Injection Time:	08:25
Sequence:	Y9J0832	Lab Sample ID:	Y9J0832-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10 - 80% of 198	31.5	PASS
68	Less than 2% of 69	0.673	PASS
69	Less than 100% of 198	55.8	PASS
70	Less than 2% of 69	1.17	PASS
127	10 - 80% of 198	56	PASS
197	Less than 2% of 198	0.341	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	7.15	PASS
275	10 - 60% of 198	26.2	PASS
365	1 - 100% of 198	3.86	PASS
441	0.01 - 24% of 442	15.2	PASS
442	50 - 100% of 198	54.5	PASS
443	15 - 24% of 442	21.7	PASS

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0432	Instrument:	BNA#6
		Calibration:	YJ90006

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0432-TUN1	SV626689.D	10/03/19 11:22
Cal Standard	Y9J0432-CAL1	SV626690.D	10/03/19 13:29
Cal Standard	Y9J0432-CAL2	SV626691.D	10/03/19 14:01
Cal Standard	Y9J0432-CAL3	SV626692.D	10/03/19 14:33
Cal Standard	Y9J0432-CAL4	SV626693.D	10/03/19 15:04
Cal Standard	Y9J0432-CAL5	SV626694.D	10/03/19 15:36
Cal Standard	Y9J0432-CAL6	SV626695.D	10/03/19 16:07
Cal Standard	Y9J0432-CAL7	SV626696.D	10/03/19 16:39
Cal Standard	Y9J0432-CAL8	SV626697.D	10/03/19 17:11
Secondary Cal Check	Y9J0432-SCV1	SV626698.D	10/03/19 17:43

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0808	Instrument:	BNA#6
		Calibration:	YJ90006

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0808-TUN1	SV626727.D	10/07/19 09:35
Calibration Check	Y9J0808-CCV1	SV626728.D	10/07/19 10:07
Blank	BJ90324-BLK1	SV626729.D	10/07/19 10:38
LCS	BJ90324-BS1	SV626730.D	10/07/19 11:10
SB27_6-8	19J0144-04	SV626734.D	10/07/19 13:17
SB28_0-2	19J0144-05	SV626735.D	10/07/19 13:48
SB28_5.5-7.5	19J0144-06	SV626736.D	10/07/19 14:20

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0832	Instrument:	BNA#6
		Calibration:	YJ90006

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	Y9J0832-TUN1	SV626750.D	10/08/19 08:25
Calibration Check	Y9J0832-CCV1	SV626751.D	10/08/19 08:57
Blank	BJ90406-BLK1	SV626752.D	10/08/19 09:29
LCS	BJ90406-BS1	SV626753.D	10/08/19 10:01
SB19_0-2	19J0144-01	SV626754.D	10/08/19 10:32
SB19_8-9	19J0144-02	SV626755.D	10/08/19 11:04
SB27_0-2	19J0144-03	SV626756.D	10/08/19 11:35

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0432 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J0432-CAL1)			Lab File ID: SV626690.D			Analyzed: 10/03/19 13:29			
ISTD: 1,4-Dichlorobenzene-d4	1110464	4.99	1142864	4.99	97	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4298402	5.93	4867111	5.93	88	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2435799	7.48	2793654	7.49	87	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	4728107	9.49	5450926	9.49	87	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4513428	14.94	5289144	14.97	85	50 - 200	-0.0300	+/-0.50	
ISTD: Perylene-d12	5427163	18.05	6095655	18.07	89	50 - 200	-0.0200	+/-0.50	
Cal Standard (Y9J0432-CAL2)			Lab File ID: SV626691.D			Analyzed: 10/03/19 14:01			
ISTD: 1,4-Dichlorobenzene-d4	1087697	4.99	1142864	4.99	95	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4221553	5.93	4867111	5.93	87	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2475847	7.48	2793654	7.49	89	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	4785792	9.49	5450926	9.49	88	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4640046	14.94	5289144	14.97	88	50 - 200	-0.0300	+/-0.50	
ISTD: Perylene-d12	5478347	18.05	6095655	18.07	90	50 - 200	-0.0200	+/-0.50	
Cal Standard (Y9J0432-CAL3)			Lab File ID: SV626692.D			Analyzed: 10/03/19 14:33			
ISTD: 1,4-Dichlorobenzene-d4	1032249	4.99	1142864	4.99	90	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4148178	5.93	4867111	5.93	85	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2375192	7.48	2793654	7.49	85	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	4512991	9.49	5450926	9.49	83	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4355677	14.94	5289144	14.97	82	50 - 200	-0.0300	+/-0.50	
ISTD: Perylene-d12	5217146	18.06	6095655	18.07	86	50 - 200	-0.0100	+/-0.50	
Cal Standard (Y9J0432-CAL4)			Lab File ID: SV626693.D			Analyzed: 10/03/19 15:04			
ISTD: 1,4-Dichlorobenzene-d4	1056374	4.99	1142864	4.99	92	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4298631	5.93	4867111	5.93	88	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2493210	7.48	2793654	7.49	89	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	4807744	9.49	5450926	9.49	88	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4858699	14.95	5289144	14.97	92	50 - 200	-0.0200	+/-0.50	
ISTD: Perylene-d12	5755732	18.06	6095655	18.07	94	50 - 200	-0.0100	+/-0.50	
Cal Standard (Y9J0432-CAL5)			Lab File ID: SV626694.D			Analyzed: 10/03/19 15:36			
ISTD: 1,4-Dichlorobenzene-d4	1103017	4.99	1142864	4.99	97	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4387389	5.93	4867111	5.93	90	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2549049	7.48	2793654	7.49	91	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	5067717	9.49	5450926	9.49	93	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5093289	14.95	5289144	14.97	96	50 - 200	-0.0200	+/-0.50	
ISTD: Perylene-d12	6079511	18.06	6095655	18.07	100	50 - 200	-0.0100	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0432 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9J0432-CAL6)			Lab File ID: SV626695.D			Analyzed: 10/03/19 16:07			
ISTD: 1,4-Dichlorobenzene-d4	1019309	4.99	1142864	4.99	89	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4195628	5.93	4867111	5.93	86	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2349040	7.48	2793654	7.49	84	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	4473824	9.49	5450926	9.49	82	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4450402	14.96	5289144	14.97	84	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	5371359	18.06	6095655	18.07	88	50 - 200	-0.0100	+/-0.50	
Cal Standard (Y9J0432-CAL7)			Lab File ID: SV626696.D			Analyzed: 10/03/19 16:39			
ISTD: 1,4-Dichlorobenzene-d4	1142864	4.99	1142864	4.99	100	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4867111	5.93	4867111	5.93	100	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2793654	7.49	2793654	7.49	100	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5450926	9.49	5450926	9.49	100	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5289144	14.97	5289144	14.97	100	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	6095655	18.07	6095655	18.07	100	50 - 200	0.0000	+/-0.50	
Cal Standard (Y9J0432-CAL8)			Lab File ID: SV626697.D			Analyzed: 10/03/19 17:11			
ISTD: 1,4-Dichlorobenzene-d4	1039927	4.99	1142864	4.99	91	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4568395	5.93	4867111	5.93	94	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2477257	7.49	2793654	7.49	89	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	4921869	9.49	5450926	9.49	90	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4896155	14.97	5289144	14.97	93	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	5857063	18.07	6095655	18.07	96	50 - 200	0.0000	+/-0.50	
Secondary Cal Check (Y9J0432-SCV1)			Lab File ID: SV626698.D			Analyzed: 10/03/19 17:43			
ISTD: 1,4-Dichlorobenzene-d4	1051564	4.99	1142864	4.99	92	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4137183	5.93	4867111	5.93	85	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2416239	7.49	2793654	7.49	86	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	4698311	9.49	5450926	9.49	86	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4629686	14.95	5289144	14.97	88	50 - 200	-0.0200	+/-0.50	
ISTD: Perylene-d12	5653573	18.07	6095655	18.07	93	50 - 200	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0808 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0808-CCV1)			Lab File ID: SV626728.D			Analyzed: 10/07/19 10:07			
ISTD: 1,4-Dichlorobenzene-d4	1310727	4.98	1142864	4.99	115	50 - 200	-0.0100	+/-0.50	
ISTD: Naphthalene-d8	5413365	5.93	4867111	5.93	111	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	3140982	7.48	2793654	7.49	112	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	5811112	9.49	5450926	9.49	107	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5986891	14.94	5289144	14.97	113	50 - 200	-0.0300	+/-0.50	
ISTD: Perylene-d12	7460584	18.05	6095655	18.07	122	50 - 200	-0.0200	+/-0.50	
Blank (BJ90324-BLK1)			Lab File ID: SV626729.D			Analyzed: 10/07/19 10:38			
ISTD: 1,4-Dichlorobenzene-d4	1283884	4.98	1310727	4.98	98	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4837191	5.93	5413365	5.93	89	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2723234	7.48	3140982	7.48	87	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5212652	9.48	5811112	9.49	90	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	4872214	14.93	5986891	14.94	81	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	5654623	18.05	7460584	18.05	76	50 - 200	0.0000	+/-0.50	
LCS (BJ90324-BS1)			Lab File ID: SV626730.D			Analyzed: 10/07/19 11:10			
ISTD: 1,4-Dichlorobenzene-d4	1340760	4.98	1310727	4.98	102	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4938519	5.93	5413365	5.93	91	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2922033	7.48	3140982	7.48	93	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5444910	9.48	5811112	9.49	94	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	5066575	14.93	5986891	14.94	85	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	6034947	18.05	7460584	18.05	81	50 - 200	0.0000	+/-0.50	
SB27_6-8 (19J0144-04)			Lab File ID: SV626734.D			Analyzed: 10/07/19 13:17			
ISTD: 1,4-Dichlorobenzene-d4	1334134	4.98	1310727	4.98	102	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5150114	5.93	5413365	5.93	95	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2958542	7.48	3140982	7.48	94	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5672822	9.48	5811112	9.49	98	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	5536307	14.93	5986891	14.94	92	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	7125494	18.05	7460584	18.05	96	50 - 200	0.0000	+/-0.50	
SB28_0-2 (19J0144-05)			Lab File ID: SV626735.D			Analyzed: 10/07/19 13:48			
ISTD: 1,4-Dichlorobenzene-d4	1374731	4.98	1310727	4.98	105	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5264618	5.93	5413365	5.93	97	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	3039204	7.48	3140982	7.48	97	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5680060	9.48	5811112	9.49	98	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	5698133	14.93	5986891	14.94	95	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	7195472	18.05	7460584	18.05	96	50 - 200	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0808 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
SB28_5.5-7.5 (19J0144-06)			Lab File ID: SV626736.D			Analyzed: 10/07/19 14:20			
ISTD: 1,4-Dichlorobenzene-d4	1343116	4.98	1310727	4.98	102	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5160486	5.93	5413365	5.93	95	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	2924016	7.48	3140982	7.48	93	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5489096	9.48	5811112	9.49	94	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	5386852	14.93	5986891	14.94	90	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	6630488	18.05	7460584	18.05	89	50 - 200	0.0000	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0832 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0832-CCV1)			Lab File ID: SV626751.D			Analyzed: 10/08/19 08:57			
ISTD: 1,4-Dichlorobenzene-d4	1333046	4.98	1142864	4.99	117	50 - 200	-0.0100	+/-0.50	
ISTD: Naphthalene-d8	5525424	5.93	4867111	5.93	114	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	3115909	7.48	2793654	7.49	112	50 - 200	-0.0100	+/-0.50	
ISTD: Phenanthrene-d10	5913317	9.48	5450926	9.49	108	50 - 200	-0.0100	+/-0.50	
ISTD: Chrysene-d12	5994949	14.93	5289144	14.97	113	50 - 200	-0.0400	+/-0.50	
ISTD: Perylene-d12	7224087	18.05	6095655	18.07	119	50 - 200	-0.0200	+/-0.50	
Blank (BJ90406-BLK1)			Lab File ID: SV626752.D			Analyzed: 10/08/19 09:29			
ISTD: 1,4-Dichlorobenzene-d4	1344493	4.98	1333046	4.98	101	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5319048	5.93	5525424	5.93	96	50 - 200	0.0000	+/-0.50	
ISTD: Acenaphthene-d10	3003188	7.48	3115909	7.48	96	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5701826	9.48	5913317	9.48	96	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5381602	14.93	5994949	14.93	90	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	6430176	18.04	7224087	18.05	89	50 - 200	-0.0100	+/-0.50	
LCS (BJ90406-BS1)			Lab File ID: SV626753.D			Analyzed: 10/08/19 10:01			
ISTD: 1,4-Dichlorobenzene-d4	1389459	4.98	1333046	4.98	104	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5308894	5.92	5525424	5.93	96	50 - 200	-0.0100	+/-0.50	
ISTD: Acenaphthene-d10	3074543	7.48	3115909	7.48	99	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5842169	9.48	5913317	9.48	99	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5410683	14.93	5994949	14.93	90	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	6507327	18.04	7224087	18.05	90	50 - 200	-0.0100	+/-0.50	
SB19_0-2 (19J0144-01)			Lab File ID: SV626754.D			Analyzed: 10/08/19 10:32			
ISTD: 1,4-Dichlorobenzene-d4	1174845	4.98	1333046	4.98	88	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4765997	5.92	5525424	5.93	86	50 - 200	-0.0100	+/-0.50	
ISTD: Acenaphthene-d10	2729115	7.48	3115909	7.48	88	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5202010	9.48	5913317	9.48	88	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	4947100	14.92	5994949	14.93	83	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	5966961	18.04	7224087	18.05	83	50 - 200	-0.0100	+/-0.50	
SB19_8-9 (19J0144-02)			Lab File ID: SV626755.D			Analyzed: 10/08/19 11:04			
ISTD: 1,4-Dichlorobenzene-d4	1242097	4.98	1333046	4.98	93	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	4806057	5.92	5525424	5.93	87	50 - 200	-0.0100	+/-0.50	
ISTD: Acenaphthene-d10	2867899	7.48	3115909	7.48	92	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5453323	9.48	5913317	9.48	92	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5162883	14.92	5994949	14.93	86	50 - 200	-0.0100	+/-0.50	
ISTD: Perylene-d12	6189816	18.04	7224087	18.05	86	50 - 200	-0.0100	+/-0.50	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**
EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC) Project: 170396002
Sequence: Y9J0832 Instrument: BNA#6
Calibration: YJ90006

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
SB27_0-2 (19J0144-03)			Lab File ID: SV626756.D			Analyzed: 10/08/19 11:35			
ISTD: 1,4-Dichlorobenzene-d4	1284644	4.98	1333046	4.98	96	50 - 200	0.0000	+/-0.50	
ISTD: Naphthalene-d8	5116738	5.92	5525424	5.93	93	50 - 200	-0.0100	+/-0.50	
ISTD: Acenaphthene-d10	3131654	7.48	3115909	7.48	101	50 - 200	0.0000	+/-0.50	
ISTD: Phenanthrene-d10	5966570	9.48	5913317	9.48	101	50 - 200	0.0000	+/-0.50	
ISTD: Chrysene-d12	5933273	14.93	5994949	14.93	99	50 - 200	0.0000	+/-0.50	
ISTD: Perylene-d12	7103130	18.04	7224087	18.05	98	50 - 200	-0.0100	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/07/19 14:12	5.06	14.00	10/08/19 10:32	0.85	40.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/07/19 14:12	5.06	14.00	10/08/19 11:04	0.87	40.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/07/19 14:12	5.15	14.00	10/08/19 11:35	0.89	40.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/04/19 13:58	2.14	14.00	10/07/19 13:17	2.97	40.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/04/19 13:58	2.08	14.00	10/07/19 13:48	2.99	40.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/04/19 13:58	2.08	14.00	10/07/19 14:20	3.02	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Water **Instrument:** BNA#6

Analyte	LOD	LOQ	Units
1,1-Biphenyl	2.50	5.00	ug/L
1,2,4,5-Tetrachlorobenzene	2.50	5.00	ug/L
1,2,4-Trichlorobenzene	2.50	5.00	ug/L
1,2-Dichlorobenzene	2.50	5.00	ug/L
1,2-Diphenylhydrazine (as Azobenzene)	2.50	5.00	ug/L
1,3-Dichlorobenzene	2.50	5.00	ug/L
1,4-Dichlorobenzene	2.50	5.00	ug/L
1-Methylnaphthalene	2.50	5.00	ug/L
2,3,4,6-Tetrachlorophenol	2.50	5.00	ug/L
2,4,5-Trichlorophenol	2.50	5.00	ug/L
2,4,6-Trichlorophenol	2.50	5.00	ug/L
2,4-Dichlorophenol	2.50	5.00	ug/L
2,4-Dimethylphenol	2.50	5.00	ug/L
2,4-Dinitrophenol	2.50	5.00	ug/L
2,4-Dinitrotoluene	2.50	5.00	ug/L
2,6-Dinitrotoluene	2.50	5.00	ug/L
2-Chloronaphthalene	2.50	5.00	ug/L
2-Chlorophenol	2.50	5.00	ug/L
2-Methylnaphthalene	2.50	5.00	ug/L
2-Methylphenol	2.50	5.00	ug/L
	0.0209	0.0417	mg/kg
2-Nitroaniline	2.50	5.00	ug/L
2-Nitrophenol	2.50	5.00	ug/L
3- & 4-Methylphenols	2.50	5.00	ug/L
	0.0209	0.0417	mg/kg
3,3-Dichlorobenzidine	2.50	5.00	ug/L
3-Nitroaniline	2.50	5.00	ug/L
4,6-Dinitro-2-methylphenol	2.50	5.00	ug/L
4-Bromophenyl phenyl ether	2.50	5.00	ug/L
4-Chloro-3-methylphenol	2.50	5.00	ug/L
4-Chloroaniline	2.50	5.00	ug/L
4-Chlorophenyl phenyl ether	2.50	5.00	ug/L
4-Nitroaniline	2.50	5.00	ug/L
4-Nitrophenol	5.00	5.00	ug/L
Acenaphthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: SOIL **Instrument:** BNA#6

Analyte	LOD	LOQ	Units
Acenaphthylene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Acetophenone	2.50	5.00	ug/L
Alpha Terpineol	5.00	10.0	ug/L
Aniline	2.50	5.00	ug/L
Anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Atrazine	2.50	5.00	ug/L
Benzaldehyde	2.50	5.00	ug/L
Benzidine	5.00	5.00	ug/L
Benzo(a)anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(a)pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(b)fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(g,h,i)perylene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzo(k)fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Benzoic acid	25.0	50.0	ug/L
Benzyl alcohol	2.50	5.00	ug/L
Benzyl butyl phthalate	2.50	5.00	ug/L
Bis(2-chloroethoxy)methane	2.50	5.00	ug/L
Bis(2-chloroethyl)ether	1.00	5.00	ug/L
Bis(2-chloroisopropyl)ether	2.50	5.00	ug/L
Bis(2-ethylhexyl)phthalate	2.50	5.00	ug/L
Caprolactam	2.50	5.00	ug/L
Carbazole	2.50	5.00	ug/L
Chrysene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Cresols, total	10.0	15.0	ug/L
Dibenzo(a,h)anthracene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Dibenzofuran	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Diethyl phthalate	2.50	5.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Water **Instrument:** BNA#6

Analyte	LOD	LOQ	Units
Dimethyl phthalate	2.50	5.00	ug/L
Di-n-butyl phthalate	2.50	5.00	ug/L
Di-n-octyl phthalate	2.50	5.00	ug/L
Diphenylamine	2.50	5.00	ug/L
Fluoranthene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Fluorene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Hexachlorobenzene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Hexachlorobutadiene	2.50	5.00	ug/L
Hexachlorocyclopentadiene	5.00	10.0	ug/L
Hexachloroethane	1.25	2.50	ug/L
Indeno(1,2,3-cd)pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Isophorone	2.50	5.00	ug/L
Naphthalene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Nitrobenzene	2.50	5.00	ug/L
N-Nitrosodimethylamine	2.50	5.00	ug/L
N-nitroso-di-n-propylamine	2.50	5.00	ug/L
N-Nitrosodiphenylamine	2.50	5.00	ug/L
Parathion	1.75	1.75	ug/L
Pentachloronitrobenzene	2.50	5.00	ug/L
Pentachlorophenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Phenanthrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Phenol	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Pyrene	0.0209	0.0417	mg/kg
	2.50	5.00	ug/L
Pyridine	2.50	5.00	ug/L

FORM I **ORGANIC ANALYSIS DATA SHEET**

EPA 8270D

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: SV626754.D

Sampled: 10/02/19 12:45 Prepared: 10/07/19 14:12 Analyzed: 10/08/19 10:32

Solids: 95.31 Preparation: EPA 3550C Initial/Final: 30.1 g / 1 mL

Batch: BJ90406 Sequence: Y9J0832 Calibration: YJ90006 Instrument: BNA#6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0872	U
65794-96-9	3- & 4-Methylphenols	2	0.0872	U
83-32-9	Acenaphthene	2	0.0872	U
208-96-8	Acenaphthylene	2	0.0872	U
120-12-7	Anthracene	2	0.0872	U
56-55-3	Benzo(a)anthracene	2	0.0872	U
50-32-8	Benzo(a)pyrene	2	0.0872	U
205-99-2	Benzo(b)fluoranthene	2	0.0872	U
191-24-2	Benzo(g,h,i)perylene	2	0.0872	U
207-08-9	Benzo(k)fluoranthene	2	0.0872	U
218-01-9	Chrysene	2	0.0872	U
53-70-3	Dibenzo(a,h)anthracene	2	0.0872	U
132-64-9	Dibenzofuran	2	0.0872	U
206-44-0	Fluoranthene	2	0.0934	D
86-73-7	Fluorene	2	0.0872	U
118-74-1	Hexachlorobenzene	2	0.0872	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0872	U
91-20-3	Naphthalene	2	0.0872	U
87-86-5	Pentachlorophenol	2	0.0872	U
85-01-8	Phenanthrene	2	0.114	D
108-95-2	Phenol	2	0.0872	U
129-00-0	Pyrene	2	0.0746	JD

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.74	0.989	56.7	20 - 108	
SURR: Phenol-d5	1.74	0.878	50.4	23 - 114	
SURR: Nitrobenzene-d5	0.871	0.515	59.1	22 - 108	
SURR: 2-Fluorobiphenyl	0.871	0.532	61.0	21 - 113	
SURR: 2,4,6-Tribromophenol	1.74	1.08	61.8	19 - 110	
SURR: Terphenyl-d14	0.871	0.543	62.3	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1174845	4.98	1333046	4.98	
ISTD: Naphthalene-d8	4765997	5.92	5525424	5.93	
ISTD: Acenaphthene-d10	2729115	7.48	3115909	7.48	
ISTD: Phenanthrene-d10	5202010	9.48	5913317	9.48	
ISTD: Chrysene-d12	4947100	14.92	5994949	14.93	
ISTD: Perylene-d12	5966961	18.04	7224087	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626754.D Vial: 5
Acq On : 8 Oct 2019 10:32 am Operator: SR
Sample : 19J0144-01 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:39 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

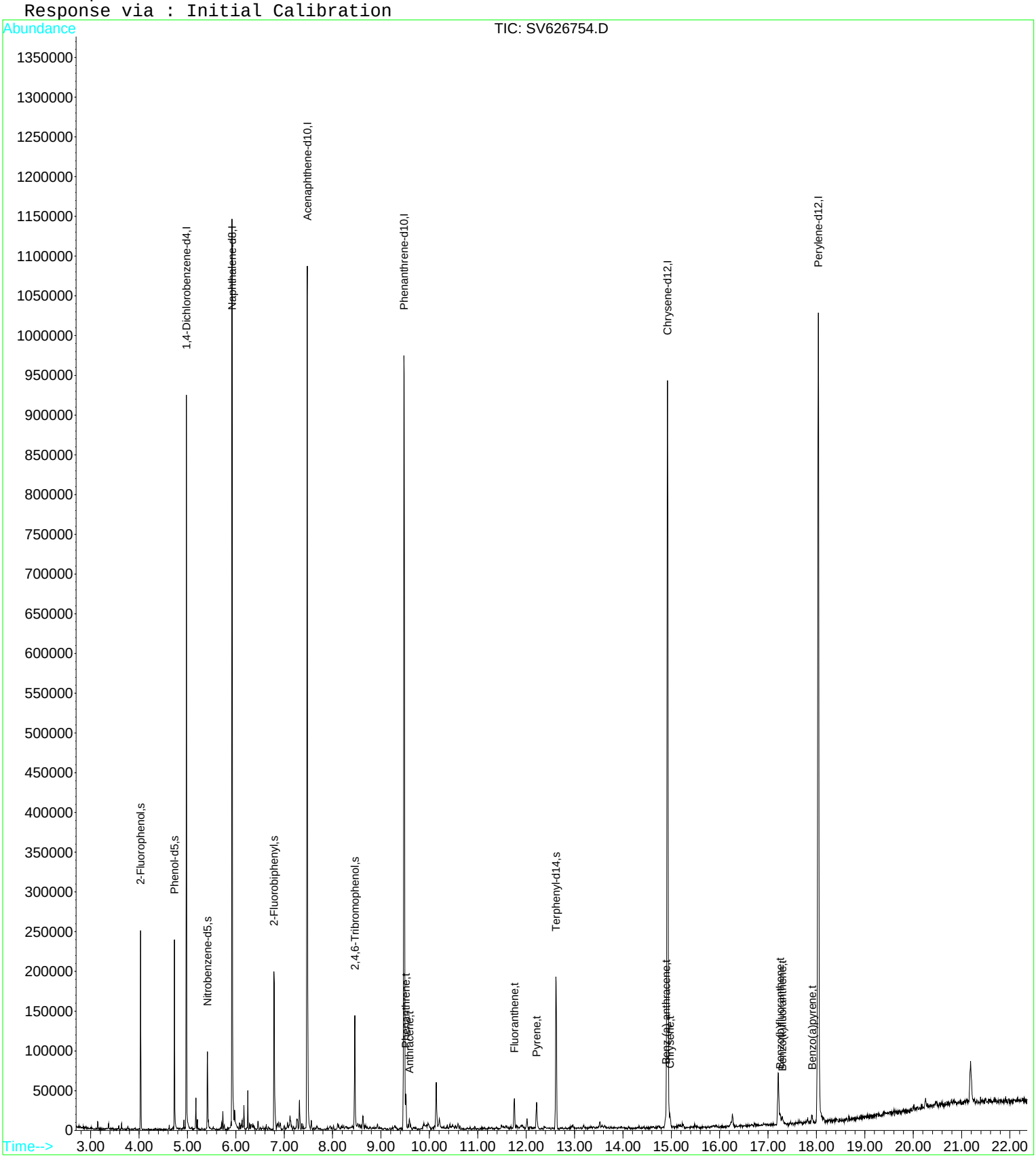
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1174845	40.00	ug/mL	0.00
21) Naphthalene-d8	5.92	136	4765997	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2729115	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5202010	40.00	ug/mL	0.00
80) Chrysene-d12	14.92	240	4947100	40.00	ug/mL	-0.02
92) Perylene-d12	18.04	264	5966961	40.00	ug/mL	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	645117	14.18	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 18.91%			
5) Phenol-d5	4.73	99	716028	12.60	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 16.80%			
22) Nitrobenzene-d5	5.42	82	284810	7.39	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 14.78%#			
45) 2-Fluorobiphenyl	6.79	172	743921	7.63	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 15.26%#			
67) 2,4,6-Tribromophenol	8.46	330	204994	15.46	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 20.61%#			
82) Terphenyl-d14	12.62	244	958552	7.79	ug/mL	-0.01
Spiked Amount 50.000	Range 35 - 127		Recovery = 15.58%#			
Target Compounds						Qvalue
73) Phenanthrene	9.52	178	232645	1.63	ug/mL	98
74) Anthracene	9.59	178	60932m	0.42	ug/mL	
78) Fluoranthene	11.76	202	224551	1.34	ug/mL	98
81) Pyrene	12.22	202	185241	1.07	ug/mL	98
85) Benz (a) anthracene	14.88	228	93826	0.57	ug/mL#	79
87) Chrysene	14.98	228	79818	0.48	ug/mL#	63
89) Benzo(b)fluoranthene	17.26	252	48796	0.31	ug/mL#	55
90) Benzo(k)fluoranthene	17.30	252	57740m	0.31	ug/mL	
91) Benzo(a)pyrene	17.91	252	65586	0.42	ug/mL#	56

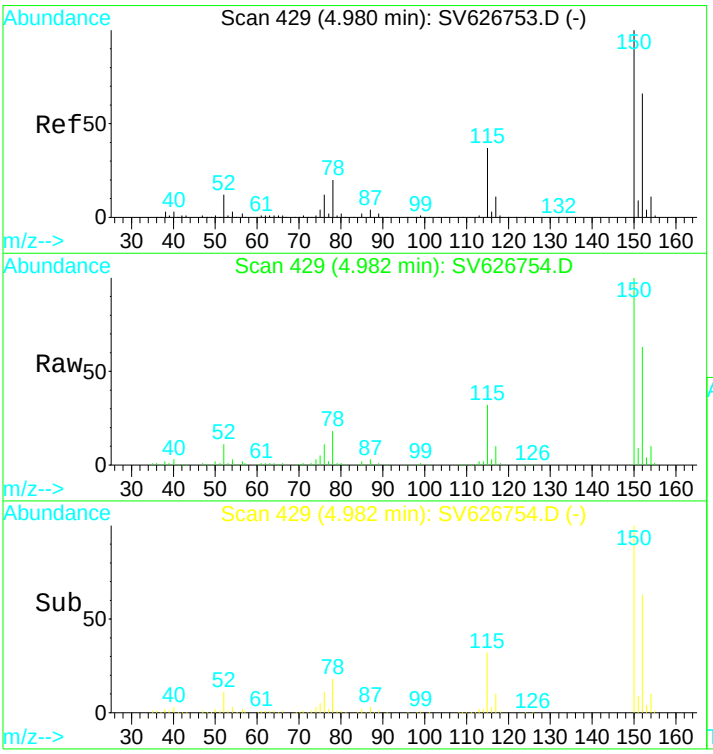
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626754.D Vial: 5
Acq On : 8 Oct 2019 10:32 am Operator: SR
Sample : 19J0144-01 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:39 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration

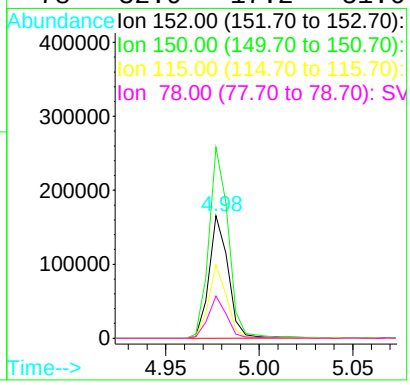


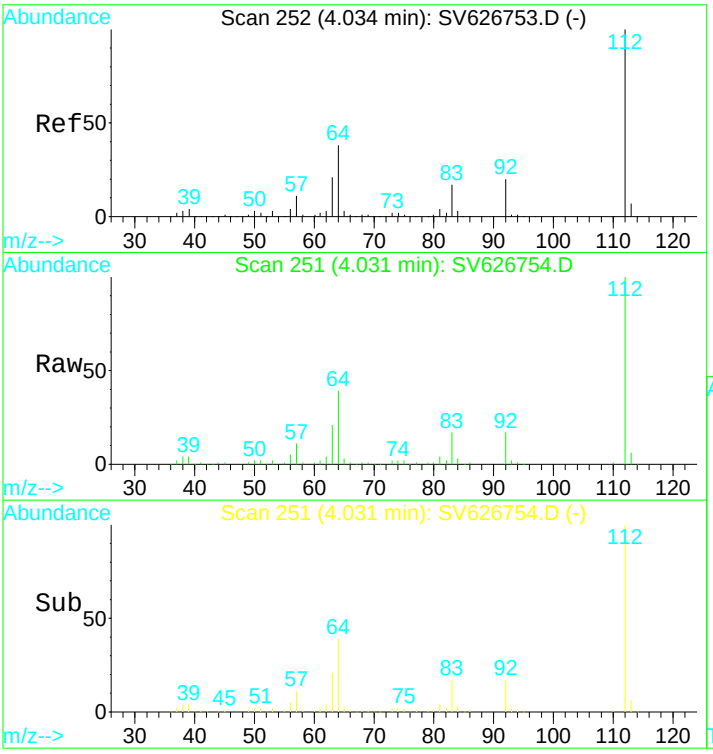


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:152 Resp: 1174845

Ion	Ratio	Lower	Upper
152	100		
150	157.2	82.1	246.3
115	56.5	28.4	85.2
78	32.9	17.2	51.6

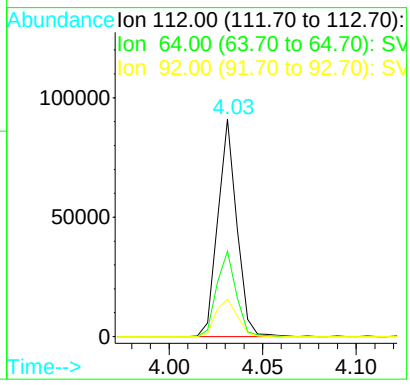


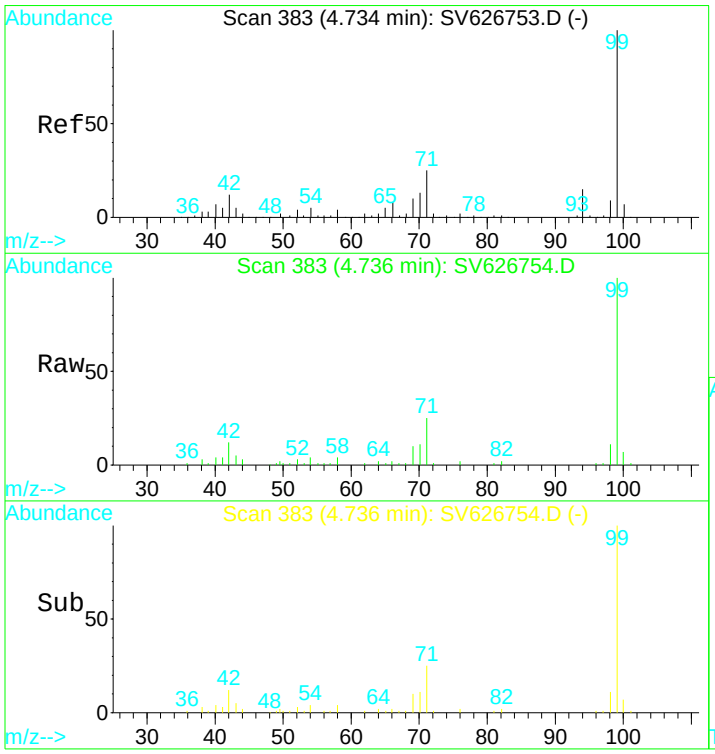


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.03 min Scan# 251
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:112 Resp: 645117

Ion	Ratio	Lower	Upper
112	100		
64	40.1	32.0	48.0
92	19.7	15.8	23.8

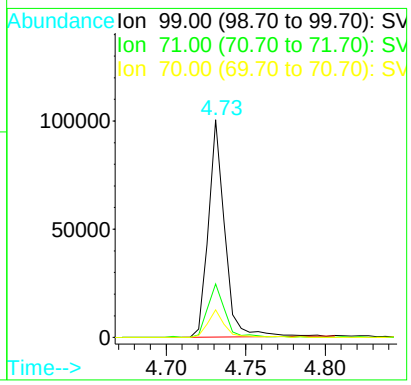


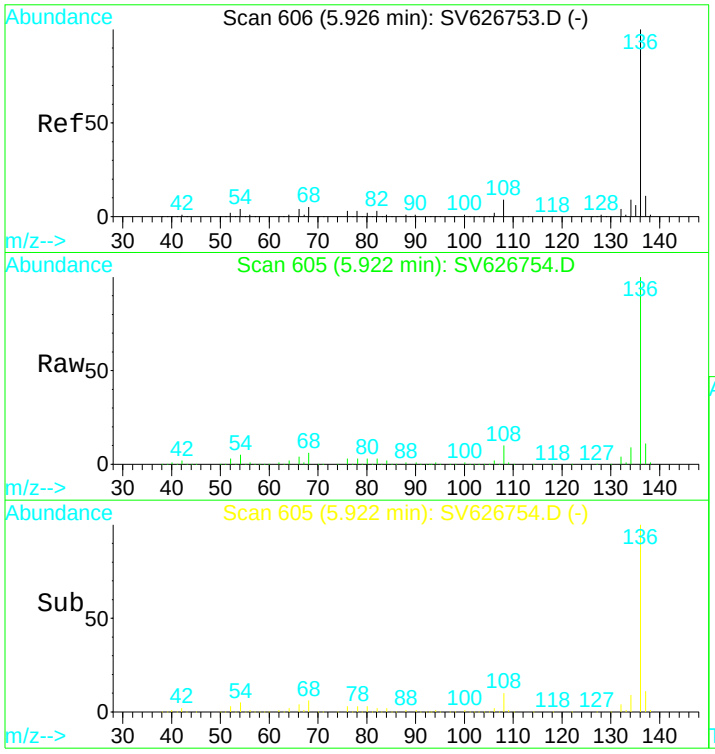


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.73 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion: 99 Resp: 716028

Ion	Ratio	Lower	Upper
99	100		
71	26.2	20.6	31.0
70	12.4	10.6	15.8

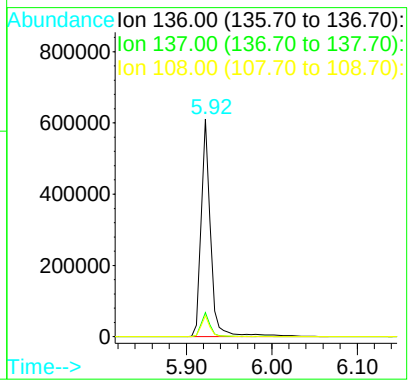


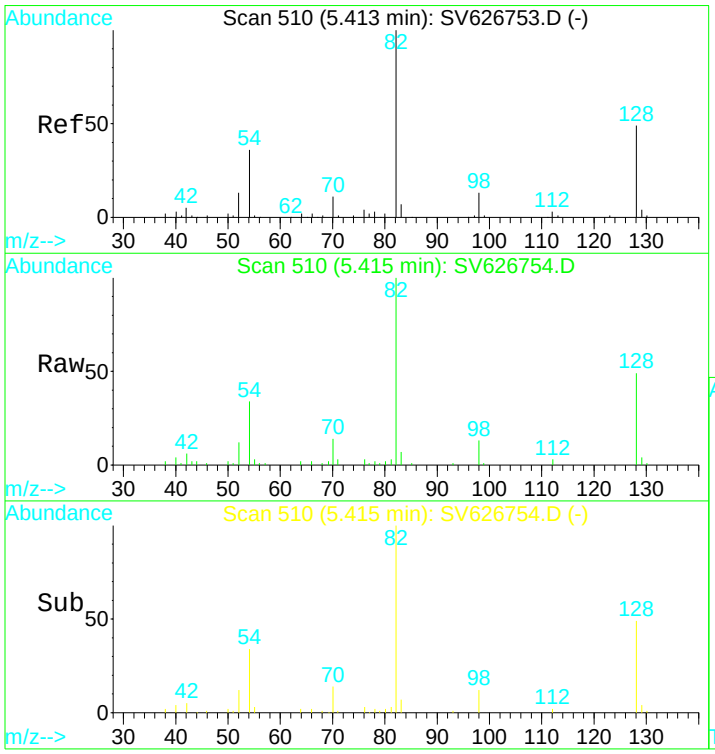


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.92 min Scan# 605
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:136 Resp: 4765997

Ion	Ratio	Lower	Upper
136	100		
137	10.1	5.5	16.7
108	9.2	4.7	14.1

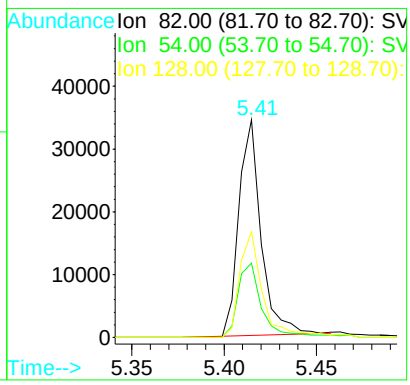


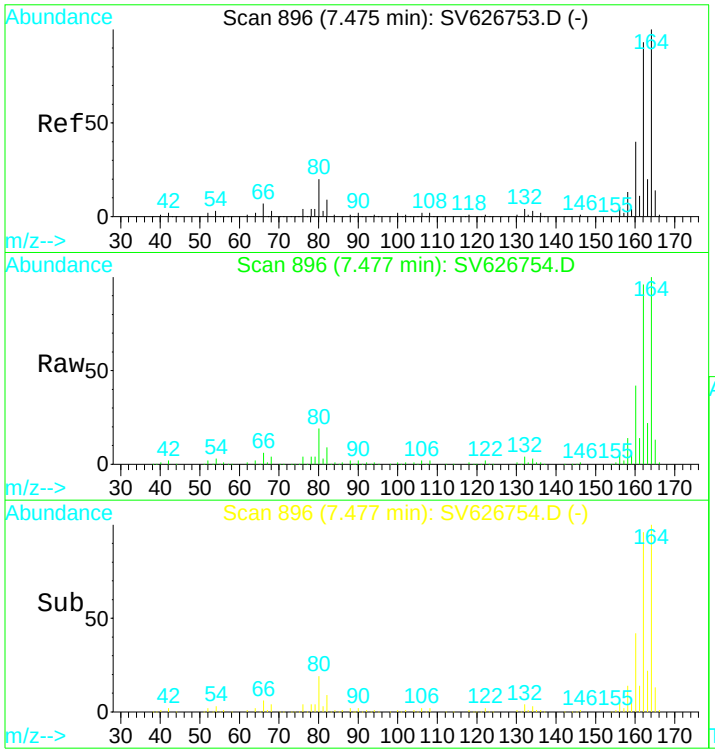


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 510
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion: 82 Resp: 284810

Ion	Ratio	Lower	Upper
82	100		
54	38.3	29.0	43.4
128	52.2	38.0	57.0

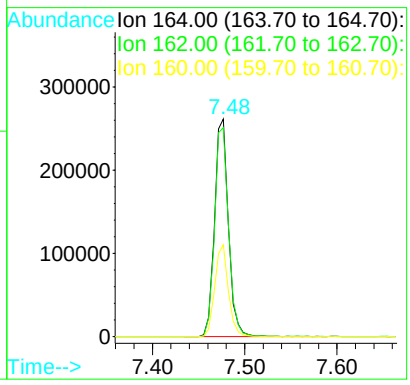


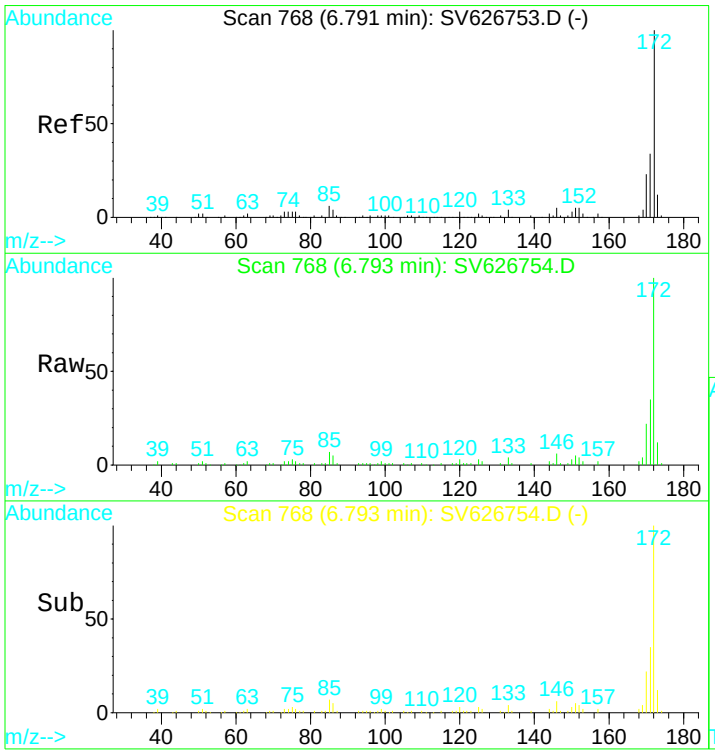


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 896
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:164 Resp: 2729115

Ion	Ratio	Lower	Upper
164	100		
162	97.2	47.4	142.2
160	41.3	21.0	63.0

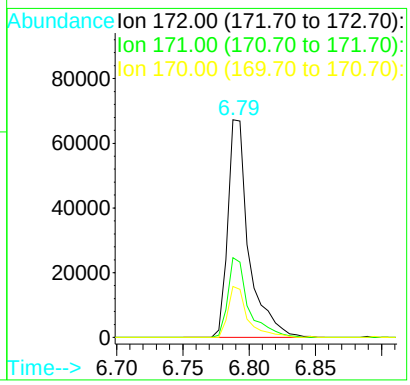


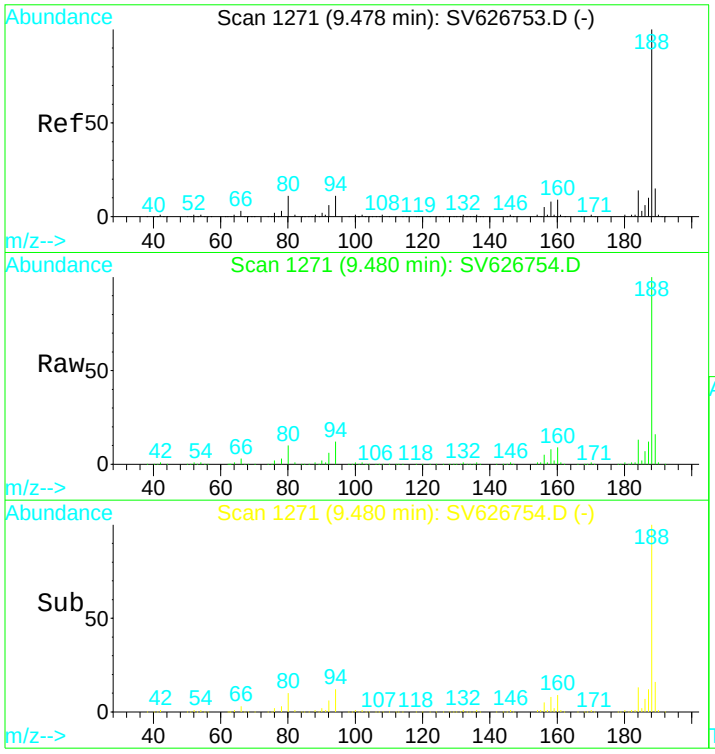


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 768
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:172 Resp: 743921

Ion	Ratio	Lower	Upper
172	100		
171	36.0	28.2	42.4
170	21.8	18.4	27.6

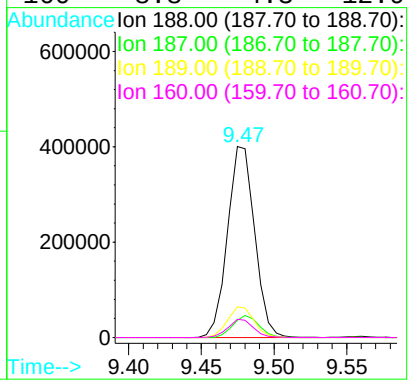


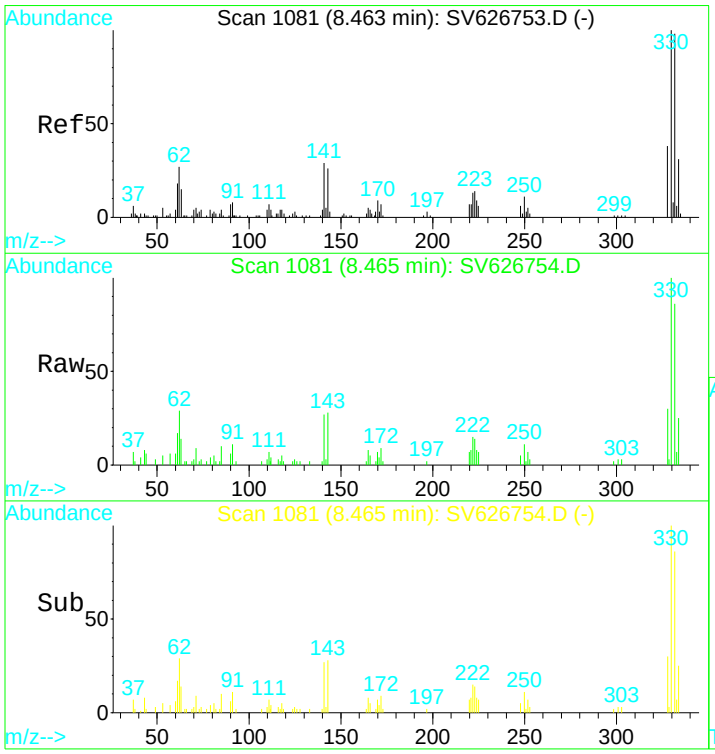


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1271
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:188 Resp: 5202010

Ion	Ratio	Lower	Upper
188	100		
187	10.9	8.5	12.7
189	15.6	7.8	23.4
160	8.8	4.3	12.9

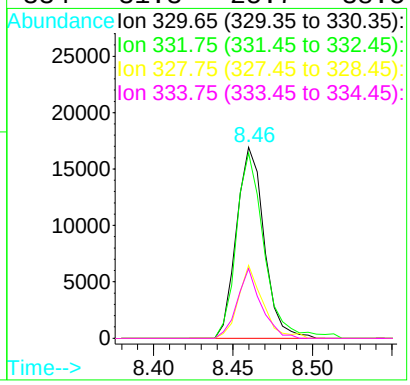


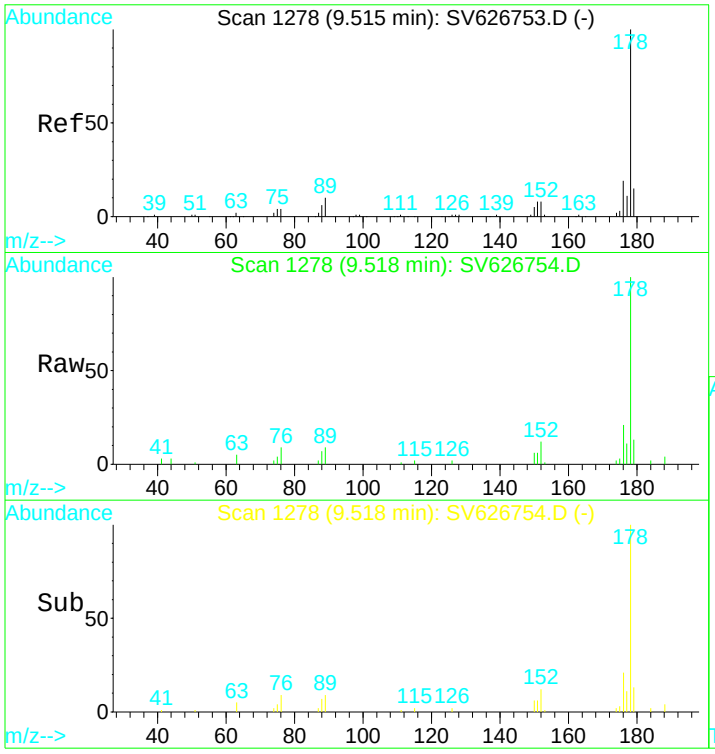


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1081
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:330 Resp: 204994

Ion	Ratio	Lower	Upper
330	100		
332	97.6	78.8	118.2
328	33.5	27.4	41.0
334	31.3	25.7	38.5

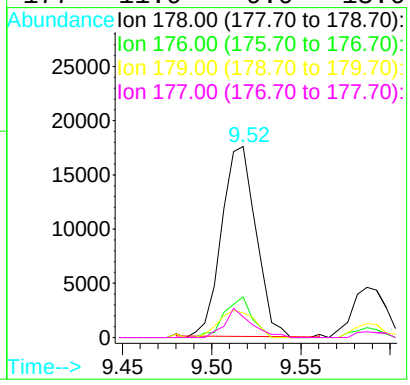


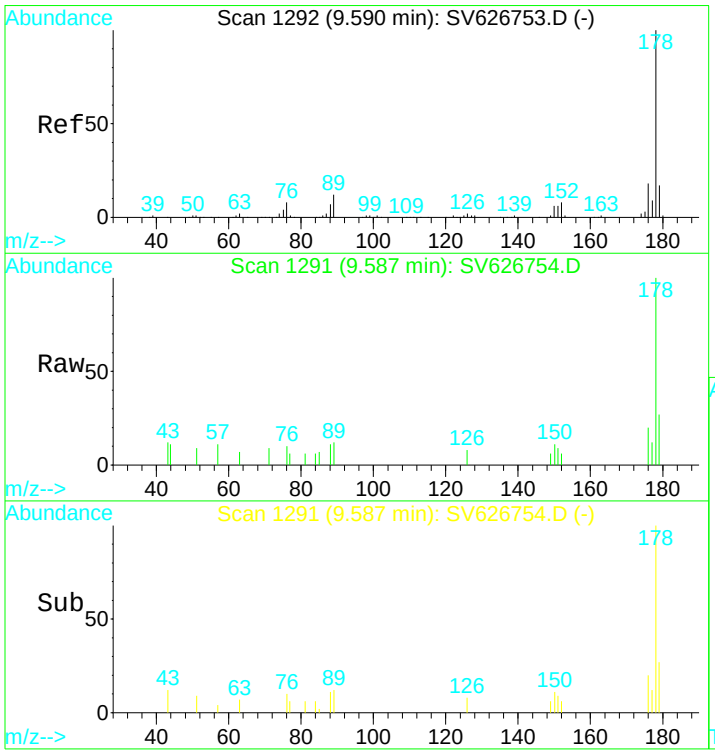


#73
Phenanthrene
Concen: 1.63 ug/mL
RT: 9.52 min Scan# 1278
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:178 Resp: 232645

Ion	Ratio	Lower	Upper
178	100		
176	17.3	15.0	22.4
179	14.8	12.3	18.5
177	11.9	9.0	13.6

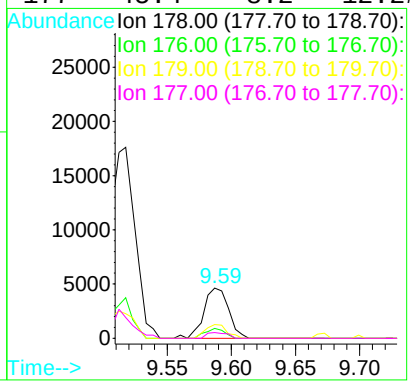


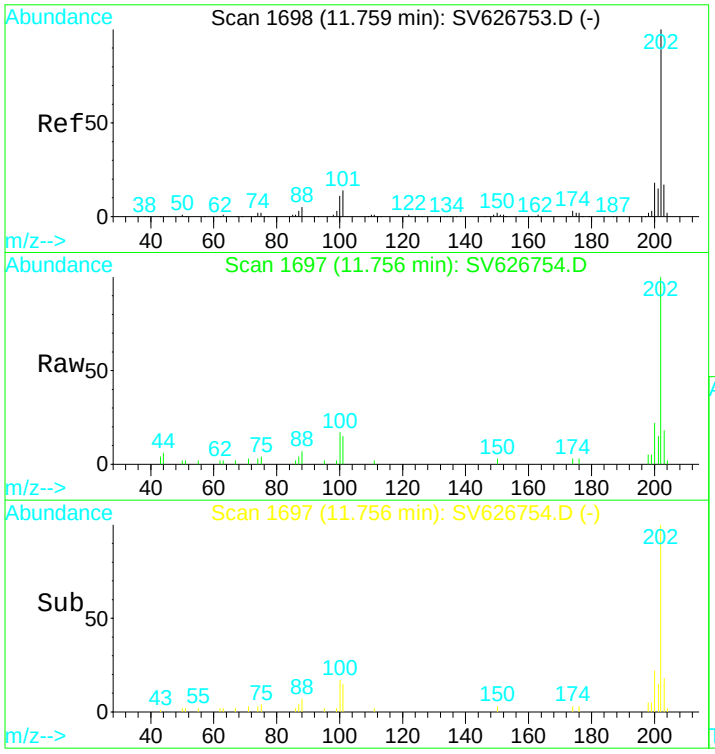


#74
Anthracene
Concen: 0.42 ug/mL m
RT: 9.59 min Scan# 1291
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:178 Resp: 60932

Ion	Ratio	Lower	Upper
178	100		
176	65.9	15.0	22.4#
179	56.6	12.7	19.1#
177	45.4	8.2	12.2#

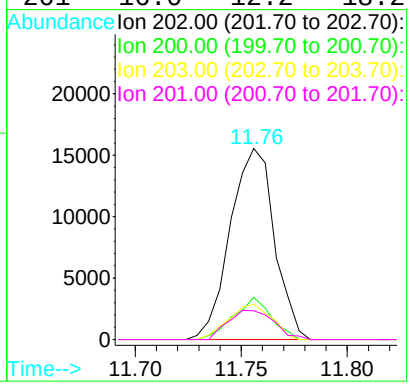


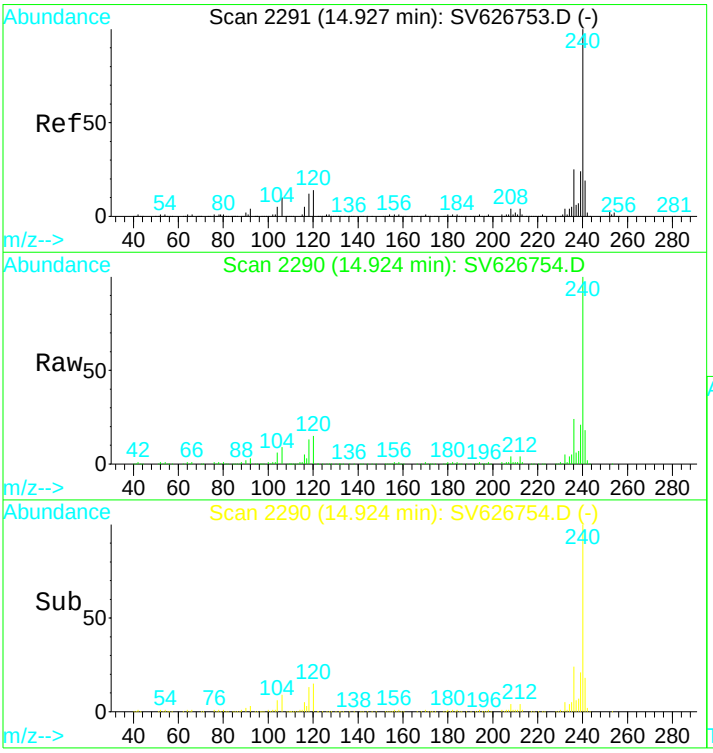


#78
Fluoranthene
Concen: 1.34 ug/mL
RT: 11.76 min Scan# 1697
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:202 Resp: 224551

Ion	Ratio	Lower	Upper
202	100		
200	18.9	15.9	23.9
203	18.1	14.0	21.0
201	16.0	12.2	18.2

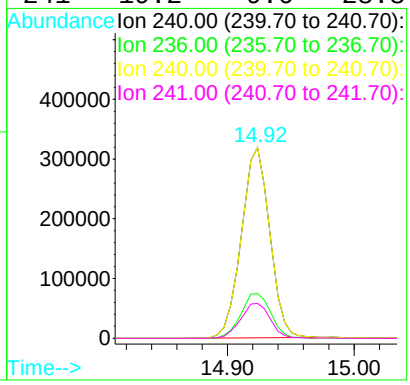


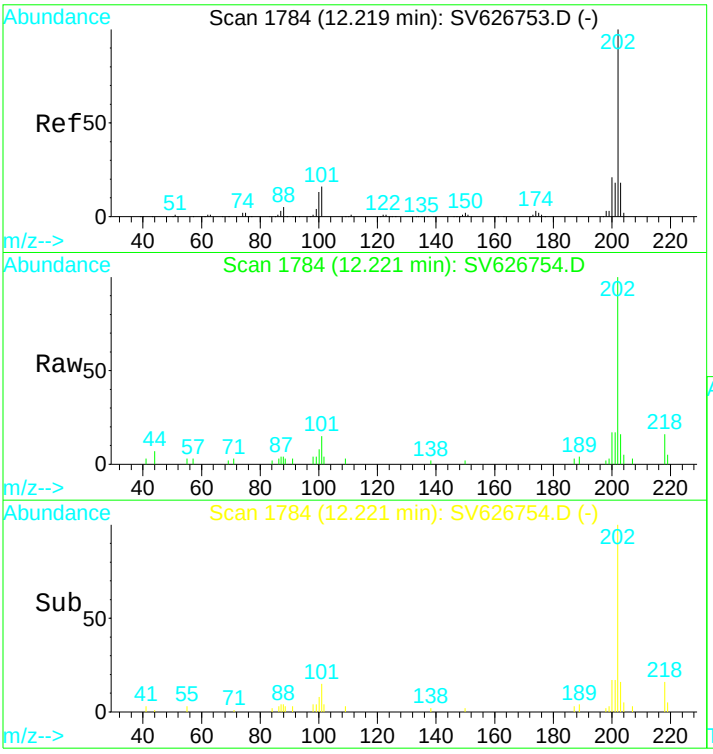


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.92 min Scan# 2290
Delta R.T. -0.02 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:240 Resp: 4947100

Ion	Ratio	Lower	Upper
240	100		
236	24.8	12.4	37.0
240	100.0	50.0	150.0
241	19.2	9.6	28.8

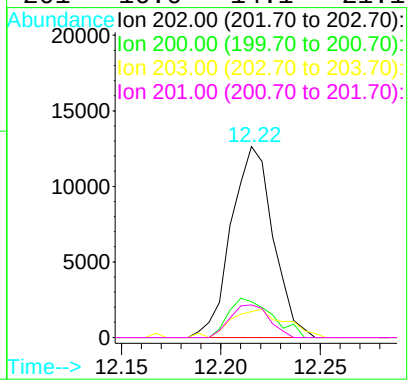


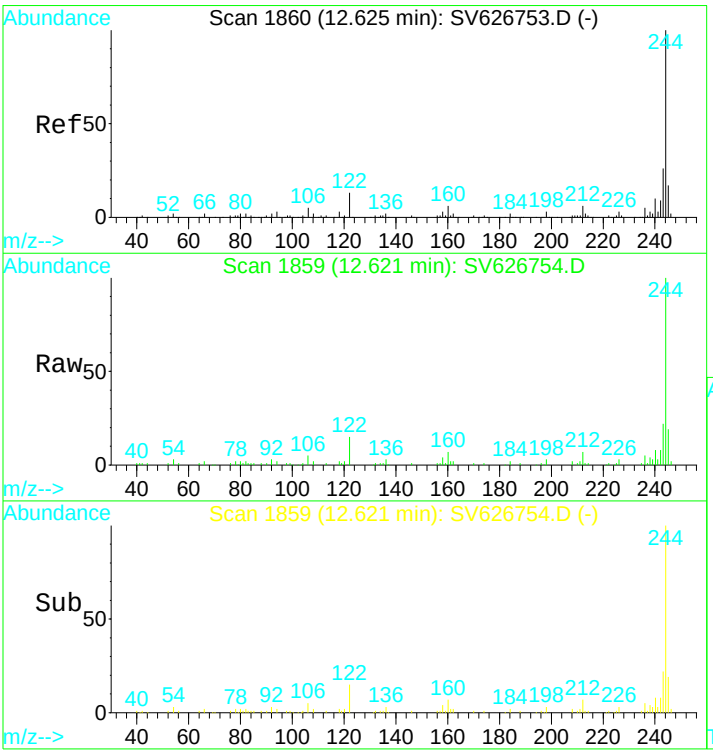


#81
Pyrene
Concen: 1.07 ug/mL
RT: 12.22 min Scan# 1784
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:202 Resp: 185241

Ion	Ratio	Lower	Upper
202	100		
200	21.3	16.2	24.4
203	18.0	14.4	21.6
201	16.0	14.1	21.1

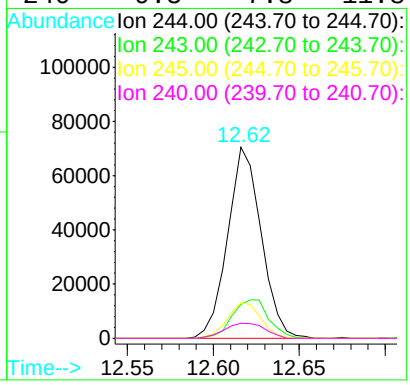


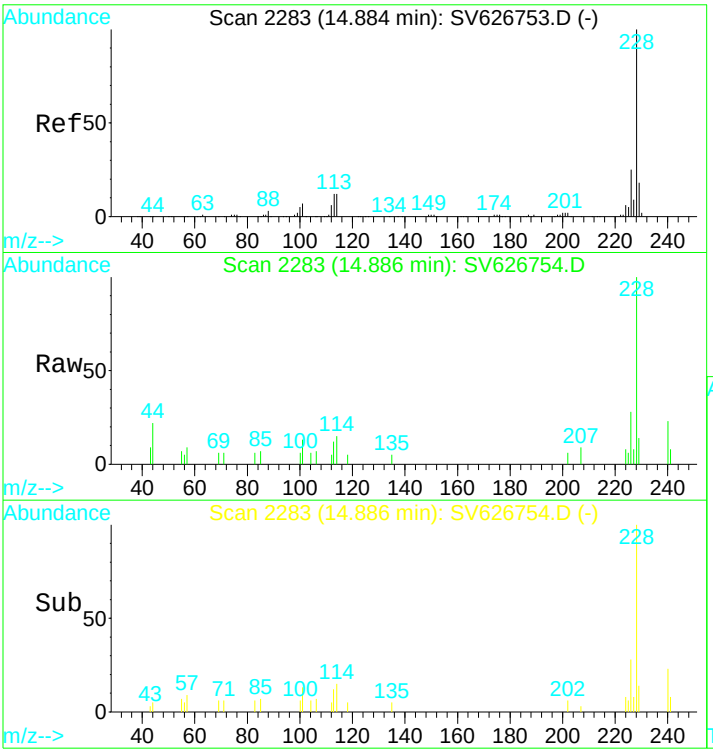


#82
Terphenyl-d14
Concen: 1.07 ug/mL
RT: 12.62 min Scan# 1859
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:244 Resp: 958552

Ion	Ratio	Lower	Upper
244	100		
243	21.8	18.6	28.0
245	18.6	15.7	23.5
240	9.5	7.8	11.8

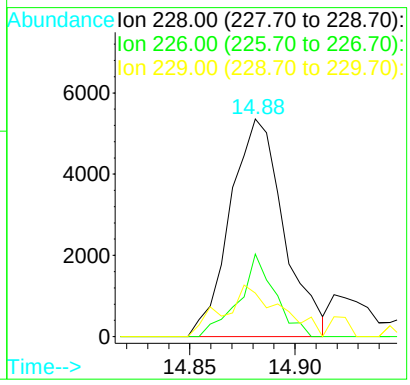


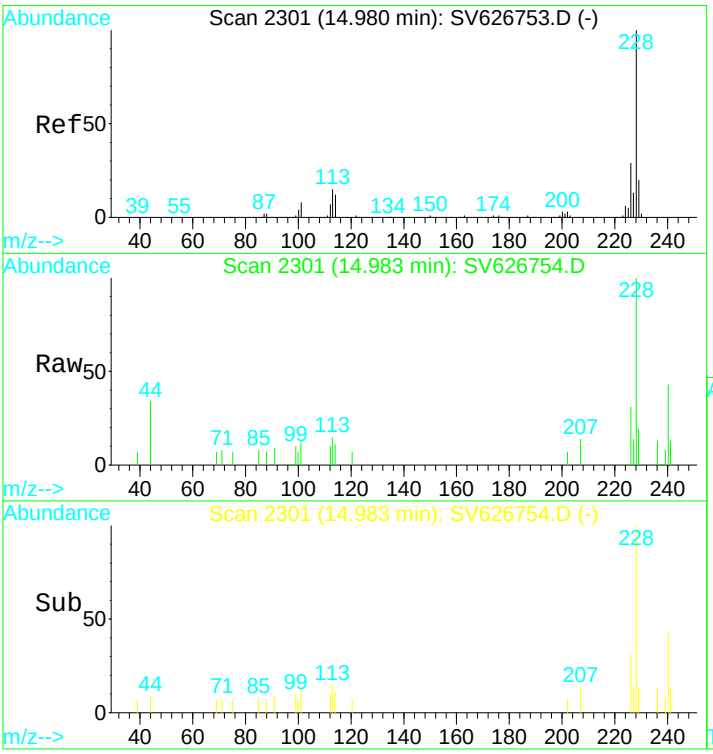


#85
Benz (a) anthracene
Concen: 0.57 ug/mL
RT: 14.88 min Scan# 2283
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:228 Resp: 93826

Ion	Ratio	Lower	Upper
228	100		
226	25.8	21.4	32.2
229	0.0	16.7	25.1#

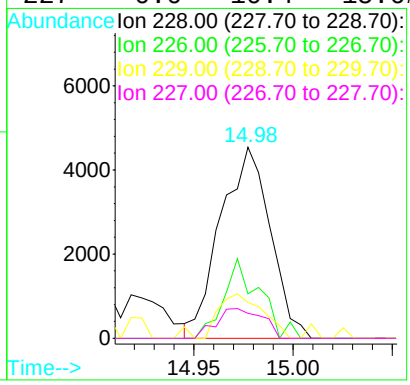


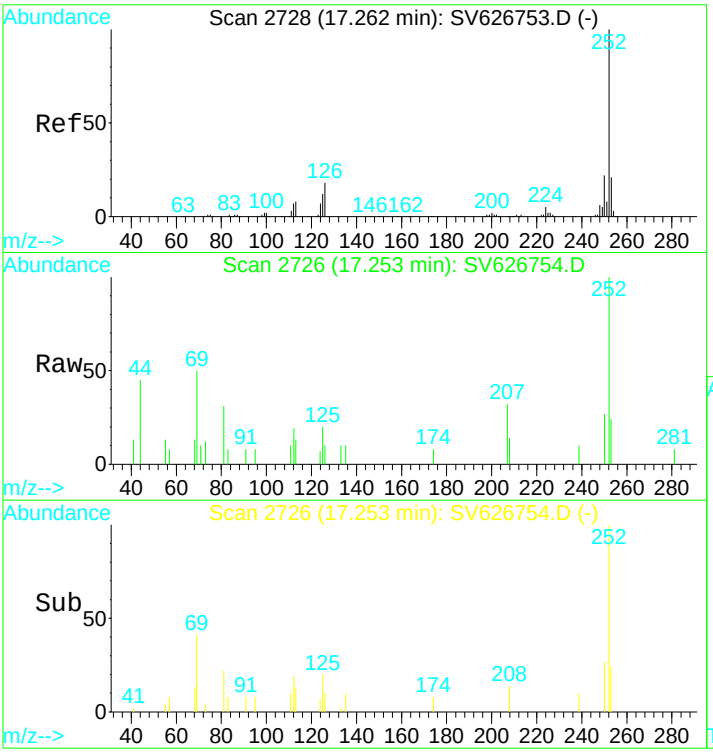


#87
Chrysene
Concen: 0.48 ug/mL
RT: 14.98 min Scan# 2301
Delta R.T. -0.02 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:228 Resp: 79818

Ion	Ratio	Lower	Upper
228	100		
226	29.6	12.6	18.8#
229	0.0	15.9	23.9#
227	0.0	10.4	15.6#

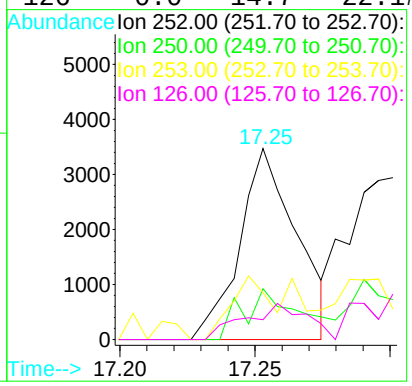


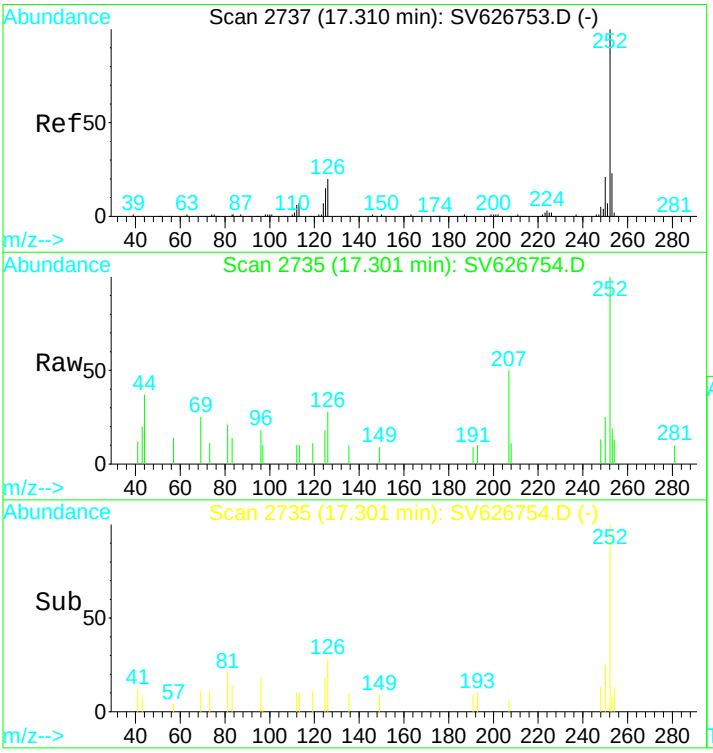


#89
Benzo(b)fluoranthene
Concen: 0.31 ug/mL
RT: 17.26 min Scan# 2726
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:252 Resp: 48796

Ion	Ratio	Lower	Upper
252	100		
250	0.0	18.2	27.4#
253	0.0	18.0	27.0#
126	0.0	14.7	22.1#

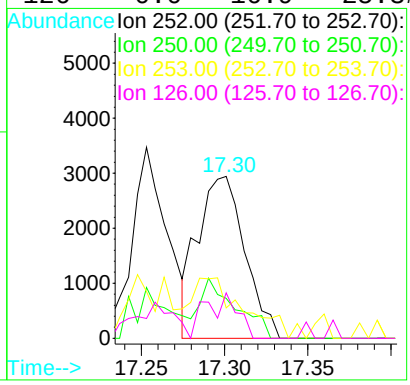


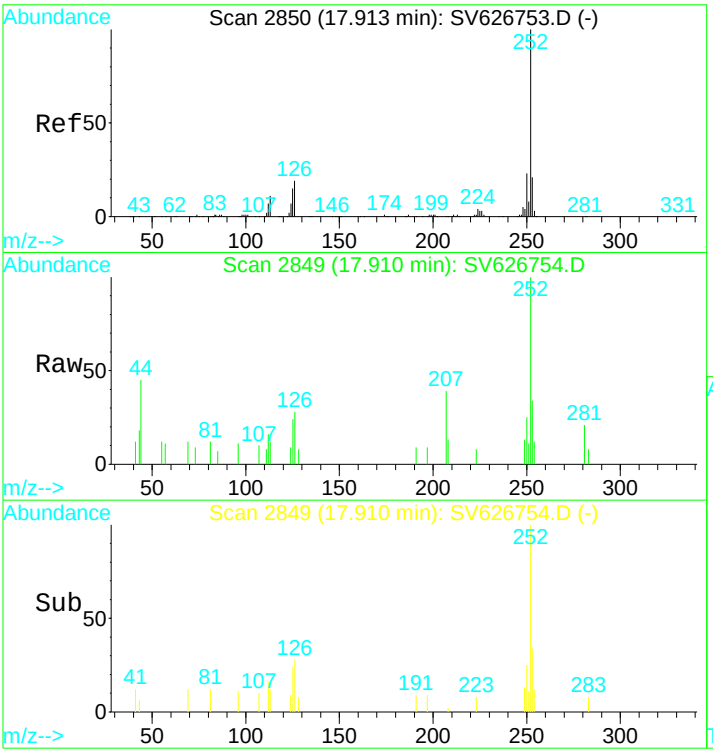


#90
Benzo(k)fluoranthene
Concen: 0.31 ug/mL m
RT: 17.30 min Scan# 2735
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:252 Resp: 57740

Ion	Ratio	Lower	Upper
252	100		
250	0.0	17.7	26.5#
253	17.6	17.4	26.2
126	0.0	16.9	25.3#

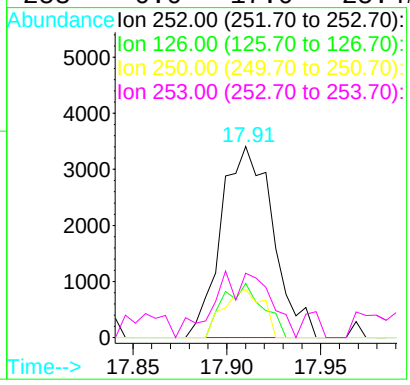


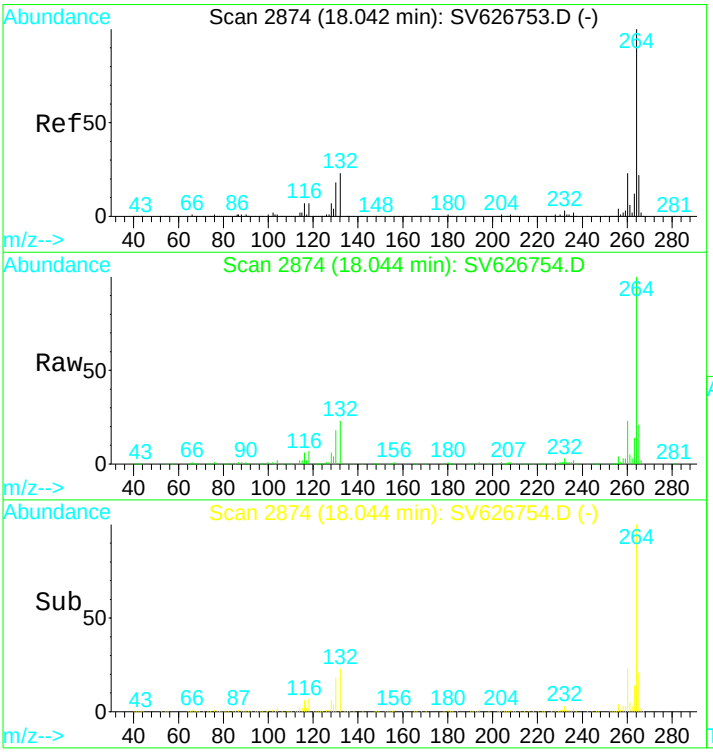


#91
Benzo(a)pyrene
Concen: 0.42 ug/mL
RT: 17.91 min Scan# 2849
Delta R.T. -0.01 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:252 Resp: 65586

Ion	Ratio	Lower	Upper
252	100		
126	0.0	14.8	22.2#
250	0.0	17.6	26.4#
253	0.0	17.0	25.4#

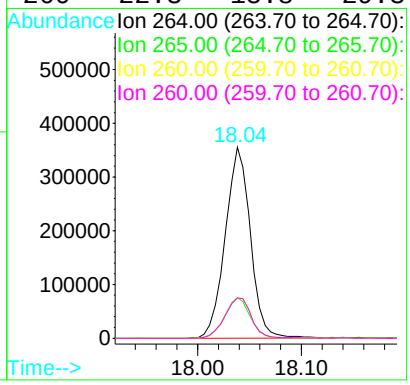




#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.04 min Scan# 2874
Delta R.T. -0.02 min
Lab File: SV626754.D
Acq: 8 Oct 2019 10:32 am

Tgt Ion:264 Resp: 5966961

Ion	Ratio	Lower	Upper
264	100		
265	21.6	0.0	0.0#
260	22.3	18.0	27.0
260	22.3	15.8	29.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: SV626755.D

Sampled: 10/02/19 12:50 Prepared: 10/07/19 14:12 Analyzed: 10/08/19 11:04

Solids: 86.53 Preparation: EPA 3550C Initial/Final: 30.8 g / 1 mL

Batch: BJ90406 Sequence: Y9J0832 Calibration: YJ90006 Instrument: BNA#6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0939	U
65794-96-9	3- & 4-Methylphenols	2	0.0939	U
83-32-9	Acenaphthene	2	0.0939	U
208-96-8	Acenaphthylene	2	0.0939	U
120-12-7	Anthracene	2	0.0939	U
56-55-3	Benzo(a)anthracene	2	0.0939	U
50-32-8	Benzo(a)pyrene	2	0.0939	U
205-99-2	Benzo(b)fluoranthene	2	0.0939	U
191-24-2	Benzo(g,h,i)perylene	2	0.0939	U
207-08-9	Benzo(k)fluoranthene	2	0.0939	U
218-01-9	Chrysene	2	0.0939	U
53-70-3	Dibenzo(a,h)anthracene	2	0.0939	U
132-64-9	Dibenzofuran	2	0.0939	U
206-44-0	Fluoranthene	2	0.0939	U
86-73-7	Fluorene	2	0.0939	U
118-74-1	Hexachlorobenzene	2	0.0939	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0939	U
91-20-3	Naphthalene	2	0.0939	U
87-86-5	Pentachlorophenol	2	0.0939	U
85-01-8	Phenanthrene	2	0.0939	U
108-95-2	Phenol	2	0.0939	U
129-00-0	Pyrene	2	0.0939	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.88	1.23	65.4	20 - 108	
SURR: Phenol-d5	1.88	1.15	61.4	23 - 114	
SURR: Nitrobenzene-d5	0.938	0.708	75.5	22 - 108	
SURR: 2-Fluorobiphenyl	0.938	0.678	72.3	21 - 113	
SURR: 2,4,6-Tribromophenol	1.88	1.38	73.8	19 - 110	
SURR: Terphenyl-d14	0.938	0.705	75.1	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1242097	4.98	1333046	4.98	
ISTD: Naphthalene-d8	4806057	5.92	5525424	5.93	
ISTD: Acenaphthene-d10	2867899	7.48	3115909	7.48	
ISTD: Phenanthrene-d10	5453323	9.48	5913317	9.48	
ISTD: Chrysene-d12	5162883	14.92	5994949	14.93	
ISTD: Perylene-d12	6189816	18.04	7224087	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626755.D Vial: 6
Acq On : 8 Oct 2019 11:04 am Operator: SR
Sample : 19J0144-02 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:40 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1242097	40.00	ug/mL	0.00
21) Naphthalene-d8	5.92	136	4806057	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2867899	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5453323	40.00	ug/mL	0.00
80) Chrysene-d12	14.92	240	5162883	40.00	ug/mL	-0.02
92) Perylene-d12	18.04	264	6189816	40.00	ug/mL	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	785784	16.34	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 21.79%			
5) Phenol-d5	4.73	99	922613	15.36	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 20.48%			
22) Nitrobenzene-d5	5.42	82	366704	9.44	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 18.88%#			
45) 2-Fluorobiphenyl	6.79	172	926575	9.04	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 18.08%#			
67) 2,4,6-Tribromophenol	8.46	330	256288	18.44	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 24.59%#			
82) Terphenyl-d14	12.62	244	1205898	9.39	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 18.78%#			

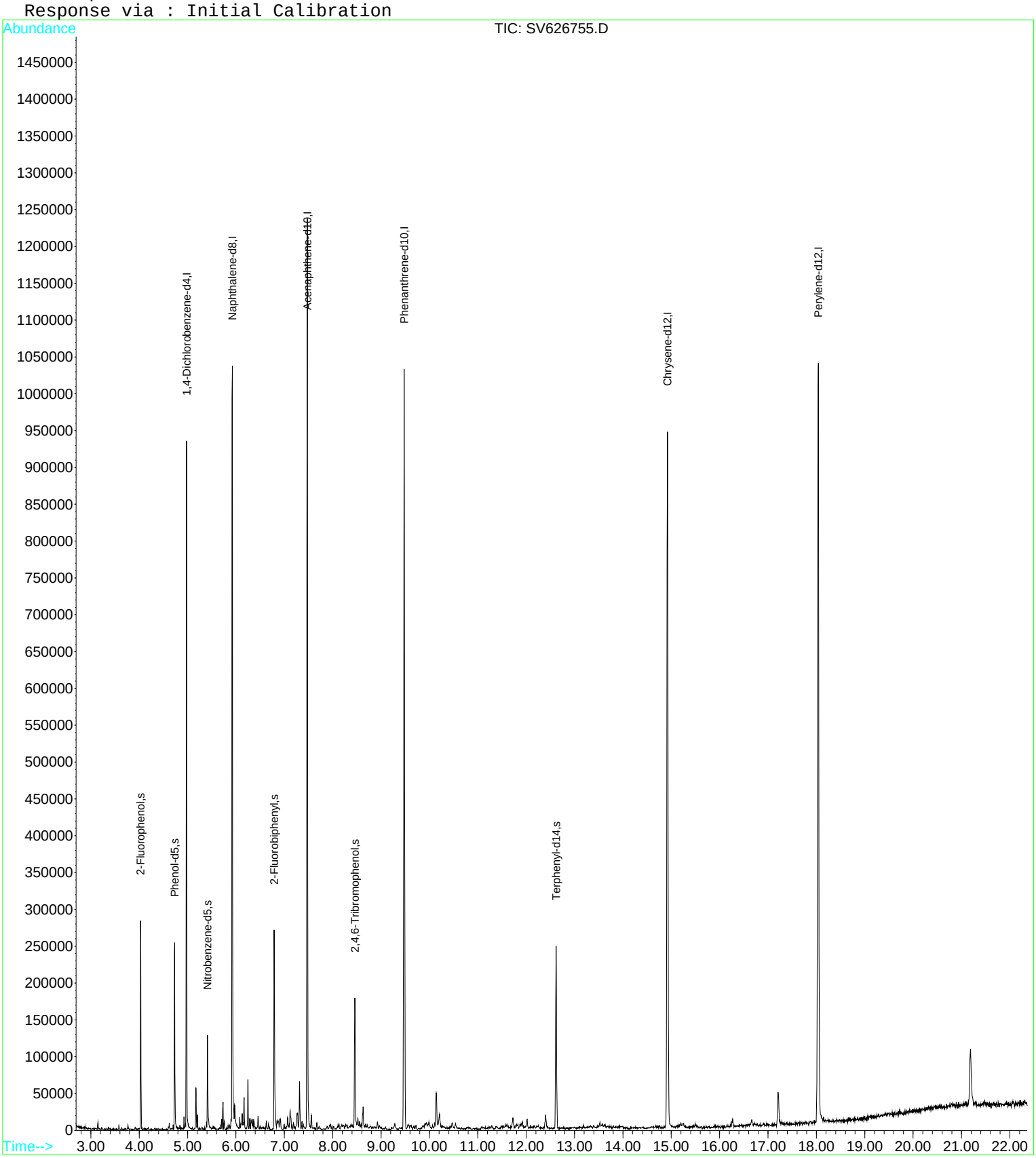
Target Compounds	Qvalue

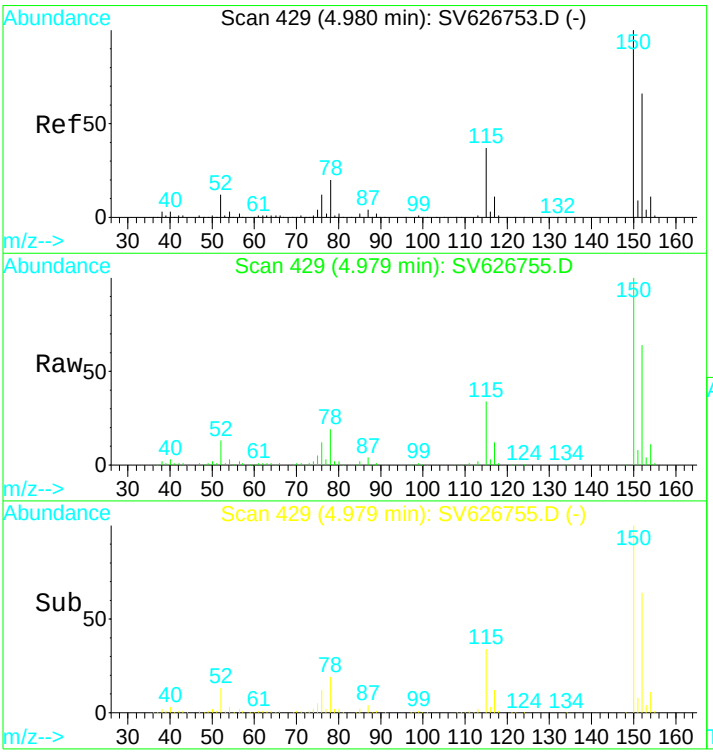
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626755.D Vial: 6
Acq On : 8 Oct 2019 11:04 am Operator: SR
Sample : 19J0144-02 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:40 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration

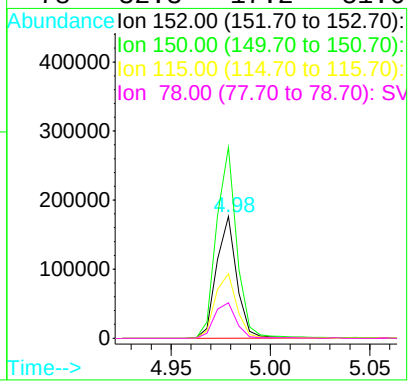


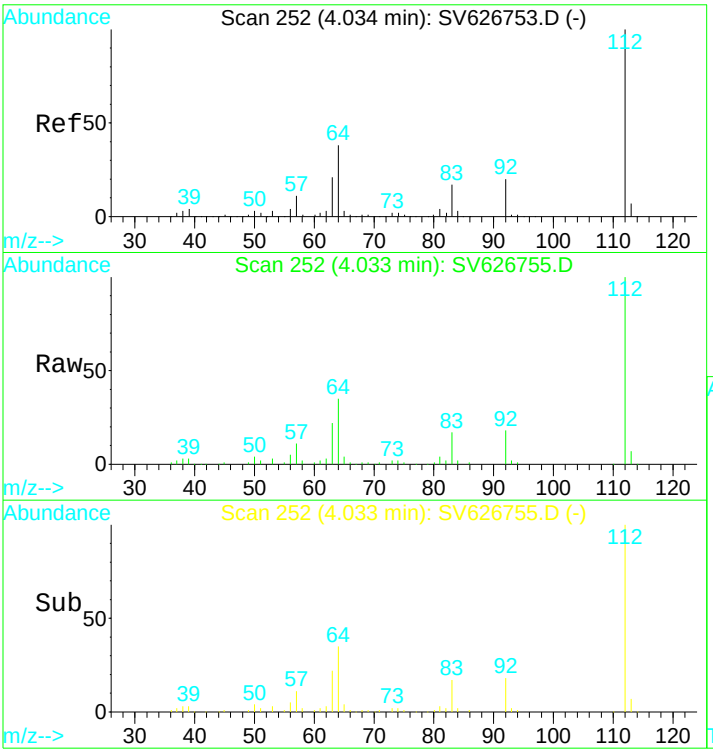


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:152 Resp: 1242097

Ion	Ratio	Lower	Upper
152	100		
150	155.8	82.1	246.3
115	56.8	28.4	85.2
78	32.3	17.2	51.6

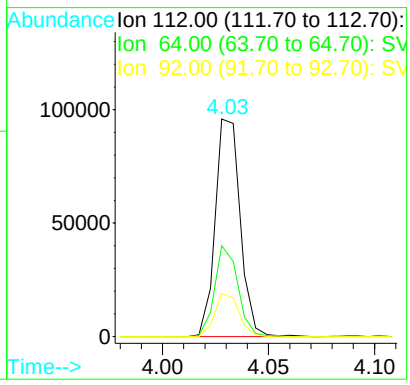


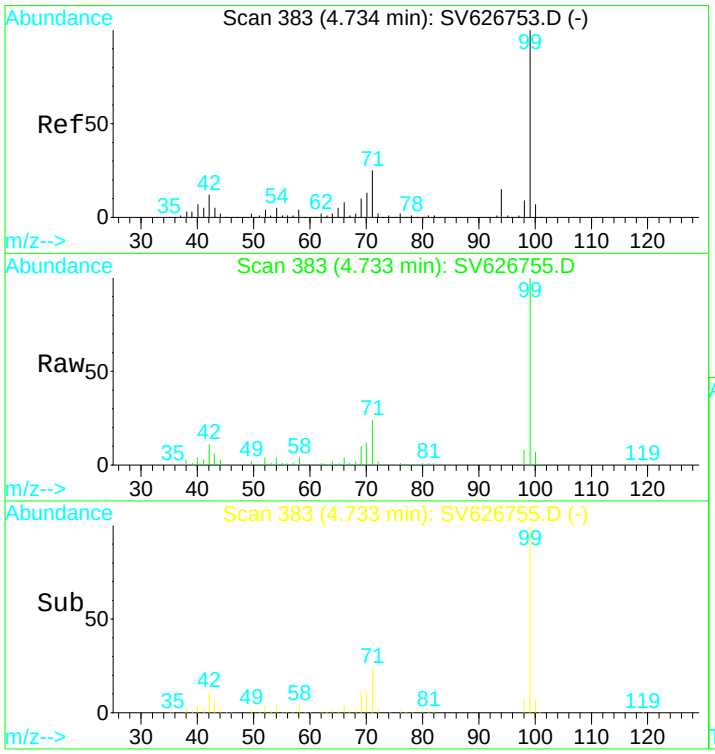


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.03 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:112 Resp: 785784

Ion	Ratio	Lower	Upper
112	100		
64	38.8	32.0	48.0
92	19.4	15.8	23.8

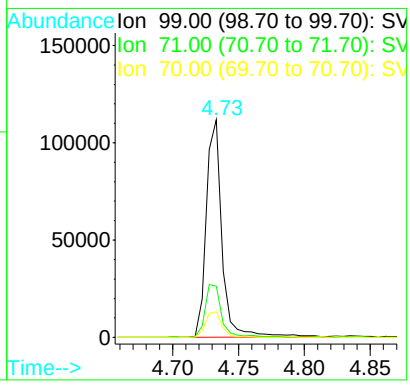


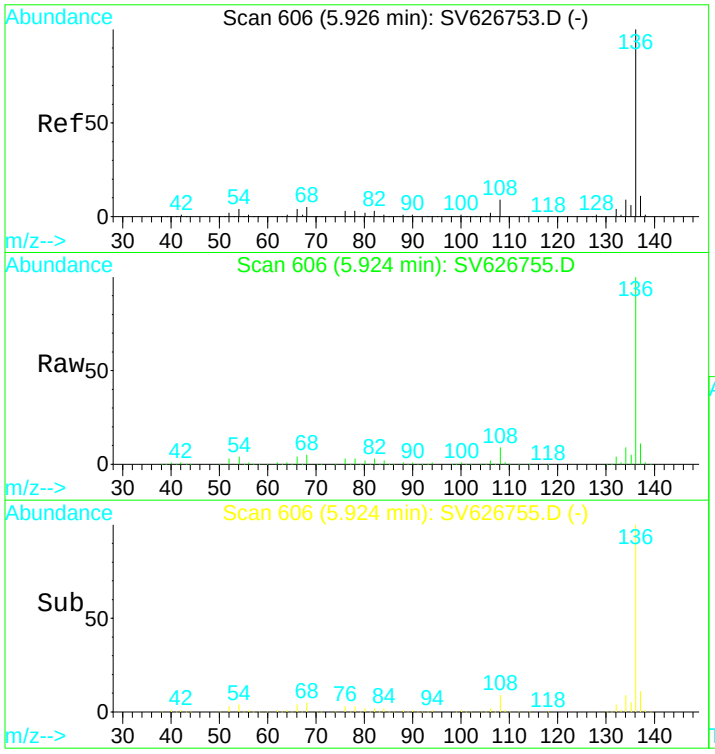


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.73 min Scan# 383
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion: 99 Resp: 922613

Ion	Ratio	Lower	Upper
99	100		
71	26.1	20.6	31.0
70	12.8	10.6	15.8

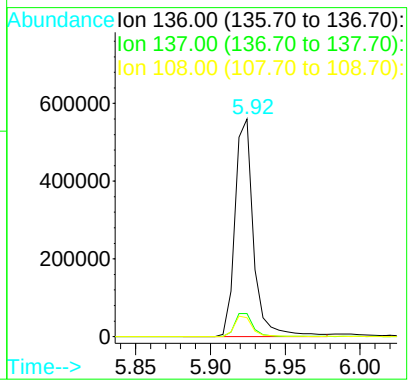


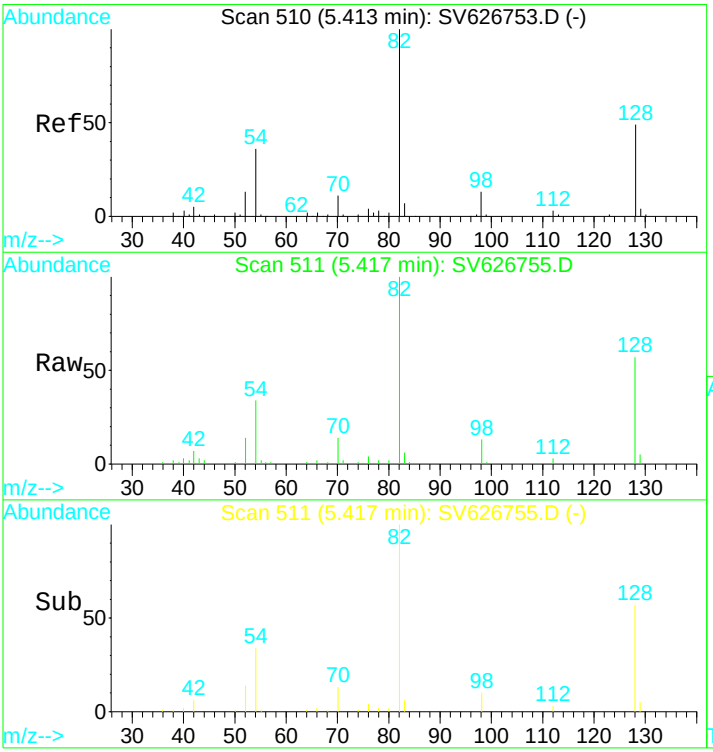


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.92 min Scan# 606
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:136 Resp: 4806057

Ion	Ratio	Lower	Upper
136	100		
137	10.4	5.5	16.7
108	9.1	4.7	14.1

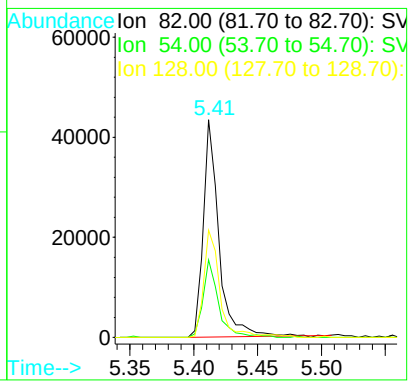


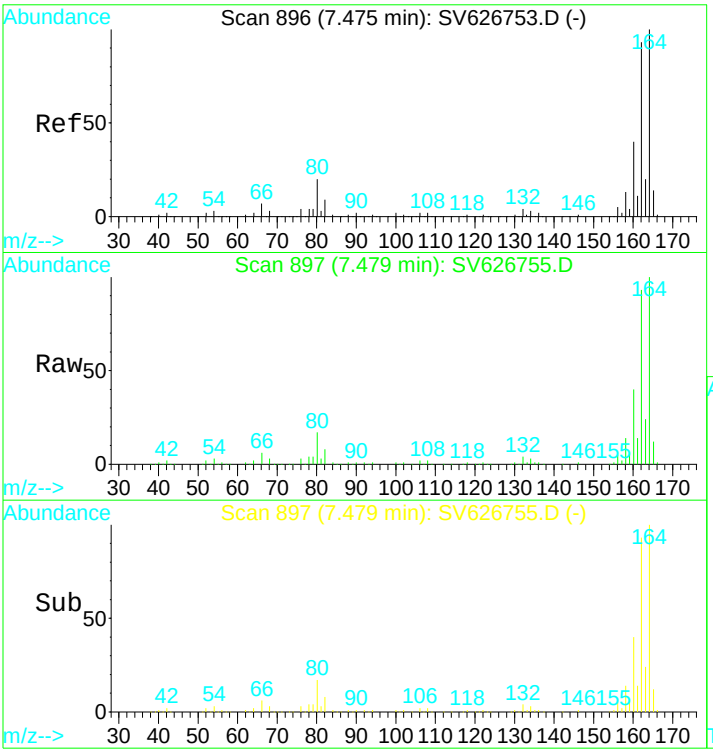


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 511
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion: 82 Resp: 366704

Ion	Ratio	Lower	Upper
82	100		
54	35.6	29.0	43.4
128	48.0	38.0	57.0

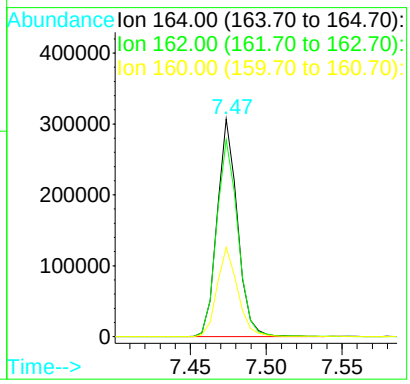


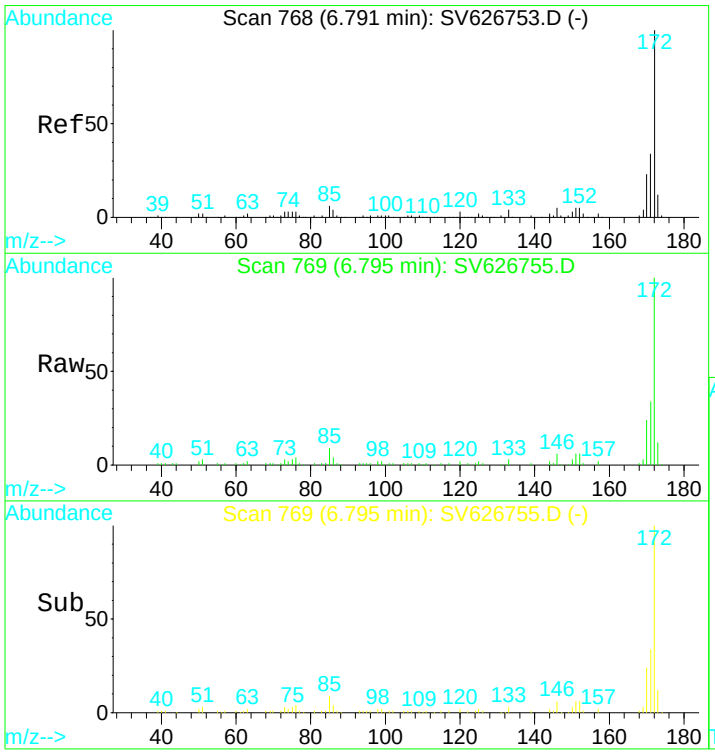


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:164 Resp: 2867899

Ion	Ratio	Lower	Upper
164	100		
162	94.4	47.4	142.2
160	41.3	21.0	63.0

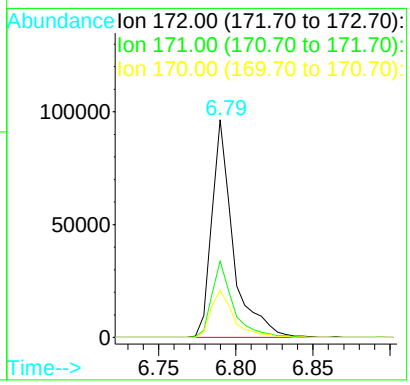


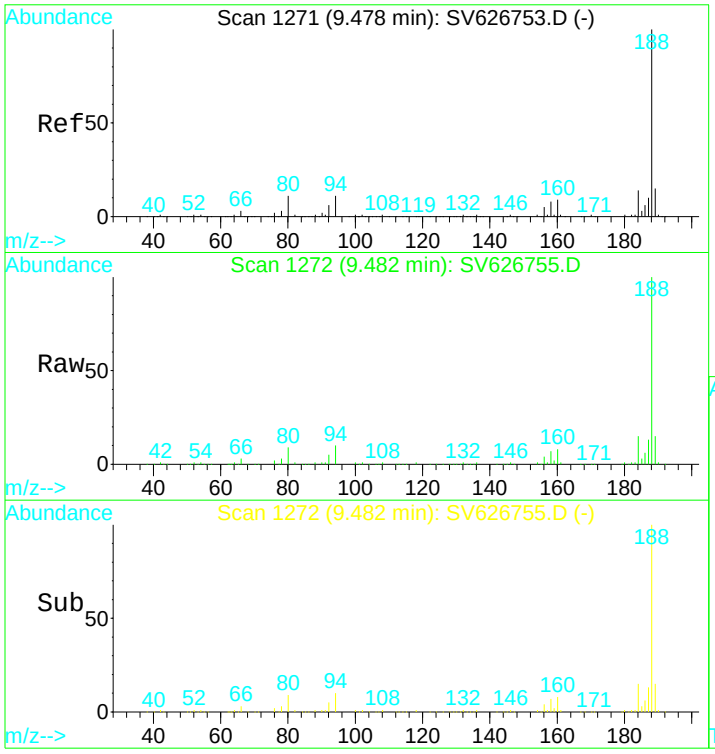


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 769
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:172 Resp: 926575

Ion	Ratio	Lower	Upper
172	100		
171	35.1	28.2	42.4
170	23.3	18.4	27.6

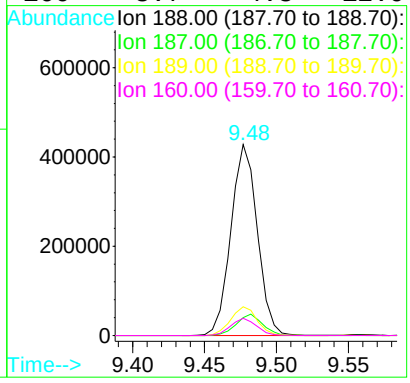


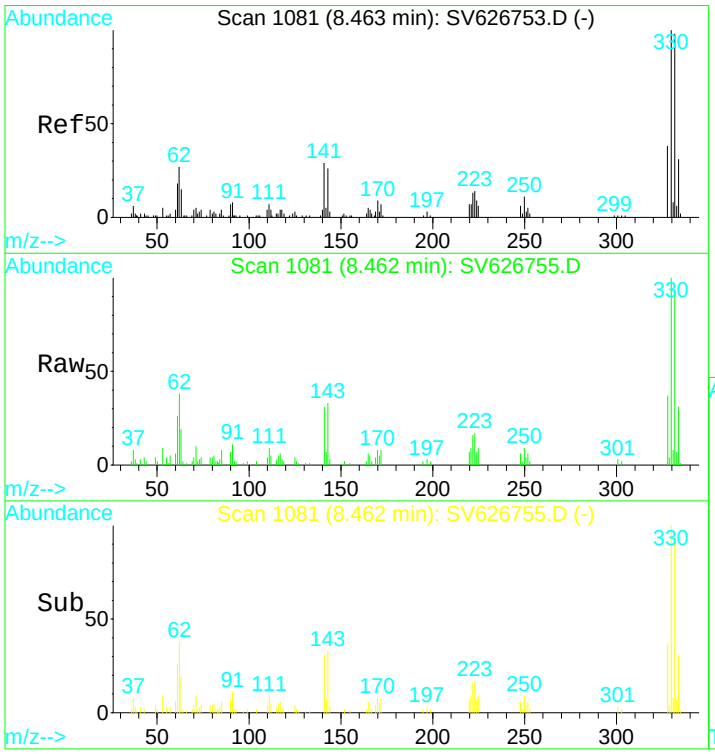


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:188 Resp: 5453323

Ion	Ratio	Lower	Upper
188	100		
187	11.0	8.5	12.7
189	15.0	7.8	23.4
160	8.7	4.3	12.9

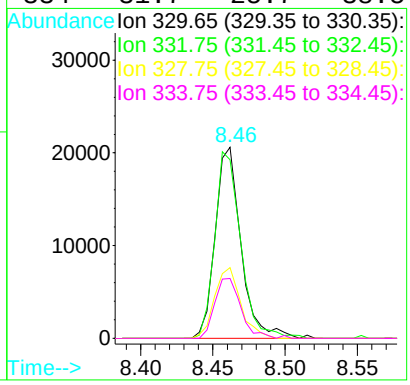


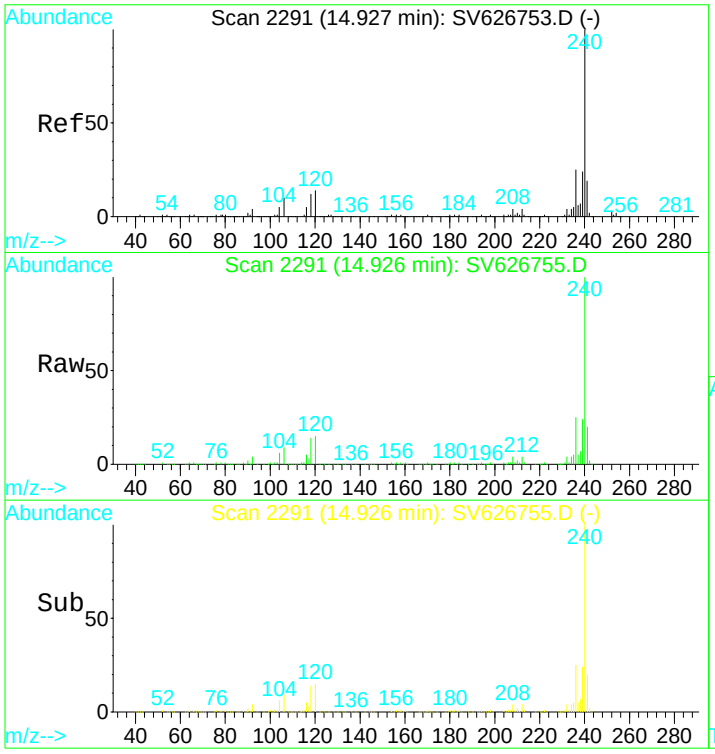


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1081
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:330 Resp: 256288

Ion	Ratio	Lower	Upper
330	100		
332	98.1	78.8	118.2
328	37.2	27.4	41.0
334	31.7	25.7	38.5

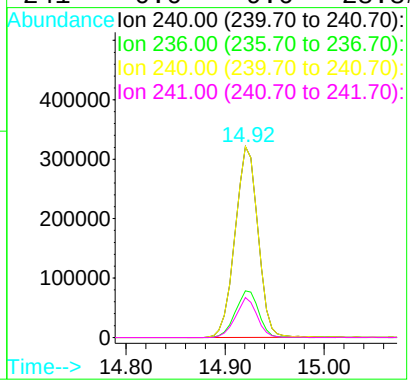


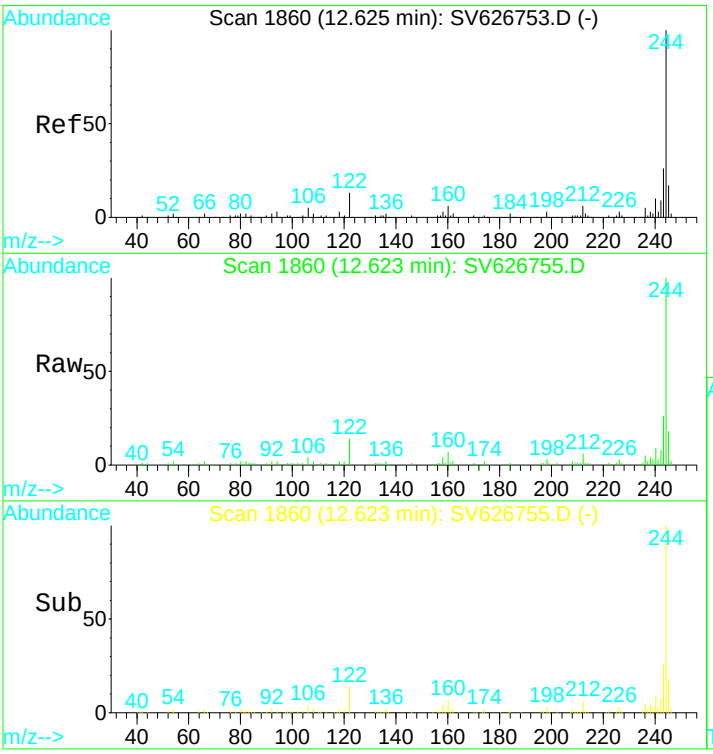


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.92 min Scan# 2291
Delta R.T. -0.02 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:240 Resp: 5162883

Ion	Ratio	Lower	Upper
240	100		
236	24.9	12.4	37.0
240	100.0	50.0	150.0
241	0.0	9.6	28.8#

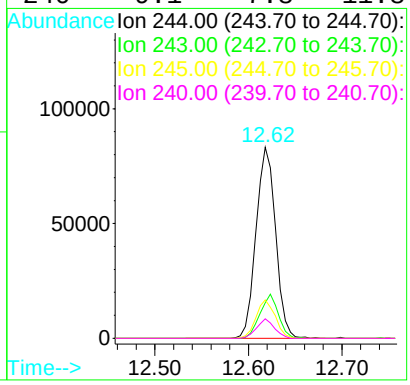


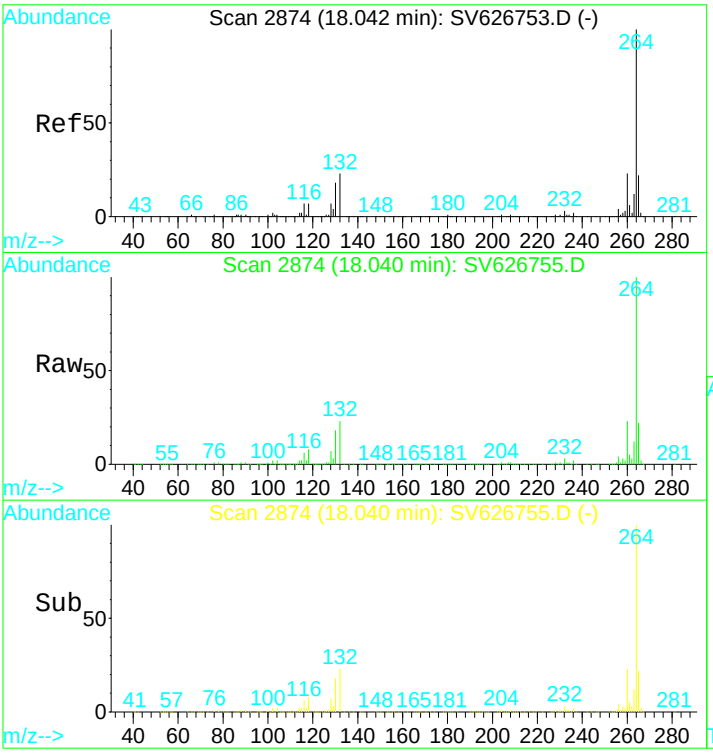


#82
Terphenyl-d14
Concen: N.D. ug/mL
RT: 12.62 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:244 Resp: 1205898

Ion	Ratio	Lower	Upper
244	100		
243	21.6	18.6	28.0
245	19.6	15.7	23.5
240	9.1	7.8	11.8

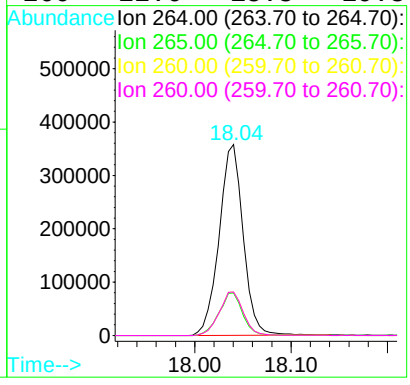




#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.04 min Scan# 2874
Delta R.T. -0.02 min
Lab File: SV626755.D
Acq: 8 Oct 2019 11:04 am

Tgt Ion:264 Resp: 6189816

Ion	Ratio	Lower	Upper
264	100		
265	0.0	0.0	0.0
260	22.6	18.0	27.0
260	22.6	15.8	29.3



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: SV626756.D

Sampled: 10/02/19 10:30 Prepared: 10/07/19 14:12 Analyzed: 10/08/19 11:35

Solids: 94.09 Preparation: EPA 3550C Initial/Final: 30.3 g / 1 mL

Batch: BJ90406 Sequence: Y9J0832 Calibration: YJ90006 Instrument: BNA#6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0878	U
65794-96-9	3- & 4-Methylphenols	2	0.0878	U
83-32-9	Acenaphthene	2	0.0878	U
208-96-8	Acenaphthylene	2	0.0878	U
120-12-7	Anthracene	2	0.0666	JD
56-55-3	Benzo(a)anthracene	2	0.116	D
50-32-8	Benzo(a)pyrene	2	0.102	D
205-99-2	Benzo(b)fluoranthene	2	0.0821	JD
191-24-2	Benzo(g,h,i)perylene	2	0.0617	JD
207-08-9	Benzo(k)fluoranthene	2	0.0856	JD
218-01-9	Chrysene	2	0.112	D
53-70-3	Dibenzo(a,h)anthracene	2	0.0878	U
132-64-9	Dibenzofuran	2	0.0878	U
206-44-0	Fluoranthene	2	0.267	D
86-73-7	Fluorene	2	0.0878	U
118-74-1	Hexachlorobenzene	2	0.0878	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0554	JD
91-20-3	Naphthalene	2	0.0878	U
87-86-5	Pentachlorophenol	2	0.0878	U
85-01-8	Phenanthrene	2	0.296	D
108-95-2	Phenol	2	0.0878	U
129-00-0	Pyrene	2	0.227	D

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.75	1.03	59.0	20 - 108	
SURR: Phenol-d5	1.75	0.970	55.3	23 - 114	
SURR: Nitrobenzene-d5	0.877	0.603	68.8	22 - 108	
SURR: 2-Fluorobiphenyl	0.877	0.563	64.2	21 - 113	
SURR: 2,4,6-Tribromophenol	1.75	1.21	69.2	19 - 110	
SURR: Terphenyl-d14	0.877	0.559	63.8	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1284644	4.98	1333046	4.98	
ISTD: Naphthalene-d8	5116738	5.92	5525424	5.93	
ISTD: Acenaphthene-d10	3131654	7.48	3115909	7.48	
ISTD: Phenanthrene-d10	5966570	9.48	5913317	9.48	
ISTD: Chrysene-d12	5933273	14.93	5994949	14.93	
ISTD: Perylene-d12	7103130	18.04	7224087	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626756.D Vial: 7
Acq On : 8 Oct 2019 11:35 am Operator: SR
Sample : 19J0144-03 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:41 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

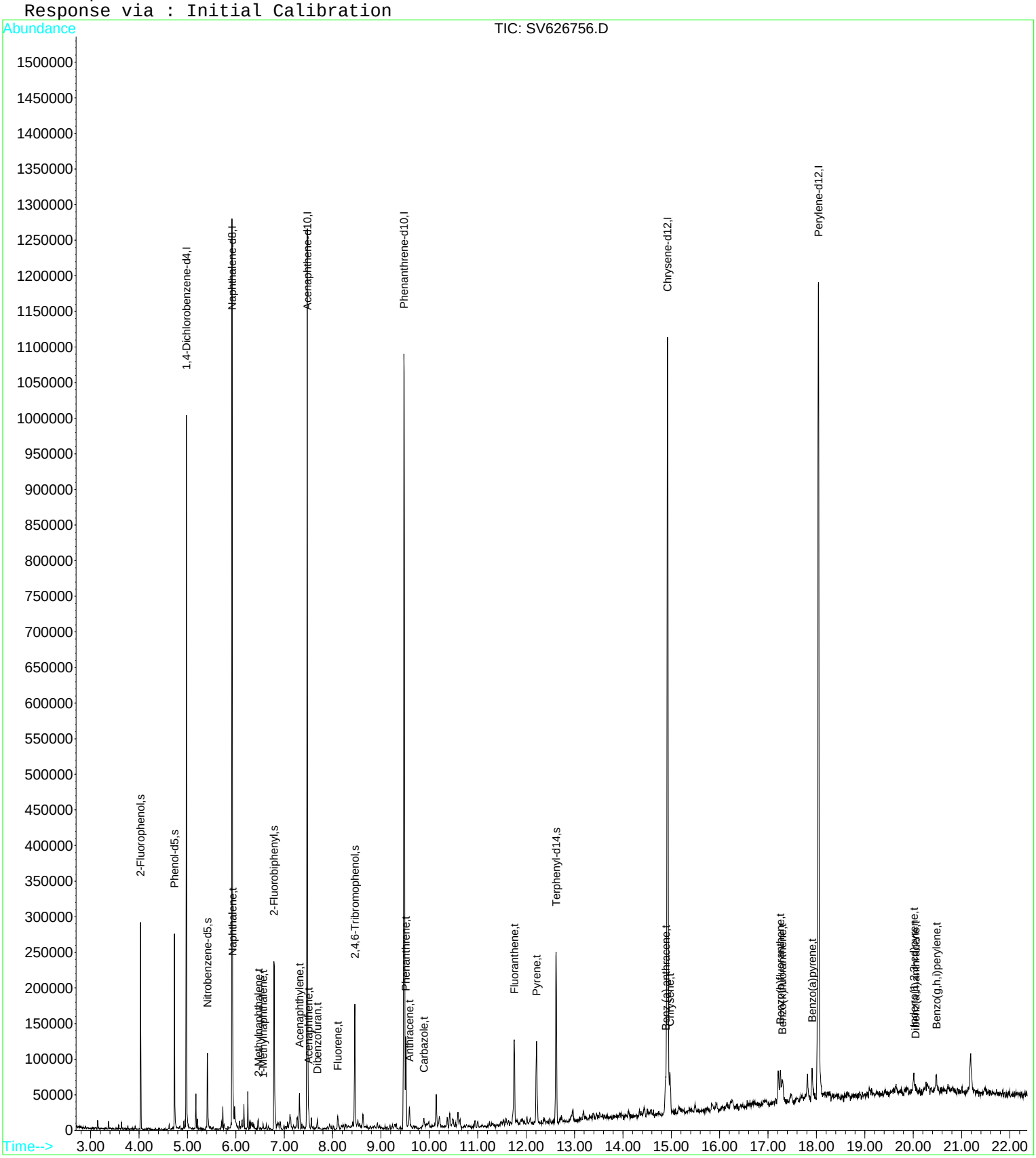
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1284644	40.00	ug/mL	0.00
21) Naphthalene-d8	5.92	136	5116738	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3131654	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5966570	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5933273	40.00	ug/mL	-0.02
92) Perylene-d12	18.04	264	7103130	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	733526	14.75	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 19.67%			
5) Phenol-d5	4.73	99	859329	13.83	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 18.44%			
22) Nitrobenzene-d5	5.42	82	355676	8.60	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 17.20%#			
45) 2-Fluorobiphenyl	6.79	172	897180	8.02	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 16.04%#			
67) 2,4,6-Tribromophenol	8.46	330	263049	17.30	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 23.07%#			
82) Terphenyl-d14	12.62	244	1177014	7.97	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 15.94%#			
Target Compounds						Qvalue
32) Naphthalene	5.94	128	67450	0.50	ug/mL#	57
37) 1-Methylnaphthalene	6.57	141	19588	0.22	ug/mL#	6
38) 2-Methylnaphthalene	6.47	142	19836	0.21	ug/mL#	77
50) Acenaphthylene	7.32	152	37877	0.23	ug/mL#	62
52) Acenaphthene	7.51	154	48185	0.52	ug/mL#	85
54) Dibenzofuran	7.69	168	58037	0.40	ug/mL#	89
59) Fluorene	8.11	166	54978	0.48	ug/mL#	83
73) Phenanthrene	9.52	178	690583	4.22	ug/mL	99
74) Anthracene	9.59	178	159496m	0.95	ug/mL	
75) Carbazole	9.89	167	64916	0.38	ug/mL#	92
78) Fluoranthene	11.76	202	730042	3.81	ug/mL	99
81) Pyrene	12.22	202	672604	3.24	ug/mL	97
85) Benz (a) anthracene	14.88	228	326786	1.65	ug/mL#	94
87) Chrysene	14.98	228	317805	1.60	ug/mL#	83
89) Benzo(b)fluoranthene	17.26	252	221429	1.17	ug/mL#	94
90) Benzo(k)fluoranthene	17.30	252	268910	1.22	ug/mL	94
91) Benzo(a)pyrene	17.91	252	271116	1.45	ug/mL	96
93) Indeno(1,2,3-cd)pyrene	20.02	276	185738	0.79	ug/mL#	91
94) Dibenz(a,h)anthracene	20.05	278	57899m	0.31	ug/mL	
95) Benzo(g,h,i)perylene	20.47	276	184021m	0.88	ug/mL	

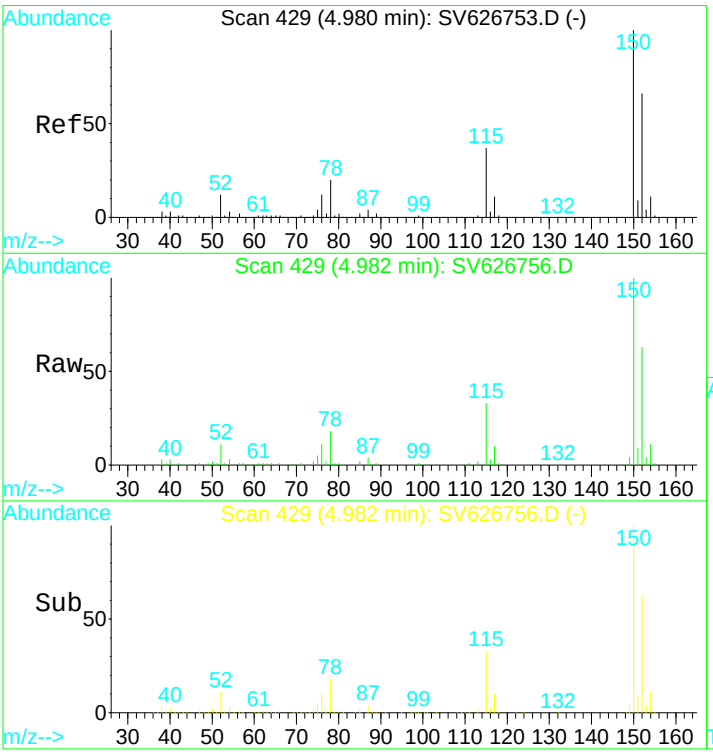
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626756.D Vial: 7
Acq On : 8 Oct 2019 11:35 am Operator: SR
Sample : 19J0144-03 Inst : BNA#6
Misc : QBSV6100819A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:41 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration

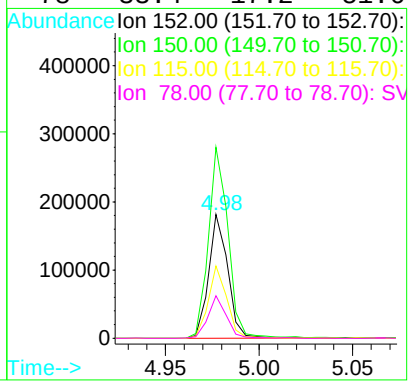


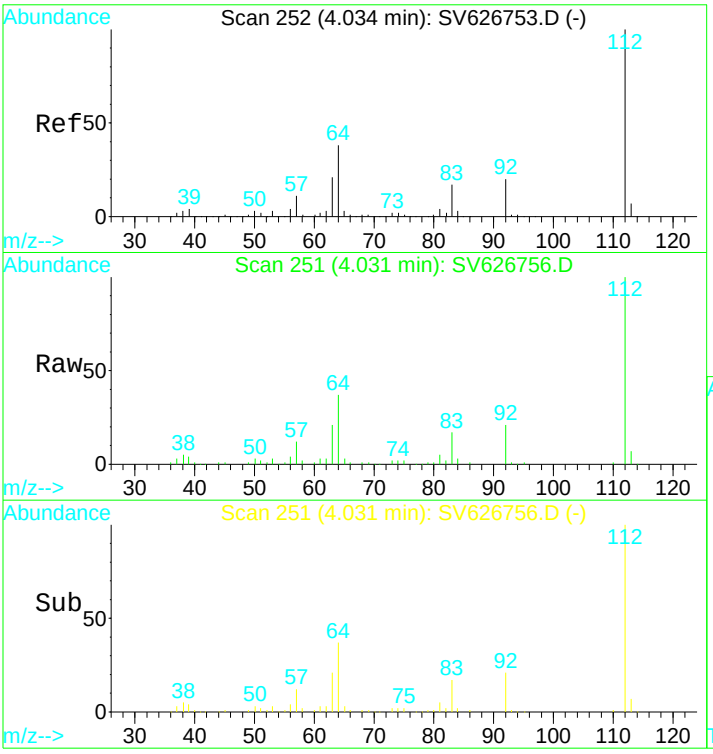


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:152 Resp: 1284644

Ion	Ratio	Lower	Upper
152	100		
150	157.4	82.1	246.3
115	56.7	28.4	85.2
78	33.4	17.2	51.6

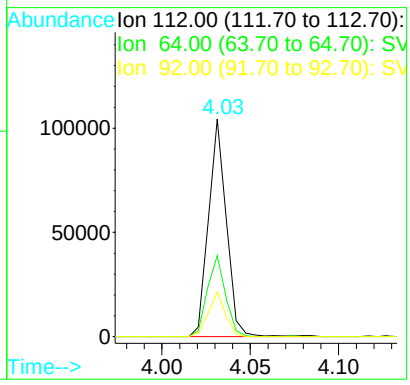


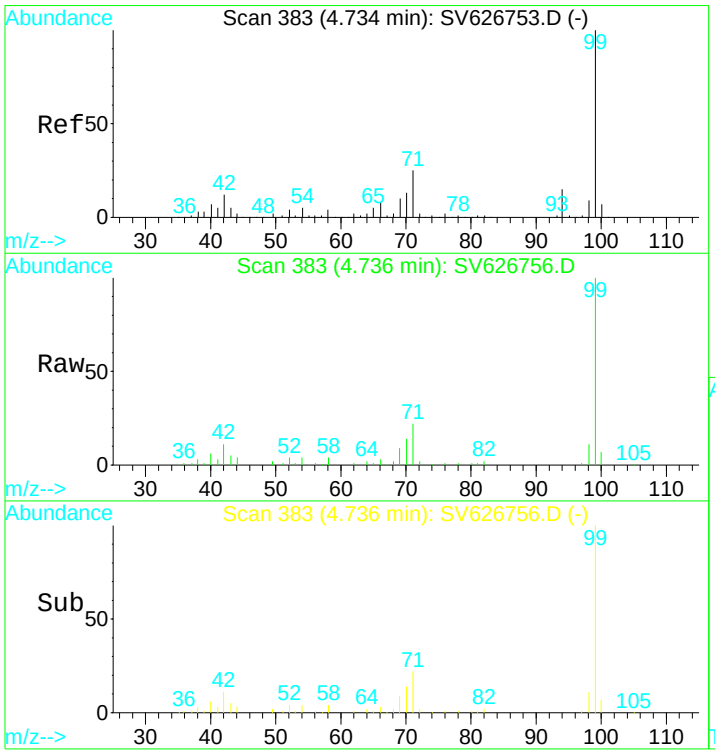


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.03 min Scan# 251
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:112 Resp: 733526

Ion	Ratio	Lower	Upper
112	100		
64	37.8	32.0	48.0
92	19.7	15.8	23.8

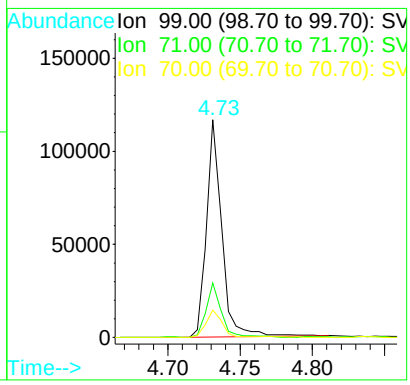


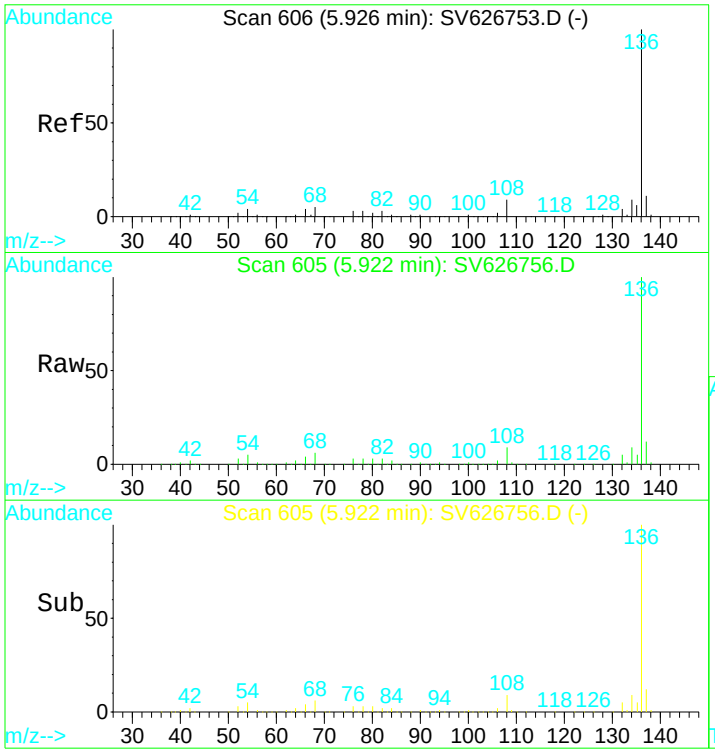


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.73 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion: 99 Resp: 859329

Ion	Ratio	Lower	Upper
99	100		
71	25.2	20.6	31.0
70	13.0	10.6	15.8

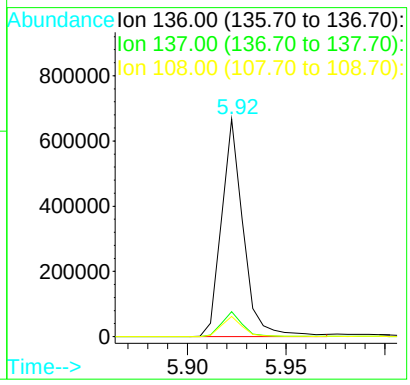


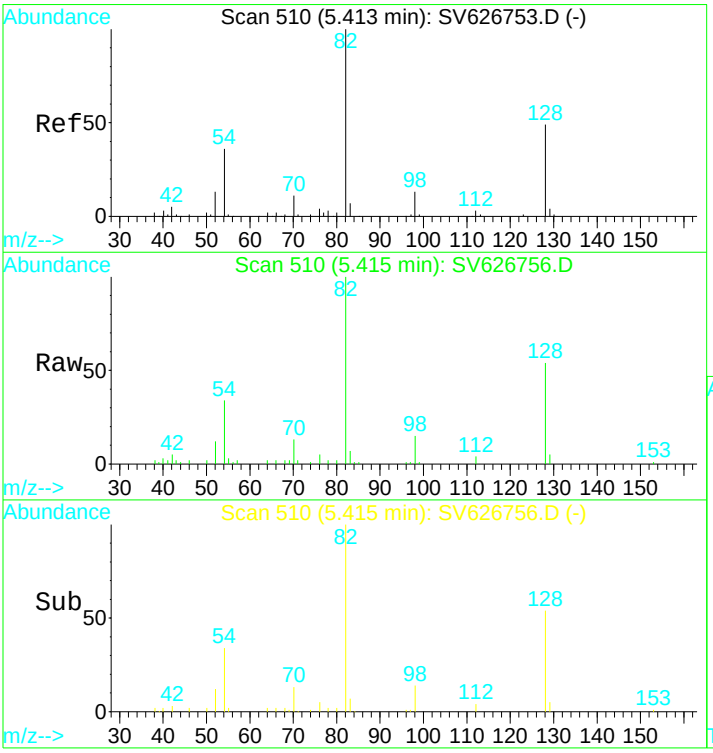


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.92 min Scan# 605
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:136 Resp: 5116738

Ion	Ratio	Lower	Upper
136	100		
137	10.7	5.5	16.7
108	9.1	4.7	14.1

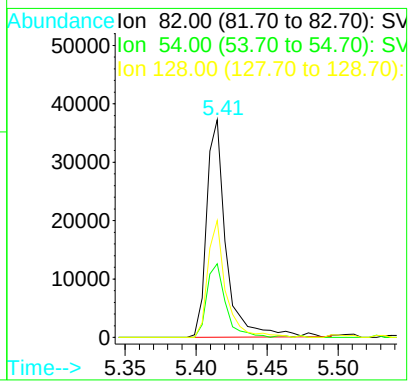


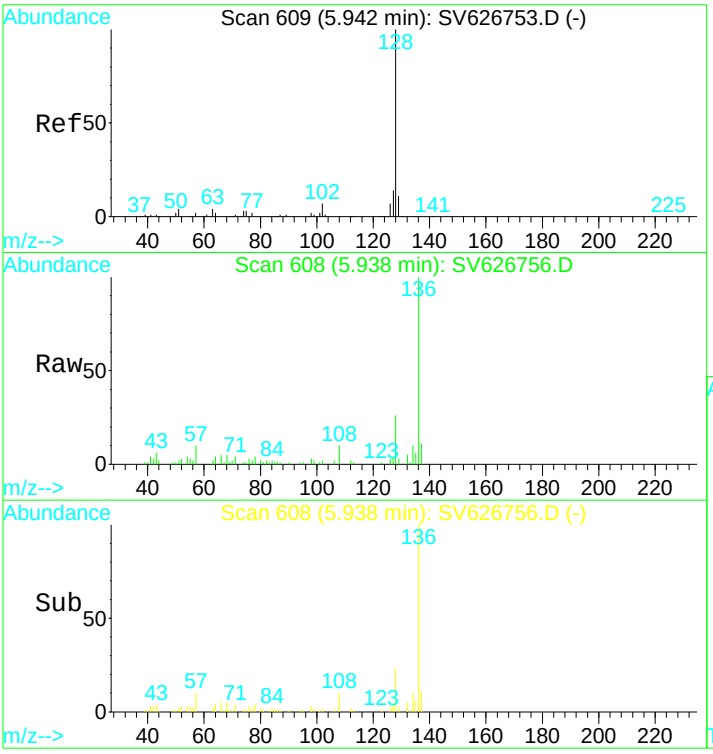


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 510
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion: 82 Resp: 355676

Ion	Ratio	Lower	Upper
82	100		
54	32.5	29.0	43.4
128	49.9	38.0	57.0

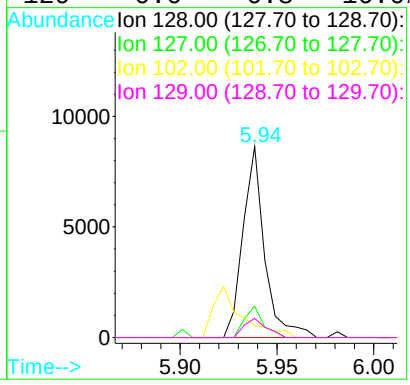


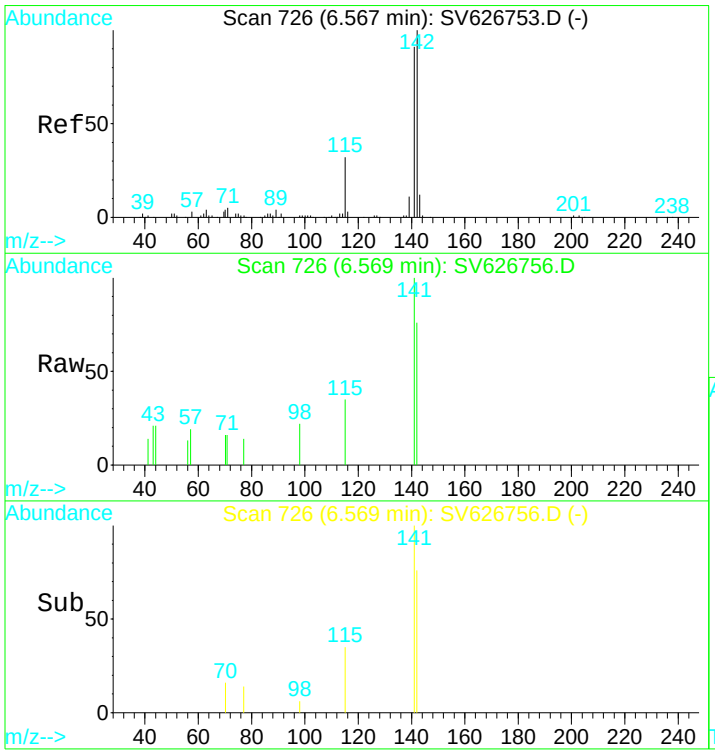


#32
Naphthalene
Concen: 0.50 ug/mL
RT: 5.94 min Scan# 608
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:128 Resp: 67450

Ion	Ratio	Lower	Upper
128	100		
127	0.0	11.0	16.4#
102	35.2	4.5	13.7#
129	0.0	6.8	16.0#

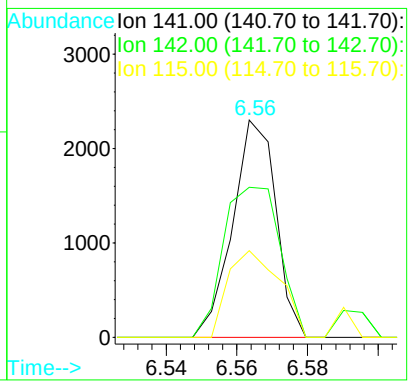


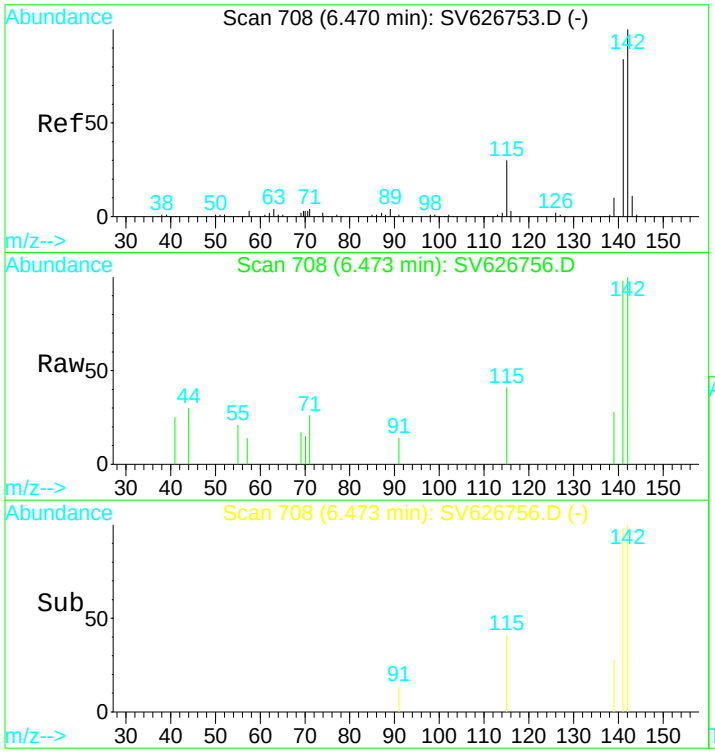


#37
1-Methylnaphthalene
Concen: 0.22 ug/mL
RT: 6.57 min Scan# 726
Delta R.T. -0.00 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:141 Resp: 19588

Ion	Ratio	Lower	Upper
141	100		
142	0.0	89.9	134.9#
115	0.0	30.4	45.6#

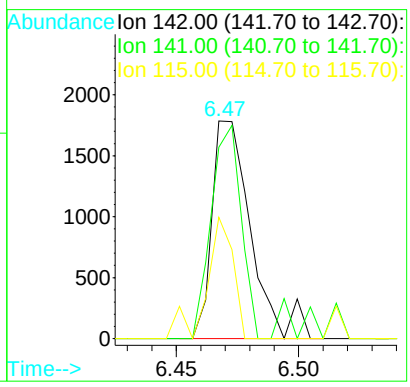


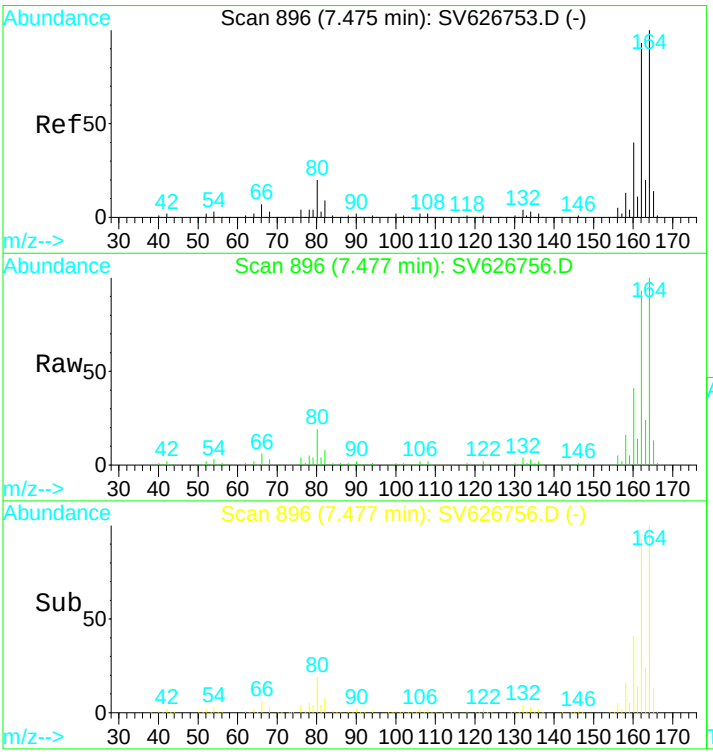


#38
2-Methylnaphthalene
Concen: 0.21 ug/mL
RT: 6.47 min Scan# 708
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:142 Resp: 19836

Ion	Ratio	Lower	Upper
142	100		
141	75.5	66.6	99.8
115	0.0	26.6	39.8#

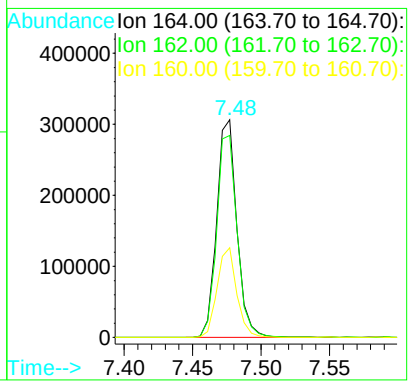


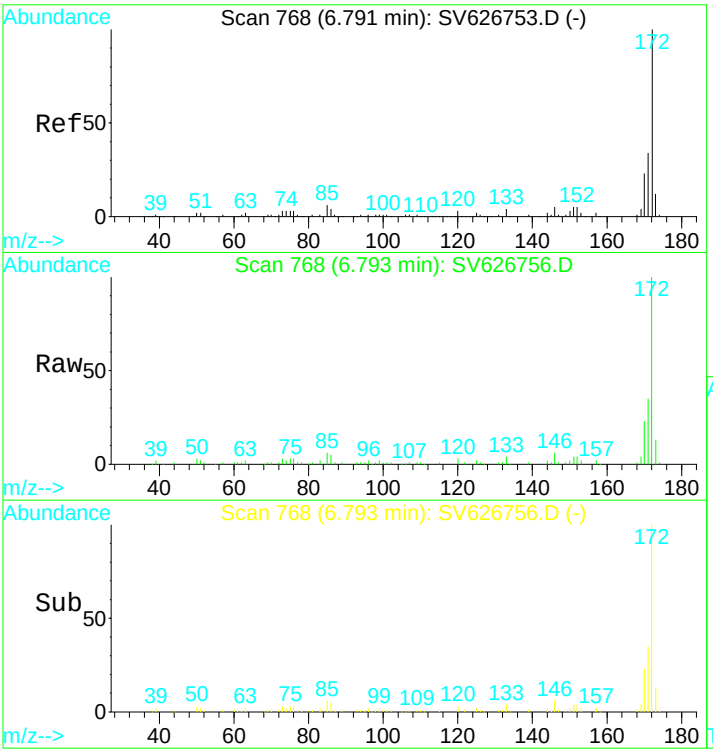


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 896
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:164 Resp: 3131654

Ion	Ratio	Lower	Upper
164	100		
162	94.1	47.4	142.2
160	40.2	21.0	63.0

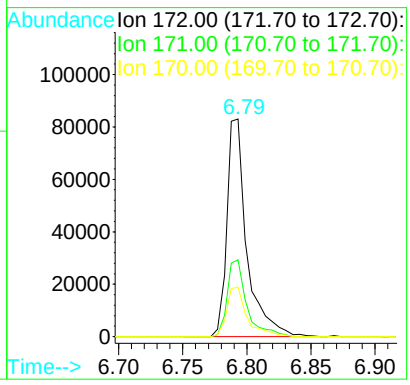


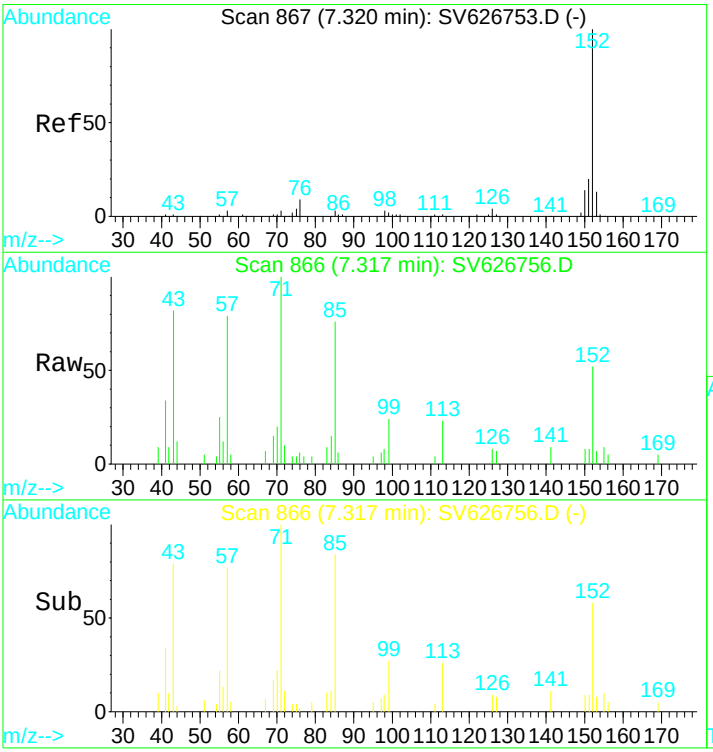


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 768
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:172 Resp: 897180

Ion	Ratio	Lower	Upper
172	100		
171	34.7	28.2	42.4
170	23.3	18.4	27.6

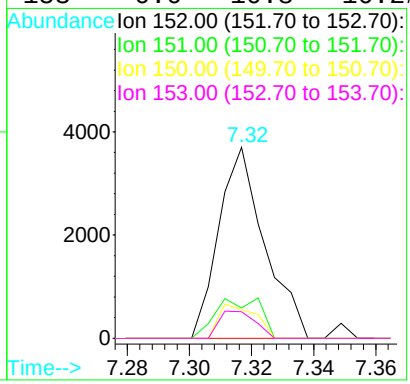


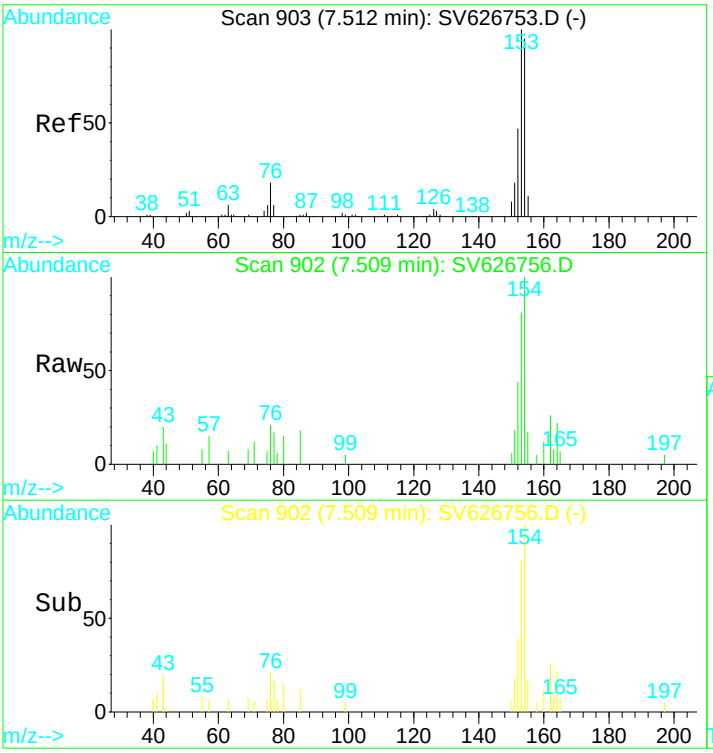


#50
Acenaphthylene
Concen: 0.23 ug/mL
RT: 7.32 min Scan# 866
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:152 Resp: 37877

Ion	Ratio	Lower	Upper
152	100		
151	0.0	15.8	23.8#
150	0.0	11.4	17.0#
153	0.0	10.8	16.2#

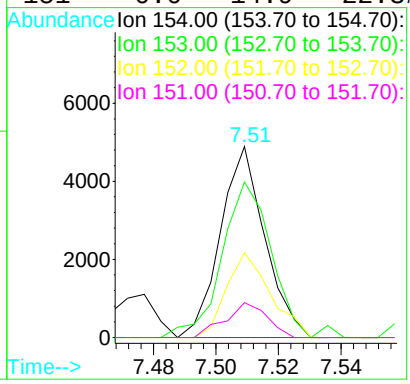


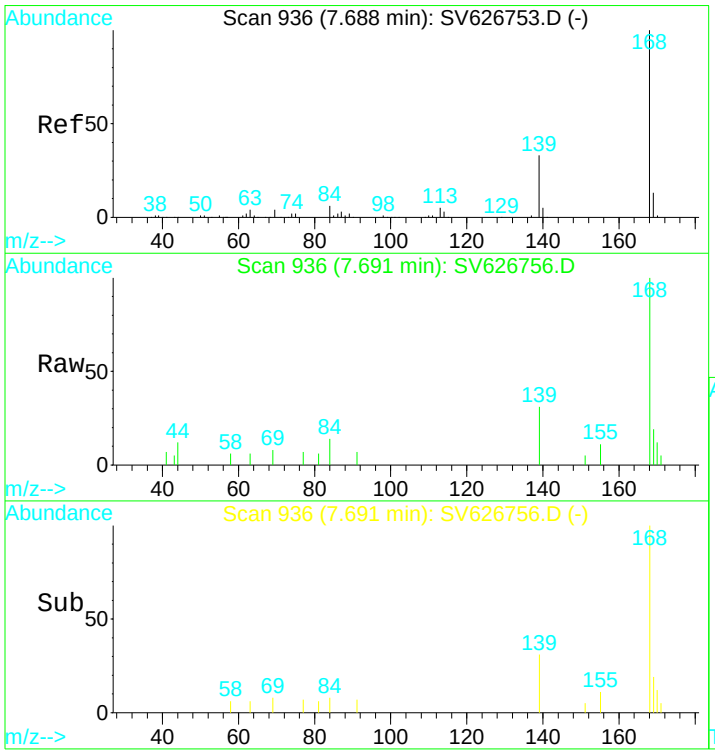


#52
Acenaphthene
Concen: 0.52 ug/mL
RT: 7.51 min Scan# 902
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:154 Resp: 48185

Ion	Ratio	Lower	Upper
154	100		
153	92.0	85.2	127.8
152	44.2	39.7	59.5
151	0.0	14.9	22.3#

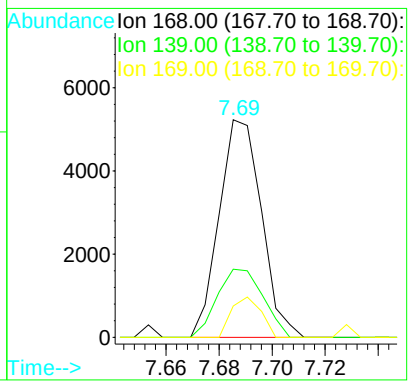


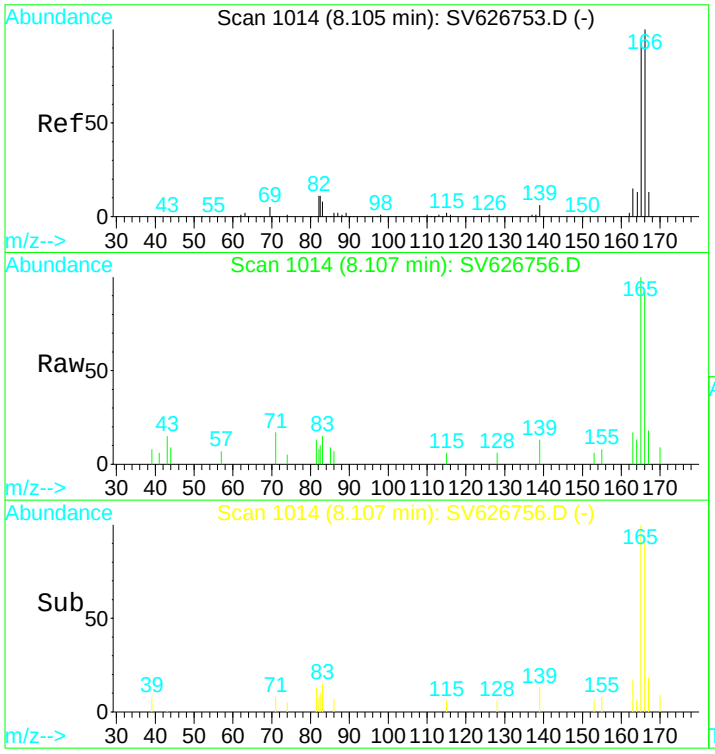


#54
Dibenzofuran
Concen: 0.40 ug/mL
RT: 7.69 min Scan# 936
Delta R.T. -0.00 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:168 Resp: 58037

Ion	Ratio	Lower	Upper
168	100		
139	34.0	27.7	41.5
169	0.0	11.1	16.7#

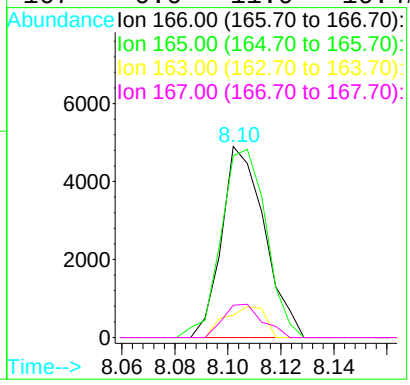


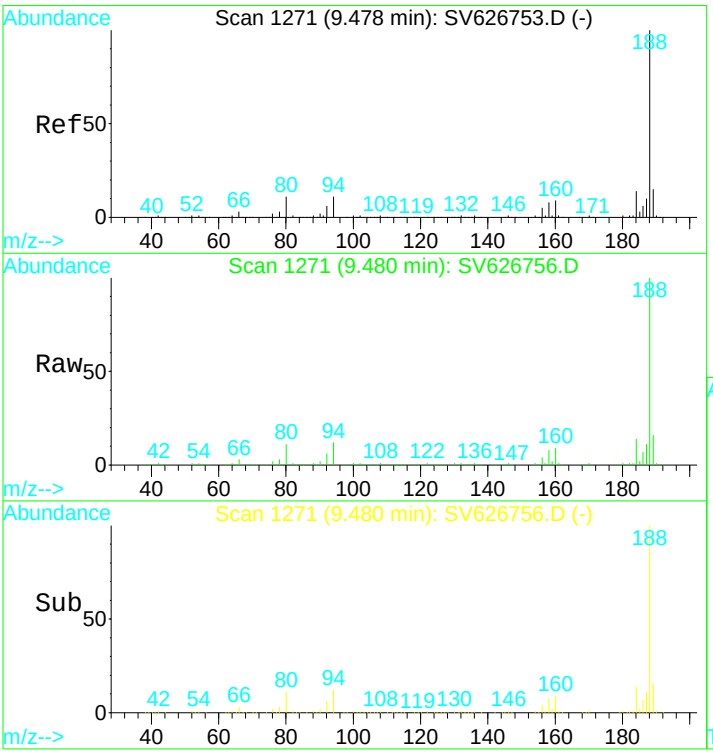


#59
Fluorene
Concen: 0.48 ug/mL
RT: 8.11 min Scan# 1014
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:166 Resp: 54978

Ion	Ratio	Lower	Upper
166	100		
165	103.5	73.8	110.8
163	0.0	12.4	18.6#
167	0.0	11.0	16.4#

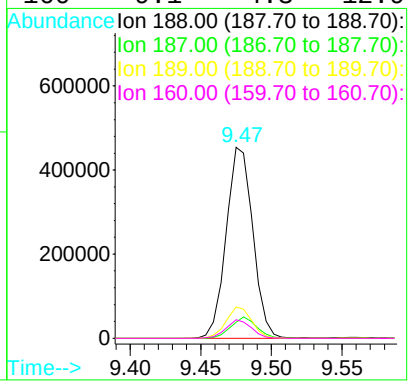


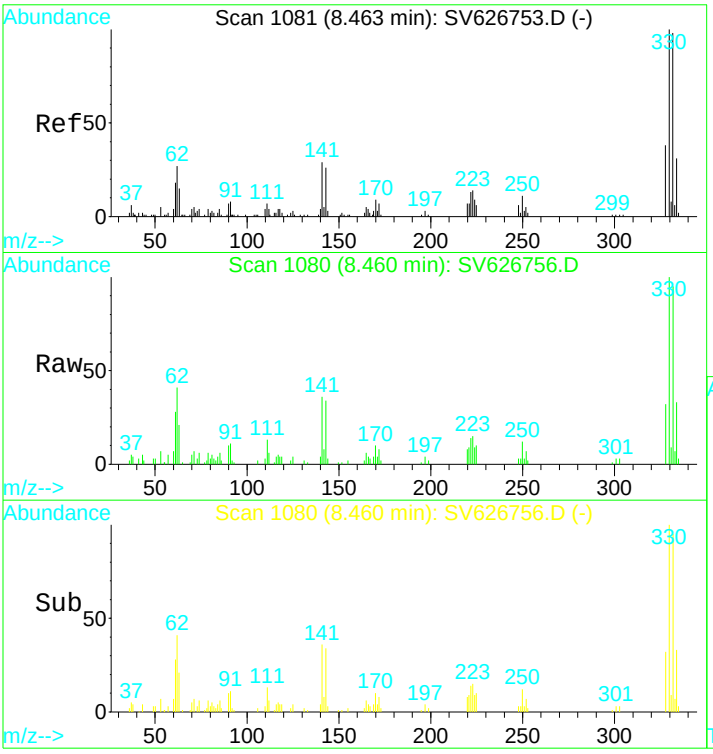


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1271
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:188 Resp: 5966570

Ion	Ratio	Lower	Upper
188	100		
187	10.6	8.5	12.7
189	15.7	7.8	23.4
160	9.1	4.3	12.9

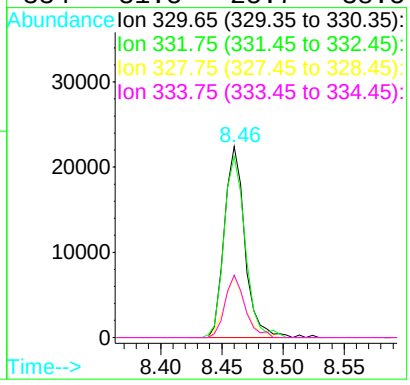


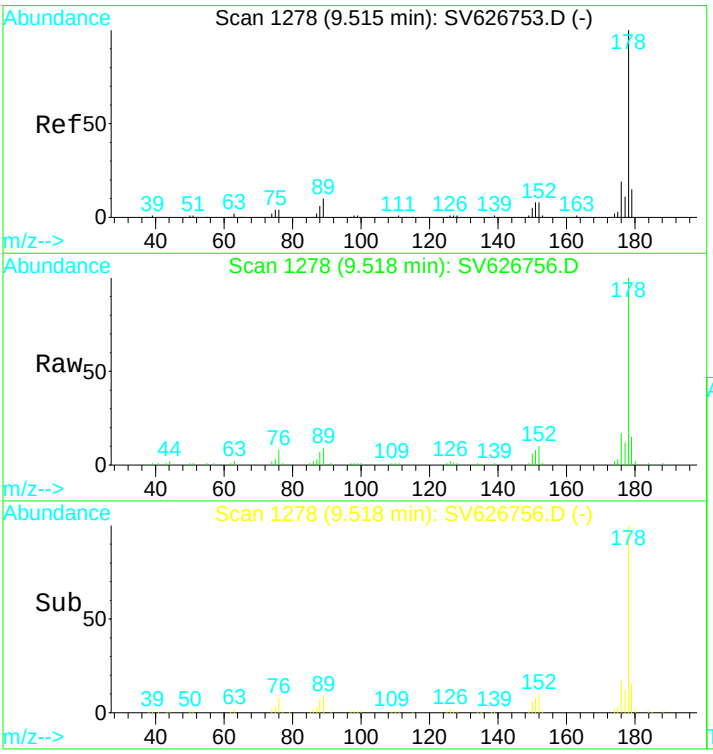


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1080
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:330 Resp: 263049

Ion	Ratio	Lower	Upper
330	100		
332	97.5	78.8	118.2
328	32.4	27.4	41.0
334	31.5	25.7	38.5

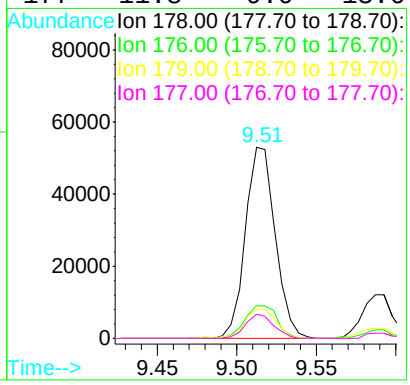


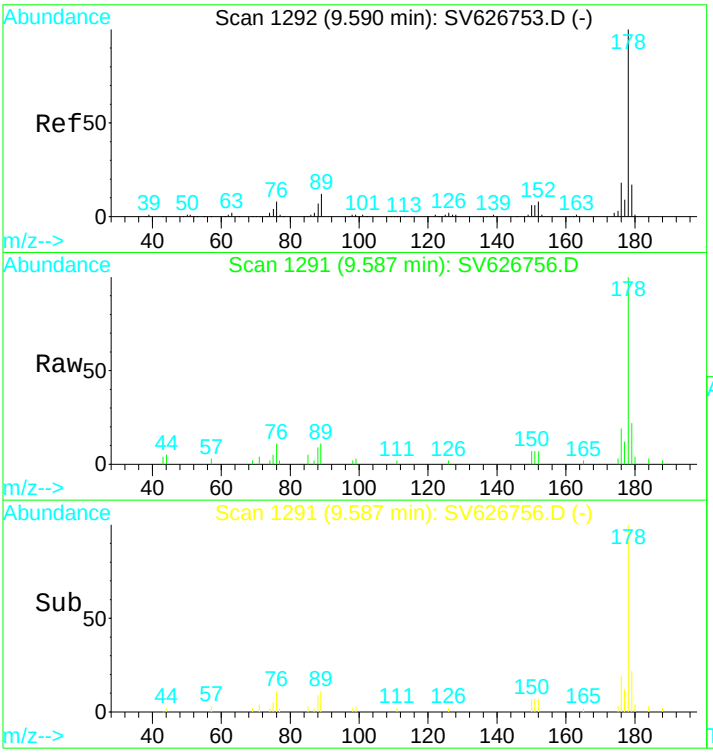


#73
Phenanthrene
Concen: 4.22 ug/mL
RT: 9.52 min Scan# 1278
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:178 Resp: 690583

Ion	Ratio	Lower	Upper
178	100		
176	18.3	15.0	22.4
179	15.8	12.3	18.5
177	11.8	9.0	13.6

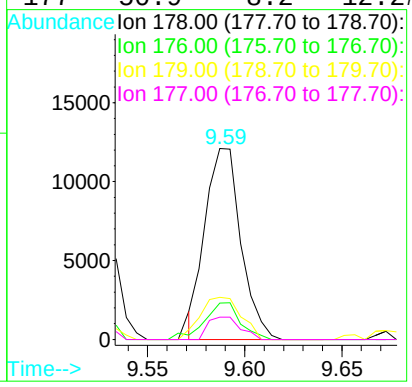


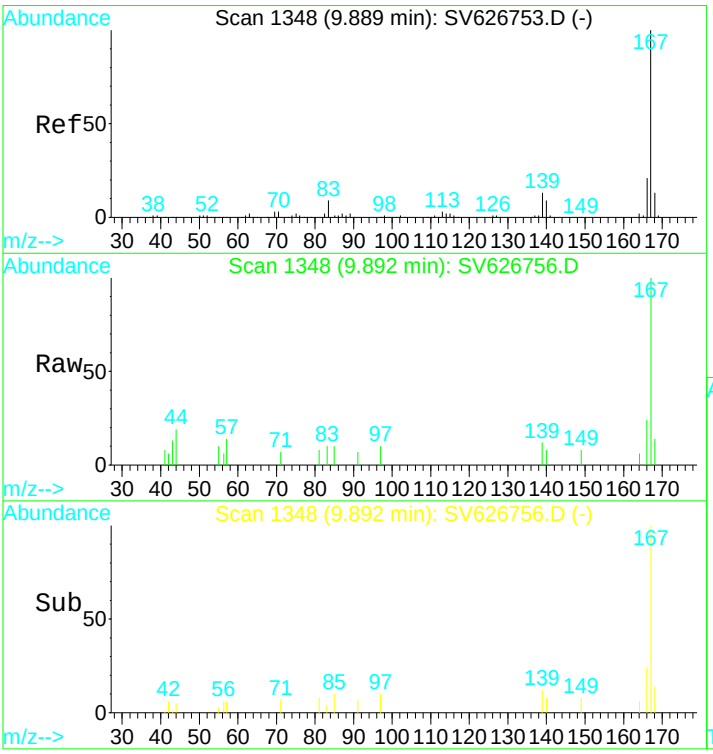


#74
Anthracene
Concen: 0.95 ug/mL m
RT: 9.59 min Scan# 1291
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:178 Resp: 159496

Ion	Ratio	Lower	Upper
178	100		
176	79.1	15.0	22.4#
179	68.7	12.7	19.1#
177	50.9	8.2	12.2#

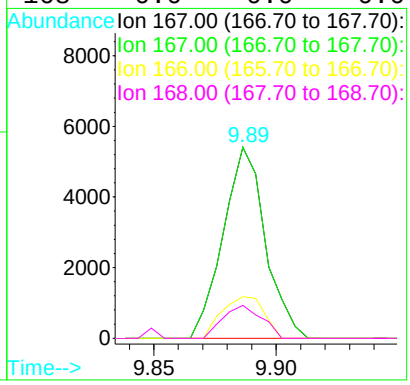


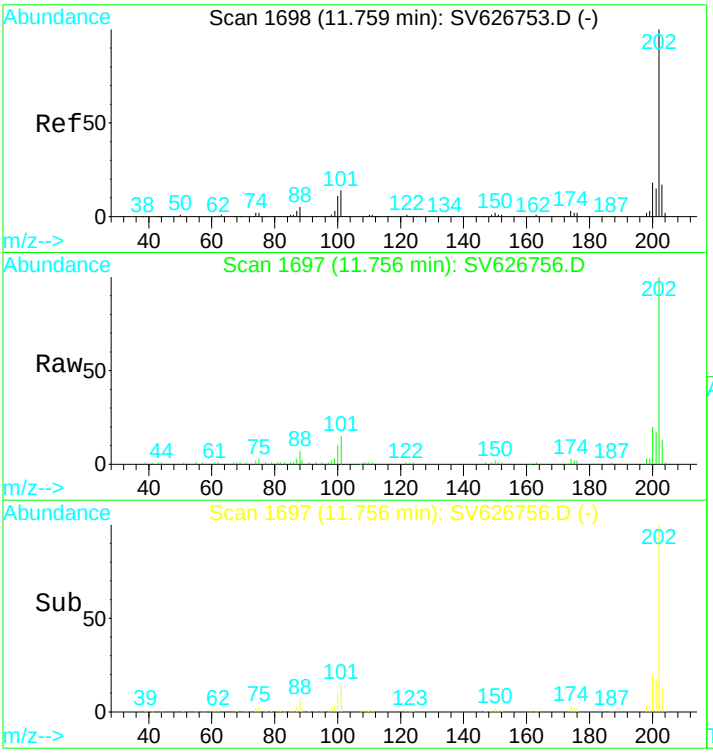


#75
Carbazole
Concen: 0.38 ug/mL
RT: 9.89 min Scan# 1348
Delta R.T. -0.00 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:167 Resp: 64916

Ion	Ratio	Lower	Upper
167	100		
167	100.0	80.0	120.0
166	0.0	10.4	31.2#
168	0.0	0.0	0.0

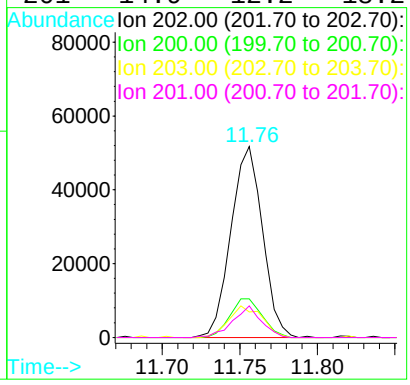


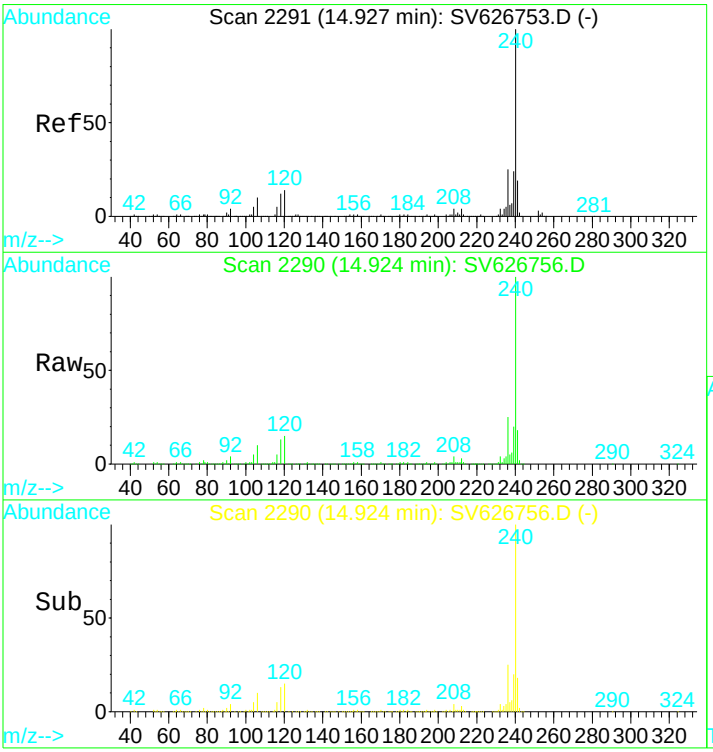


#78
Fluoranthene
Concen: 3.81 ug/mL
RT: 11.76 min Scan# 1697
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:202 Resp: 730042

Ion	Ratio	Lower	Upper
202	100		
200	20.8	15.9	23.9
203	17.6	14.0	21.0
201	14.9	12.2	18.2

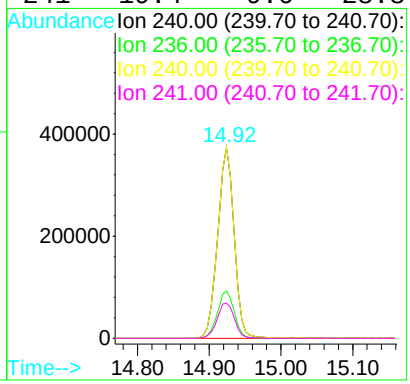


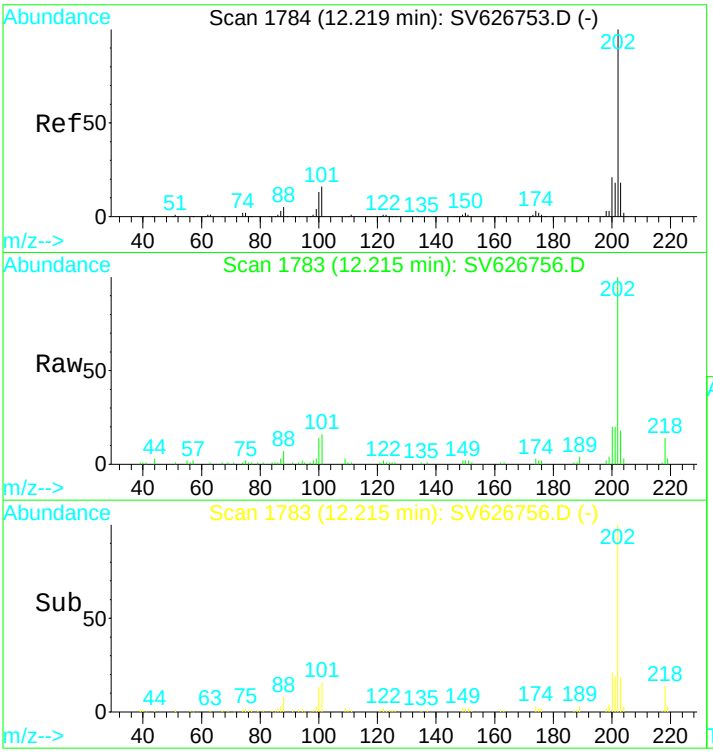


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2290
Delta R.T. -0.02 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:240 Resp: 5933273

Ion	Ratio	Lower	Upper
240	100		
236	25.2	12.4	37.0
240	100.0	50.0	150.0
241	19.4	9.6	28.8

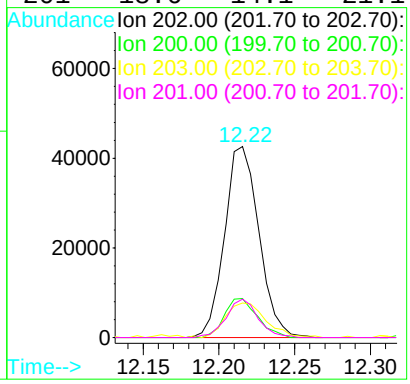


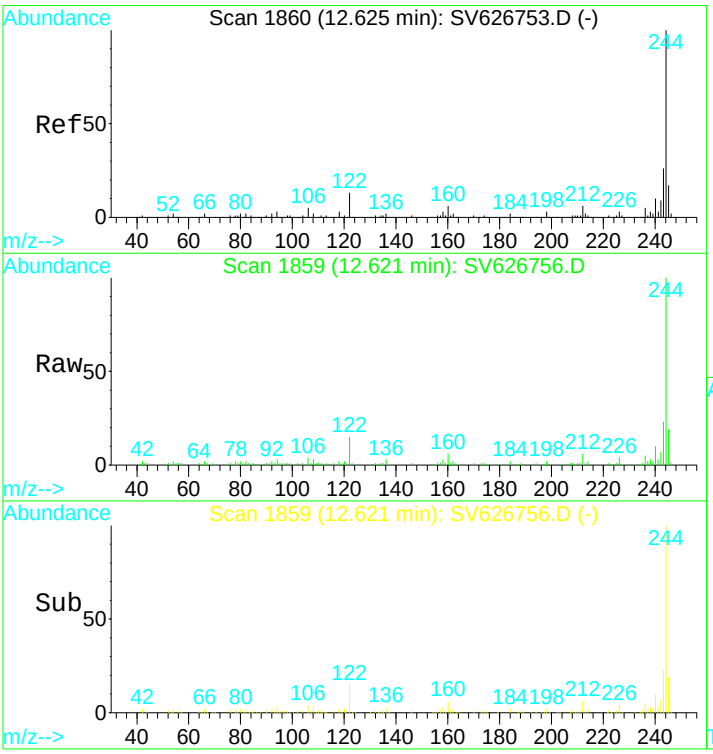


#81
Pyrene
Concen: 3.24 ug/mL
RT: 12.22 min Scan# 1783
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:202 Resp: 672604

Ion	Ratio	Lower	Upper
202	100		
200	19.6	16.2	24.4
203	21.0	14.4	21.6
201	18.6	14.1	21.1

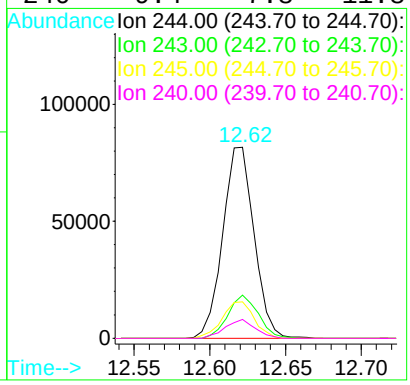


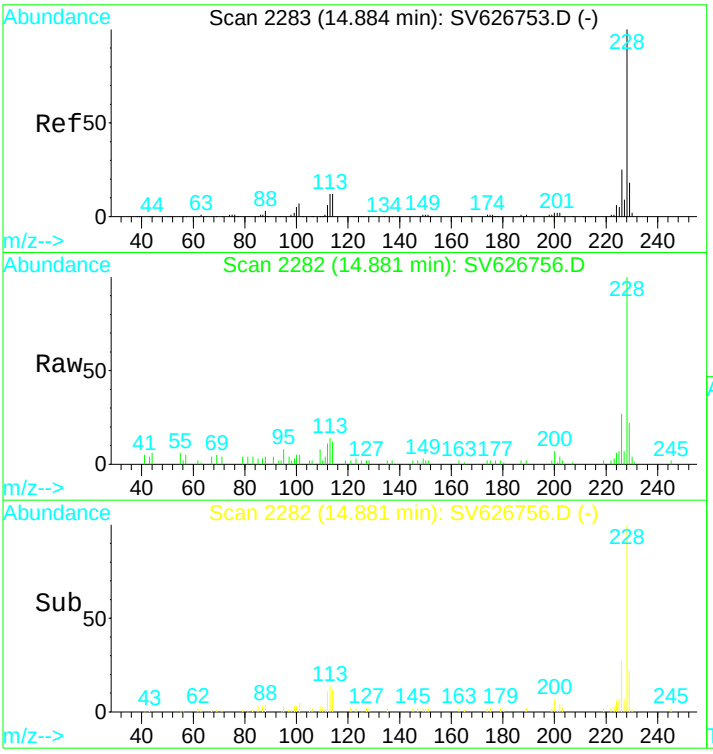


#82
Terphenyl-d14
Concen: 3.24 ug/mL
RT: 12.62 min Scan# 1859
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:244 Resp: 1177014

Ion	Ratio	Lower	Upper
244	100		
243	21.7	18.6	28.0
245	19.5	15.7	23.5
240	9.4	7.8	11.8

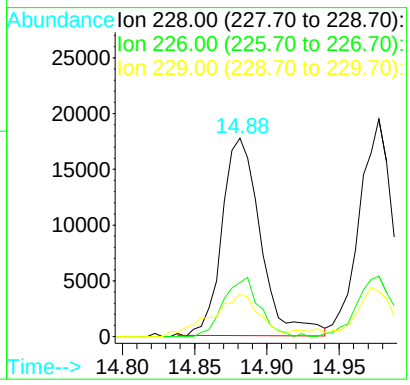


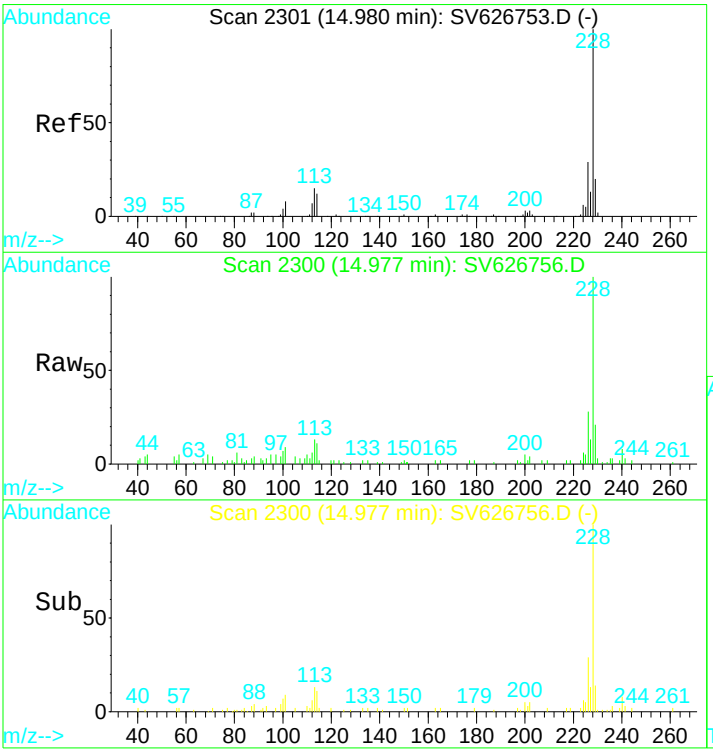


#85
Benz (a) anthracene
Concen: 1.65 ug/mL
RT: 14.88 min Scan# 2282
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:228 Resp: 326786

Ion	Ratio	Lower	Upper
228	100		
226	27.8	21.4	32.2
229	26.4	16.7	25.1#

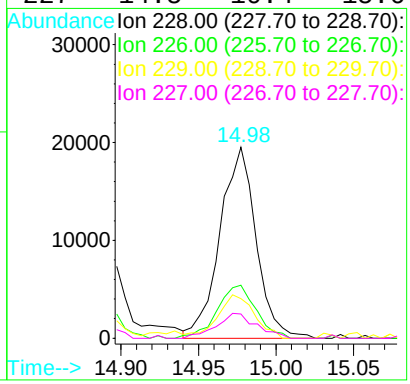


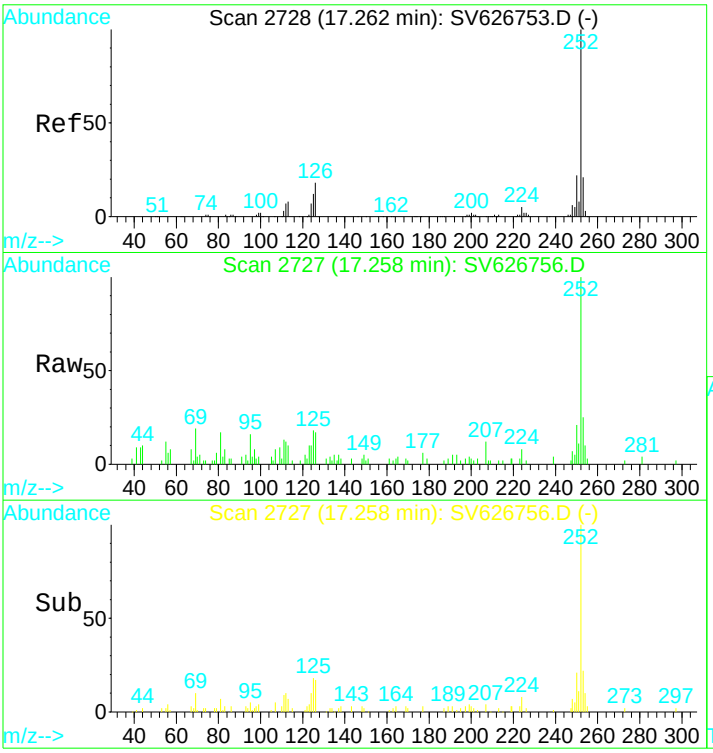


#87
Chrysene
Concen: 1.60 ug/mL
RT: 14.98 min Scan# 2300
Delta R.T. -0.02 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:228 Resp: 317805

Ion	Ratio	Lower	Upper
228	100		
226	29.5	12.6	18.8#
229	25.9	15.9	23.9#
227	14.5	10.4	15.6

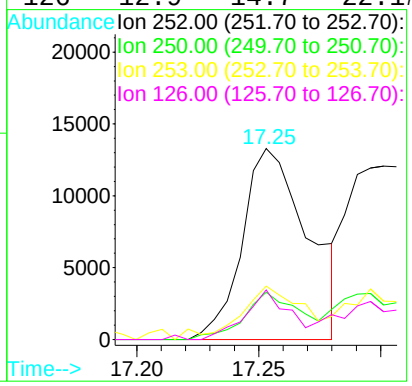


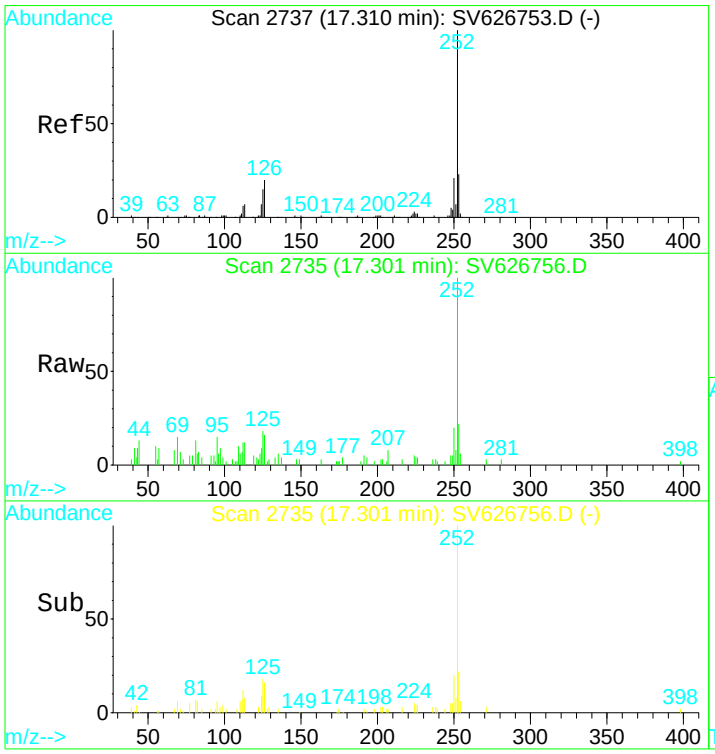


#89
Benzo(b)fluoranthene
Concen: 1.17 ug/mL
RT: 17.26 min Scan# 2727
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:252 Resp: 221429

Ion	Ratio	Lower	Upper
252	100		
250	22.6	18.2	27.4
253	24.9	18.0	27.0
126	12.9	14.7	22.1#

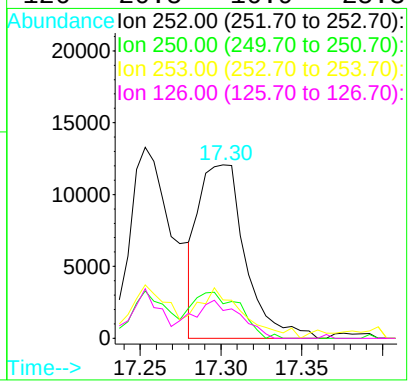


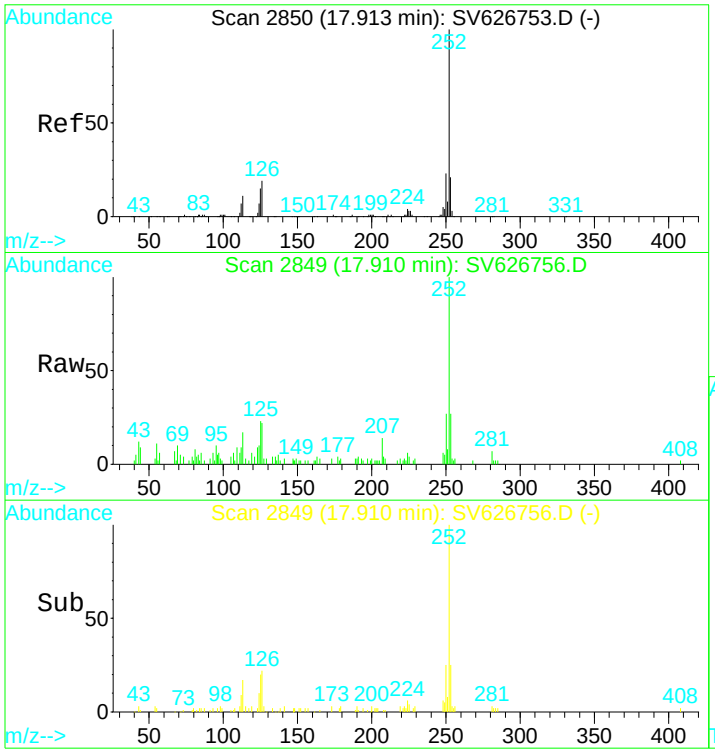


#90
Benzo(k)fluoranthene
Concen: 1.22 ug/mL
RT: 17.30 min Scan# 2735
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:252 Resp: 268910

Ion	Ratio	Lower	Upper
252	100		
250	25.8	17.7	26.5
253	25.4	17.4	26.2
126	20.5	16.9	25.3

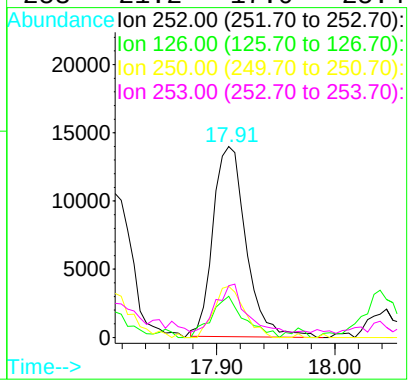


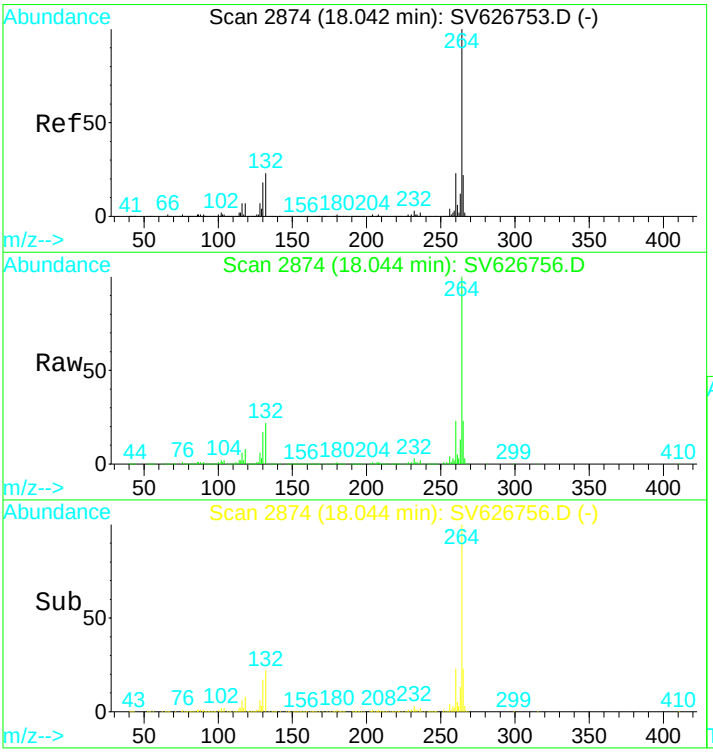


#91
Benzo(a)pyrene
Concen: 1.45 ug/mL
RT: 17.91 min Scan# 2849
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:252 Resp: 271116

Ion	Ratio	Lower	Upper
252	100		
126	21.4	14.8	22.2
250	24.6	17.6	26.4
253	21.2	17.0	25.4

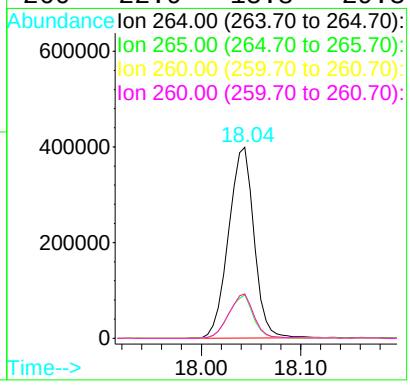


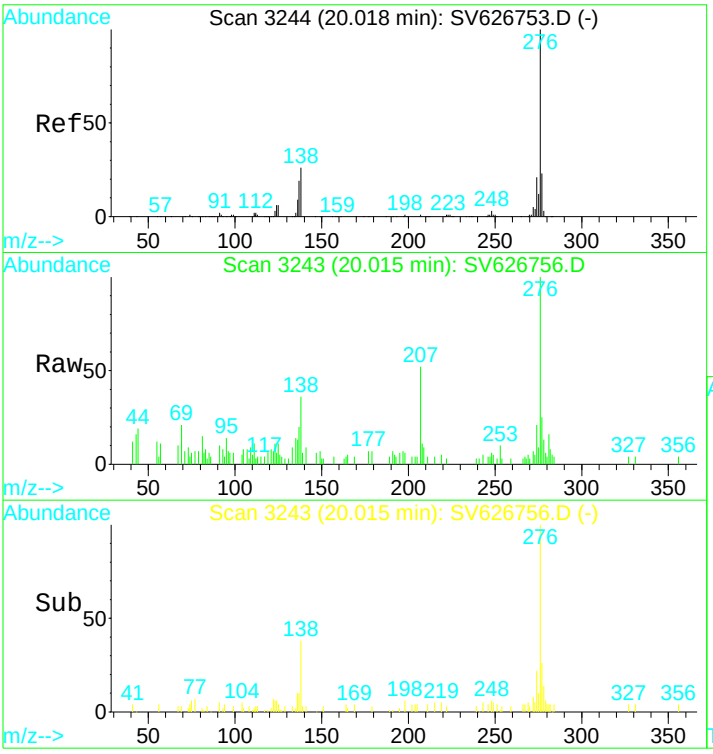


#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.04 min Scan# 2874
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:264 Resp: 7103130

Ion	Ratio	Lower	Upper
264	100		
265	0.0	0.0	0.0
260	22.9	18.0	27.0
260	22.9	15.8	29.3

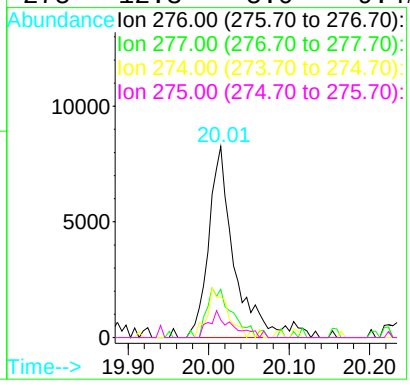


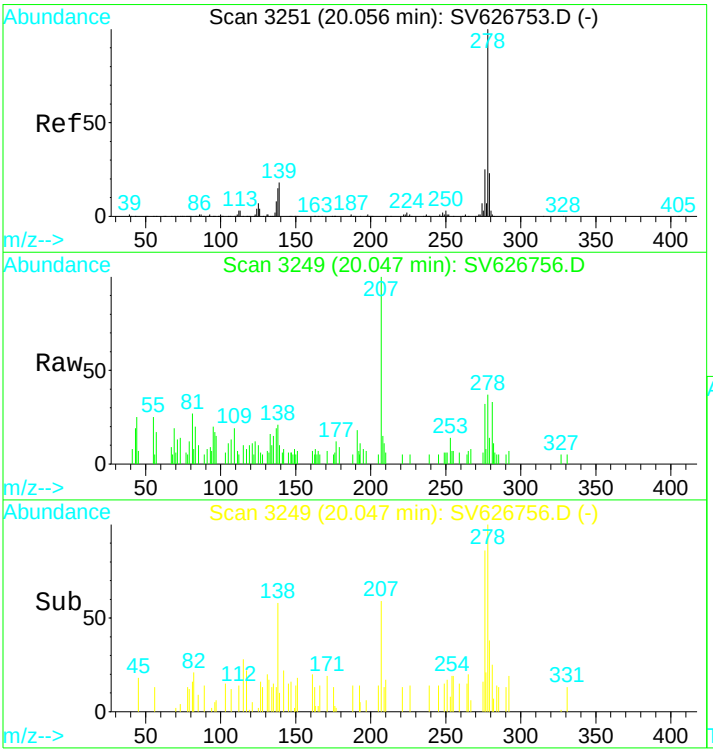


#93
Indeno(1,2,3-cd)pyrene
Concen: 0.79 ug/mL
RT: 20.02 min Scan# 3243
Delta R.T. 0.00 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:276 Resp: 185738

Ion	Ratio	Lower	Upper
276	100		
277	23.8	13.7	20.5#
274	21.1	16.6	24.8
275	12.3	5.0	9.4#

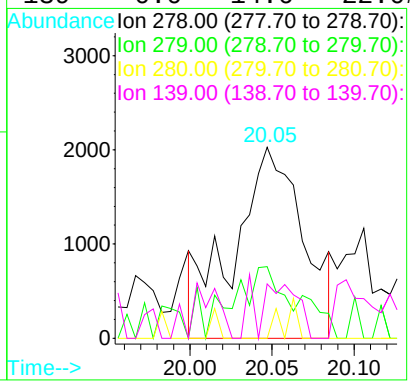


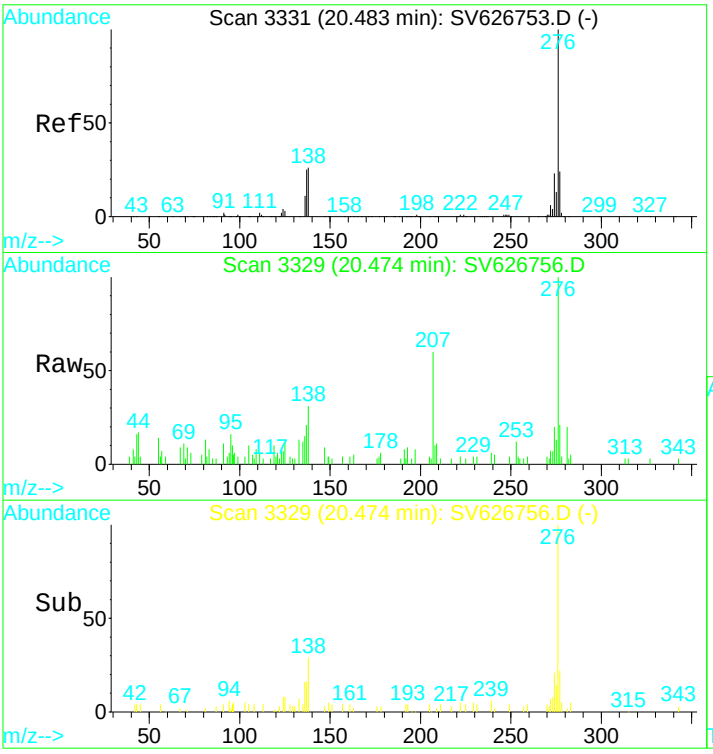


#94
Dibenz(a,h)anthracene
Concen: 0.31 ug/mL m
RT: 20.05 min Scan# 3249
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:278 Resp: 57899

Ion	Ratio	Lower	Upper
278	100		
279	0.0	18.4	27.6#
280	0.0	0.0	3.8
139	0.0	14.6	22.0#

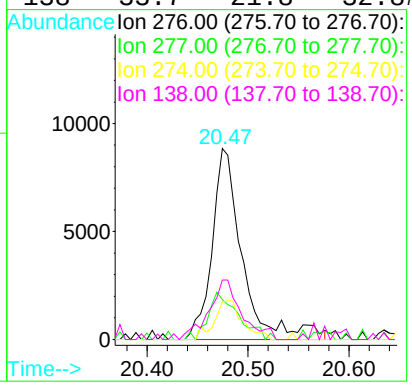




#95
Benzo(g,h,i)perylene
Concen: 0.88 ug/mL m
RT: 20.47 min Scan# 3329
Delta R.T. -0.01 min
Lab File: SV626756.D
Acq: 8 Oct 2019 11:35 am

Tgt Ion:276 Resp: 184021

Ion	Ratio	Lower	Upper
276	100		
277	22.0	19.2	28.8
274	19.3	0.0	41.2
138	33.7	21.8	32.8#



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: SV626734.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 13:58 Analyzed: 10/07/19 13:17

Solids: 83.69 Preparation: EPA 3550C Initial/Final: 30.3 g / 1 mL

Batch: BJ90324 Sequence: Y9J0808 Calibration: YJ90006 Instrument: BNA#6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0987	U
65794-96-9	3- & 4-Methylphenols	2	0.0987	U
83-32-9	Acenaphthene	2	0.257	D
208-96-8	Acenaphthylene	2	0.0987	U
120-12-7	Anthracene	2	0.513	D
56-55-3	Benzo(a)anthracene	2	0.592	D
50-32-8	Benzo(a)pyrene	2	0.465	D
205-99-2	Benzo(b)fluoranthene	2	0.352	D
191-24-2	Benzo(g,h,i)perylene	2	0.171	D
207-08-9	Benzo(k)fluoranthene	2	0.363	D
218-01-9	Chrysene	2	0.491	D
53-70-3	Dibenzo(a,h)anthracene	2	0.0599	JD
132-64-9	Dibenzofuran	2	0.224	D
206-44-0	Fluoranthene	2	1.34	D
86-73-7	Fluorene	2	0.294	D
118-74-1	Hexachlorobenzene	2	0.0987	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.203	D
91-20-3	Naphthalene	2	0.274	D
87-86-5	Pentachlorophenol	2	0.0987	U
85-01-8	Phenanthrene	2	1.80	D
108-95-2	Phenol	2	0.0987	U
129-00-0	Pyrene	2	1.06	D

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.97	1.18	59.8	20 - 108	
SURR: Phenol-d5	1.97	1.15	58.5	23 - 114	
SURR: Nitrobenzene-d5	0.986	0.693	70.3	22 - 108	
SURR: 2-Fluorobiphenyl	0.986	0.639	64.8	21 - 113	
SURR: 2,4,6-Tribromophenol	1.97	1.39	70.6	19 - 110	
SURR: Terphenyl-d14	0.986	0.658	66.7	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1334134	4.98	1310727	4.98	
ISTD: Naphthalene-d8	5150114	5.93	5413365	5.93	
ISTD: Acenaphthene-d10	2958542	7.48	3140982	7.48	
ISTD: Phenanthrene-d10	5672822	9.48	5811112	9.49	
ISTD: Chrysene-d12	5536307	14.93	5986891	14.94	
ISTD: Perylene-d12	7125494	18.05	7460584	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626734.D Vial: 8
Acq On : 7 Oct 2019 1:17 pm Operator: SR
Sample : 19J0144-04 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:50 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

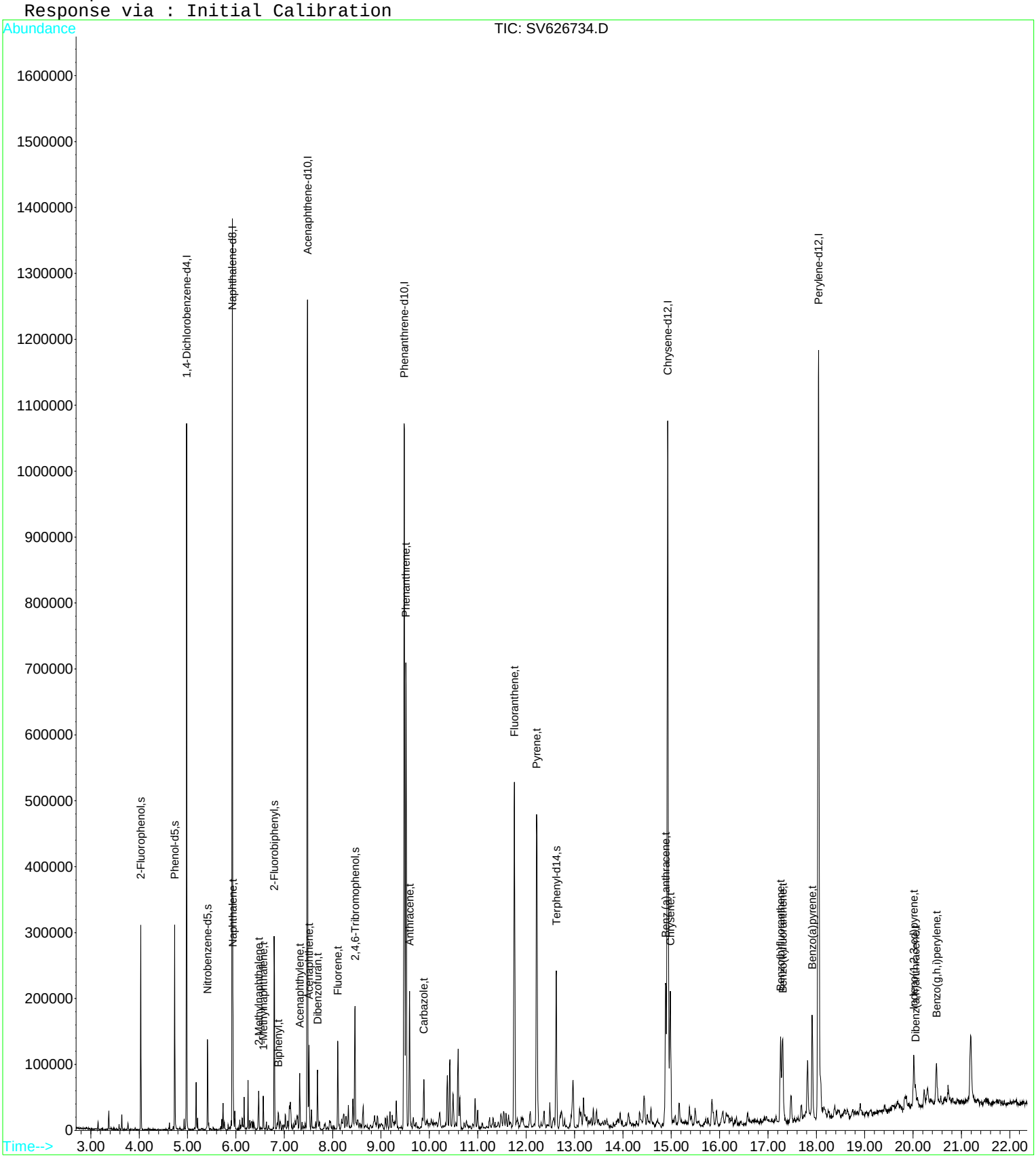
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1334134	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5150114	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2958542	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5672822	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5536307	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	7125494	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	771572	14.94	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 19.92%			
5) Phenol-d5	4.74	99	944200	14.63	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 19.51%			
22) Nitrobenzene-d5	5.42	82	366161	8.79	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 17.58%#			
45) 2-Fluorobiphenyl	6.79	172	856295	8.10	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 16.20%#			
67) 2,4,6-Tribromophenol	8.46	330	255296	17.66	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 23.55%#			
82) Terphenyl-d14	12.62	244	1149643	8.34	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 16.68%#			
Target Compounds						Qvalue
32) Naphthalene	5.94	128	474263	3.48	ug/mL	95
37) 1-Methylnaphthalene	6.57	141	98755	1.08	ug/mL	91
38) 2-Methylnaphthalene	6.47	142	153181	1.64	ug/mL	98
42) Biphenyl	6.88	153	23594	0.47	ug/mL#	1
50) Acenaphthylene	7.32	152	94905	0.62	ug/mL#	84
52) Acenaphthene	7.51	154	285704	3.26	ug/mL	99
54) Dibenzofuran	7.69	168	393441	2.84	ug/mL	99
59) Fluorene	8.11	166	406912	3.73	ug/mL	99
73) Phenanthrene	9.52	178	3553541	22.86	ug/mL	99
74) Anthracene	9.59	178	1035031m	6.50	ug/mL	
75) Carbazole	9.89	167	383033	2.37	ug/mL#	100
78) Fluoranthene	11.76	202	3108702	17.05	ug/mL	100
81) Pyrene	12.22	202	2614134m	13.48	ug/mL	
85) Benz (a) anthracene	14.89	228	1384593	7.51	ug/mL	96
87) Chrysene	14.98	228	1150194	6.22	ug/mL#	86
89) Benzo(b)fluoranthene	17.26	252	785978	4.46	ug/mL	99
90) Benzo(k)fluoranthene	17.31	252	944283	4.60	ug/mL	94
91) Benzo(a)pyrene	17.92	252	1028905	5.89	ug/mL	98
93) Indeno(1,2,3-cd)pyrene	20.02	276	604083	2.58	ug/mL#	90
94) Dibenz(a,h)anthracene	20.06	278	144094	0.76	ug/mL#	57
95) Benzo(g,h,i)perylene	20.48	276	453912m	2.17	ug/mL	

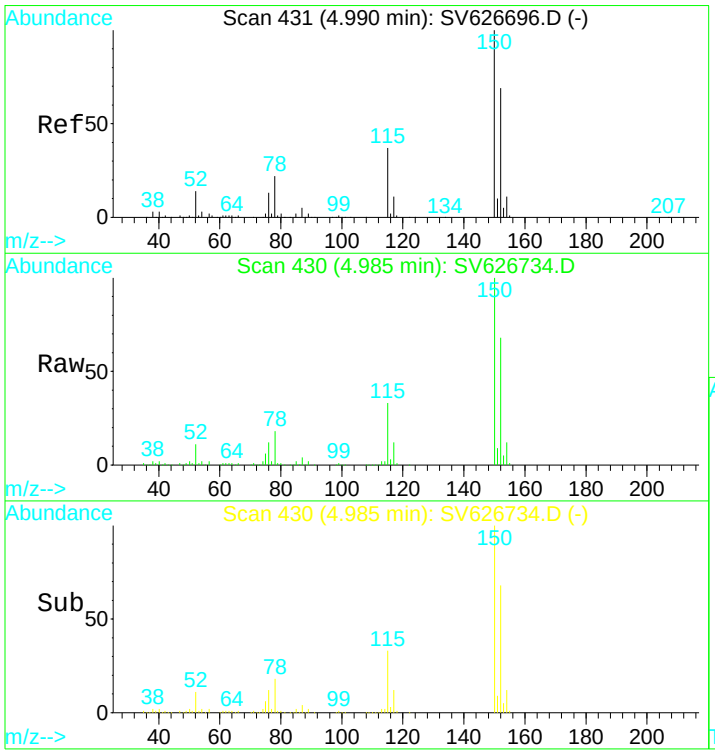
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626734.D Vial: 8
Acq On : 7 Oct 2019 1:17 pm Operator: SR
Sample : 19J0144-04 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:50 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration

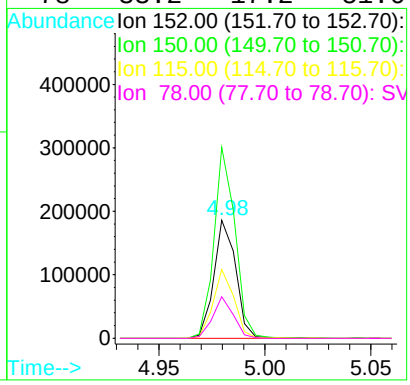


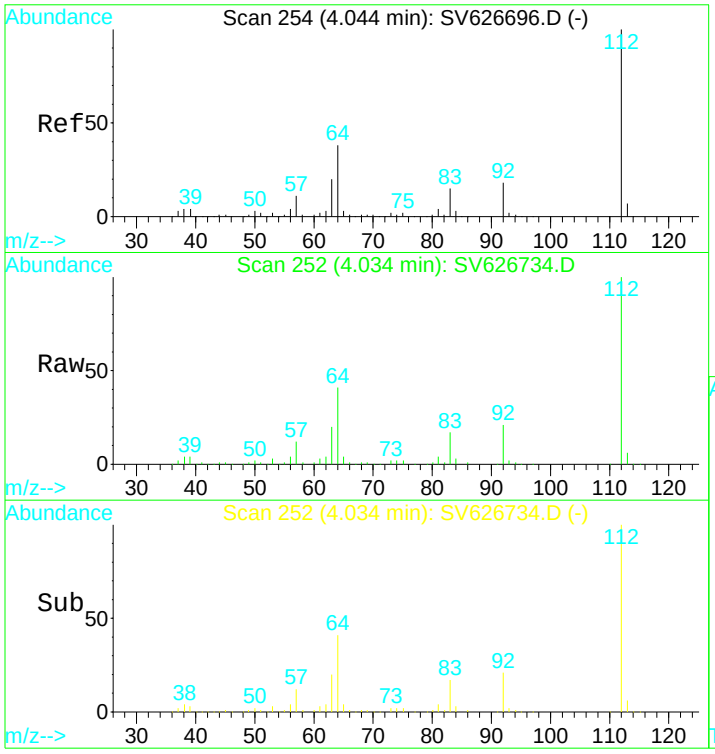


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 430
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:152 Resp: 1334134

Ion	Ratio	Lower	Upper
152	100		
150	154.7	82.1	246.3
115	56.2	28.4	85.2
78	33.2	17.2	51.6

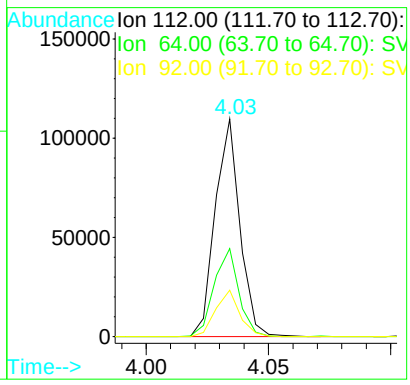


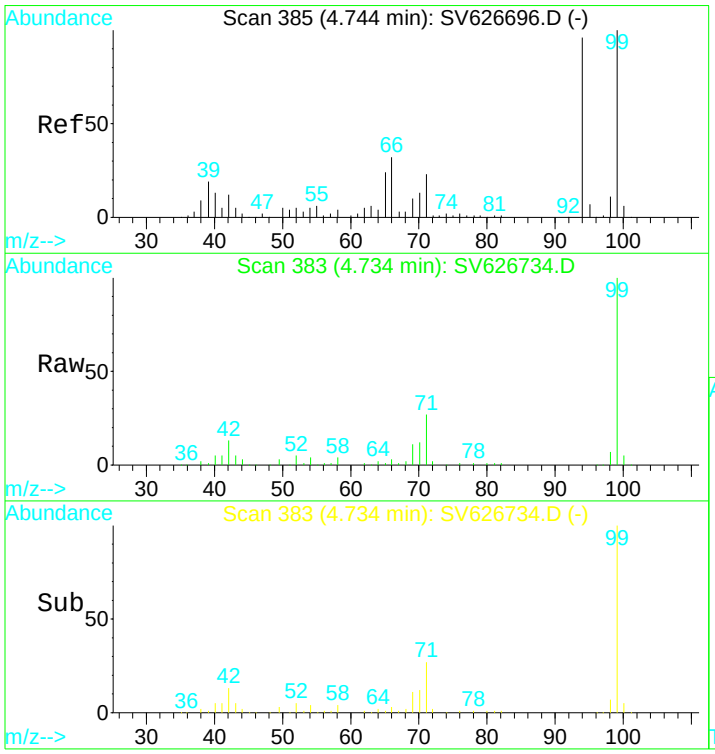


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.04 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:112 Resp: 771572

Ion	Ratio	Lower	Upper
112	100		
64	40.8	32.0	48.0
92	21.0	15.8	23.8

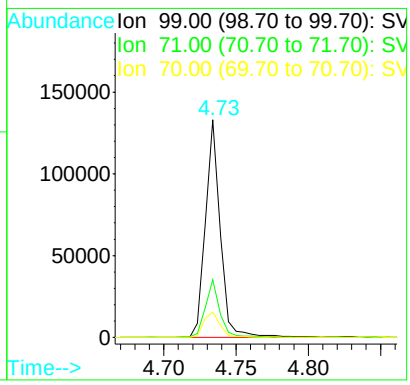


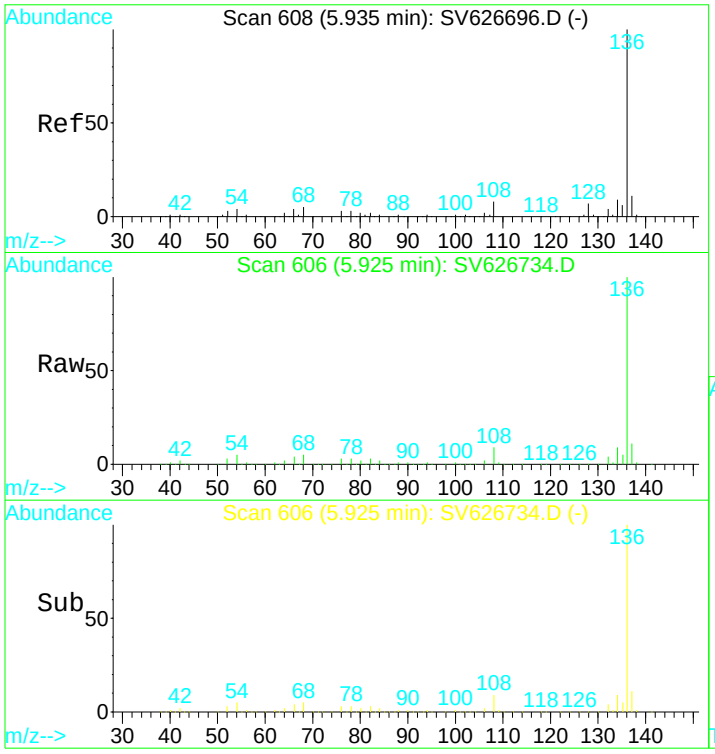


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.74 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion: 99 Resp: 944200

Ion	Ratio	Lower	Upper
99	100		
71	26.3	20.6	31.0
70	12.8	10.6	15.8

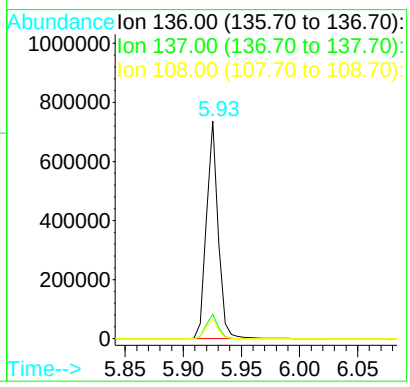


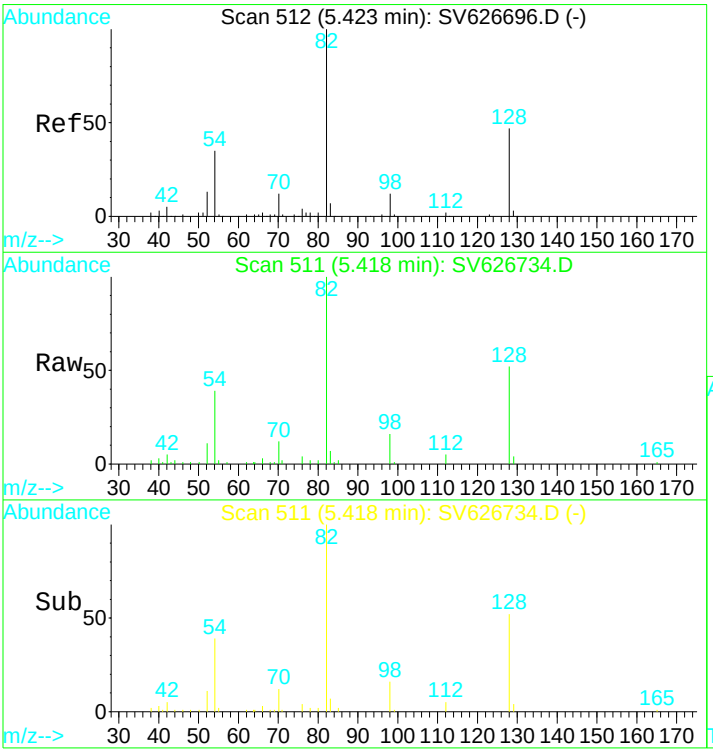


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.93 min Scan# 606
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:136 Resp: 5150114

Ion	Ratio	Lower	Upper
136	100		
137	11.4	5.5	16.7
108	9.1	4.7	14.1

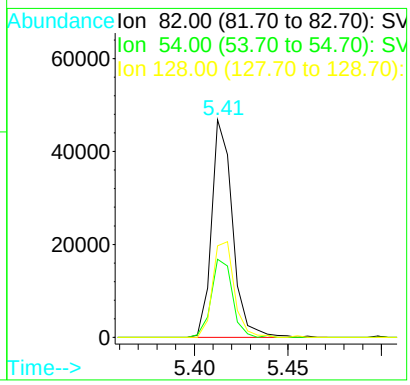


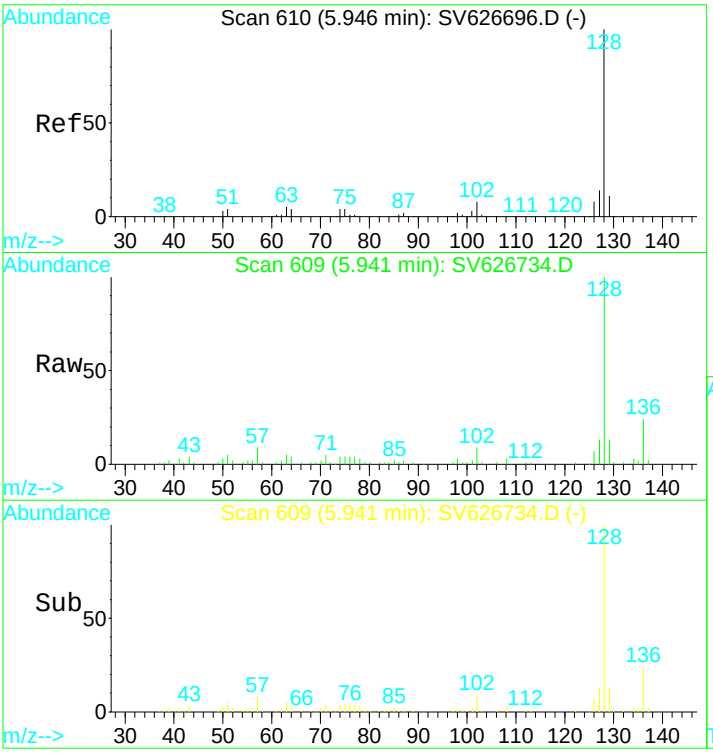


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 511
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion: 82 Resp: 366161

Ion	Ratio	Lower	Upper
82	100		
54	36.5	29.0	43.4
128	45.6	38.0	57.0

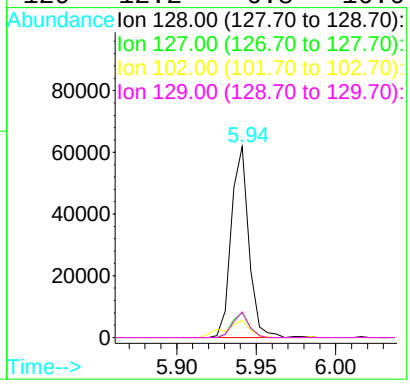


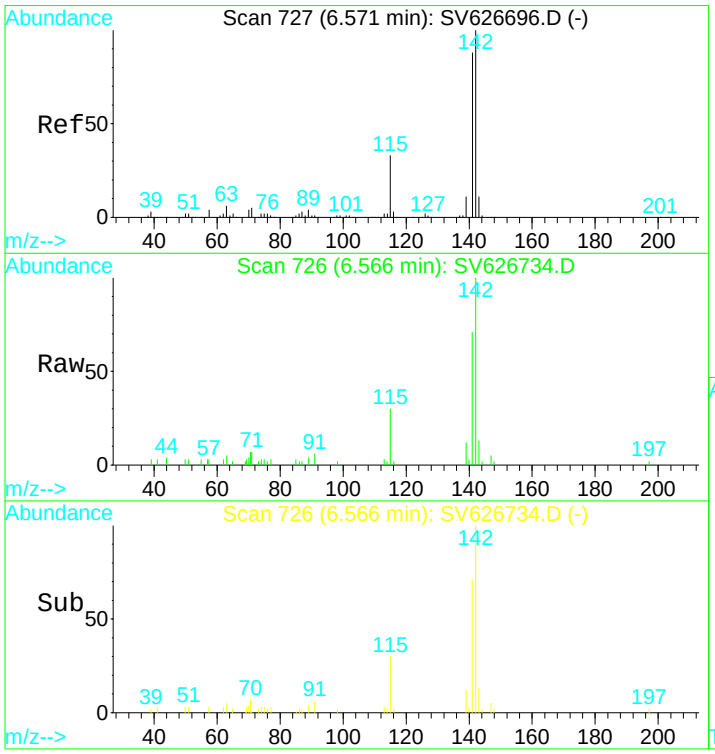


#32
Naphthalene
Concen: 3.48 ug/mL
RT: 5.94 min Scan# 609
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:128 Resp: 474263

Ion	Ratio	Lower	Upper
128	100		
127	12.4	11.0	16.4
102	12.7	4.5	13.7
129	12.2	6.8	16.0

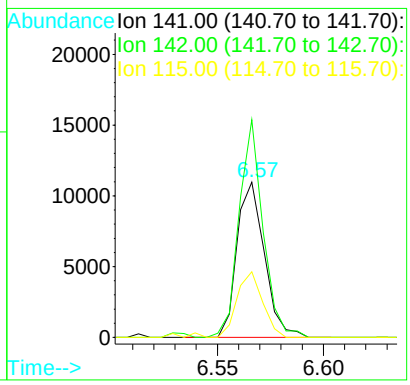


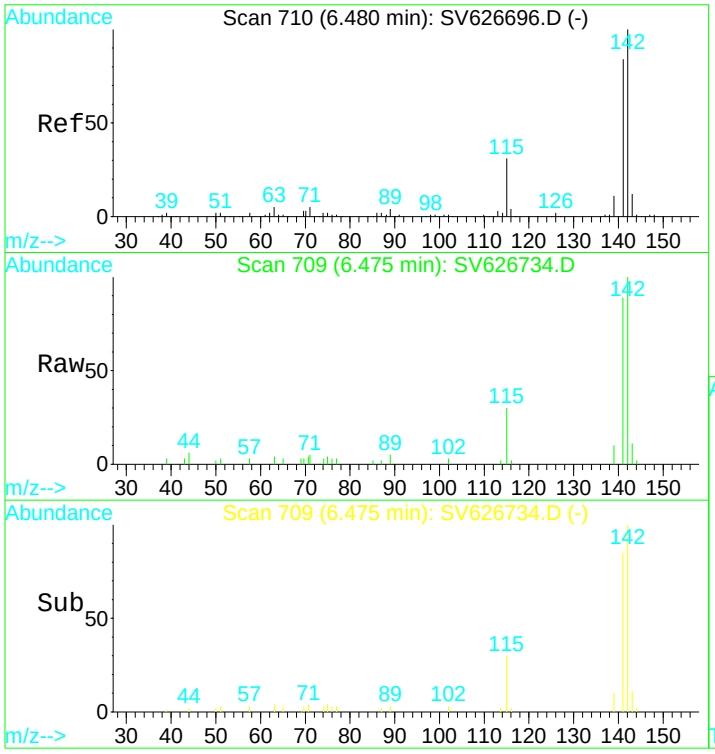


#37
1-Methylnaphthalene
Concen: 1.08 ug/mL
RT: 6.57 min Scan# 726
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:141 Resp: 98755

Ion	Ratio	Lower	Upper
141	100		
142	122.5	89.9	134.9
115	41.6	30.4	45.6

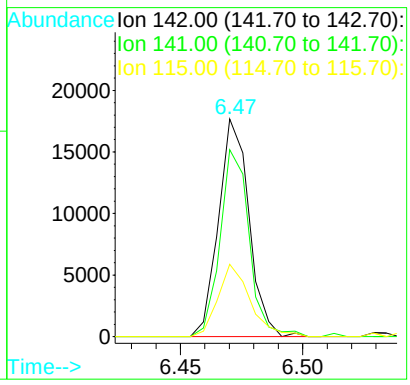


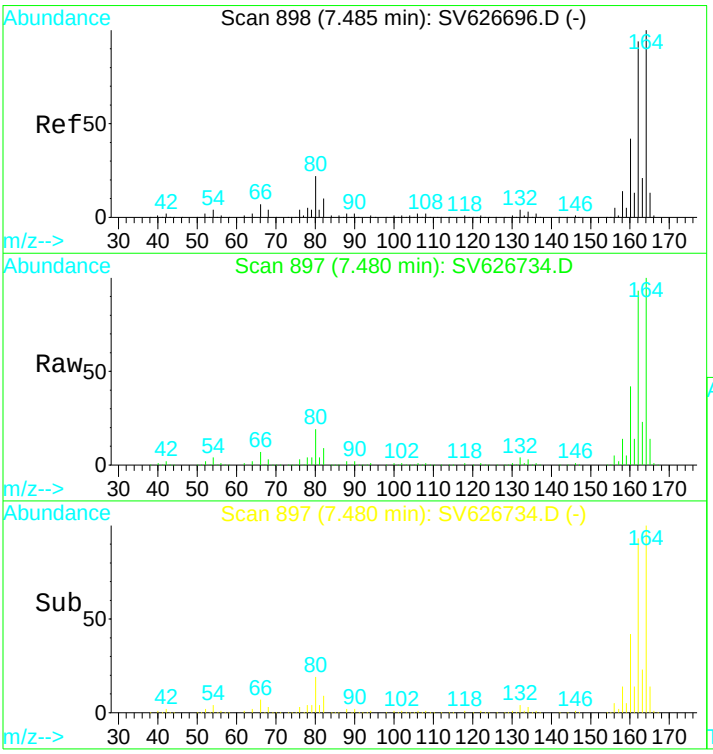


#38
2-Methylnaphthalene
Concen: 1.64 ug/mL
RT: 6.47 min Scan# 709
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:142 Resp: 153181

Ion	Ratio	Lower	Upper
142	100		
141	82.3	66.6	99.8
115	35.3	26.6	39.8

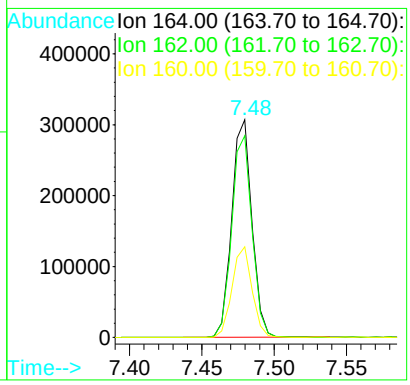


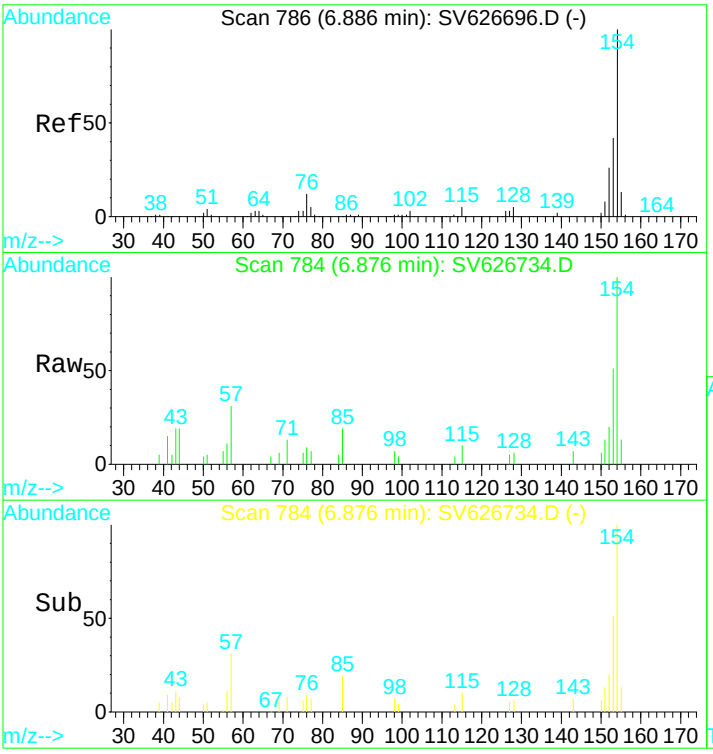


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:164 Resp: 2958542

Ion	Ratio	Lower	Upper
164	100		
162	93.4	47.4	142.2
160	41.3	21.0	63.0

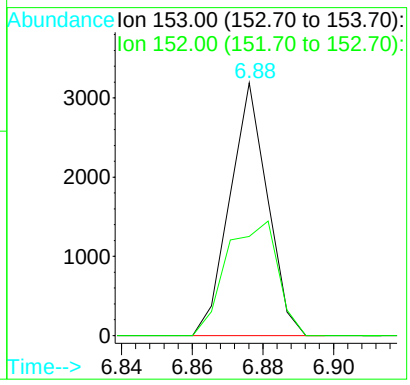


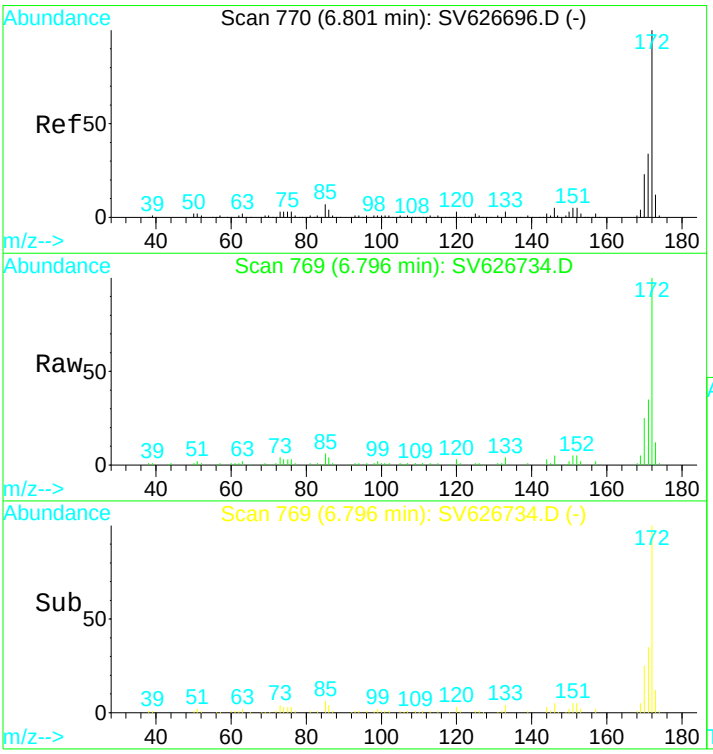


#42
Biphenyl
Concen: 0.47 ug/mL
RT: 6.88 min Scan# 784
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:153 Resp: 23594

Ion	Ratio	Lower	Upper
153	100		
152	187.2	52.9	79.3#

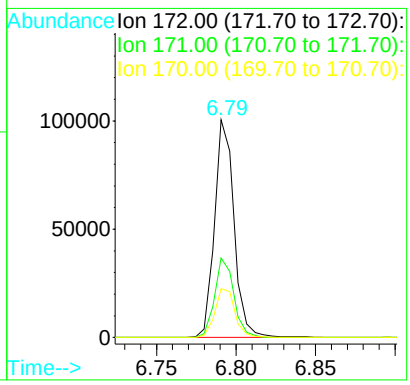


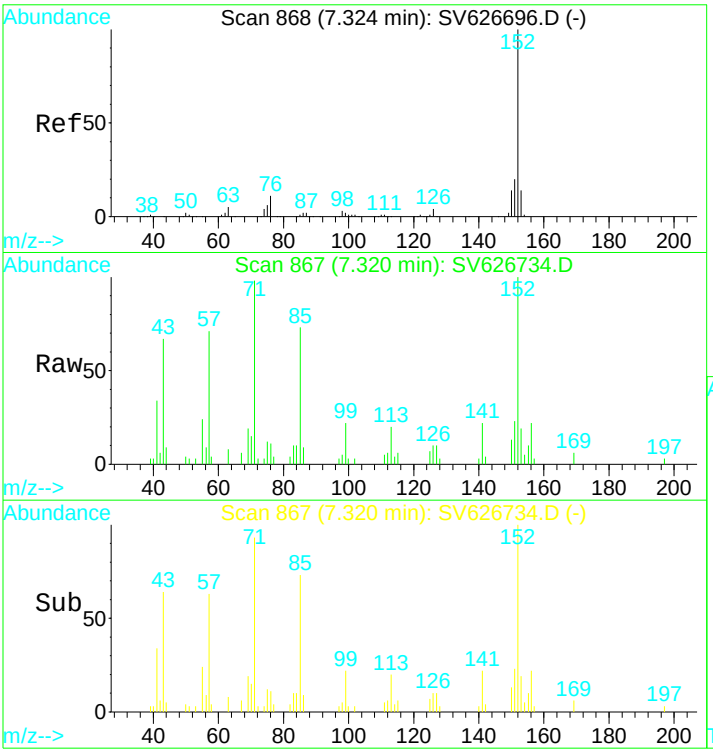


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 769
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:172 Resp: 856295

Ion	Ratio	Lower	Upper
172	100		
171	35.8	28.2	42.4
170	23.0	18.4	27.6

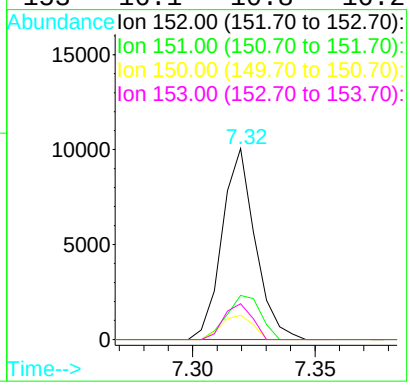


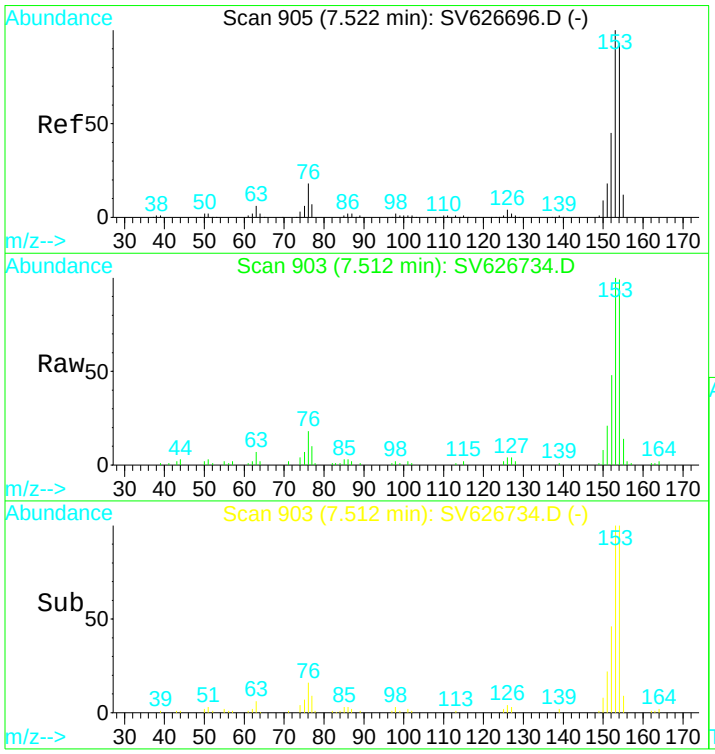


#50
Acenaphthylene
Concen: 0.62 ug/mL
RT: 7.32 min Scan# 867
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:152 Resp: 94905

Ion	Ratio	Lower	Upper
152	100		
151	23.7	15.8	23.8
150	0.0	11.4	17.0#
153	16.1	10.8	16.2

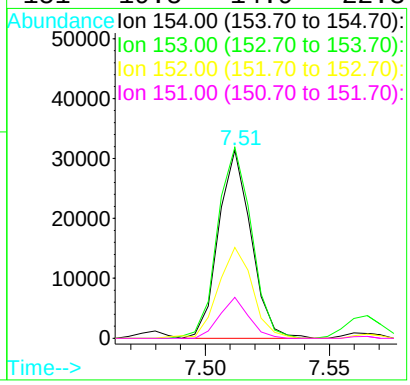


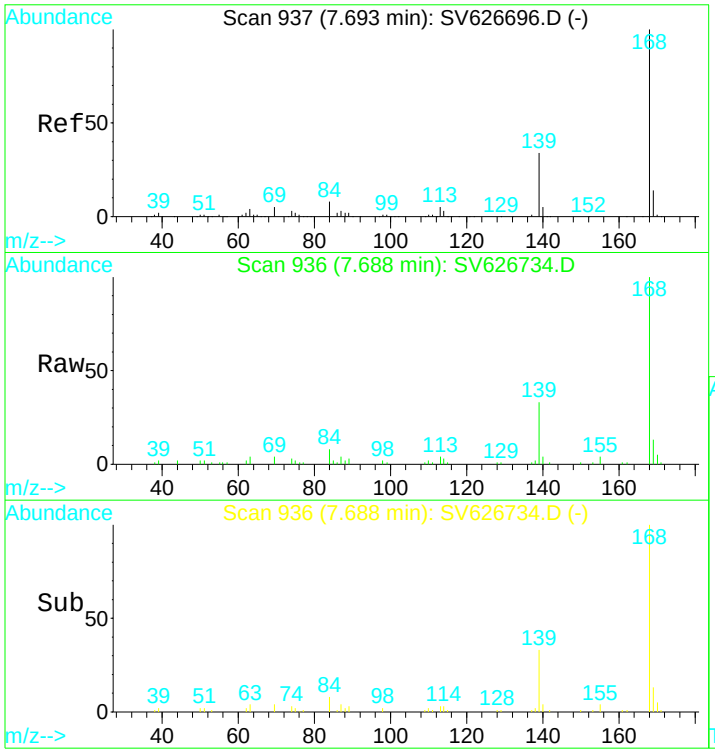


#52
Acenaphthene
Concen: 3.26 ug/mL
RT: 7.51 min Scan# 903
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:154 Resp: 285704

Ion	Ratio	Lower	Upper
154	100		
153	106.0	85.2	127.8
152	51.3	39.7	59.5
151	19.5	14.9	22.3

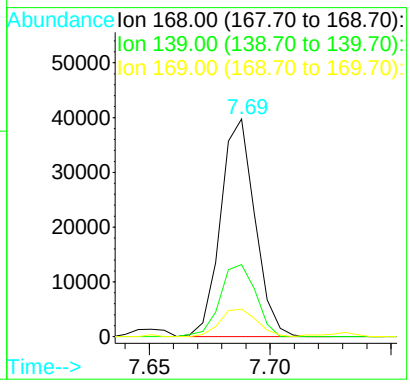


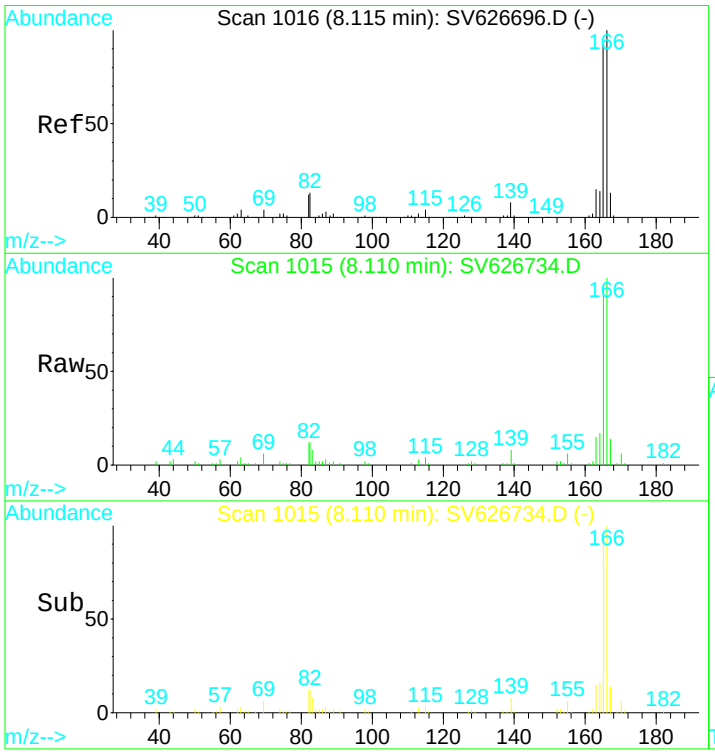


#54
Dibenzofuran
Concen: 2.84 ug/mL
RT: 7.69 min Scan# 936
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:168 Resp: 393441

Ion	Ratio	Lower	Upper
168	100		
139	34.3	27.7	41.5
169	13.6	11.1	16.7

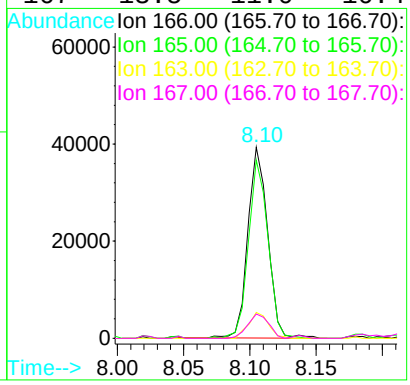


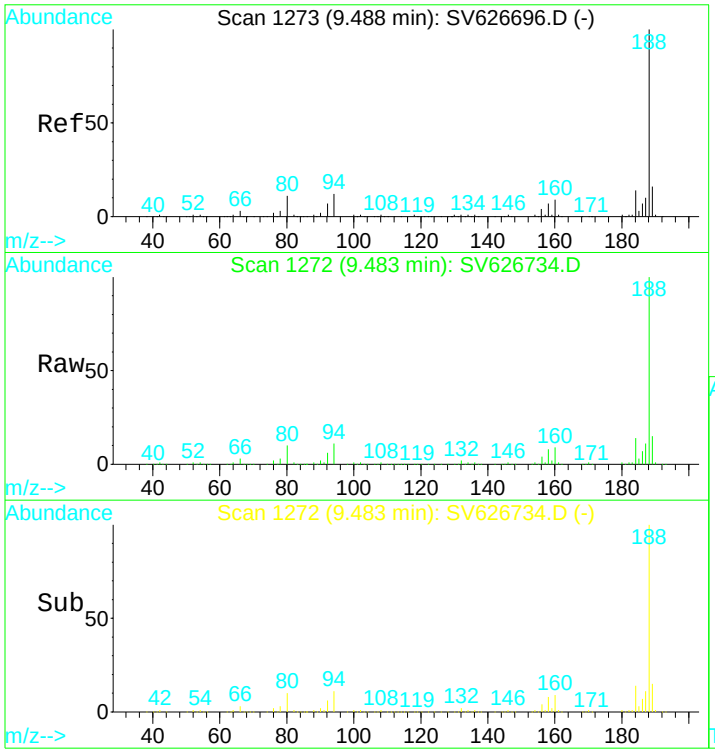


#59
Fluorene
Concen: 3.73 ug/mL
RT: 8.11 min Scan# 1015
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:166 Resp: 406912

Ion	Ratio	Lower	Upper
166	100		
165	91.2	73.8	110.8
163	13.7	12.4	18.6
167	13.5	11.0	16.4

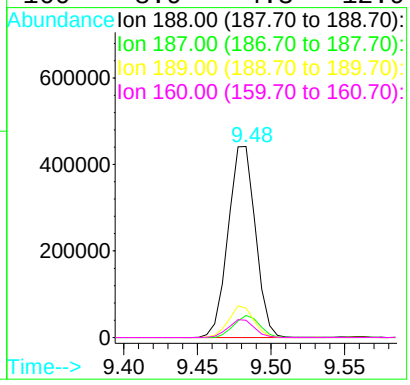


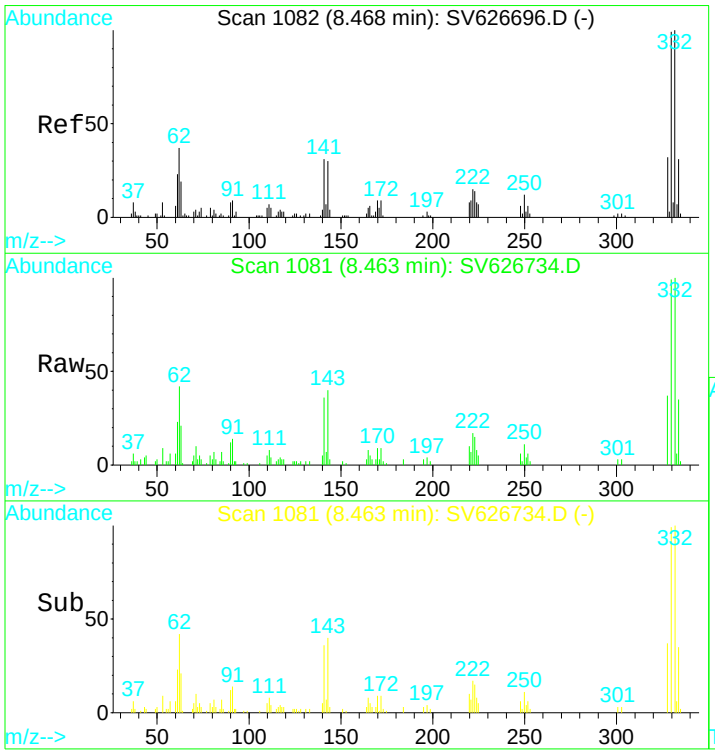


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:188 Resp: 5672822

Ion	Ratio	Lower	Upper
188	100		
187	10.8	8.5	12.7
189	15.2	7.8	23.4
160	8.9	4.3	12.9

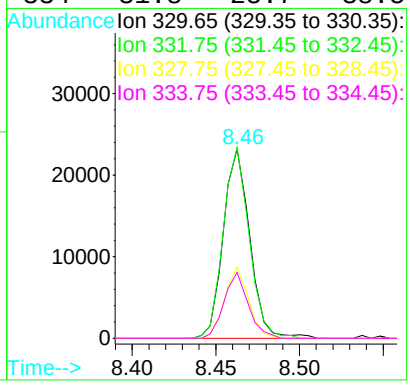


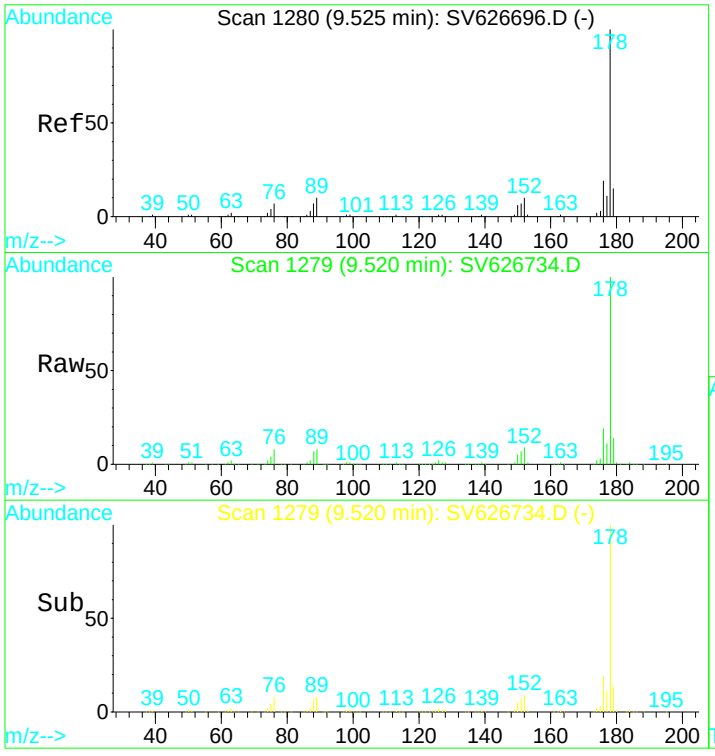


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1081
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:330 Resp: 255296

Ion	Ratio	Lower	Upper
330	100		
332	98.5	78.8	118.2
328	34.0	27.4	41.0
334	31.8	25.7	38.5

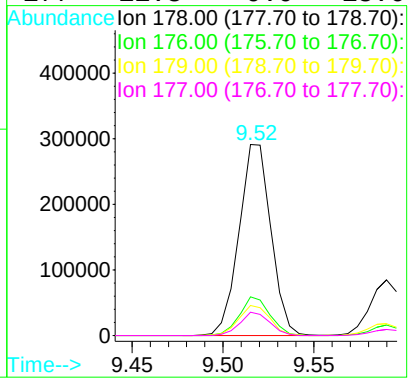


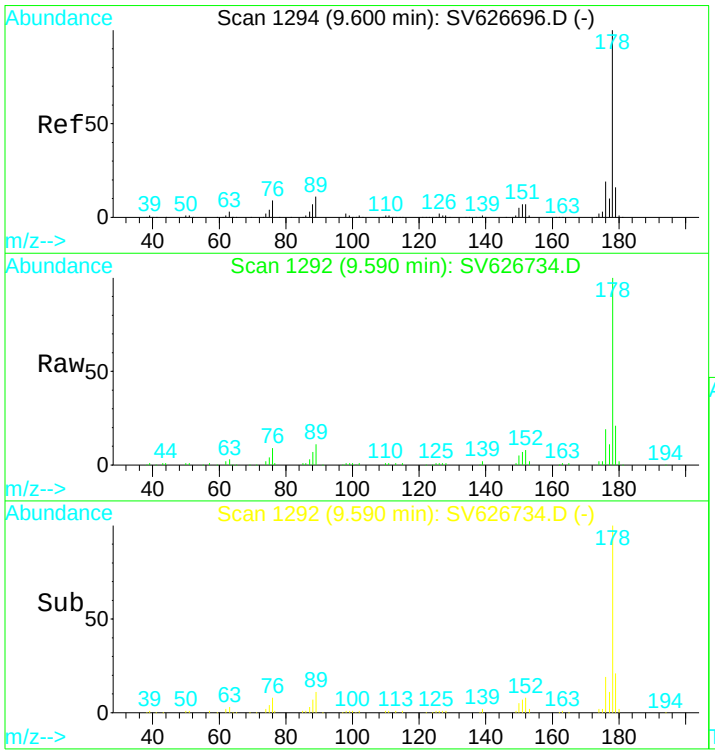


#73
Phenanthrene
Concen: 22.86 ug/mL
RT: 9.52 min Scan# 1279
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:178 Resp: 3553541

Ion	Ratio	Lower	Upper
178	100		
176	19.2	15.0	22.4
179	15.4	12.3	18.5
177	11.3	9.0	13.6

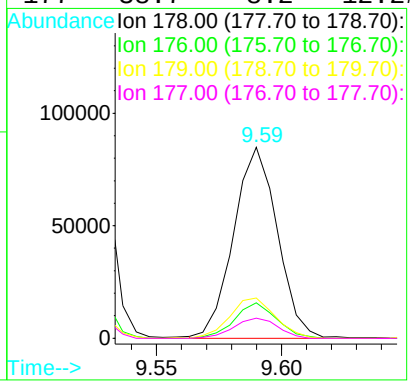


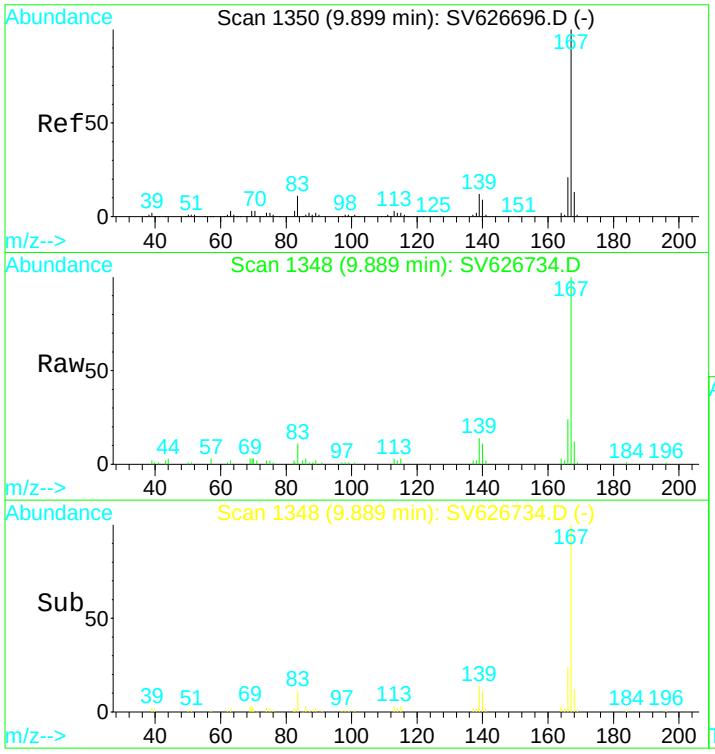


#74
Anthracene
Concen: 6.50 ug/mL m
RT: 9.59 min Scan# 1292
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:178 Resp: 1035031

Ion	Ratio	Lower	Upper
178	100		
176	66.0	15.0	22.4#
179	52.7	12.7	19.1#
177	38.7	8.2	12.2#

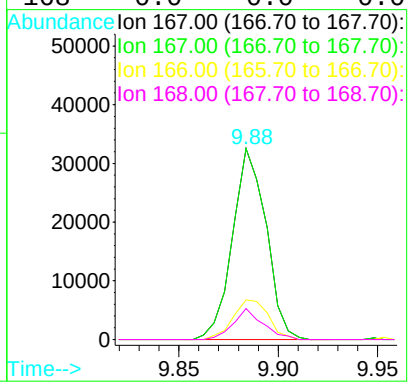


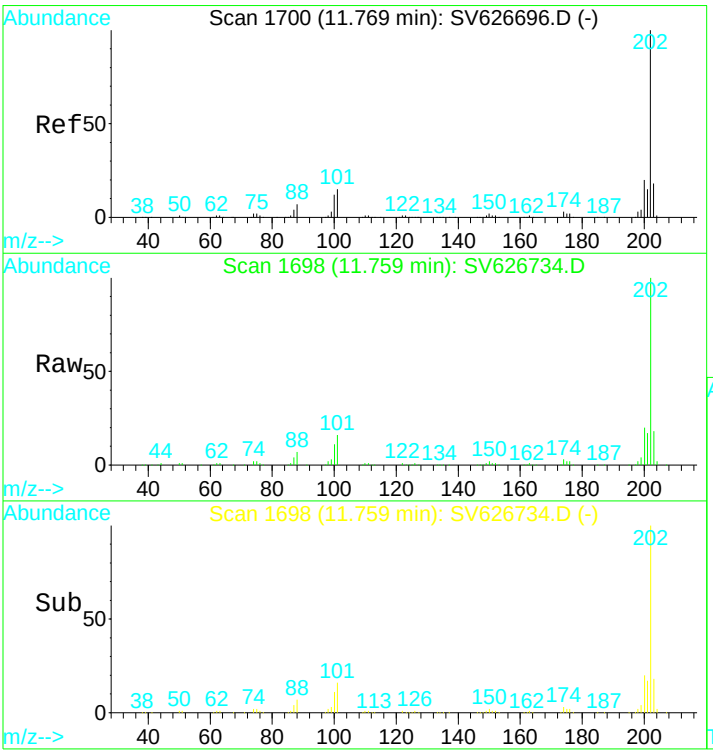


#75
Carbazole
Concen: 2.37 ug/mL
RT: 9.89 min Scan# 1348
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:167 Resp: 383033

Ion	Ratio	Lower	Upper
167	100		
167	100.0	80.0	120.0
166	21.9	10.4	31.2
168	0.0	0.0	0.0

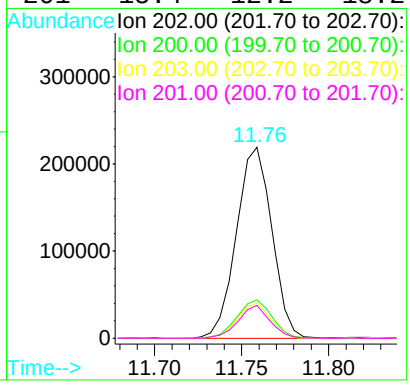


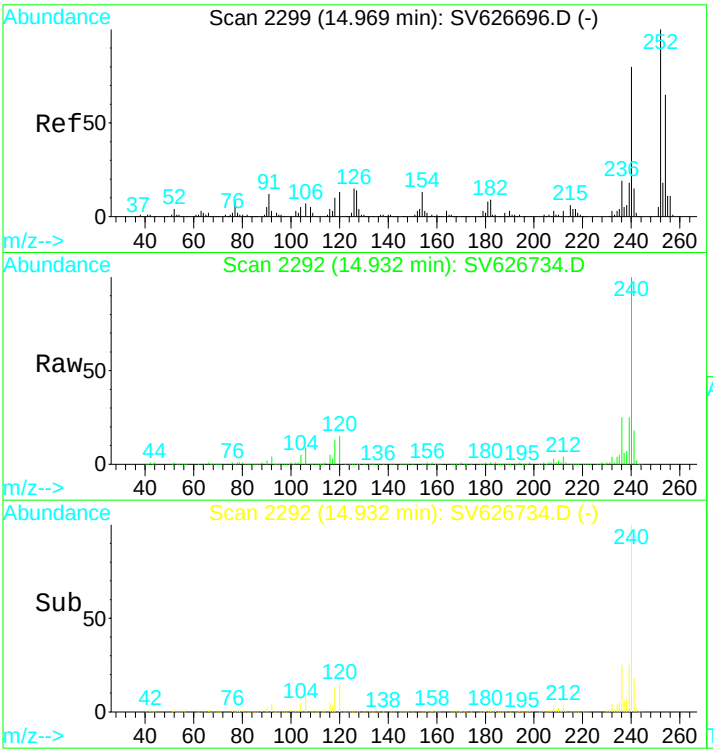


#78
Fluoranthene
Concen: 17.05 ug/mL
RT: 11.76 min Scan# 1698
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:202 Resp: 3108702

Ion	Ratio	Lower	Upper
202	100		
200	19.9	15.9	23.9
203	17.1	14.0	21.0
201	15.4	12.2	18.2

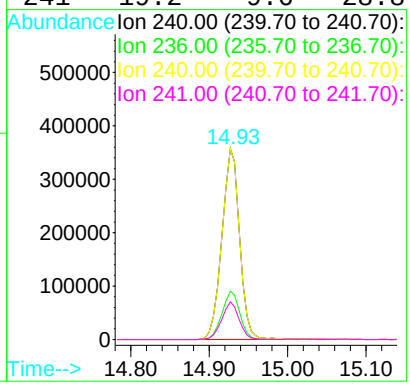


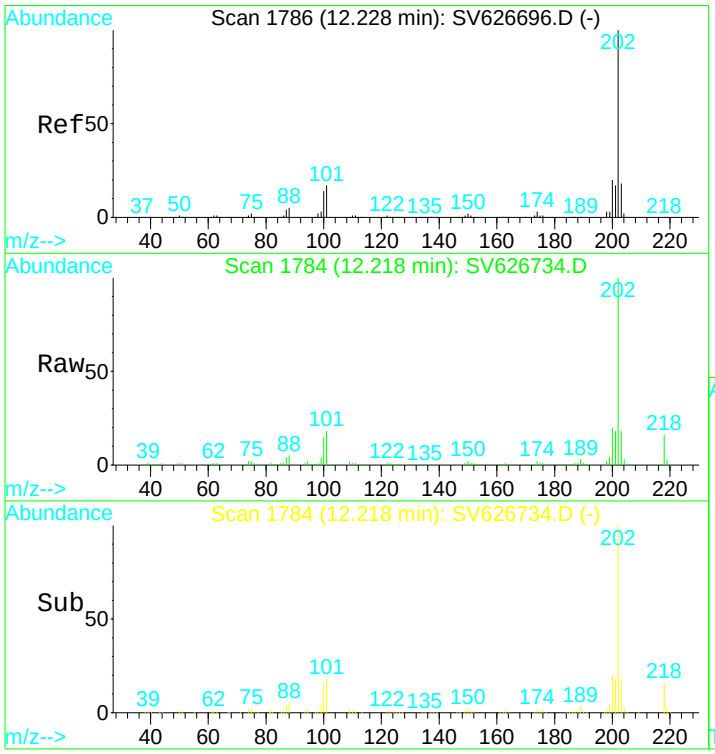


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2292
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:240 Resp: 5536307

Ion	Ratio	Lower	Upper
240	100		
236	25.4	12.4	37.0
240	100.0	50.0	150.0
241	19.2	9.6	28.8

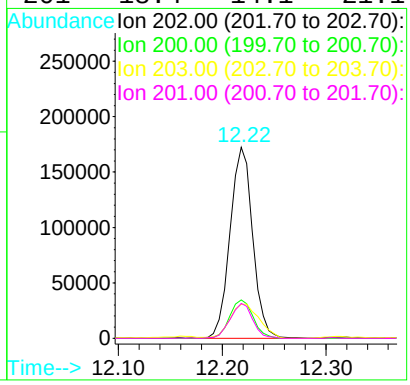


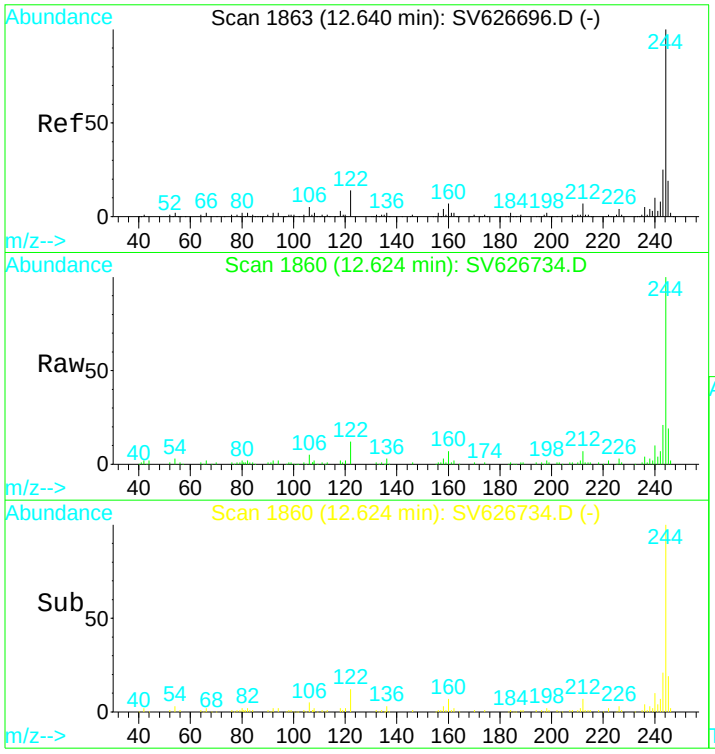


#81
Pyrene
Concen: 13.48 ug/mL m
RT: 12.22 min Scan# 1784
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:202 Resp: 2614134

Ion	Ratio	Lower	Upper
202	100		
200	23.4	16.2	24.4
203	20.4	14.4	21.6
201	18.4	14.1	21.1

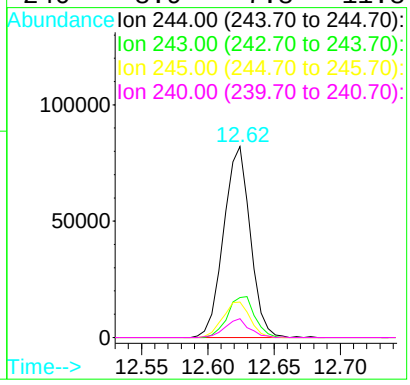


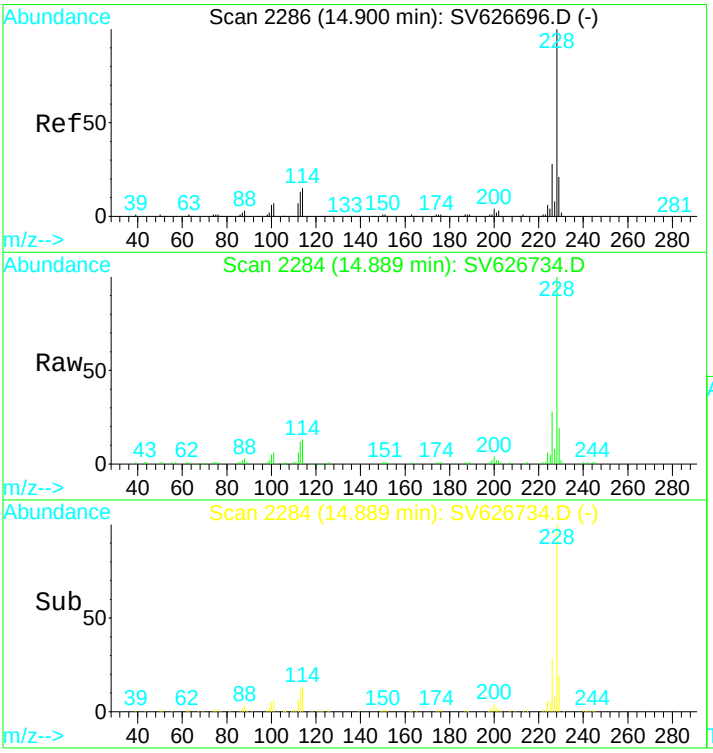


#82
Terphenyl-d14
Concen: 13.48 ug/mL
RT: 12.62 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:244 Resp: 1149643

Ion	Ratio	Lower	Upper
244	100		
243	21.8	18.6	28.0
245	18.9	15.7	23.5
240	8.9	7.8	11.8

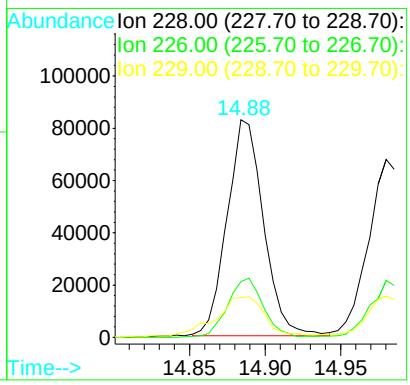


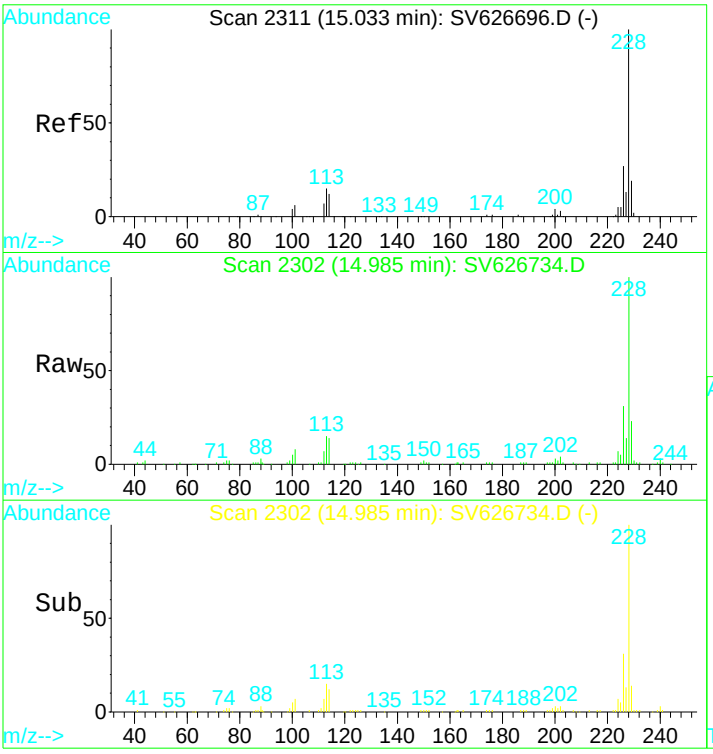


#85
Benz (a) anthracene
Concen: 7.51 ug/mL
RT: 14.89 min Scan# 2284
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:228 Resp: 1384593

Ion	Ratio	Lower	Upper
228	100		
226	26.8	21.4	32.2
229	25.0	16.7	25.1

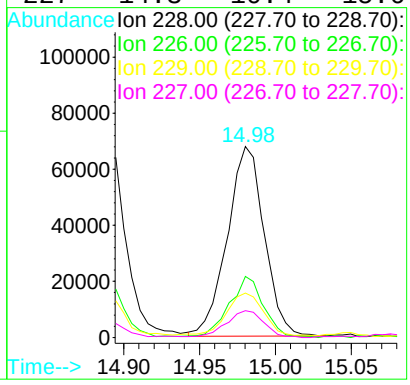


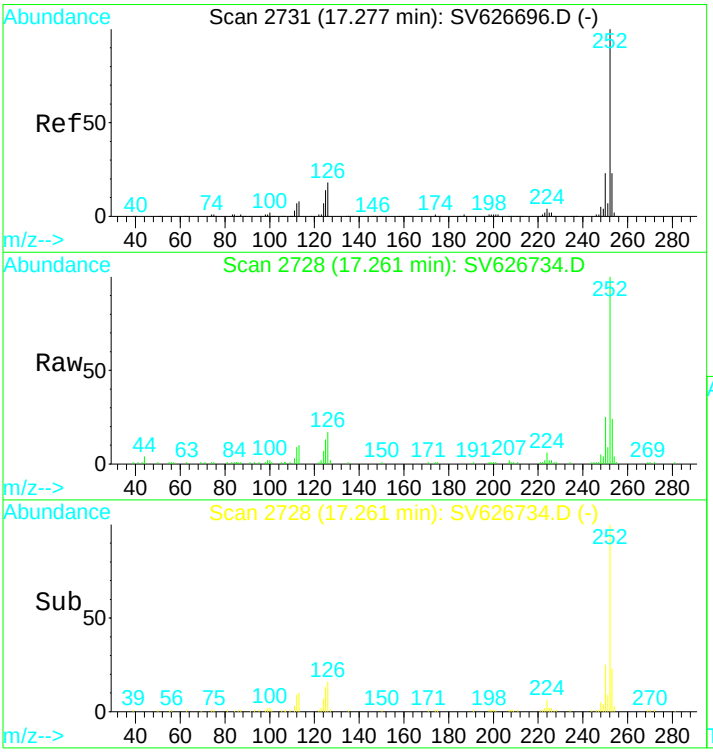


#87
Chrysene
Concen: 6.22 ug/mL
RT: 14.98 min Scan# 2302
Delta R.T. -0.02 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:228 Resp: 1150194

Ion	Ratio	Lower	Upper
228	100		
226	29.8	12.6	18.8#
229	22.5	15.9	23.9
227	14.3	10.4	15.6

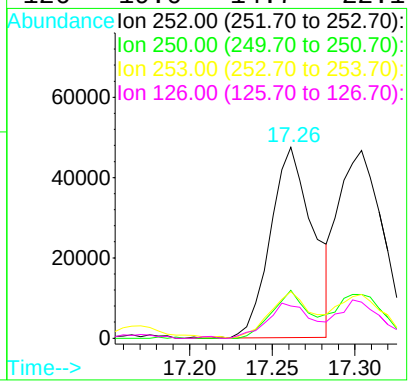


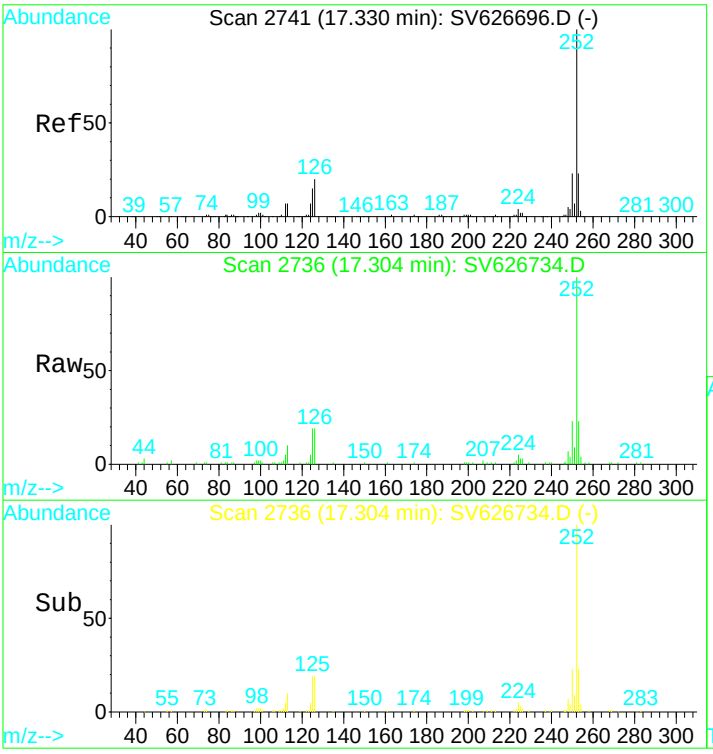


#89
Benzo(b)fluoranthene
Concen: 4.46 ug/mL
RT: 17.26 min Scan# 2728
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:252 Resp: 785978

Ion	Ratio	Lower	Upper
252	100		
250	22.0	18.2	27.4
253	23.1	18.0	27.0
126	19.0	14.7	22.1

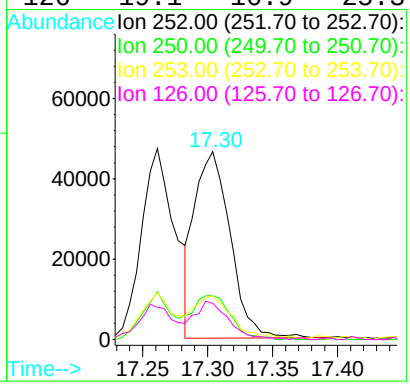


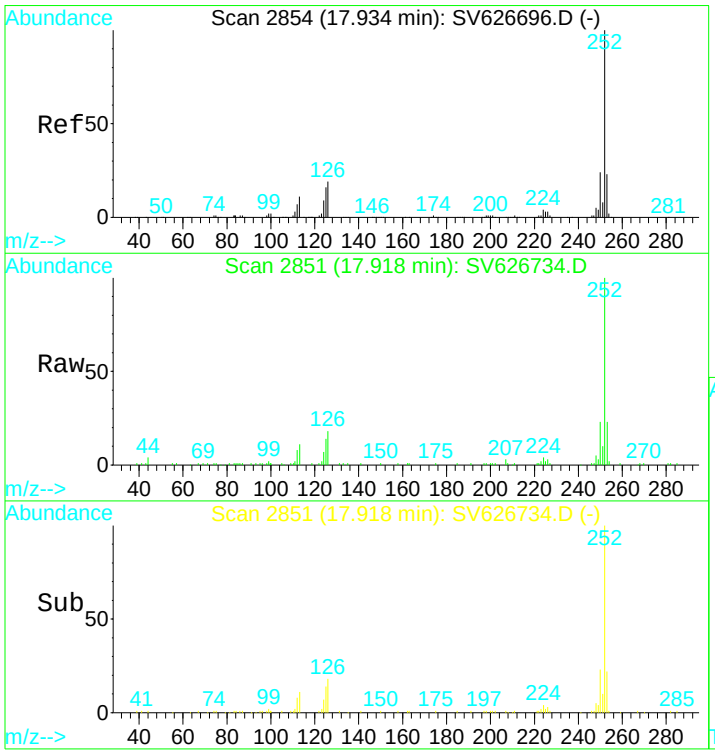


#90
Benzo(k)fluoranthene
Concen: 4.60 ug/mL
RT: 17.31 min Scan# 2736
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:252 Resp: 944283

Ion	Ratio	Lower	Upper
252	100		
250	25.2	17.7	26.5
253	24.9	17.4	26.2
126	19.1	16.9	25.3

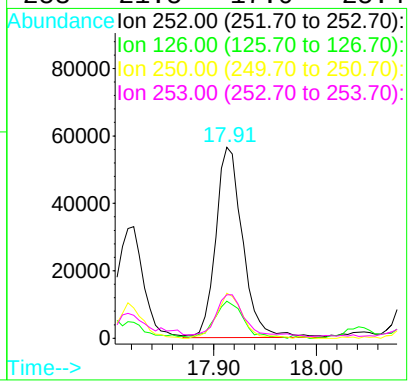


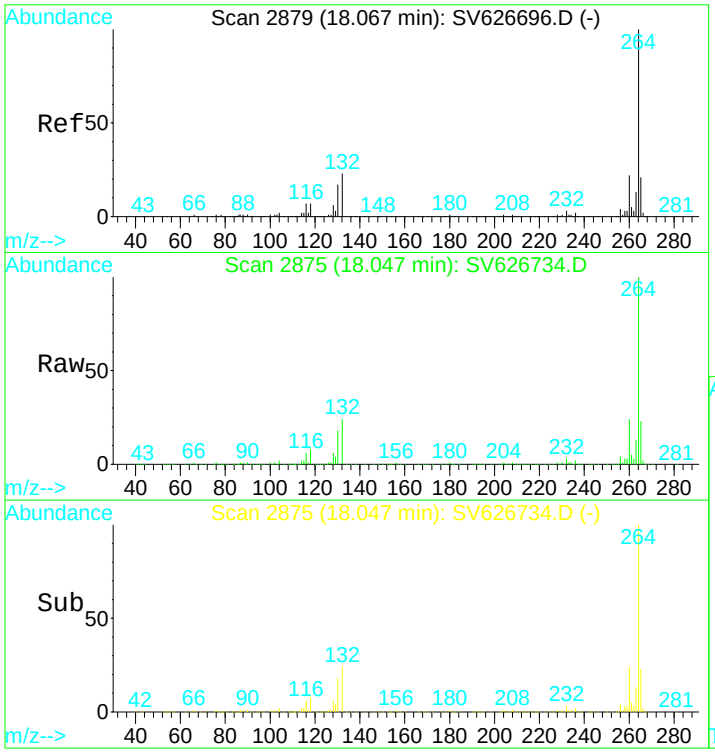


#91
Benzo(a)pyrene
Concen: 5.89 ug/mL
RT: 17.92 min Scan# 2851
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:252 Resp: 1028905

Ion	Ratio	Lower	Upper
252	100		
126	21.2	14.8	22.2
250	22.6	17.6	26.4
253	21.5	17.0	25.4

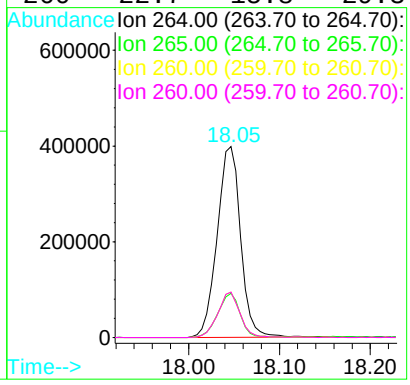


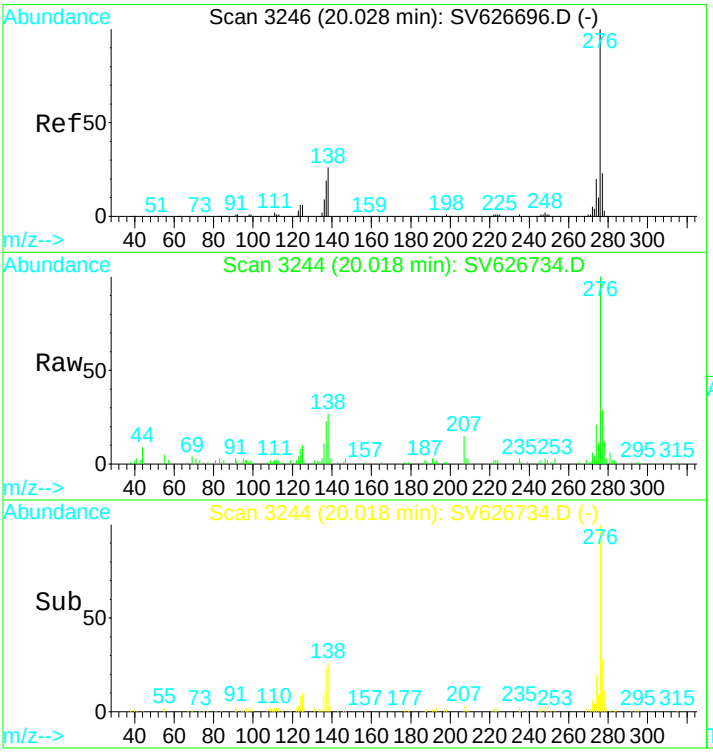


#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.05 min Scan# 2875
Delta R.T. -0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:264 Resp: 7125494

Ion	Ratio	Lower	Upper
264	100		
265	22.0	0.0	0.0#
260	22.7	18.0	27.0
260	22.7	15.8	29.3

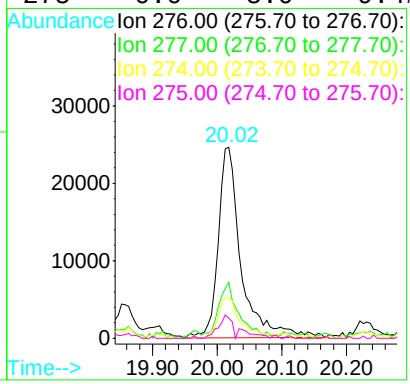


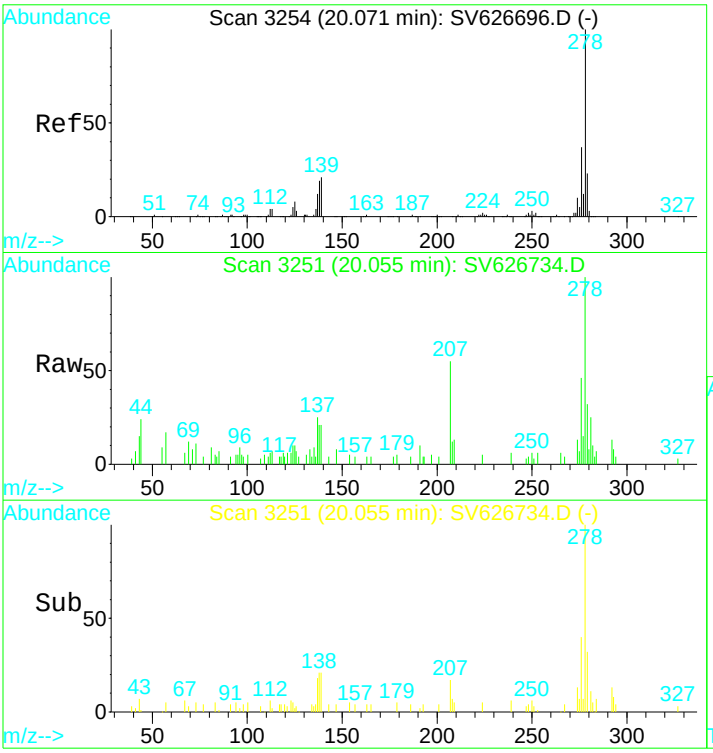


#93
Indeno(1,2,3-cd)pyrene
Concen: 2.58 ug/mL
RT: 20.02 min Scan# 3244
Delta R.T. 0.01 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:276 Resp: 604083

Ion	Ratio	Lower	Upper
276	100		
277	24.3	13.7	20.5#
274	21.3	16.6	24.8
275	0.0	5.0	9.4#

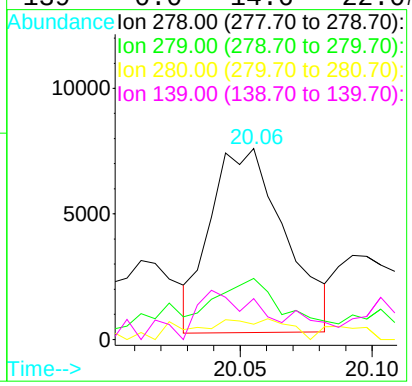


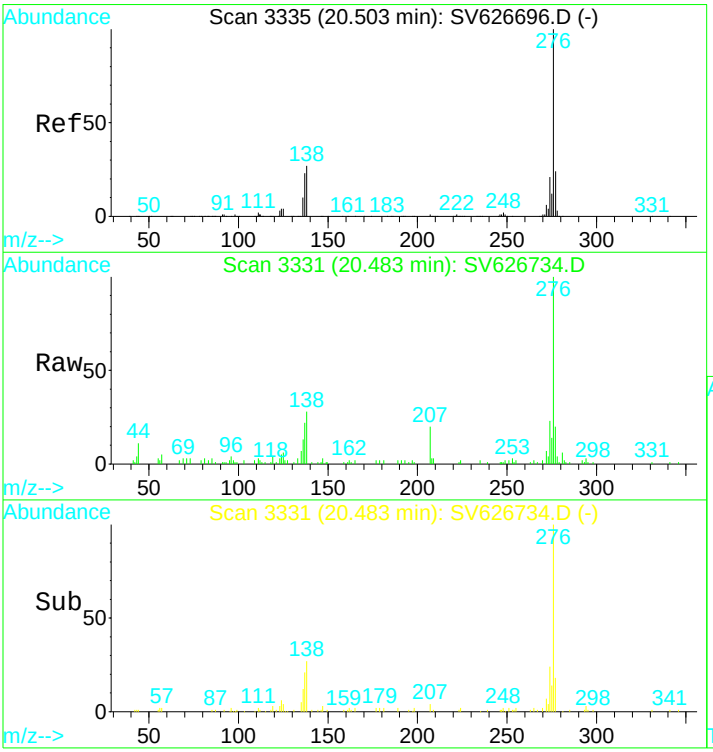


#94
Dibenz(a,h)anthracene
Concen: 0.76 ug/mL
RT: 20.06 min Scan# 3251
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:278 Resp: 144094

Ion	Ratio	Lower	Upper
278	100		
279	0.0	18.4	27.6#
280	0.0	0.0	3.8
139	0.0	14.6	22.0#

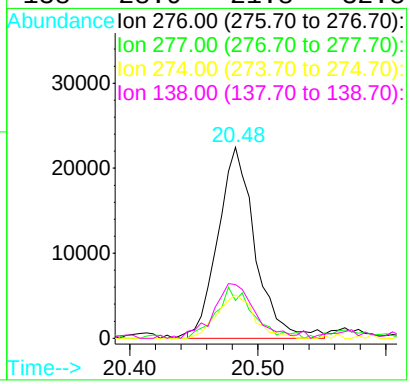




#95
Benzo(g,h,i)perylene
Concen: 2.17 ug/mL m
RT: 20.48 min Scan# 3331
Delta R.T. -0.00 min
Lab File: SV626734.D
Acq: 7 Oct 2019 1:17 pm

Tgt Ion:276 Resp: 453912

Ion	Ratio	Lower	Upper
276	100		
277	23.1	19.2	28.8
274	22.7	0.0	41.2
138	28.9	21.8	32.8



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: SV626735.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 13:58 Analyzed: 10/07/19 13:48

Solids: 92.39 Preparation: EPA 3550C Initial/Final: 30.4 g / 1 mL

Batch: BJ90324 Sequence: Y9J0808 Calibration: YJ90006 Instrument: BNA#6

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0891	U
65794-96-9	3- & 4-Methylphenols	2	0.0891	U
83-32-9	Acenaphthene	2	0.0577	JD
208-96-8	Acenaphthylene	2	0.0891	U
120-12-7	Anthracene	2	0.134	D
56-55-3	Benzo(a)anthracene	2	0.219	D
50-32-8	Benzo(a)pyrene	2	0.184	D
205-99-2	Benzo(b)fluoranthene	2	0.140	D
191-24-2	Benzo(g,h,i)perylene	2	0.0876	JD
207-08-9	Benzo(k)fluoranthene	2	0.144	D
218-01-9	Chrysene	2	0.197	D
53-70-3	Dibenzo(a,h)anthracene	2	0.0891	U
132-64-9	Dibenzofuran	2	0.0498	JD
206-44-0	Fluoranthene	2	0.461	D
86-73-7	Fluorene	2	0.0541	JD
118-74-1	Hexachlorobenzene	2	0.0891	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0826	JD
91-20-3	Naphthalene	2	0.0891	U
87-86-5	Pentachlorophenol	2	0.0891	U
85-01-8	Phenanthrene	2	0.522	D
108-95-2	Phenol	2	0.0891	U
129-00-0	Pyrene	2	0.360	D

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.78	0.814	45.7	20 - 108	
SURR: Phenol-d5	1.78	0.790	44.4	23 - 114	
SURR: Nitrobenzene-d5	0.890	0.491	55.1	22 - 108	
SURR: 2-Fluorobiphenyl	0.890	0.464	52.2	21 - 113	
SURR: 2,4,6-Tribromophenol	1.78	0.993	55.8	19 - 110	
SURR: Terphenyl-d14	0.890	0.472	53.0	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1374731	4.98	1310727	4.98	
ISTD: Naphthalene-d8	5264618	5.93	5413365	5.93	
ISTD: Acenaphthene-d10	3039204	7.48	3140982	7.48	
ISTD: Phenanthrene-d10	5680060	9.48	5811112	9.49	
ISTD: Chrysene-d12	5698133	14.93	5986891	14.94	
ISTD: Perylene-d12	7195472	18.05	7460584	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626735.D Vial: 9
Acq On : 7 Oct 2019 1:48 pm Operator: SR
Sample : 19J0144-05 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:51 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

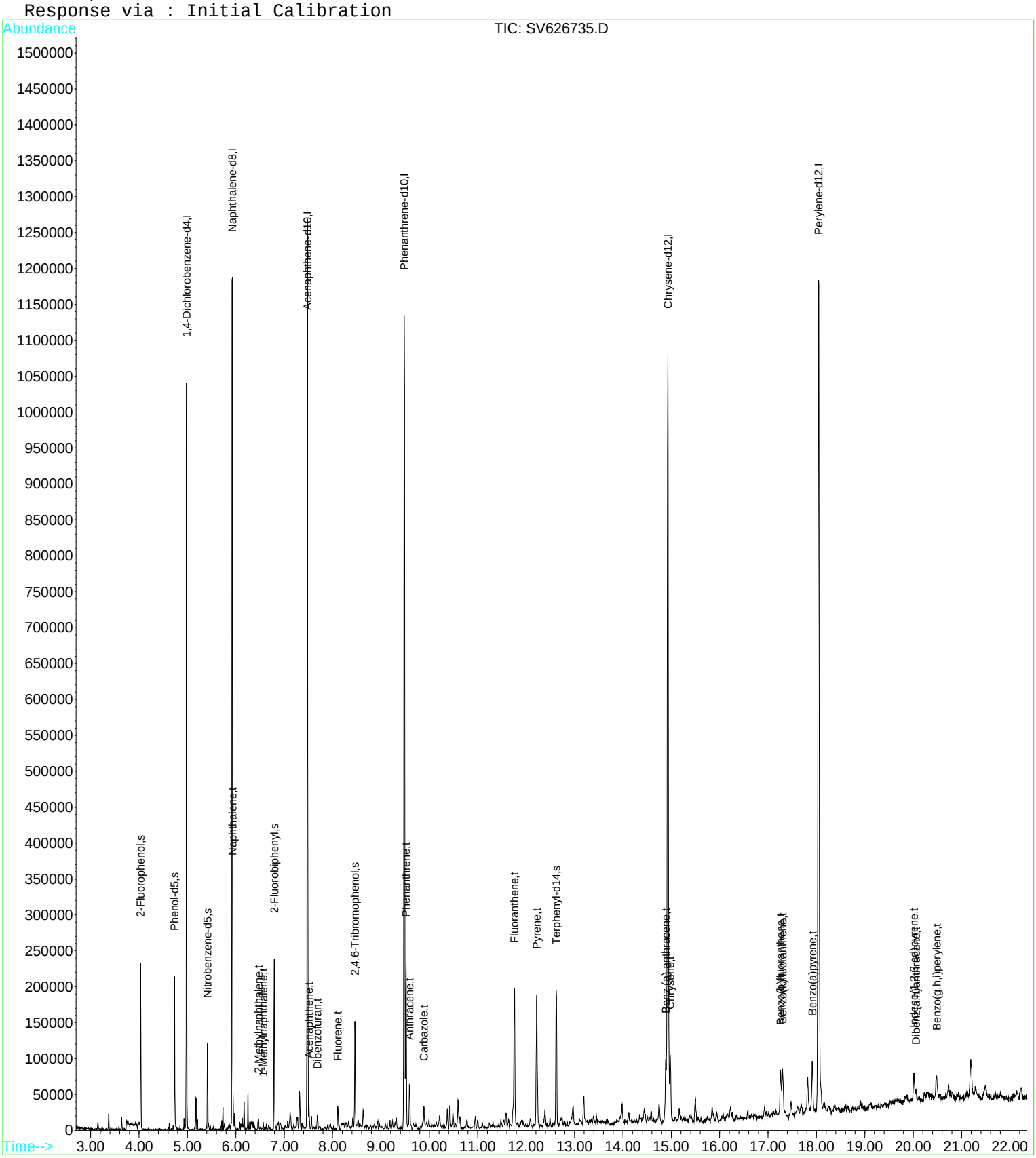
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1374731	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5264618	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3039204	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5680060	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5698133	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	7195472	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	608389	11.43	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 15.24%			
5) Phenol-d5	4.74	99	738091	11.10	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 14.80%			
22) Nitrobenzene-d5	5.42	82	293530	6.89	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 13.78%#			
45) 2-Fluorobiphenyl	6.80	172	707936	6.52	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 13.04%#			
67) 2,4,6-Tribromophenol	8.47	330	201780	13.94	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 18.59%#			
82) Terphenyl-d14	12.63	244	939628	6.63	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 13.26%#			
Target Compounds						Qvalue
32) Naphthalene	5.94	128	70678	0.51	ug/mL#	66
37) 1-Methylnaphthalene	6.57	141	19289	0.21	ug/mL#	78
38) 2-Methylnaphthalene	6.47	142	31945	0.34	ug/mL#	82
52) Acenaphthene	7.51	154	72580	0.81	ug/mL#	94
54) Dibenzofuran	7.69	168	98949	0.70	ug/mL#	89
59) Fluorene	8.11	166	85468	0.76	ug/mL#	82
73) Phenanthrene	9.52	178	1141723	7.33	ug/mL	98
74) Anthracene	9.59	178	299868m	1.88	ug/mL	
75) Carbazole	9.89	167	165077	1.02	ug/mL#	100
78) Fluoranthene	11.76	202	1182656	6.48	ug/mL	99
81) Pyrene	12.22	202	1010870m	5.06	ug/mL	
85) Benz (a) anthracene	14.89	228	583066	3.07	ug/mL	96
87) Chrysene	14.98	228	527246	2.77	ug/mL#	87
89) Benzo(b)fluoranthene	17.26	252	356355	1.96	ug/mL	96
90) Benzo(k)fluoranthene	17.30	252	426035m	2.02	ug/mL	
91) Benzo(a)pyrene	17.91	252	464187	2.58	ug/mL#	92
93) Indeno(1,2,3-cd)pyrene	20.01	276	275377m	1.16	ug/mL	
94) Dibenz(a,h)anthracene	20.06	278	68183	0.36	ug/mL#	57
95) Benzo(g,h,i)perylene	20.48	276	260470m	1.23	ug/mL	

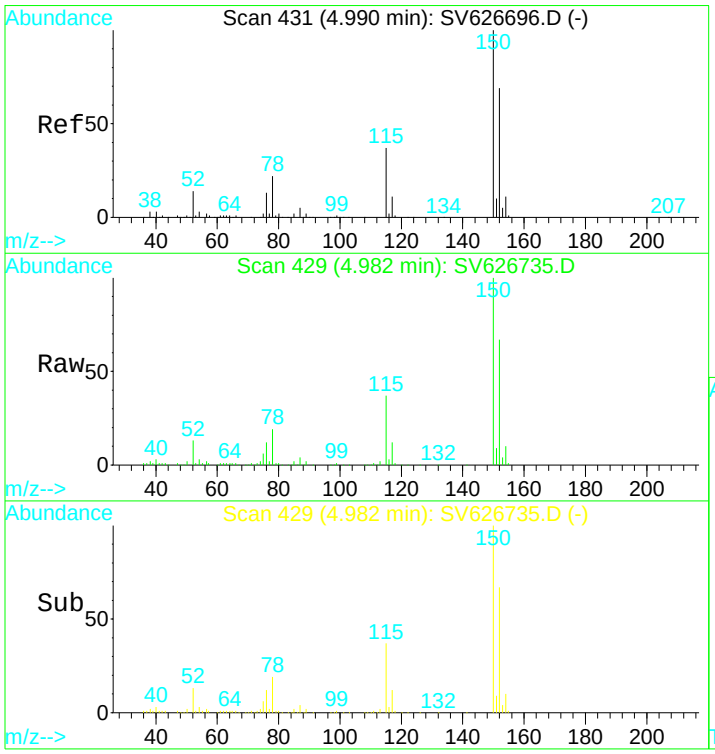
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626735.D Vial: 9
Acq On : 7 Oct 2019 1:48 pm Operator: SR
Sample : 19J0144-05 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:51 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration

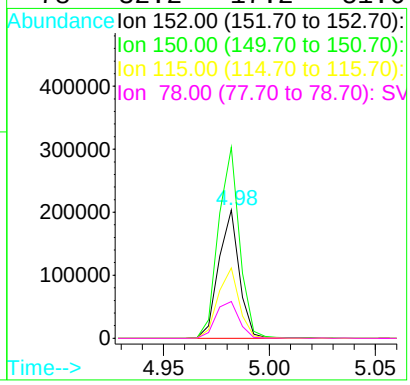


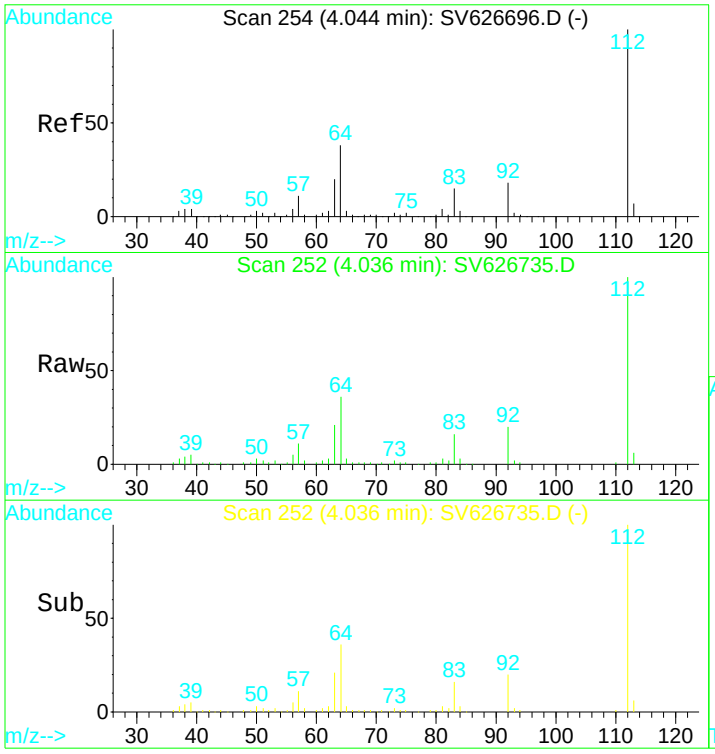


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:152 Resp: 1374731

Ion	Ratio	Lower	Upper
152	100		
150	152.0	82.1	246.3
115	56.5	28.4	85.2
78	32.2	17.2	51.6

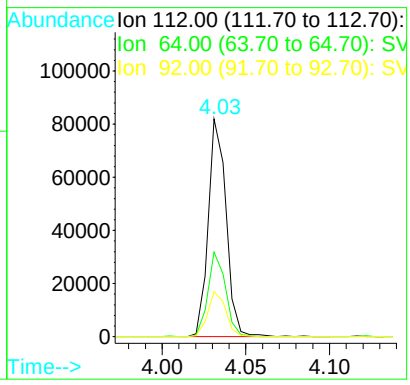


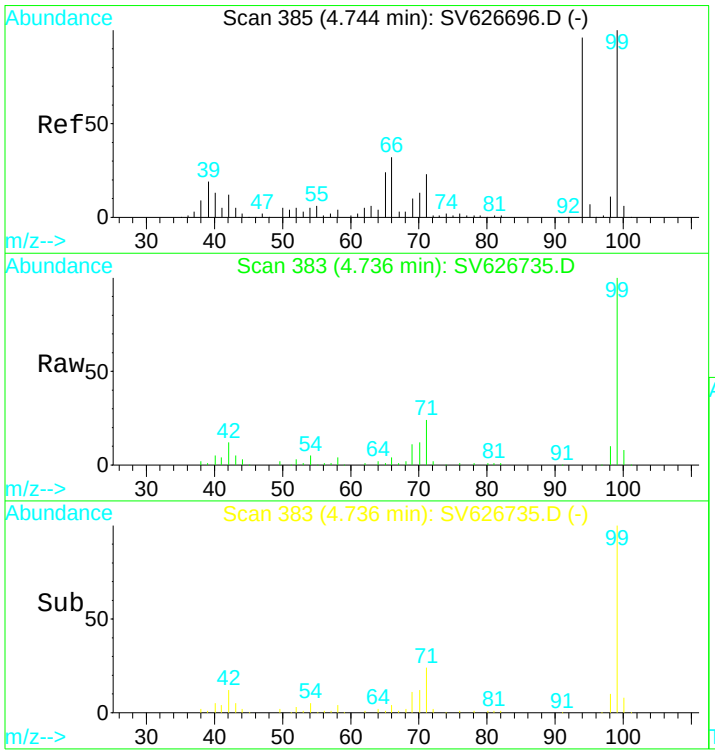


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.04 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:112 Resp: 608389

Ion	Ratio	Lower	Upper
112	100		
64	38.1	32.0	48.0
92	21.0	15.8	23.8

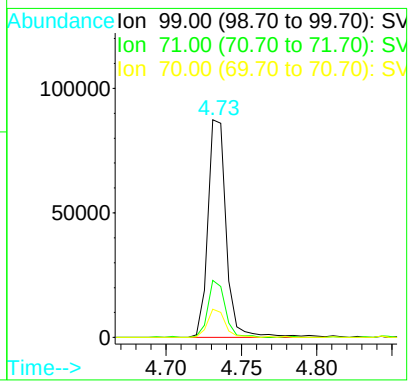


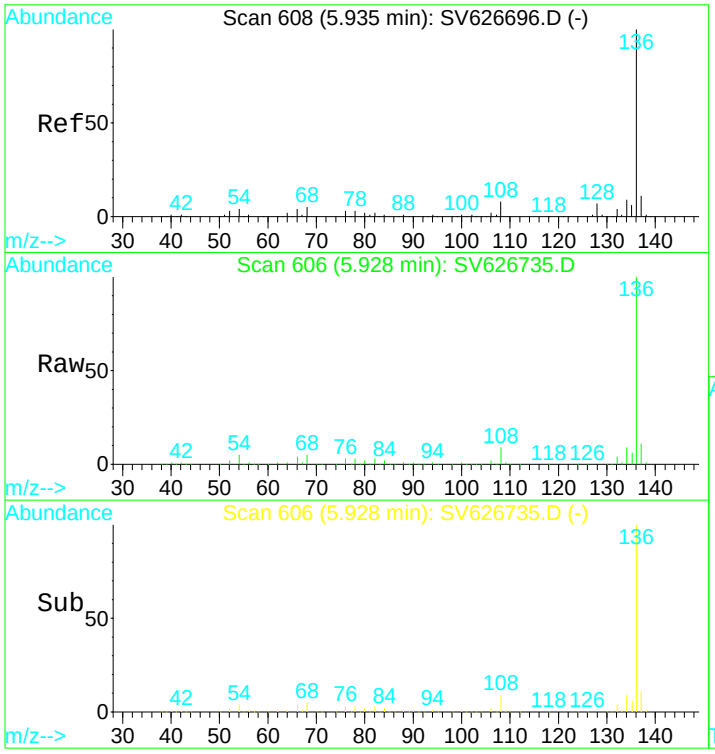


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.74 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion: 99 Resp: 738091

Ion	Ratio	Lower	Upper
99	100		
71	24.4	20.6	31.0
70	12.9	10.6	15.8

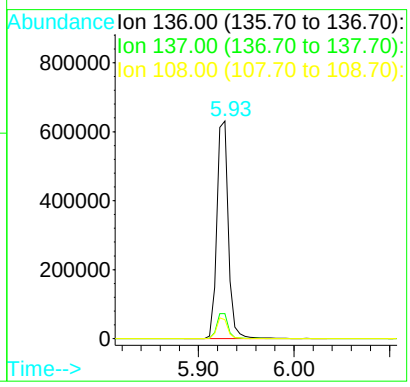


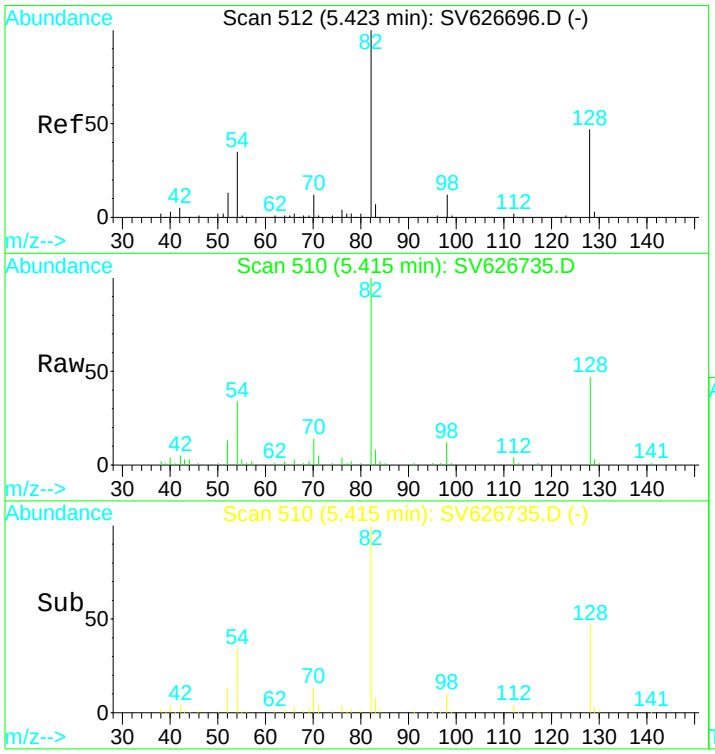


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.93 min Scan# 606
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:136 Resp: 5264618

Ion	Ratio	Lower	Upper
136	100		
137	11.4	5.5	16.7
108	9.1	4.7	14.1

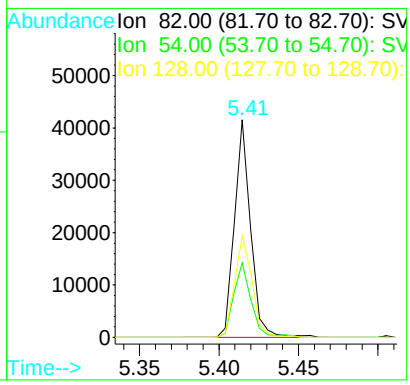


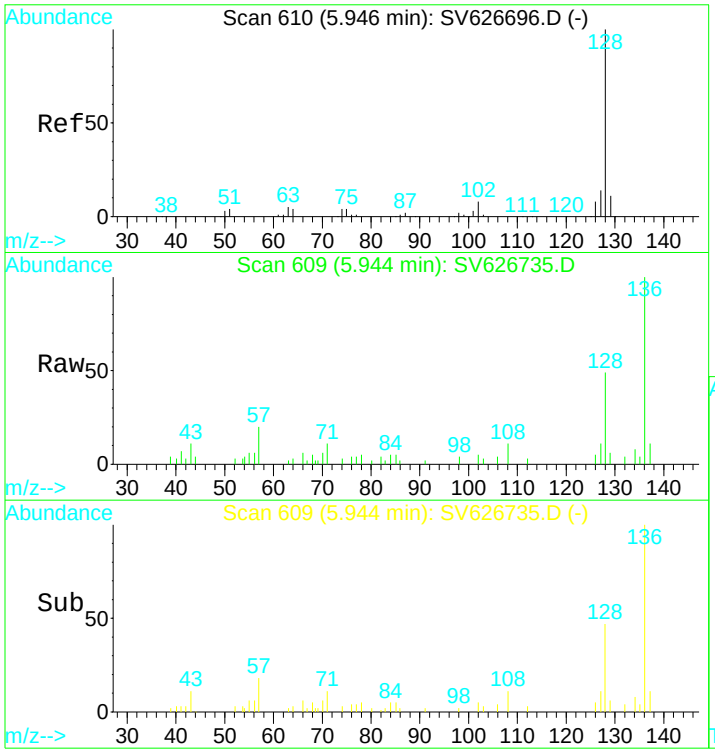


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 510
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion: 82 Resp: 293530

Ion	Ratio	Lower	Upper
82	100		
54	37.1	29.0	43.4
128	50.5	38.0	57.0

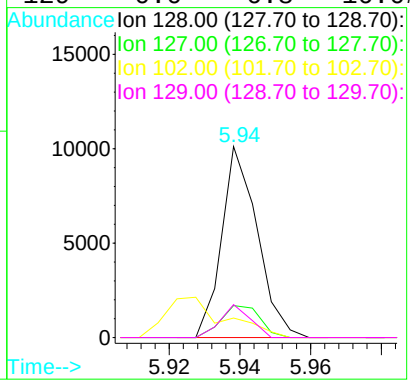


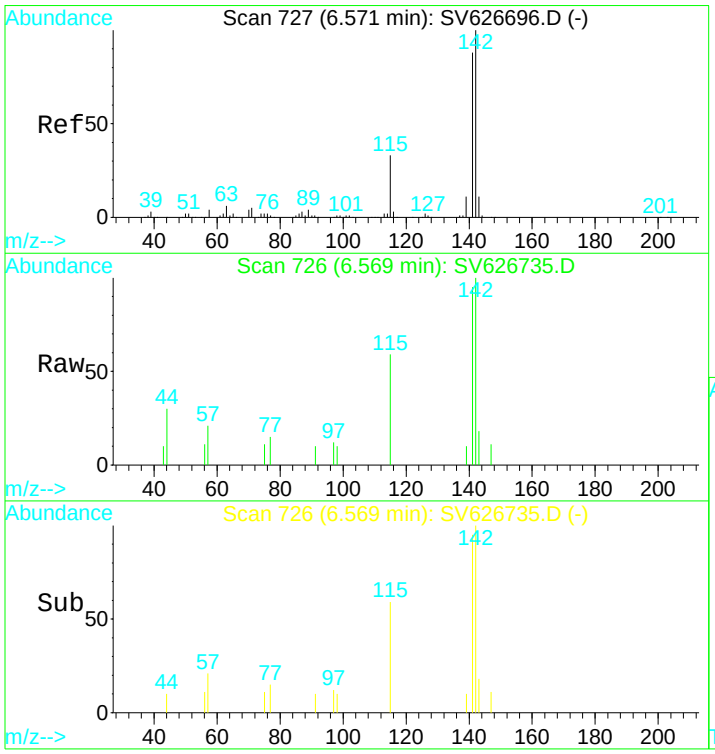


#32
Naphthalene
Concen: 0.51 ug/mL
RT: 5.94 min Scan# 609
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:128 Resp: 70678

Ion	Ratio	Lower	Upper
128	100		
127	18.5	11.0	16.4#
102	35.4	4.5	13.7#
129	0.0	6.8	16.0#

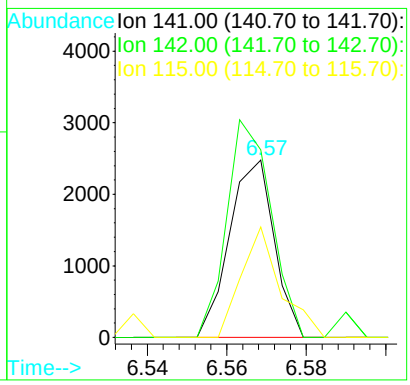


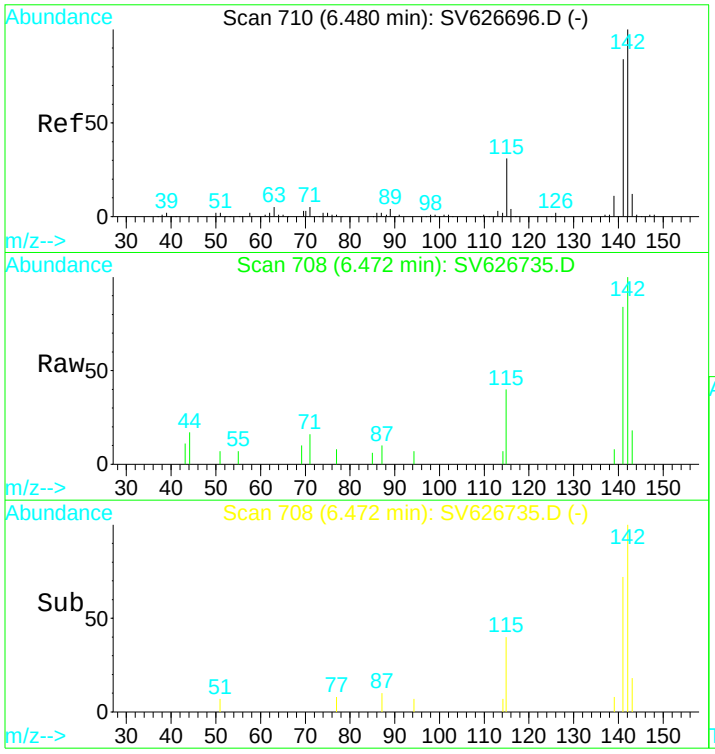


#37
1-Methylnaphthalene
Concen: 0.21 ug/mL
RT: 6.57 min Scan# 726
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:141 Resp: 19289

Ion	Ratio	Lower	Upper
141	100		
142	121.8	89.9	134.9
115	0.0	30.4	45.6#

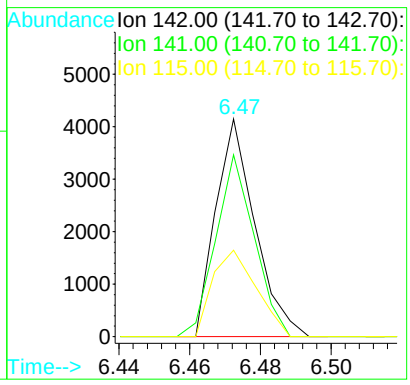


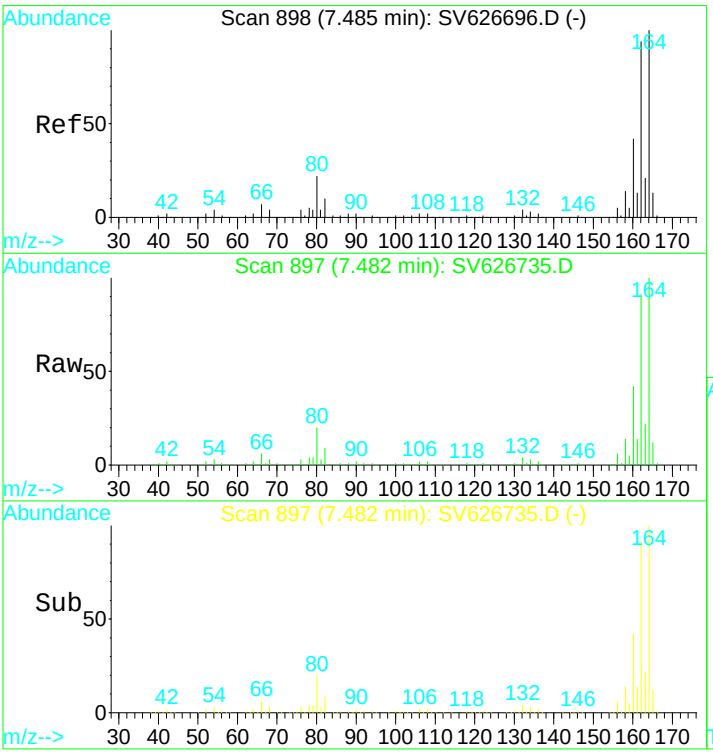


#38
2-Methylnaphthalene
Concen: 0.34 ug/mL
RT: 6.47 min Scan# 708
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:142 Resp: 31945

Ion	Ratio	Lower	Upper
142	100		
141	82.0	66.6	99.8
115	0.0	26.6	39.8#

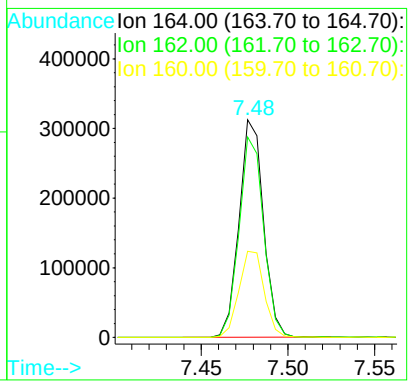


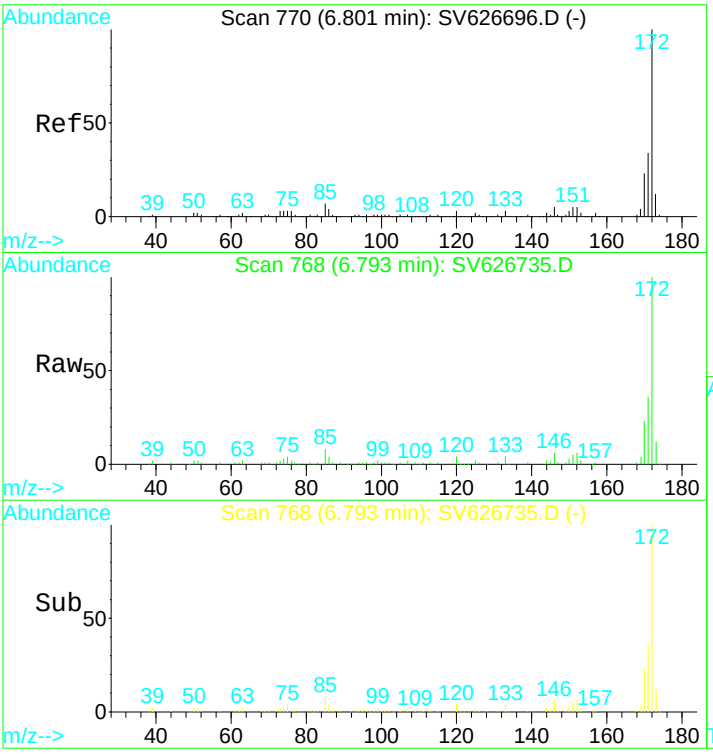


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:164 Resp: 3039204

Ion	Ratio	Lower	Upper
164	100		
162	93.3	47.4	142.2
160	41.3	21.0	63.0

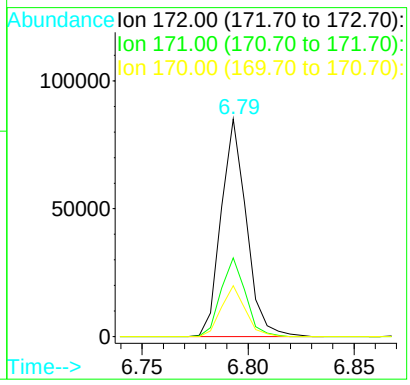


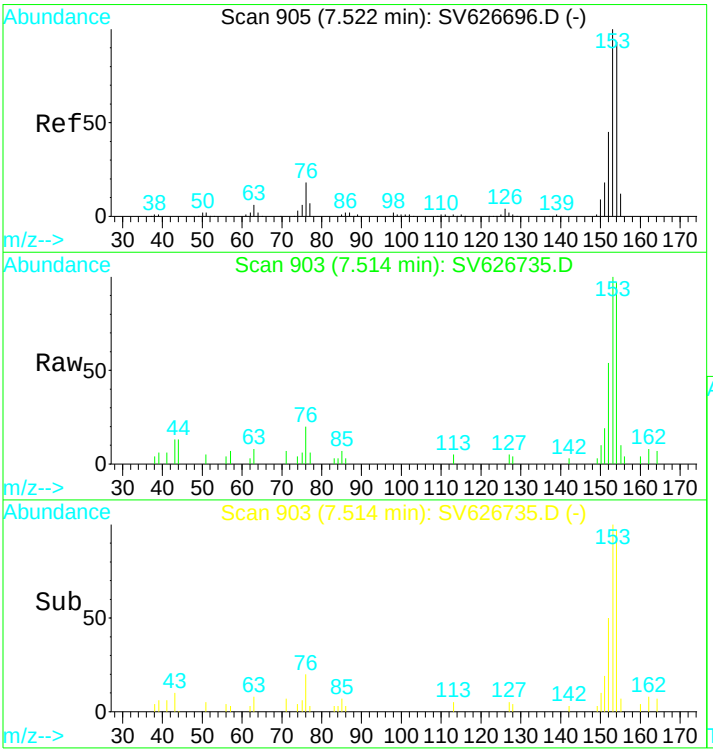


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.80 min Scan# 768
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:172 Resp: 707936

Ion	Ratio	Lower	Upper
172	100		
171	35.3	28.2	42.4
170	22.3	18.4	27.6

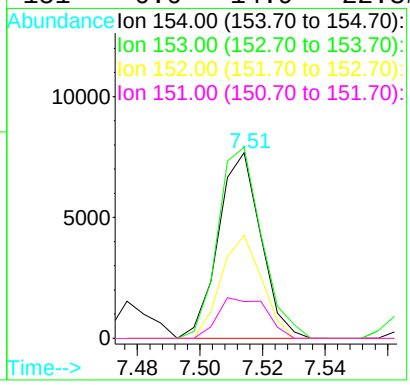


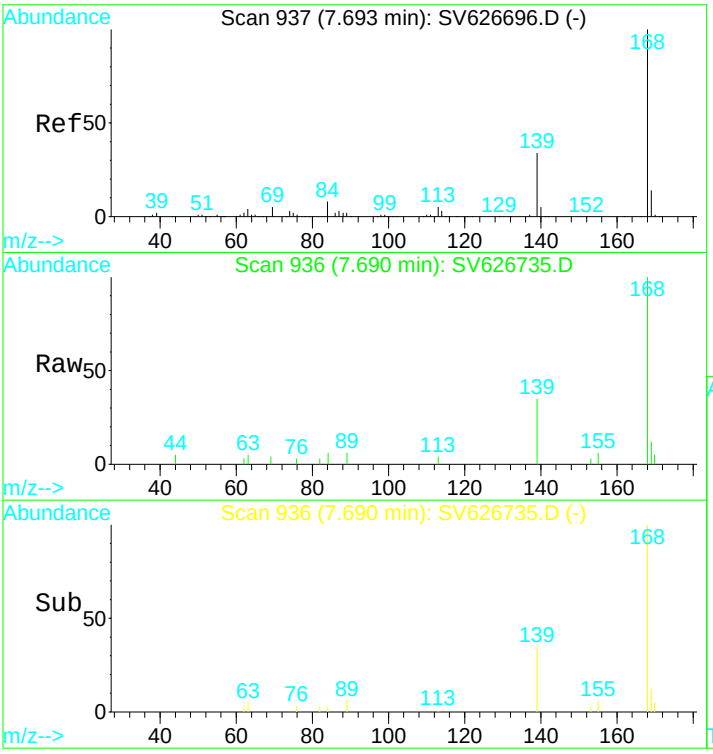


#52
Acenaphthene
Concen: 0.81 ug/mL
RT: 7.51 min Scan# 903
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:154 Resp: 72580

Ion	Ratio	Lower	Upper
154	100		
153	106.1	85.2	127.8
152	53.2	39.7	59.5
151	0.0	14.9	22.3#

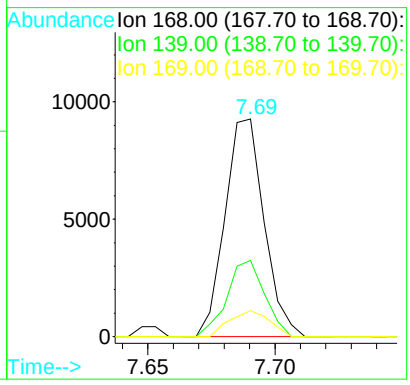


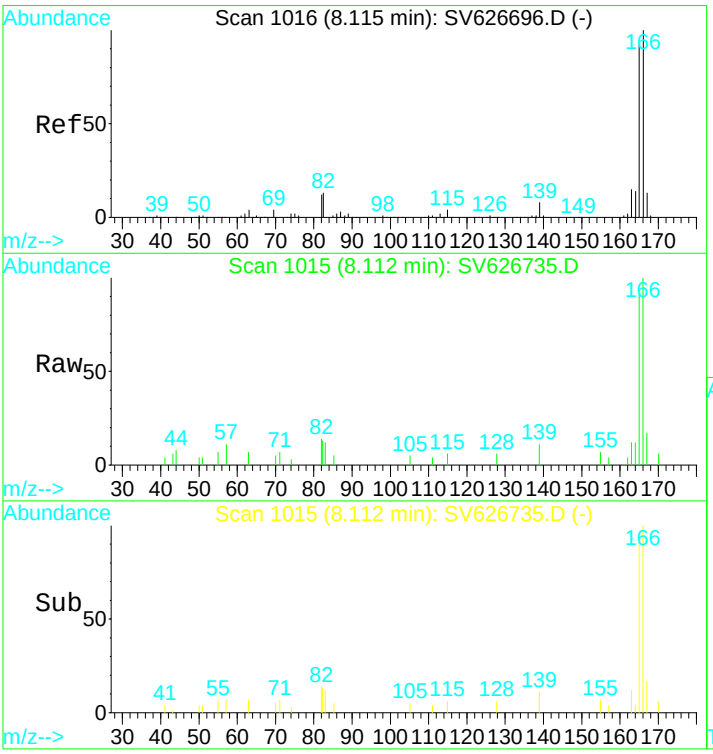


#54
Dibenzofuran
Concen: 0.70 ug/mL
RT: 7.69 min Scan# 936
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:168 Resp: 98949

Ion	Ratio	Lower	Upper
168	100		
139	33.8	27.7	41.5
169	0.0	11.1	16.7#

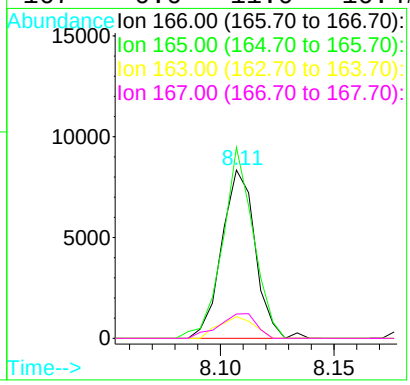


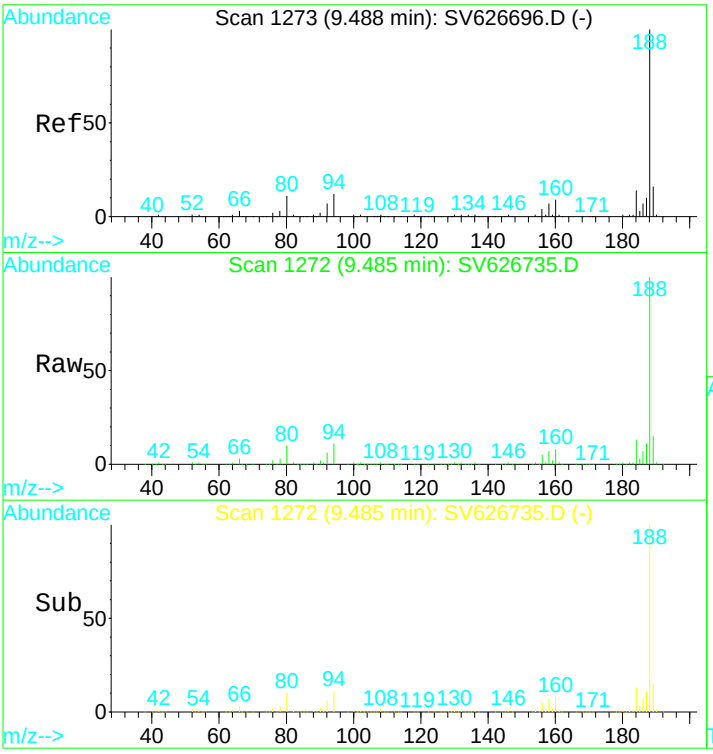


#59
Fluorene
Concen: 0.76 ug/mL
RT: 8.11 min Scan# 1015
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:166 Resp: 85468

Ion	Ratio	Lower	Upper
166	100		
165	104.4	73.8	110.8
163	0.0	12.4	18.6#
167	0.0	11.0	16.4#

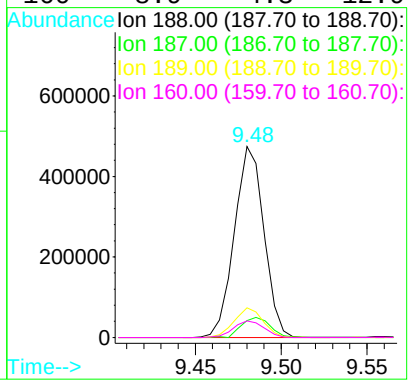


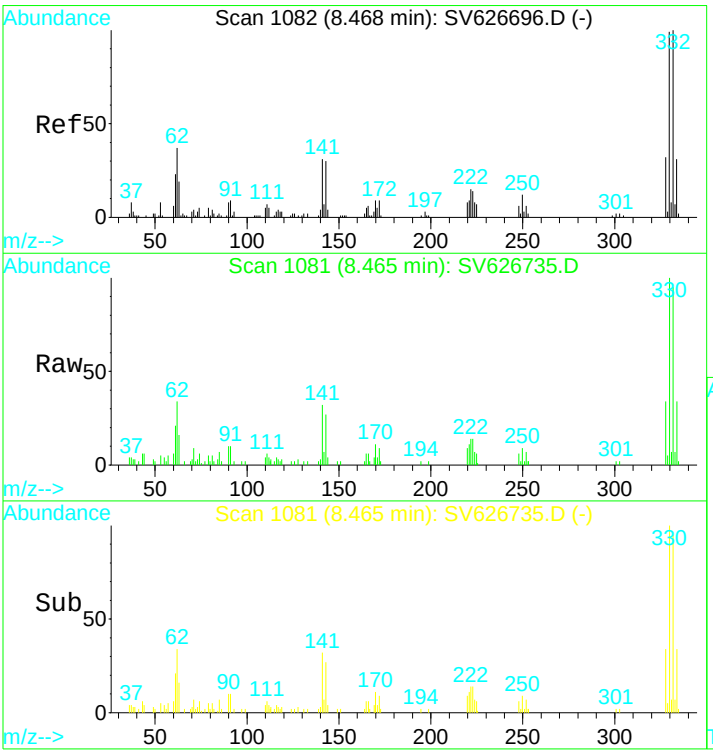


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:188 Resp: 5680060

Ion	Ratio	Lower	Upper
188	100		
187	10.2	8.5	12.7
189	15.2	7.8	23.4
160	8.9	4.3	12.9

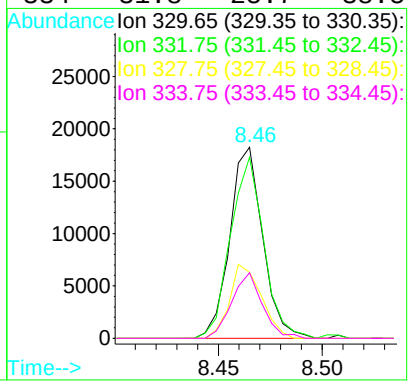


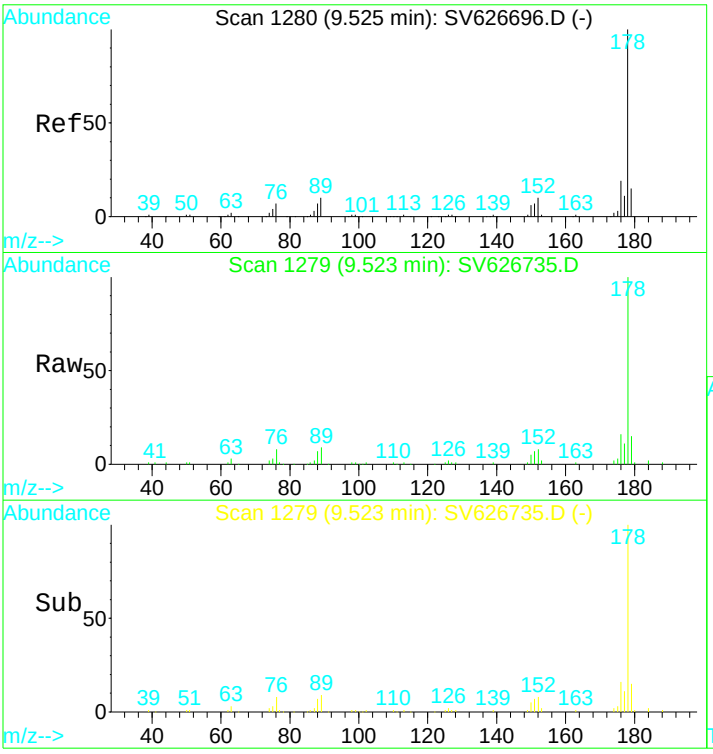


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.47 min Scan# 1081
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:330 Resp: 201780

Ion	Ratio	Lower	Upper
330	100		
332	96.3	78.8	118.2
328	37.0	27.4	41.0
334	31.8	25.7	38.5

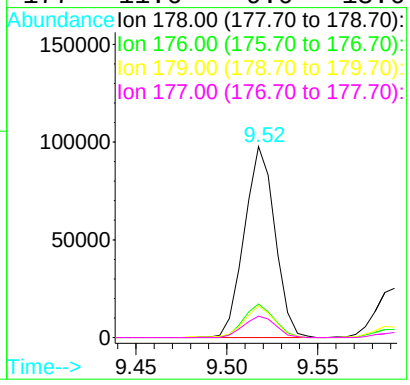


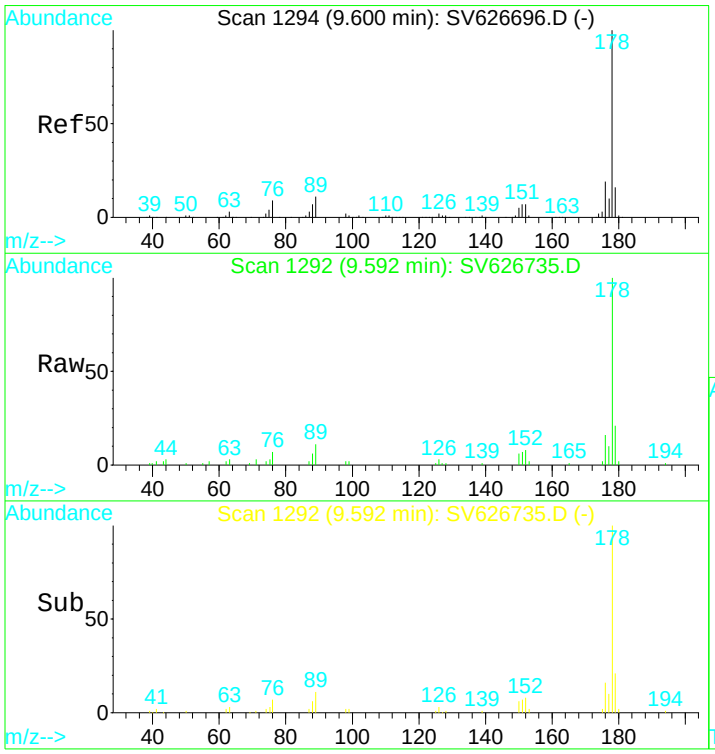


#73
Phenanthrene
Concen: 7.33 ug/mL
RT: 9.52 min Scan# 1279
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:178 Resp: 1141723

Ion	Ratio	Lower	Upper
178	100		
176	17.5	15.0	22.4
179	16.3	12.3	18.5
177	11.6	9.0	13.6

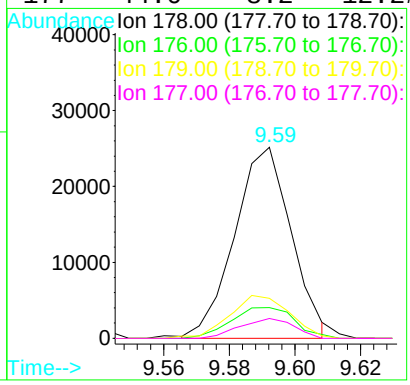


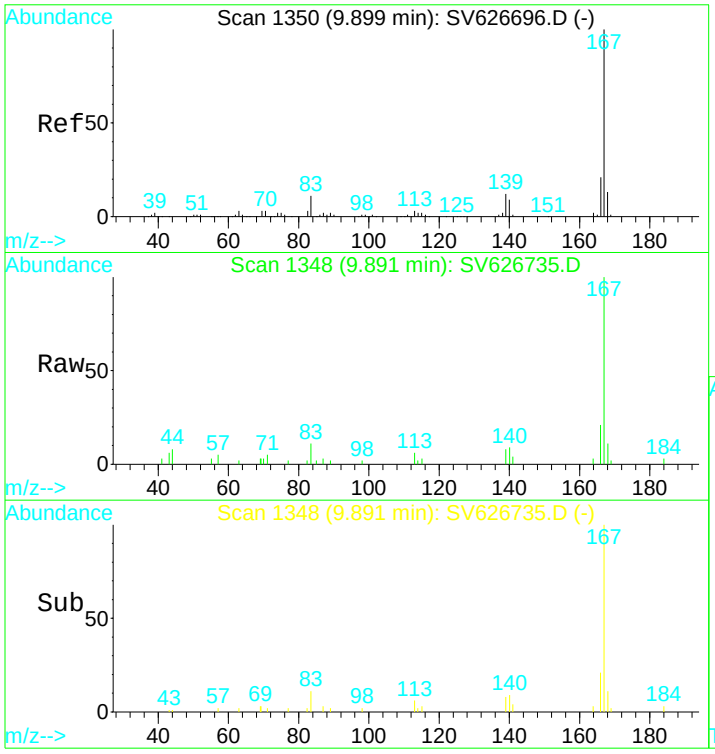


#74
Anthracene
Concen: 1.88 ug/mL m
RT: 9.59 min Scan# 1292
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:178 Resp: 299868

Ion	Ratio	Lower	Upper
178	100		
176	66.4	15.0	22.4#
179	62.1	12.7	19.1#
177	44.0	8.2	12.2#

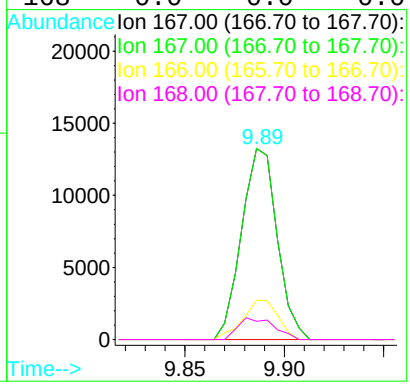


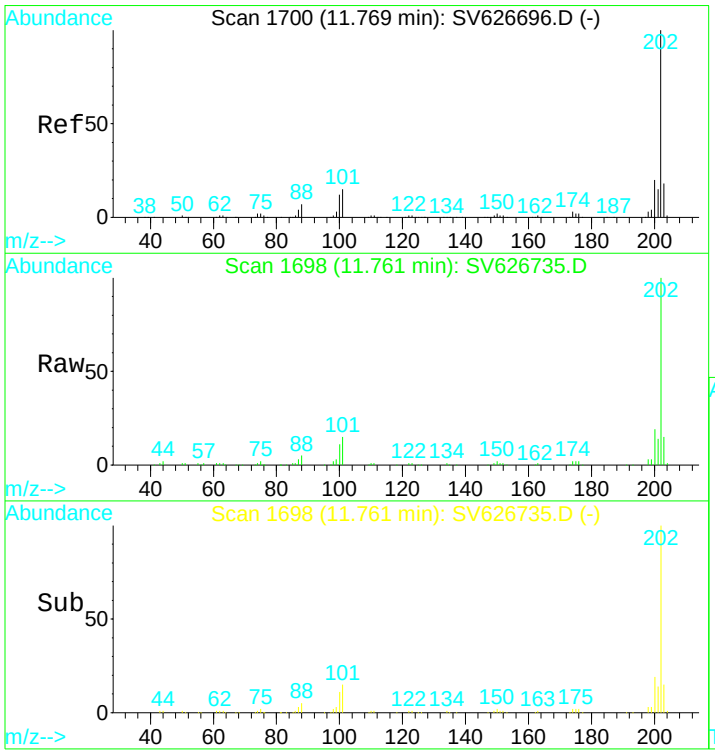


#75
Carbazole
Concen: 1.02 ug/mL
RT: 9.89 min Scan# 1348
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:167 Resp: 165077

Ion	Ratio	Lower	Upper
167	100		
167	100.0	80.0	120.0
166	20.4	10.4	31.2
168	0.0	0.0	0.0

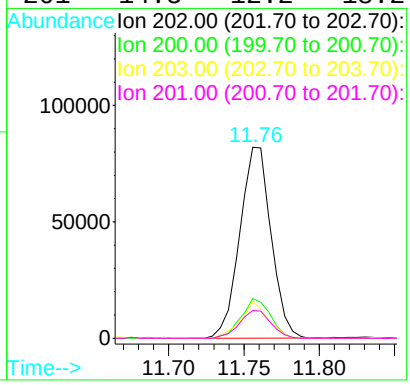


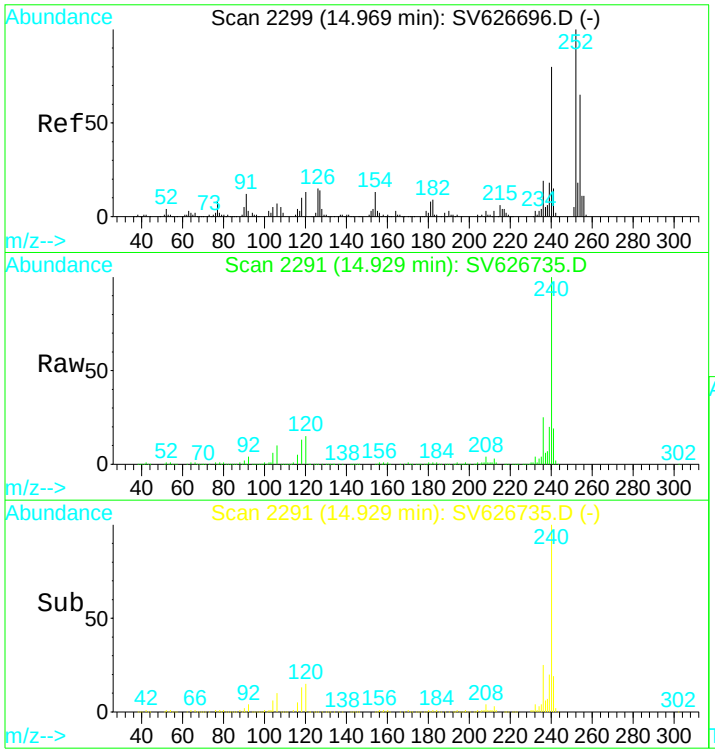


#78
Fluoranthene
Concen: 6.48 ug/mL
RT: 11.76 min Scan# 1698
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:202 Resp: 1182656

Ion	Ratio	Lower	Upper
202	100		
200	19.5	15.9	23.9
203	16.9	14.0	21.0
201	14.5	12.2	18.2

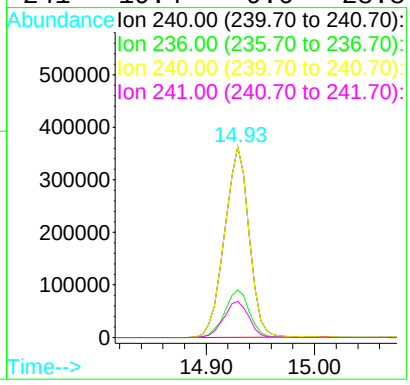


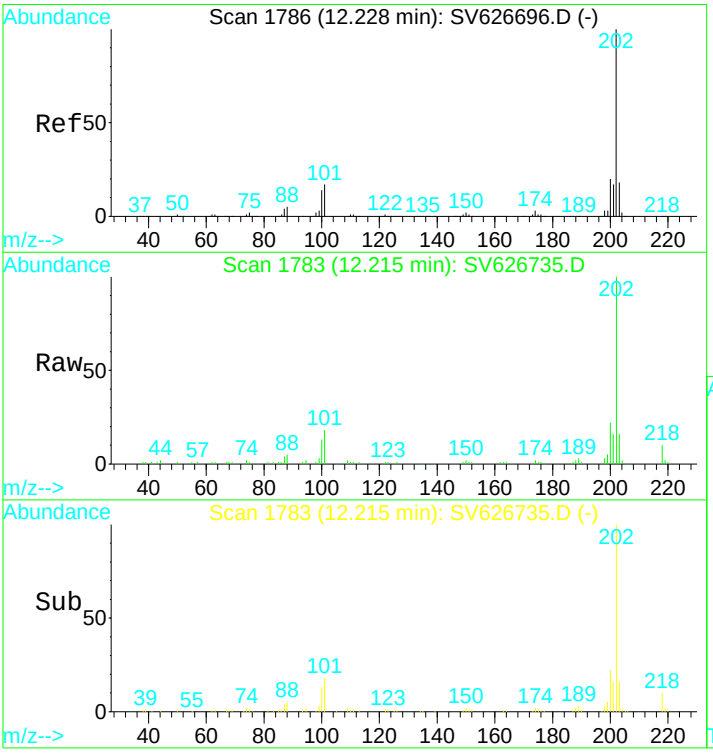


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2291
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:240 Resp: 5698133

Ion	Ratio	Lower	Upper
240	100		
236	25.3	12.4	37.0
240	100.0	50.0	150.0
241	19.4	9.6	28.8

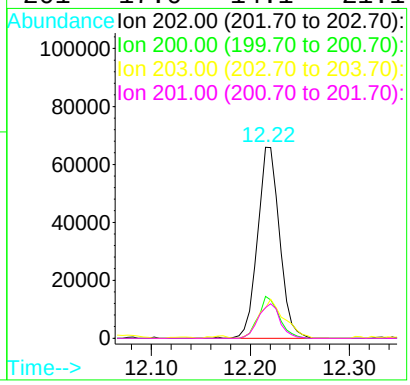


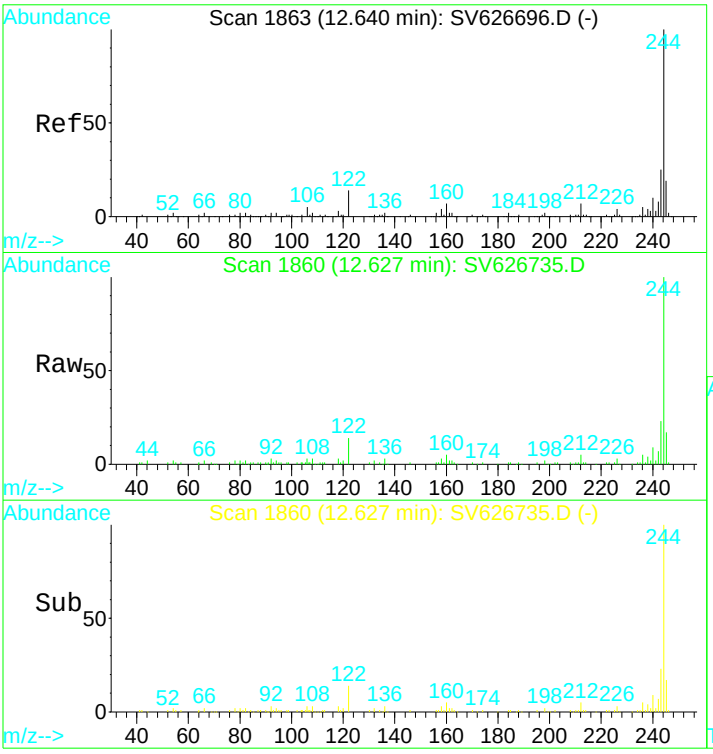


#81
Pyrene
Concen: 5.06 ug/mL m
RT: 12.22 min Scan# 1783
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:202 Resp: 1010870

Ion	Ratio	Lower	Upper
202	100		
200	22.8	16.2	24.4
203	19.7	14.4	21.6
201	17.0	14.1	21.1

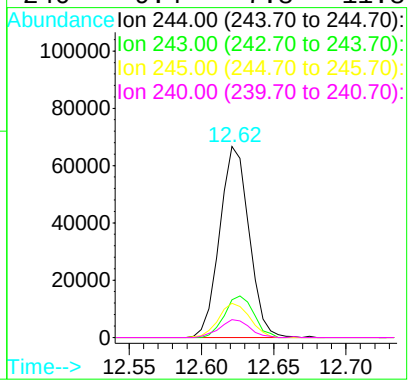


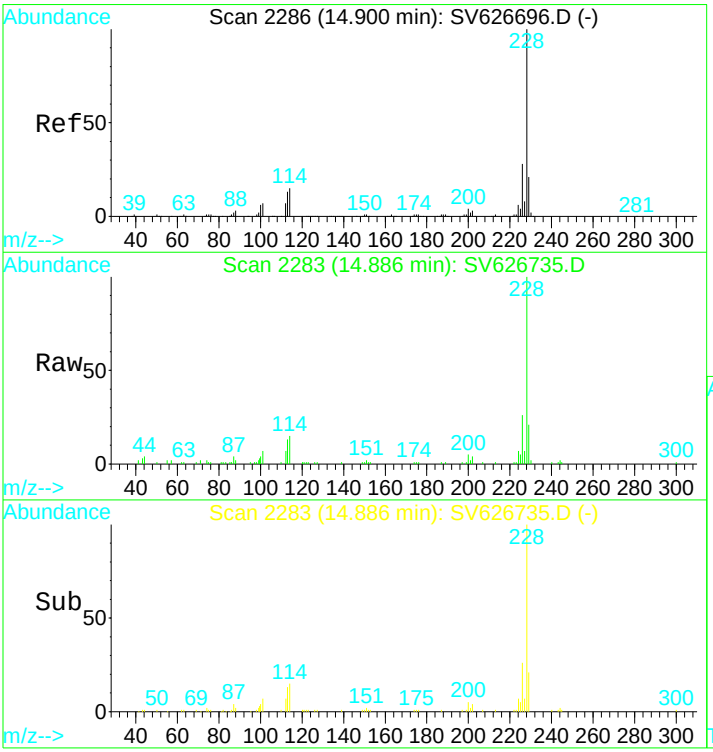


#82
Terphenyl-d14
Concen: 5.06 ug/mL
RT: 12.63 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:244 Resp: 939628

Ion	Ratio	Lower	Upper
244	100		
243	21.6	18.6	28.0
245	19.1	15.7	23.5
240	9.4	7.8	11.8

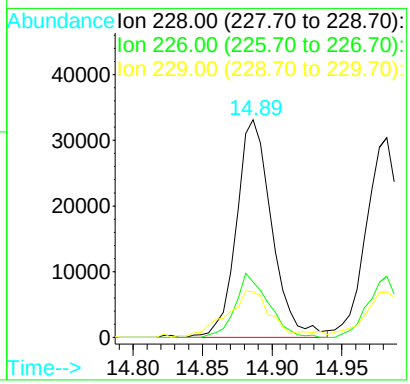


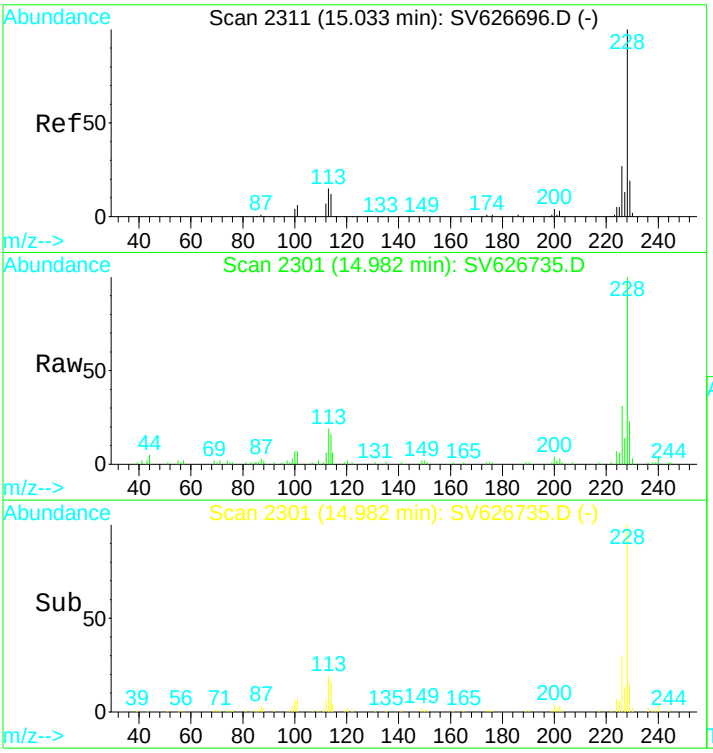


#85
Benz (a) anthracene
Concen: 3.07 ug/mL
RT: 14.89 min Scan# 2283
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:228 Resp: 583066

Ion	Ratio	Lower	Upper
228	100		
226	27.4	21.4	32.2
229	24.9	16.7	25.1

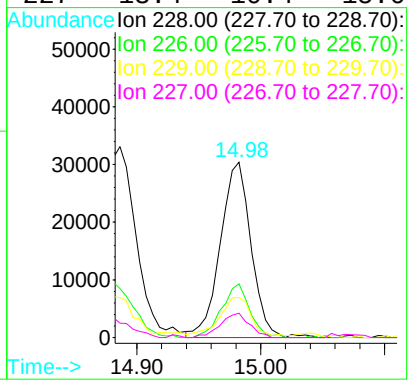


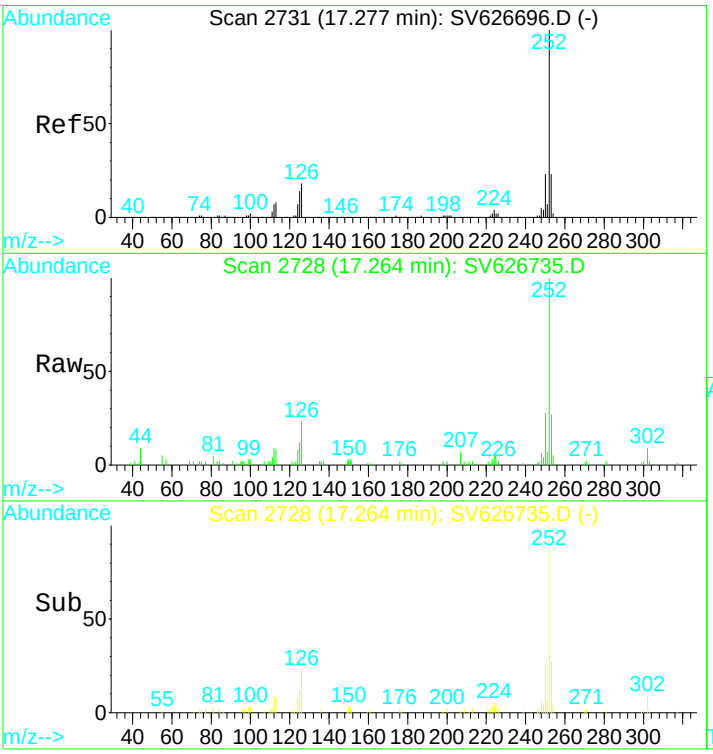


#87
Chrysene
Concen: 2.77 ug/mL
RT: 14.98 min Scan# 2301
Delta R.T. -0.02 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:228 Resp: 527246

Ion	Ratio	Lower	Upper
228	100		
226	27.5	12.6	18.8#
229	23.6	15.9	23.9
227	13.4	10.4	15.6

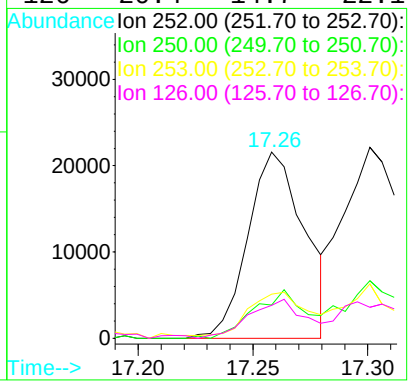


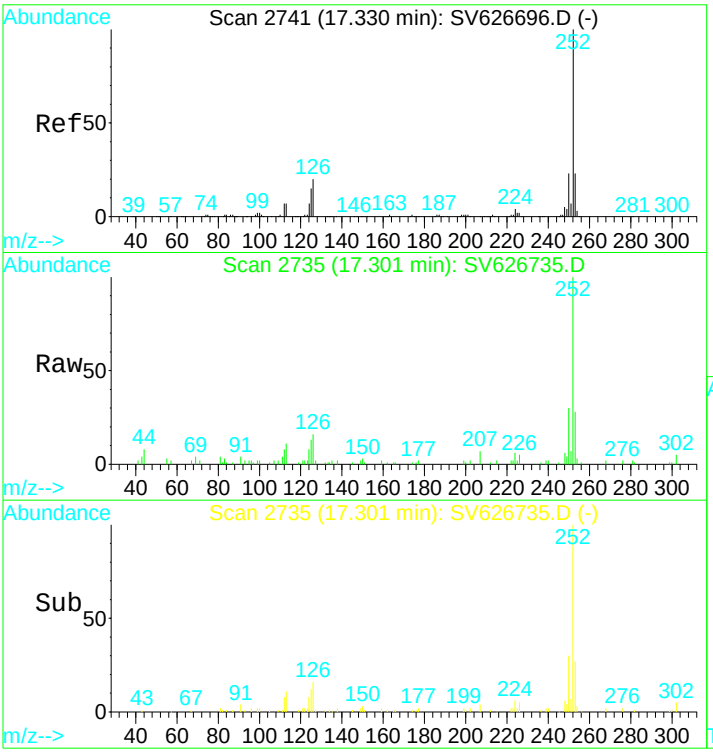


#89
Benzo(b)fluoranthene
Concen: 1.96 ug/mL
RT: 17.26 min Scan# 2728
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:252 Resp: 356355

Ion	Ratio	Lower	Upper
252	100		
250	22.1	18.2	27.4
253	26.0	18.0	27.0
126	20.4	14.7	22.1

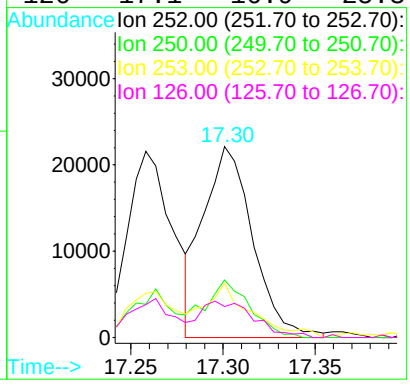


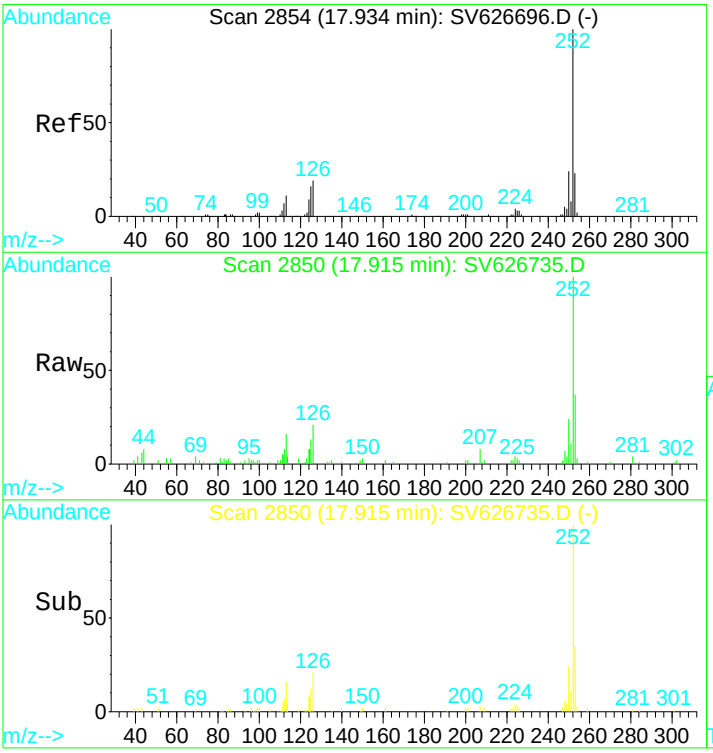


#90
Benzo(k)fluoranthene
Concen: 2.02 ug/mL m
RT: 17.30 min Scan# 2735
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:252 Resp: 426035

Ion	Ratio	Lower	Upper
252	100		
250	18.9	17.7	26.5
253	21.3	17.4	26.2
126	17.1	16.9	25.3

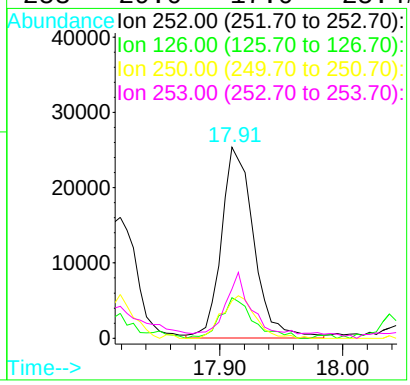


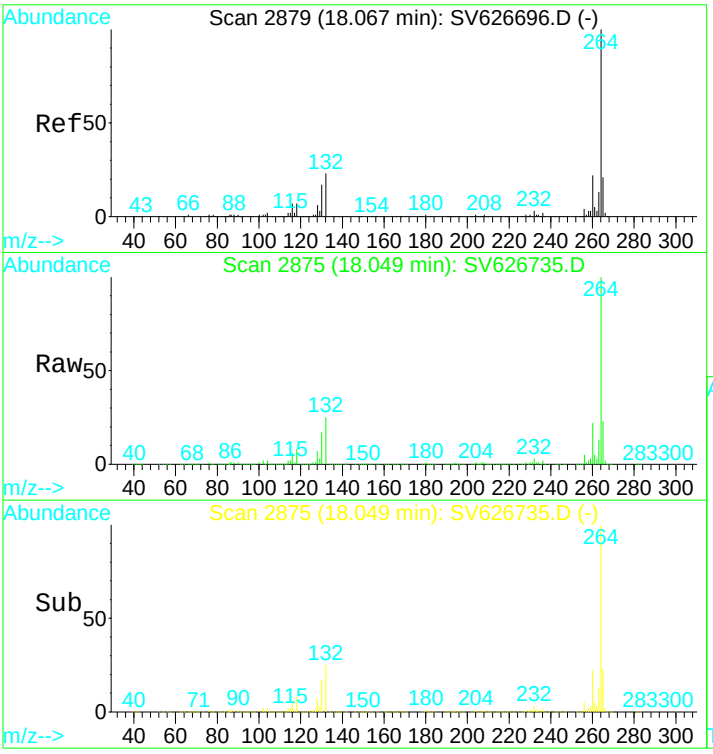


#91
Benzo(a)pyrene
Concen: 2.58 ug/mL
RT: 17.91 min Scan# 2850
Delta R.T. -0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:252 Resp: 464187

Ion	Ratio	Lower	Upper
252	100		
126	21.4	14.8	22.2
250	22.8	17.6	26.4
253	29.0	17.0	25.4#

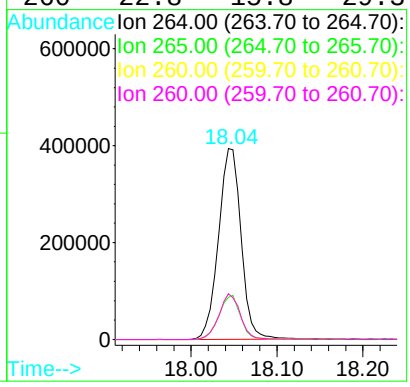


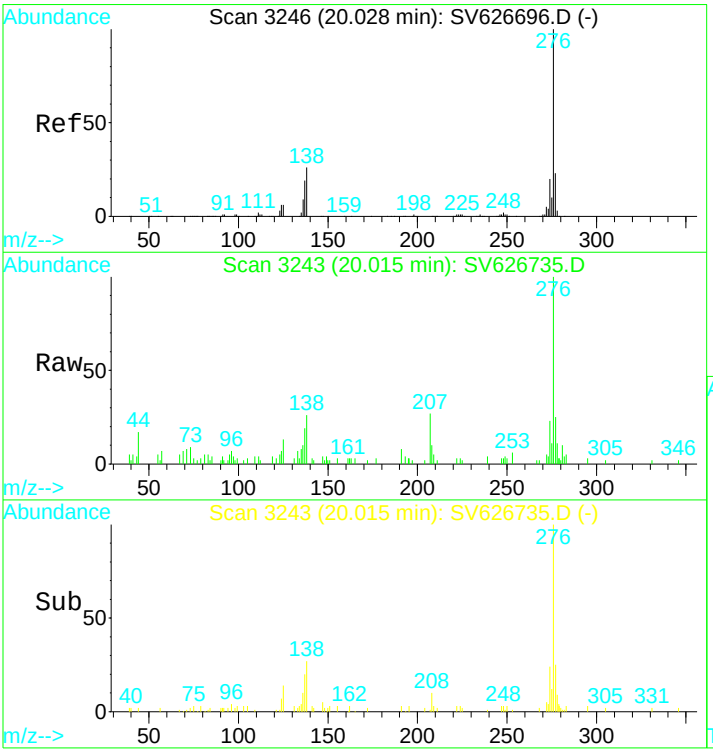


#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.05 min Scan# 2875
Delta R.T. -0.01 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:264 Resp: 7195472

Ion	Ratio	Lower	Upper
264	100		
265	21.9	0.0	0.0#
260	22.8	18.0	27.0
260	22.8	15.8	29.3

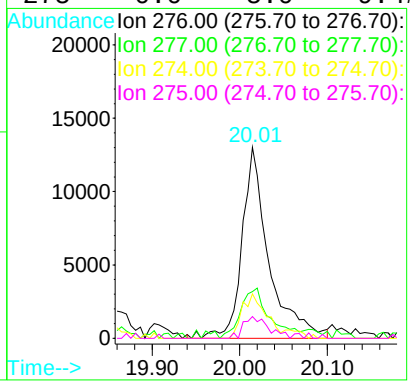


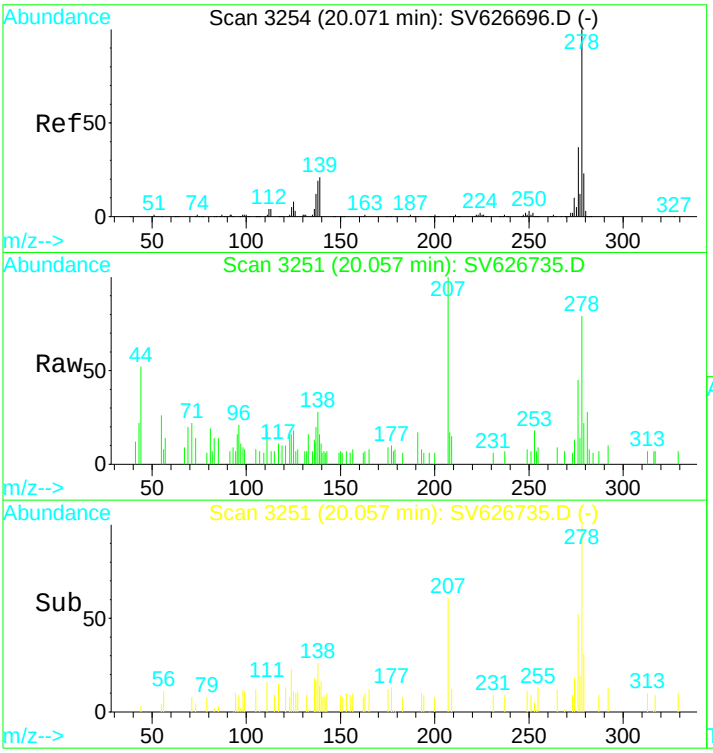


#93
Indeno(1,2,3-cd)pyrene
Concen: 1.16 ug/mL m
RT: 20.01 min Scan# 3243
Delta R.T. 0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:276 Resp: 275377

Ion	Ratio	Lower	Upper
276	100		
277	22.5	13.7	20.5#
274	23.6	16.6	24.8
275	0.0	5.0	9.4#

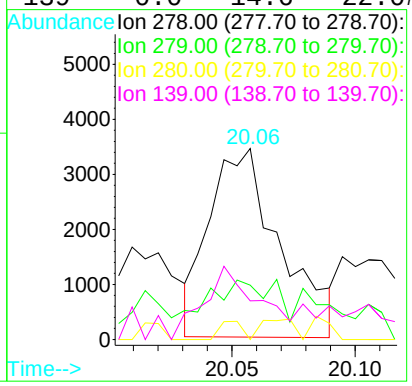


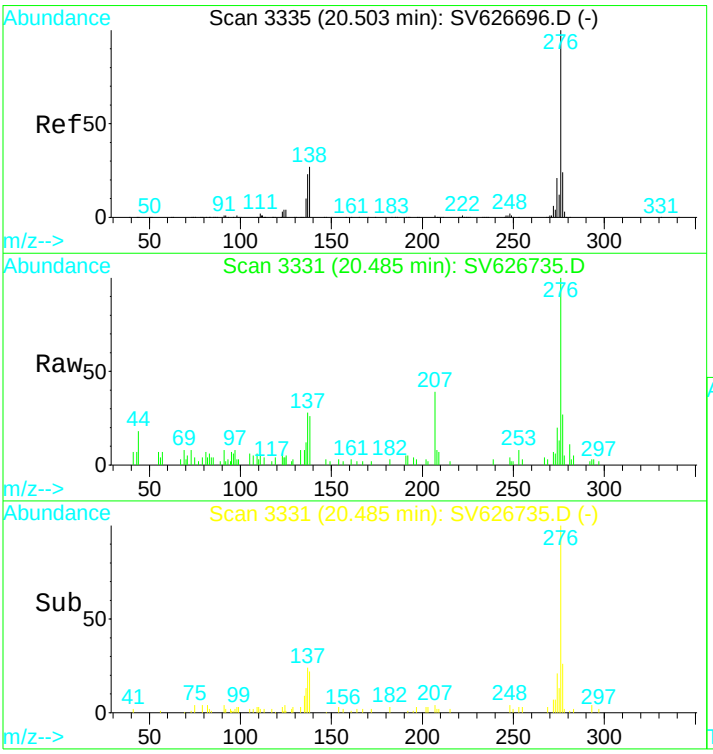


#94
Dibenz(a,h)anthracene
Concen: 0.36 ug/mL
RT: 20.06 min Scan# 3251
Delta R.T. 0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:278 Resp: 68183

Ion	Ratio	Lower	Upper
278	100		
279	0.0	18.4	27.6#
280	0.0	0.0	3.8
139	0.0	14.6	22.0#

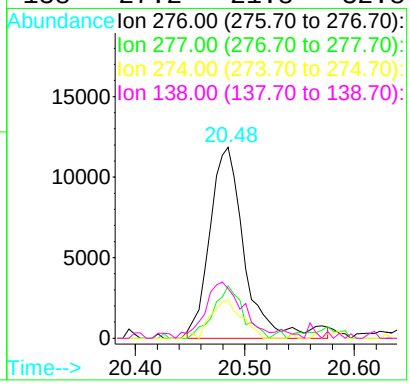




#95
Benzo(g,h,i)perylene
Concen: 1.23 ug/mL m
RT: 20.48 min Scan# 3331
Delta R.T. 0.00 min
Lab File: SV626735.D
Acq: 7 Oct 2019 1:48 pm

Tgt Ion:276 Resp: 260470

Ion	Ratio	Lower	Upper
276	100		
277	23.6	19.2	28.8
274	18.1	0.0	41.2
138	27.2	21.8	32.8



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	SV626736.D
Sampled:	10/02/19 12:05	Prepared:	10/04/19 13:58	Analyzed:	10/07/19 14:20
Solids:	91.18	Preparation:	EPA 3550C	Initial/Final:	30.7 g / 1 mL
Batch:	BJ90324	Sequence:	Y9J0808	Calibration:	YJ90006
Instrument:	BNA#6				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
95-48-7	2-Methylphenol	2	0.0894	U
65794-96-9	3- & 4-Methylphenols	2	0.0894	U
83-32-9	Acenaphthene	2	0.0894	U
208-96-8	Acenaphthylene	2	0.0894	U
120-12-7	Anthracene	2	0.0894	U
56-55-3	Benzo(a)anthracene	2	0.0894	U
50-32-8	Benzo(a)pyrene	2	0.0894	U
205-99-2	Benzo(b)fluoranthene	2	0.0894	U
191-24-2	Benzo(g,h,i)perylene	2	0.0894	U
207-08-9	Benzo(k)fluoranthene	2	0.0894	U
218-01-9	Chrysene	2	0.0894	U
53-70-3	Dibenzo(a,h)anthracene	2	0.0894	U
132-64-9	Dibenzofuran	2	0.0894	U
206-44-0	Fluoranthene	2	0.0894	U
86-73-7	Fluorene	2	0.0894	U
118-74-1	Hexachlorobenzene	2	0.0894	U
193-39-5	Indeno(1,2,3-cd)pyrene	2	0.0894	U
91-20-3	Naphthalene	2	0.0894	U
87-86-5	Pentachlorophenol	2	0.0894	U
85-01-8	Phenanthrene	2	0.0894	U
108-95-2	Phenol	2	0.0894	U
129-00-0	Pyrene	2	0.0894	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.79	0.950	53.2	20 - 108	
SURR: Phenol-d5	1.79	0.940	52.6	23 - 114	
SURR: Nitrobenzene-d5	0.893	0.550	61.6	22 - 108	
SURR: 2-Fluorobiphenyl	0.893	0.484	54.2	21 - 113	
SURR: 2,4,6-Tribromophenol	1.79	1.05	58.7	19 - 110	
SURR: Terphenyl-d14	0.893	0.481	53.8	24 - 116	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1343116	4.98	1310727	4.98	
ISTD: Naphthalene-d8	5160486	5.93	5413365	5.93	
ISTD: Acenaphthene-d10	2924016	7.48	3140982	7.48	
ISTD: Phenanthrene-d10	5489096	9.48	5811112	9.49	
ISTD: Chrysene-d12	5386852	14.93	5986891	14.94	
ISTD: Perylene-d12	6630488	18.05	7460584	18.05	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626736.D Vial: 10
Acq On : 7 Oct 2019 2:20 pm Operator: SR
Sample : 19J0144-06 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:52 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1343116	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5160486	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2924016	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5489096	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5386852	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	6630488	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	690983	13.29	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 17.72%			
5) Phenol-d5	4.74	99	854136	13.15	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 17.53%			
22) Nitrobenzene-d5	5.42	82	321476	7.70	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 15.40%#			
45) 2-Fluorobiphenyl	6.80	172	707064	6.77	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 13.54%#			
67) 2,4,6-Tribromophenol	8.47	330	205199	14.67	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 19.56%#			
82) Terphenyl-d14	12.62	244	902610	6.73	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 13.46%#			

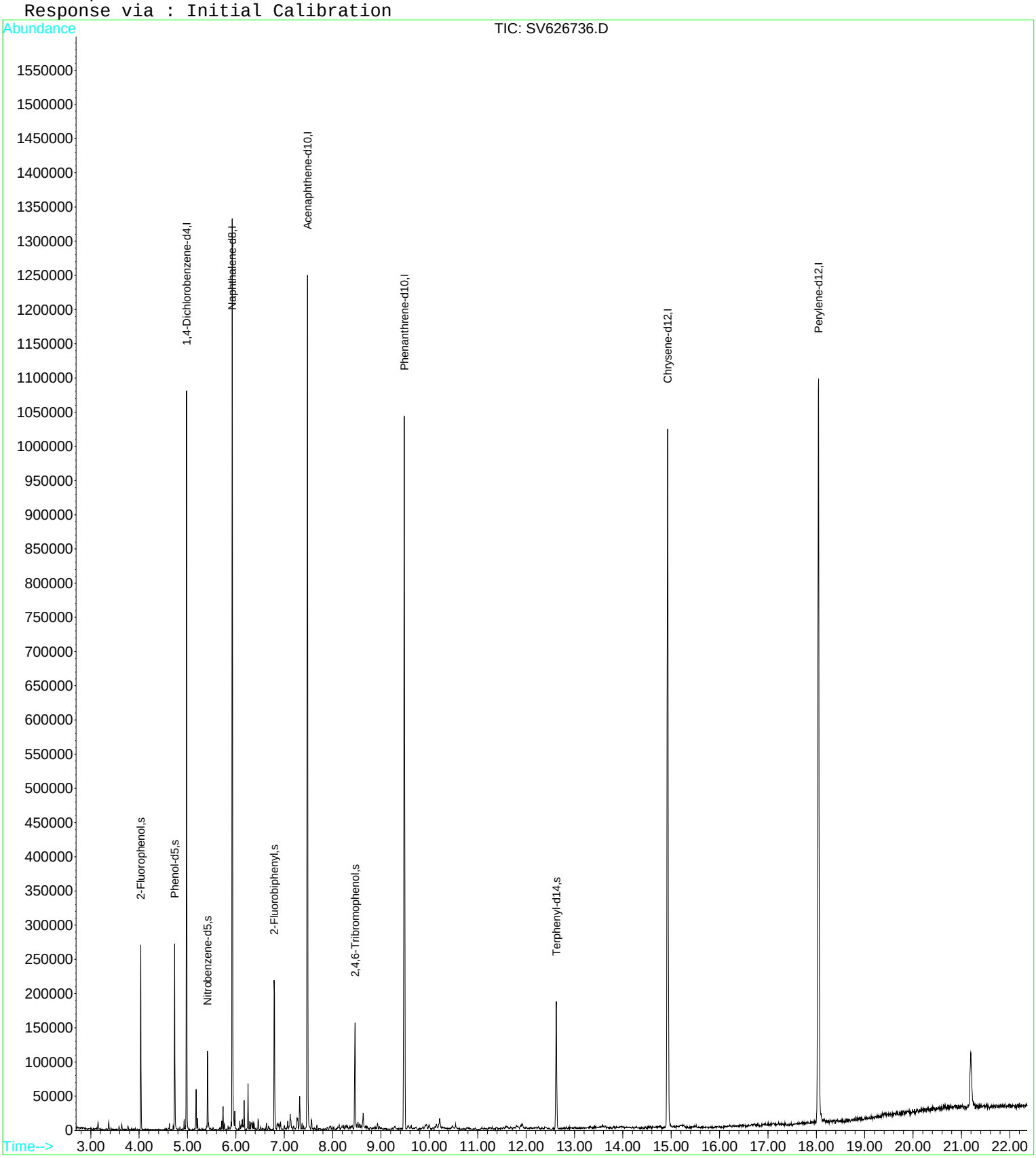
Target Compounds	Qvalue

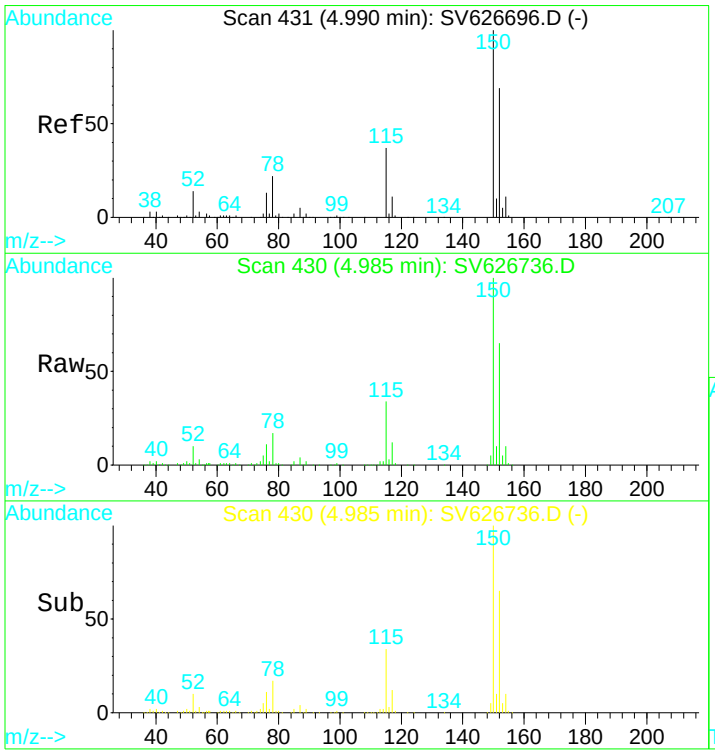
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626736.D Vial: 10
Acq On : 7 Oct 2019 2:20 pm Operator: SR
Sample : 19J0144-06 Inst : BNA#6
Misc : QBSV6100719A 2X 8270 MASTER - NYSDEC 375 Multiplr: 2.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:52 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration

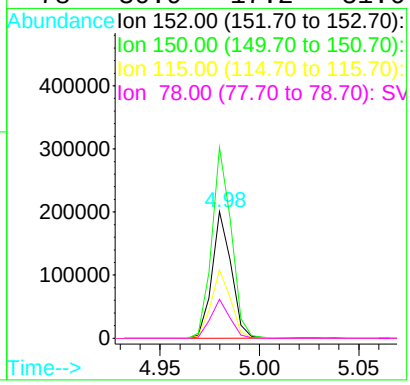


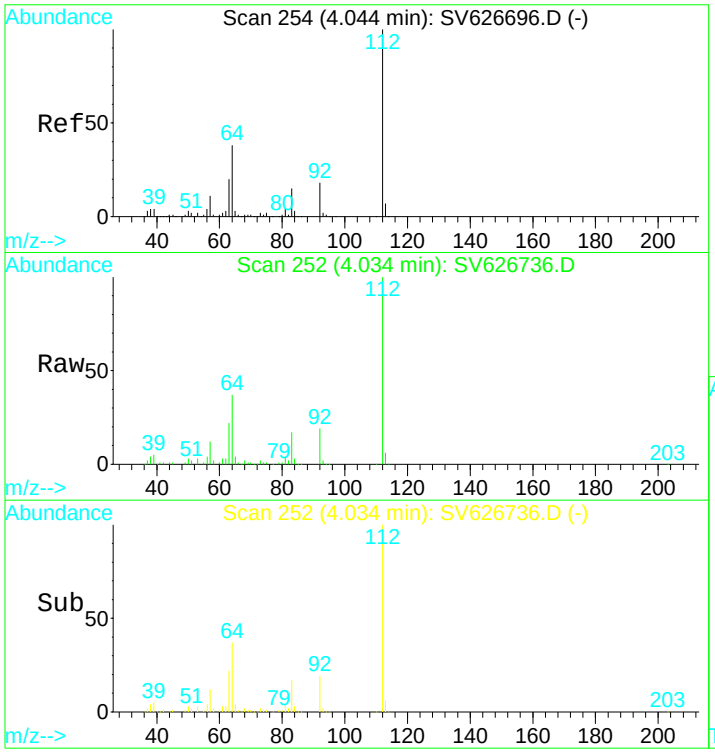


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 430
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:152 Resp: 1343116

Ion	Ratio	Lower	Upper
152	100		
150	153.7	82.1	246.3
115	55.7	28.4	85.2
78	30.9	17.2	51.6

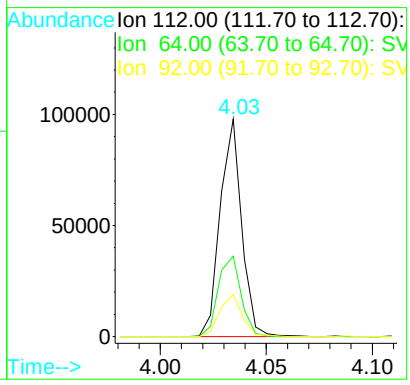


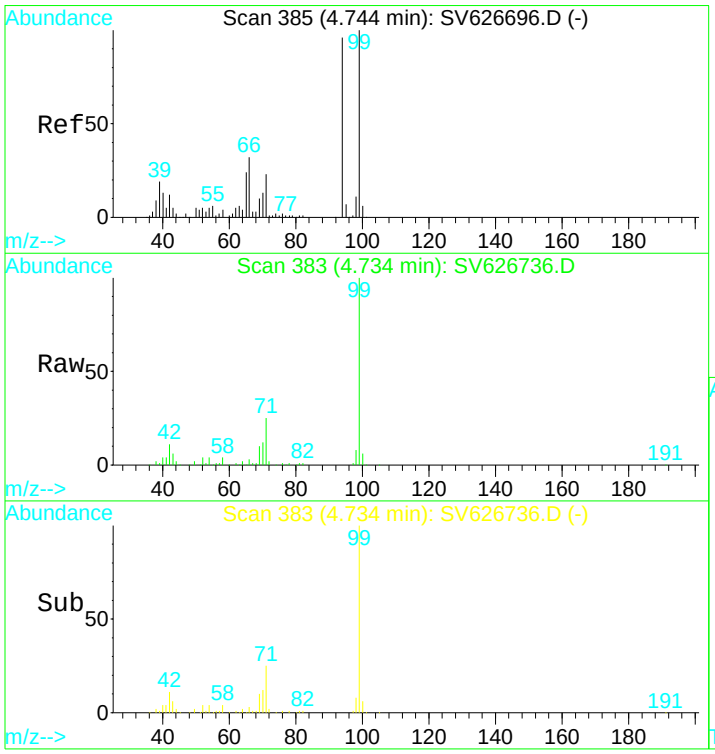


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.04 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:112 Resp: 690983

Ion	Ratio	Lower	Upper
112	100		
64	39.2	32.0	48.0
92	20.4	15.8	23.8

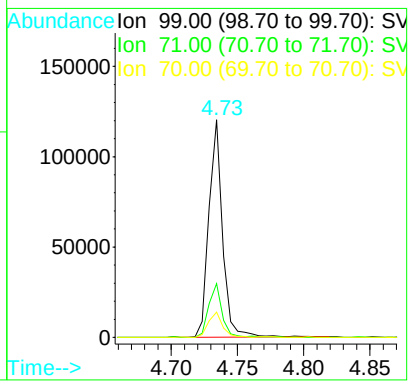


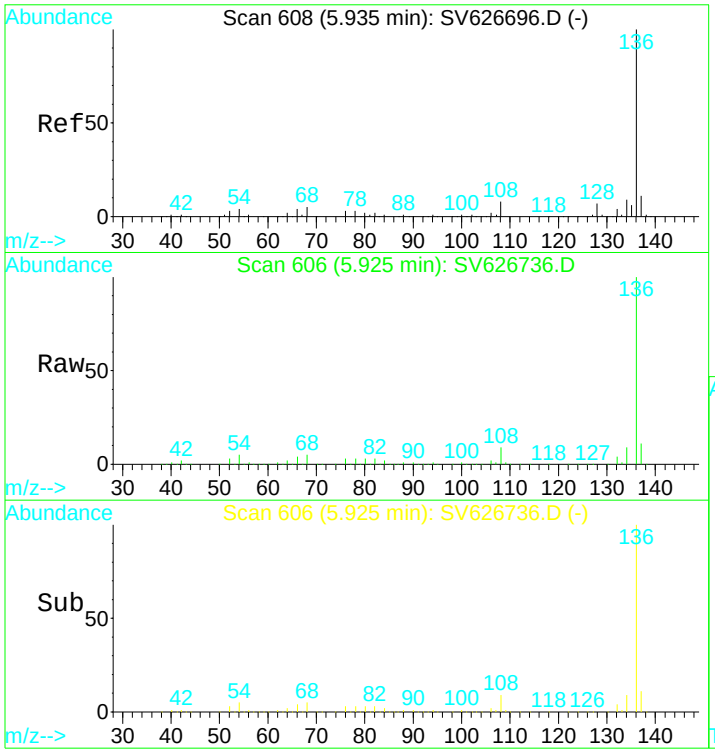


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.74 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion: 99 Resp: 854136

Ion	Ratio	Lower	Upper
99	100		
71	25.0	20.6	31.0
70	12.5	10.6	15.8

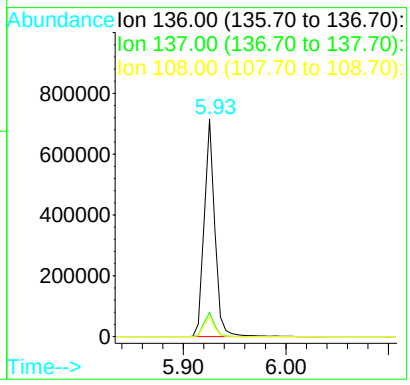


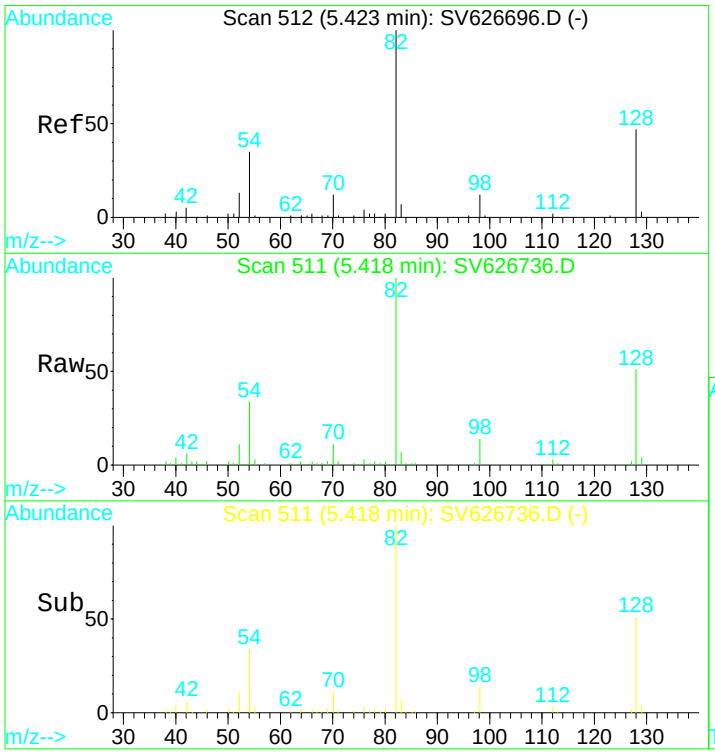


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.93 min Scan# 606
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:136 Resp: 5160486

Ion	Ratio	Lower	Upper
136	100		
137	11.1	5.5	16.7
108	9.1	4.7	14.1

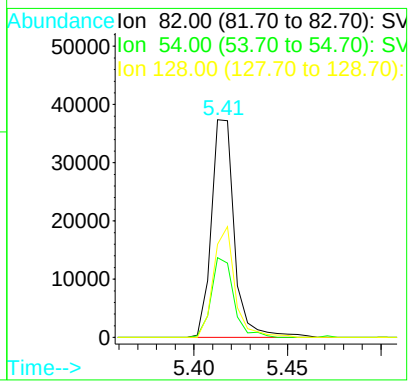


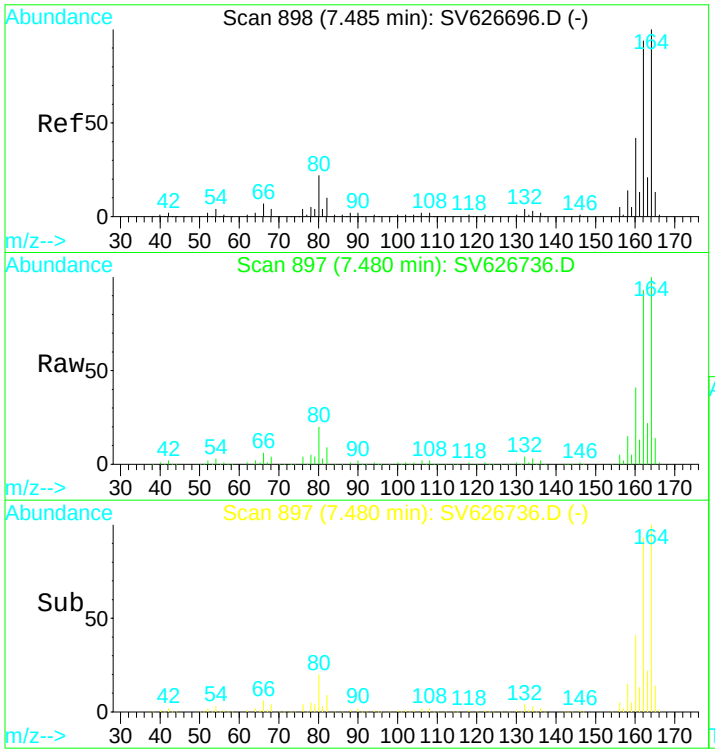


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 511
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion: 82 Resp: 321476

Ion	Ratio	Lower	Upper
82	100		
54	35.7	29.0	43.4
128	47.5	38.0	57.0

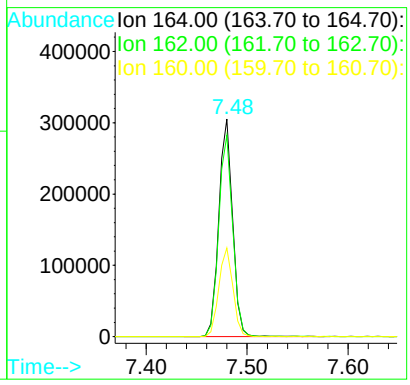


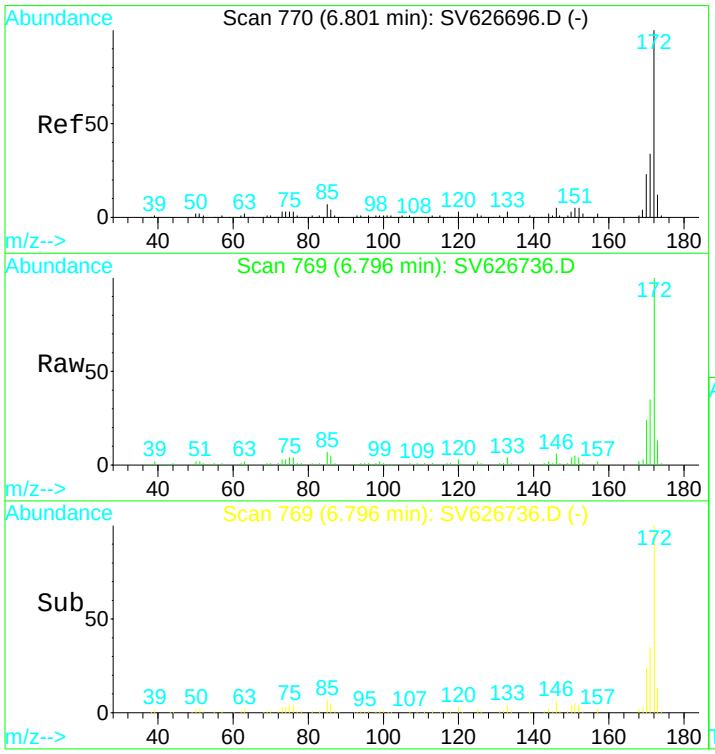


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:164 Resp: 2924016

Ion	Ratio	Lower	Upper
164	100		
162	93.7	47.4	142.2
160	41.4	21.0	63.0

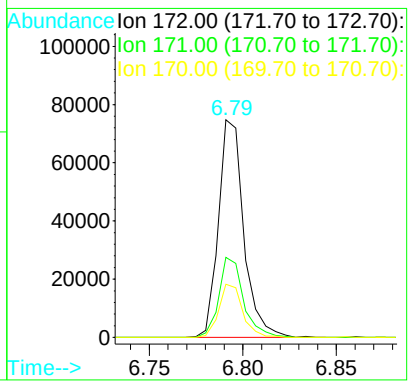


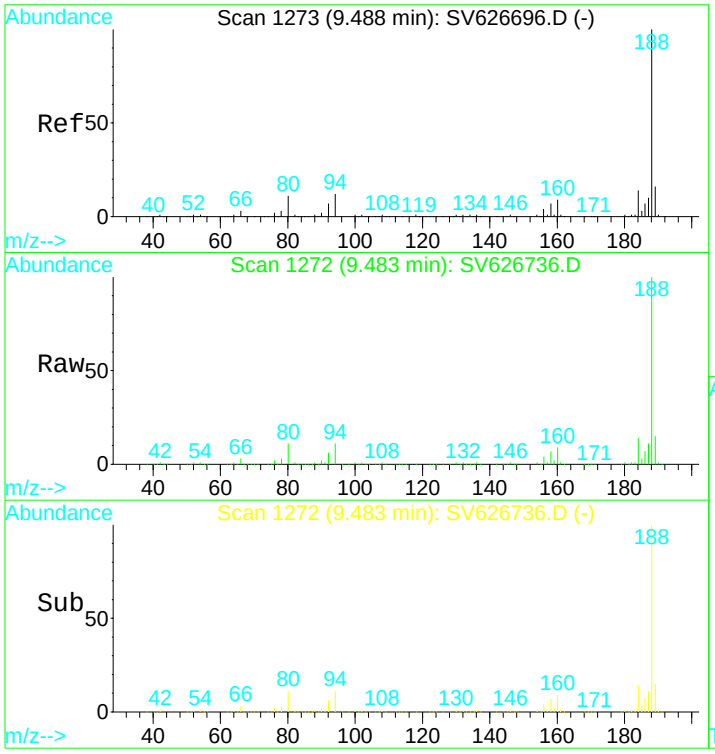


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.80 min Scan# 769
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:172 Resp: 707064

Ion	Ratio	Lower	Upper
172	100		
171	35.8	28.2	42.4
170	23.0	18.4	27.6

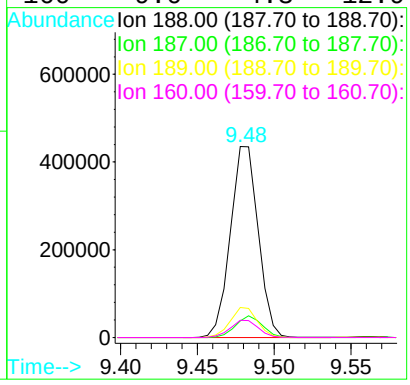


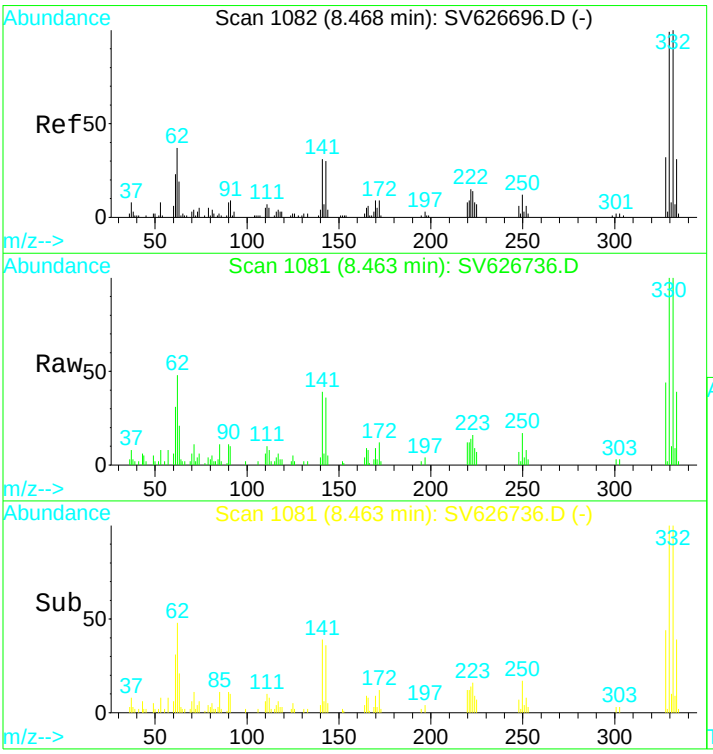


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:188 Resp: 5489096

Ion	Ratio	Lower	Upper
188	100		
187	10.7	8.5	12.7
189	15.3	7.8	23.4
160	9.0	4.3	12.9

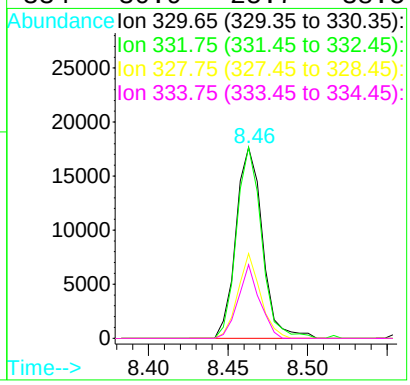


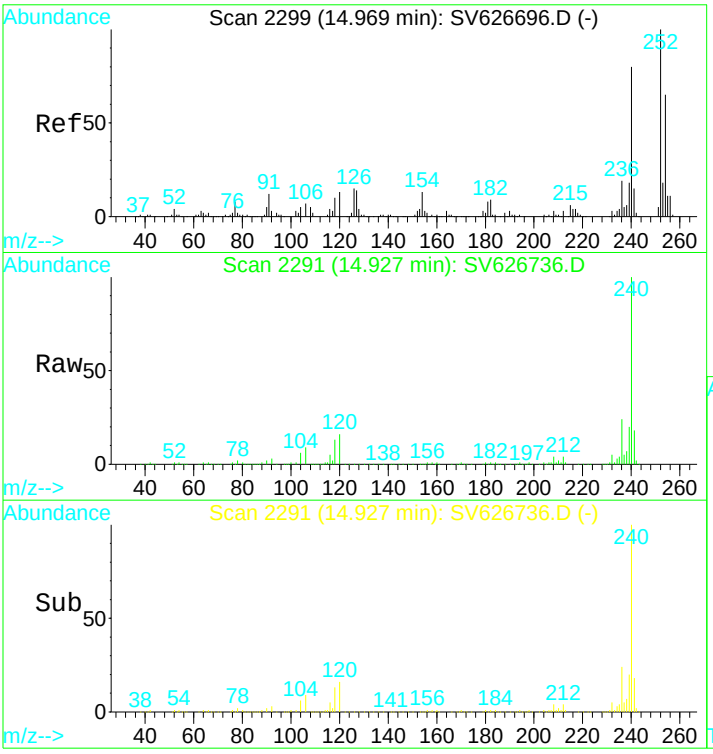


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.47 min Scan# 1081
Delta R.T. -0.00 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:330 Resp: 205199

Ion	Ratio	Lower	Upper
330	100		
332	94.2	78.8	118.2
328	37.6	27.4	41.0
334	30.9	25.7	38.5

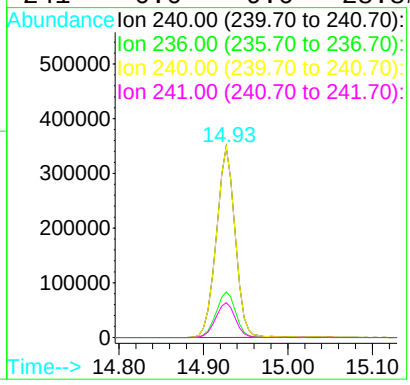


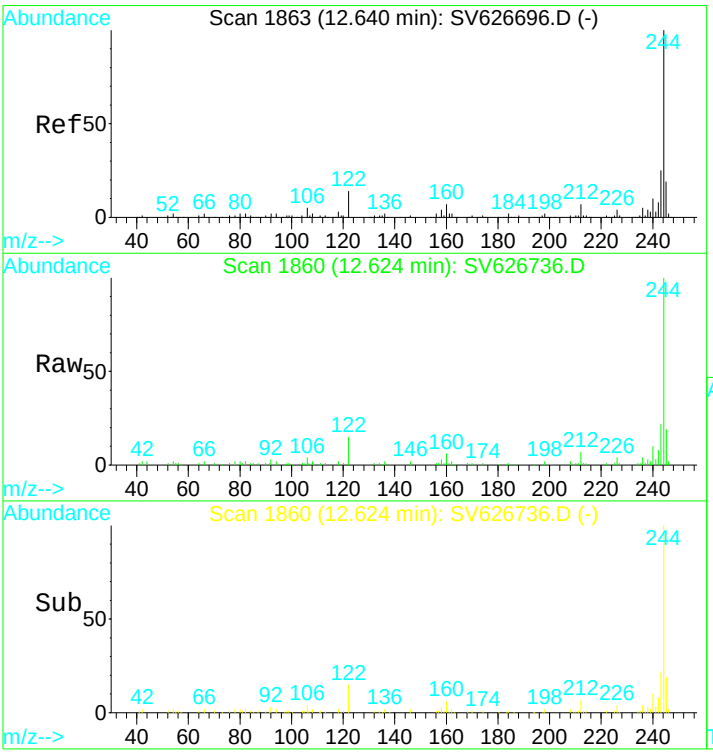


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2291
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:240 Resp: 5386852

Ion	Ratio	Lower	Upper
240	100		
236	24.7	12.4	37.0
240	100.0	50.0	150.0
241	0.0	9.6	28.8#

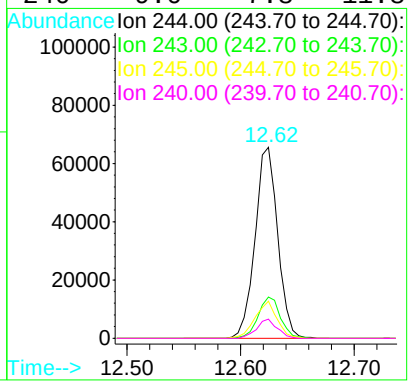


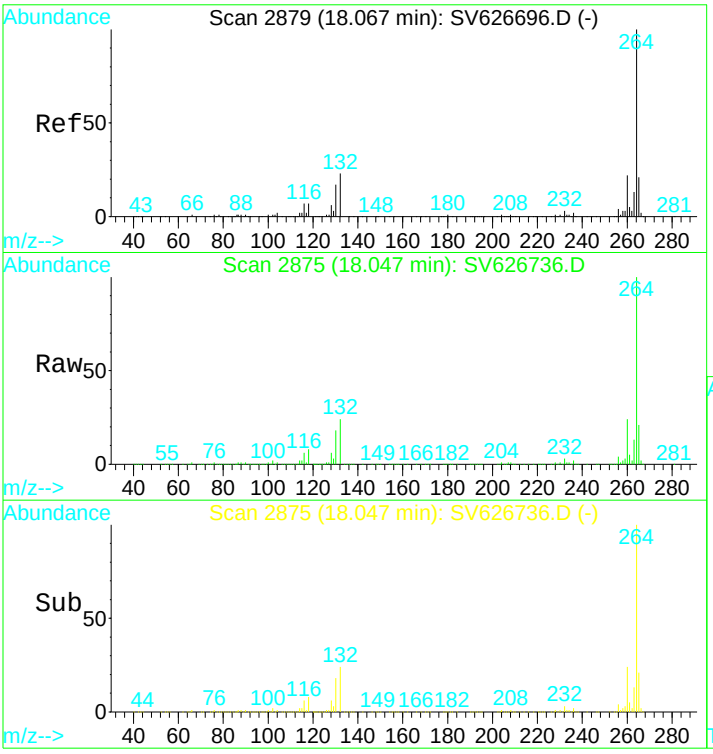


#82
Terphenyl-d14
Concen: N.D. ug/mL
RT: 12.62 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:244 Resp: 902610

Ion	Ratio	Lower	Upper
244	100		
243	21.2	18.6	28.0
245	18.9	15.7	23.5
240	9.0	7.8	11.8

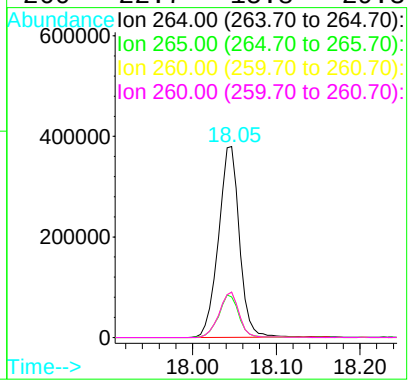




#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.05 min Scan# 2875
Delta R.T. -0.01 min
Lab File: SV626736.D
Acq: 7 Oct 2019 2:20 pm

Tgt Ion:264 Resp: 6630488

Ion	Ratio	Lower	Upper
264	100		
265	21.7	0.0	0.0#
260	22.7	18.0	27.0
260	22.7	15.8	29.3



FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90006
Instrument: BNA#6
Calibration Date: 10/03/19 08:21

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,1-Biphenyl					5	0.7670992	10	0.6770966	15	0.7122217	20	0.6530821
1,2,4,5-Tetrachlorobenzene					5	0.6622926	10	0.5722374	15	0.5884255	20	0.5825605
1,2,4-Trichlorobenzene	1.25	0.3825124	2.5	0.4014902	5	0.3689986	10	0.3792956	15	0.3649047	20	0.3731532
1,2-Dichlorobenzene	1.25	1.717019	2.5	1.773994	5	1.750663	10	1.757684	15	1.639552	20	1.664078
1,2-Diphenylhydrazine (as Azobenzene)	1.25	0.7194423	2.5	0.7094199	5	0.7929127	10	0.7939957	15	0.7572572	20	0.7921
1,3-Dichlorobenzene	1.25	1.73722	2.5	1.853869	5	1.752345	10	1.884651	15	1.712206	20	1.792454
1,4-Dichlorobenzene	1.25	1.827849	2.5	1.787777	5	1.761784	10	1.797947	15	1.664632	20	1.756825
1-Methylnaphthalene					5	0.7727248	10	0.728042	15	0.7543992	20	0.6923259
2,3,4,6-Tetrachlorophenol	1.25	0.115622	2.5	0.1069145	5	0.1303945	10	0.1469752	15	0.1656262	20	0.1502997
2,4,5-Trichlorophenol	1.25	0.4454883	2.5	0.4542058	5	0.4883176	10	0.5181288	15	0.5027266	20	0.4918937
2,4,6-Trichlorophenol	1.25	0.3232451	2.5	0.3580835	5	0.339954	10	0.4006161	15	0.3954834	20	0.3983491
2,4-Dichlorophenol	1.25	0.2562068	2.5	0.291362	5	0.293133	10	0.3099787	15	0.3219494	20	0.3092386
2,4-Dimethylphenol	1.25	0.3385295	2.5	0.3276633	5	0.3570801	10	0.344371	15	0.3523791	20	0.3447579
2,4-Dinitrophenol	1.25	2.715495E-02	2.5	3.742396E-02	5	4.310557E-02	10	6.438768E-02	15	6.480744E-02	20	7.516007E-02
2,4-Dinitrotoluene	1.25	~~4.224677~~	2.5	~~0.1925612~~	5	0.2189263	10	0.3359043	15	0.3762428	20	0.4027586
2,6-Dinitrotoluene	1.25	~~0.1382314~~	2.5	~~0.1824798~~	5	0.1984648	10	0.2525114	15	0.2862934	20	0.3086827
2-Chloronaphthalene	1.25	1.368362	2.5	1.338616	5	1.32567	10	1.315039	15	1.310769	20	1.325272
2-Chlorophenol	1.25	1.536857	2.5	1.42678	5	1.561972	10	1.607313	15	1.515383	20	1.619636
2-Methylnaphthalene	1.25	0.7101876	2.5	0.7433625	5	0.7415284	10	0.7497206	15	0.7528639	20	0.7285307
2-Methylphenol	1.25	1.491499	2.5	1.249701	5	1.435685	10	1.366168	15	1.387209	20	1.405423
2-Nitroaniline	1.25	~~0.2441449~~	2.5	~~0.2372941~~	5	0.271557	10	0.3425576	15	0.3748504	20	0.4127303
2-Nitrophenol	1.25	0.1115205	2.5	0.1180457	5	0.1381079	10	0.1617892	15	0.1604405	20	0.159538
3- & 4-Methylphenols	1.25	1.819607	2.5	2.012943	5	2.113777	10	2.188963	15	2.069679	20	2.168261
3,3-Dichlorobenzidine	1.25	0.3654163	2.5	0.393072	10	0.4987238	20	0.5059568	30	0.4876665	40	0.4873843
3-Nitroaniline	1.25	~~0.2441844~~	2.5	~~0.19956~~	5	0.2788423	10	0.336437	15	0.3648922	20	0.3660874
4,6-Dinitro-2-methylphenol	1.25	2.492668E-02	2.5	3.200473E-02	5	4.034398E-02	10	5.456197E-02	15	6.408514E-02	20	7.394792E-02
4-Bromophenyl phenyl ether	1.25	0.2129833	2.5	0.2241669	5	0.2445367	10	0.2406218	15	0.2342435	20	0.2488001
4-Chloro-3-methylphenol	1.25	0.3144834	2.5	0.318533	5	0.3375111	10	0.3350713	15	0.3551707	20	0.3485724
4-Chloroaniline	1.25	0.4721234	2.5	0.4845762	5	0.4951668	10	0.5018695	15	0.503491	20	0.5013214
4-Chlorophenyl phenyl ether	1.25	0.766881	2.5	0.7108097	5	0.7391167	10	0.7835184	15	0.7541218	20	0.7302302
4-Nitroaniline	1.25	~~0.1812169~~	2.5	~~0.2352197~~	5	0.2614761	10	0.3426555	15	0.3534662	20	0.3705309

FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90006
Instrument: BNA#6
Calibration Date: 10/03/19 08:21

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
4-Nitrophenol	1.25	0.1723361	2.5	0.1513502	5	0.1821764	10	0.2114784	15	0.2279219	20	0.2469204
Acenaphthene	1.25	1.125374	2.5	1.151231	5	1.196225	10	1.210371	15	1.217871	20	1.230269
Acenaphthylene	1.25	2.045489	2.5	1.973964	5	2.130499	10	2.133025	15	2.1489	20	2.144614
Acetophenone					5	2.380092	10	2.276008	15	2.236305	20	2.128185
Alpha Terpineol					5	0.2320672	10	0.2416658	15	0.2358359	20	0.2177781
Aniline	1.25	2.144948	2.5	2.231268	5	2.105895	10	2.210463	15	2.203563	20	2.227972
Anthracene	1.25	1.098026	2.5	1.079245	5	1.125487	10	1.1682	15	1.131358	20	1.195319
Atrazine	1.25	0.3017123	2.5	0.2501137	5	0.2426666	10	0.2232307	15	0.2269487	20	0.2306139
Benzaldehyde					5	1.453735	10	1.267237	15	1.174314	20	1.059298
Benzidine	1.25	~~0.252908~~	2.5	~~0.2825096~~	5	0.4090697	10	0.4172701	15	0.3899229	20	0.3918004
Benzo(a)anthracene	1.25	1.300085	2.5	1.230798	5	1.331245	10	1.388504	15	1.367959	20	1.405487
Benzo(a)pyrene	1.25	1.065003	2.5	1.119461	5	1.319569	10	1.251782	15	1.297284	20	1.449468
Benzo(b)fluoranthene	1.25	1.210737	2.5	1.113779	5	1.244491	10	1.310673	15	1.320558	20	1.367156
Benzo(g,h,i)perylene	1.25	1.032955	2.5	1.070028	5	1.165791	10	1.211895	15	1.259922	20	1.253604
Benzo(k)fluoranthene	1.25	1.386568	2.5	1.434638	5	1.541161	10	1.554164	15	1.525899	20	1.542207
Benzoic acid	1.25		2.5	~~0.1396415~~	5	0.1831069	10	0.2027771	15	0.2277157	20	0.2522821
Benzyl alcohol	1.25	0.8913031	2.5	0.8077838	5	0.8946446	10	0.9581039	15	0.9246905	20	0.9573427
Benzyl butyl phthalate	1.25	~~0.4466033~~	2.5	~~0.4990054~~	5	0.5394909	10	0.5869958	15	0.6136373	20	0.6396775
Bis(2-chloroethoxy)methane	1.25	0.4614701	2.5	0.4423813	5	0.4550914	10	0.4618857	15	0.4401093	20	0.4453379
Bis(2-chloroethyl)ether	1.25	1.325197	2.5	1.358672	5	1.456757	10	1.400156	15	1.419609	20	1.363276
Bis(2-chloroisopropyl)ether	1.25	1.060285	2.5	1.112148	5	1.147677	10	1.136522	15	1.103134	20	1.08272
Bis(2-ethylhexyl)phthalate	1.25	~~0.5700891~~	2.5	~~0.5967458~~	5	0.7015819	10	0.8087416	15	0.8064327	20	0.8389251
Caprolactam					5	0.144744	10	0.1422732	15	0.1562879	20	0.1339256
Carbazole	1.25	1.10187	2.5	1.098863	5	1.14605	10	1.19636	15	1.158946	20	1.213353
Chrysene	1.25	1.320185	2.5	1.296425	5	1.364799	10	1.375544	15	1.380103	20	1.377676
Dibenzo(a,h)anthracene	1.25	0.8941983	2.5	0.9667909	5	1.032296	10	1.119937	15	1.098842	20	1.156104
Dibenzofuran	1.25	1.987711	2.5	1.803737	5	1.856719	10	1.92953	15	1.901052	20	1.919651
Diethyl phthalate	1.25	1.468588	2.5	1.403731	5	1.473589	10	1.531423	15	1.531513	20	1.498173
Dimethyl phthalate	1.25	~~6.436446~~	2.5	~~3.676492~~	5	2.400038	10	1.946408	15	1.826772	20	1.798875
Di-n-butyl phthalate	1.25	1.178505	2.5	1.164781	5	1.237918	10	1.406257	15	1.335741	20	1.397248
Di-n-octyl phthalate	1.25	~~0.7705505~~	2.5	~~0.7867267~~	5	0.9902718	10	1.209986	15	1.242444	20	1.341084

FORM VI

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90006
Instrument: BNA#6
Calibration Date: 10/03/19 08:21

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Fluoranthene	1.25	1.241826	2.5	1.173901	5	1.279056	10	1.360166	15	1.301961	20	1.387893
Fluorene	1.25	1.472673	2.5	1.423009	5	1.509193	10	1.55735	15	1.502166	20	1.495396
Hexachlorobenzene	1.25	9.233632E-02	2.5	9.293509E-02	5	0.0965249	10	0.1003539	15	9.869217E-02	20	9.738738E-02
Hexachlorobutadiene	1.25	0.1896221	2.5	0.2023331	5	0.1961883	10	0.2086292	15	0.1993532	20	0.203162
Hexachlorocyclopentadiene	1.25	0.3186207	2.5	0.3279427	5	0.3597419	10	0.3873208	15	0.3645637	20	0.4011877
Hexachloroethane	1.25	0.6611146	2.5	0.6369715	5	0.678782	10	0.7098584	15	0.6745378	20	0.6918962
Indeno(1,2,3-cd)pyrene	1.25	1.1442	2.5	1.131524	5	1.292161	10	1.365958	15	1.404313	20	1.428802
Isophorone	1.25	0.6717361	2.5	0.6970667	5	0.7072368	10	0.721358	15	0.7114628	20	0.7021137
Naphthalene	1.25	1.156441	2.5	1.109093	5	1.10326	10	1.106201	15	1.047846	20	1.060897
Nitrobenzene	1.25	0.342505	2.5	0.327182	5	0.3469976	10	0.3545547	15	0.3674307	20	0.3574302
N-Nitrosodimethylamine	1.25	0.8561178	2.5	0.8437938	5	0.8507637	10	0.9174289	15	0.8901912	20	0.9045402
N-nitroso-di-n-propylamine	1.25	0.9300905	2.5	0.9824059	5	0.9117878	10	0.9861697	15	0.9429507	20	0.9387006
N-Nitrosodiphenylamine	1.25	0.1813834	2.5	0.1851179	5	0.1962051	10	0.2060418	15	0.1951827	20	0.1941851
Parathion	0.625		1.25		2.5	9.617037E-02	5	0.1193208	7.5	0.1502531	10	0.1707533
Pentachloronitrobenzene					5	7.633253E-02	10	8.823848E-02	15	7.788964E-02	20	8.662478E-02
Pentachlorophenol	1.25	9.333799E-02	2.5	8.196261E-02	5	0.1090062	10	0.1348225	15	0.1541844	20	0.1590215
Phenanthrene	1.25	1.13255	2.5	1.087626	5	1.140216	10	1.126474	15	1.080278	20	1.134719
Phenol	1.25	1.914184	2.5	1.784541	5	1.885351	10	1.997849	15	1.960509	20	1.950621
Pyrene	1.25	1.363008	2.5	1.331121	5	1.457899	10	1.451245	15	1.395324	20	1.461399
Pyridine					5	1.958512	10	1.689121	15	1.558081	20	1.670671
SURR: 2,4,6-Tribromophenol	1.25	0.0718224	2.5	8.284188E-02	5	9.164299E-02	10	0.1027451	15	0.1116269	20	0.1164243
SURR: 2-Fluorobiphenyl	1.25	1.499316	2.5	1.421846	5	1.397671	10	1.452211	15	1.475803	20	1.480028
SURR: 2-Fluorophenol	1.25	1.528529	2.5	1.500271	5	1.528244	10	1.545971	15	1.530143	20	1.601038
SURR: Nitrobenzene-d5	1.25	0.3237147	2.5	0.2808218	5	0.3178957	10	0.3389312	15	0.3315369	20	0.3423082
SURR: Phenol-d5	1.25	1.782289	2.5	1.947292	5	1.916724	10	1.963998	15	1.935721	20	1.963573
SURR: Terphenyl-d14	1.25	1.00425	2.5	0.9185219	5	1.050206	10	1.010882	15	0.9909437	20	1.027102

FORM VI INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90006 Instrument: BNA#6

Calibration Date: 10/03/19 08:21

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
1,1-Biphenyl	30	0.628818	40	0.6563764								
1,2,4,5-Tetrachlorobenzene	30	0.5649881	40	0.5841582								
1,2,4-Trichlorobenzene	30	0.3328811	40	0.3308534								
1,2-Dichlorobenzene	30	1.52727	40	1.644448								
1,2-Diphenylhydrazine (as Azobenzene)	30	0.7112061	40	0.732								
1,3-Dichlorobenzene	30	1.627586	40	1.748171								
1,4-Dichlorobenzene	30	1.580461	40	1.682744								
1-Methylnaphthalene	30	0.6578476	40	0.6529632								
2,3,4,6-Tetrachlorophenol	30	0.1572722	40	0.1703174								
2,4,5-Trichlorophenol	30	0.4907671	40	0.5145021								
2,4,6-Trichlorophenol	30	0.3977133	40	0.4175295								
2,4-Dichlorophenol	30	0.3037038	40	0.3017359								
2,4-Dimethylphenol	30	0.3407941	40	0.3440302								
2,4-Dinitrophenol	30	9.440396E-02	40	0.1126217								
2,4-Dinitrotoluene	30	0.4124963	40	0.4538847								
2,6-Dinitrotoluene	30	0.2999221	40	0.3456529								
2-Chloronaphthalene	30	1.209423	40	1.265539								
2-Chlorophenol	30	1.510477	40	1.599663								
2-Methylnaphthalene	30	0.6877378	40	0.673766								
2-Methylphenol	30	1.326335	40	1.386834								
2-Nitroaniline	30	0.4144961	40	0.4497886								
2-Nitrophenol	30	0.1699606	40	0.1814156								
3- & 4-Methylphenols	30	2.088988	40	2.158214								
3,3-Dichlorobenzidine	60	0.4477803	80	0.4505148								
3-Nitroaniline	30	0.3633779	40	0.3934561								
4,6-Dinitro-2-methylphenol	30	8.563389E-02	40	9.820619E-02								
4-Bromophenyl phenyl ether	30	0.2306463	40	0.2387018								
4-Chloro-3-methylphenol	30	0.3311215	40	0.330469								
4-Chloroaniline	30	0.4731658	40	0.4757542								
4-Chlorophenyl phenyl ether	30	0.6959201	40	0.7191402								
4-Nitroaniline	30	0.3731858	40	0.3976882								

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90006 Instrument: BNA#6

Calibration Date: 10/03/19 08:21

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
4-Nitrophenol	30	0.2310685	40	0.2547539								
Acenaphthene	30	1.133391	40	1.205759								
Acenaphthylene	30	1.943378	40	2.043517								
Acetophenone	30	2.071262	40	2.113883								
Alpha Terpineol	30	0.2058152	40	0.1990846								
Aniline	30	2.08641	40	2.161532								
Anthracene	30	1.075275	40	1.115992								
Atrazine	30	0.2169633	40	0.2275085								
Benzaldehyde	30	0.8512276	40	0.7766016								
Benzidine	30	0.3332464	40	0.3330209								
Benzo(a)anthracene	30	1.286617	40	1.34452								
Benzo(a)pyrene	30	1.302658	40	1.29787								
Benzo(b)fluoranthene	30	1.275934	40	1.352288								
Benzo(g,h,i)perylene	30	1.167734	40	1.240905								
Benzo(k)fluoranthene	30	1.391641	40	1.48388								
Benzoic acid	30	0.2576211	40	0.2821748								
Benzyl alcohol	30	0.9324854	40	0.9735568								
Benzyl butyl phthalate	30	0.6188369	40	0.6292619								
Bis(2-chloroethoxy)methane	30	0.4088413	40	0.4031749								
Bis(2-chloroethyl)ether	30	1.346221	40	1.456532								
Bis(2-chloroisopropyl)ether	30	1.020947	40	1.051206								
Bis(2-ethylhexyl)phthalate	30	0.8333901	40	0.8588141								
Caprolactam	30	0.1447887	40	0.1381662								
Carbazole	30	1.095362	40	1.121021								
Chrysene	30	1.271595	40	1.306649								
Dibenzo(a,h)anthracene	30	1.103158	40	1.162998								
Dibenzofuran	30	1.726832	40	1.849585								
Diethyl phthalate	30	1.421778	40	1.50116								
Dimethyl phthalate	30	1.577242	40	1.619704								
Di-n-butyl phthalate	30	1.31727	40	1.345154								
Di-n-octyl phthalate	30	1.312168	40	1.393127								

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90006 Instrument: BNA#6

Calibration Date: 10/03/19 08:21

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Fluoranthene	30	1.236463	40	1.301173								
Fluorene	30	1.391055	40	1.463807								
Hexachlorobenzene	30	9.298799E-02	40	9.792439E-02								
Hexachlorobutadiene	30	0.19065	40	0.1924947								
Hexachlorocyclopentadiene	30	0.3720327	40	0.4014069								
Hexachloroethane	30	0.6582796	40	0.7006011								
Indeno(1,2,3-cd)pyrene	30	1.323886	40	1.437239								
Isophorone	30	0.6662507	40	0.6585024								
Naphthalene	30	0.9200749	40	0.9557724								
Nitrobenzene	30	0.335814	40	0.3421208								
N-Nitrosodimethylamine	30	0.8601887	40	0.9335126								
N-nitroso-di-n-propylamine	30	0.9178438	40	0.9570354								
N-Nitrosodiphenylamine	30	0.1808436	40	0.188941								
Parathion	15	0.1911582	20	0.230521								
Pentachloronitrobenzene	30	8.386269E-02	40	8.841418E-02								
Pentachlorophenol	30	0.1637055	40	0.1711846								
Phenanthrene	30	1.024345	40	1.043128								
Phenol	30	1.923788	40	2.028034								
Pyrene	30	1.374665	40	1.374729								
Pyridine	30	1.592847	40	1.678713								
SURR: 2,4,6-Tribromophenol	30	0.1158996	40	0.1224104								
SURR: 2-Fluorobiphenyl	30	1.328903	40	1.378088								
SURR: 2-Fluorophenol	30	1.543715	40	1.611764								
SURR: Nitrobenzene-d5	30	0.3223043	40	0.3301615								
SURR: Phenol-d5	30	1.926848	40	2.038562								
SURR: Terphenyl-d14	30	0.9606137	40	1.000505								

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90006
Instrument: BNA#6
Calibration Date: 10/03/19 08:21

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,1-Biphenyl	0.682449	7.326332	6.881667	5.720439E-02			SPCC (0.01)	
1,2,4,5-Tetrachlorobenzene	0.5924437	5.955026	6.655	8.152404E-02			SPCC (0.01)	
1,2,4-Trichlorobenzene	0.3667611	6.596981	5.9	9.022578E-03			20	
1,2-Dichlorobenzene	1.684338	4.893907	5.14	1.979262E-02			20	
1,2-Diphenylhydrazine (as Azobenzene)	0.7510417	5.033304	8.30125	3.546207E-02			20	
1,3-Dichlorobenzene	1.763563	4.588429	4.96	1.116942E-02			20	
1,4-Dichlorobenzene	1.732502	4.78351	5	0			20	
1-Methylnaphthalene	0.7097171	7.049626	6.57	1.204917E-02			20	
2,3,4,6-Tetrachlorophenol	0.1429277	16.17558	7.8875	5.910895E-02			SPCC (0.01)	
2,4,5-Trichlorophenol	0.4882538	5.362493	6.77	1.771985E-02			SPCC (0.2)	
2,4,6-Trichlorophenol	0.3788718	8.933218	6.74	5.745731E-03			SPCC (0.2)	
2,4-Dichlorophenol	0.2984135	6.584904	5.83	6.366504E-03			SPCC (0.2)	
2,4-Dimethylphenol	0.3437007	2.575225	5.68	1.002684E-02			SPCC (0.2)	
2,4-Dinitrophenol	6.488317E-02	44.77537	7.57	1.715653E-02			SPCC (0.01)	
2,4-Dinitrotoluene	0.3667022	22.44618	7.74	5.126947E-03			SPCC (0.2)	
2,6-Dinitrotoluene	0.2819212	18.05254	7.3	2.051615E-02			SPCC (0.2)	
2-Chloronaphthalene	1.307336	3.743465	6.91	1.846934E-02			SPCC (0.8)	
2-Chlorophenol	1.54726	4.145559	4.86	2.093293E-02			SPCC (0.8)	
2-Methylnaphthalene	0.7234622	4.121728	6.48	2.237972E-02			SPCC (0.4)	
2-Methylphenol	1.381107	5.215299	5.19	1.579283E-02			SPCC (0.7)	
2-Nitroaniline	0.3776633	16.86639	7.033333	7.279649E-02			SPCC (0.01)	
2-Nitrophenol	0.1501023	16.64087	5.67	2.520295E-02			SPCC (0.1)	
3- & 4-Methylphenols	2.077554	5.734656	5.29	1.744748E-02			SPCC (0.6)	
3,3-Dichlorobenzidine	0.4545644	11.32633	14.96875	5.666077E-02			SPCC (0.01)	
3-Nitroaniline	0.3505155	11.2637	7.458333	5.409195E-02			SPCC (0.01)	
4,6-Dinitro-2-methylphenol	5.921381E-02	44.00554	8.24125	4.626754E-02			SPCC (0.01)	
4-Bromophenyl phenyl ether	0.2343375	4.957706	8.77125	4.381076E-02			SPCC (0.1)	
4-Chloro-3-methylphenol	0.3338666	4.1049	6.35	1.150854E-02			SPCC (0.2)	
4-Chloroaniline	0.4884335	2.783075	6	0			SPCC (0.01)	
4-Chlorophenyl phenyl ether	0.7374673	3.99992	8.1	1.894252E-02			SPCC (0.4)	
4-Nitroaniline	0.3498338	13.4899	8.195	0.0691026			SPCC (0.01)	
4-Nitrophenol	0.2097507	17.807	7.605	6.992412E-02			SPCC (0.01)	

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YJ90006
Instrument: BNA#6
Calibration Date: 10/03/19 08:21

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.183811	3.450284	7.52	3.683532E-03			SPCC (0.9)	
Acenaphthylene	2.070423	3.914531	7.3225	6.085407E-02			SPCC (0.9)	
Acetophenone	2.200956	5.324601	5.301667	7.747784E-02			SPCC (0.01)	
Alpha Terpineol	0.2220411	7.759917	5.92	1.917853E-02			20	
Aniline	2.171506	2.561458	4.78	2.962624E-03			SPCC ()	
Anthracene	1.123613	3.717144	9.59875	3.061351E-02			SPCC (0.7)	
Atrazine	0.2399697	11.29673	9.0825	4.894679E-02			SPCC (0.01)	
Benzaldehyde	1.097069	23.29993	4.675	0.1180794			SPCC (0.01)	
Benzidine	0.3790551	9.77138	12.115	4.011408E-02			20	
Benzo(a)anthracene	1.331902	4.337578	14.895	3.867375E-02			SPCC (0.8)	
Benzo(a)pyrene	1.262887	9.552173	17.925	0.0539455			SPCC (0.7)	
Benzo(b)fluoranthene	1.274452	6.55585	17.27	4.464806E-02			SPCC (0.7)	
Benzo(g,h,i)perylene	1.175354	7.22131	20.4875	6.275262E-02			SPCC (0.5)	
Benzo(k)fluoranthene	1.48252	4.685523	17.32125	6.378741E-02			SPCC (0.7)	
Benzoic acid	0.2342796	15.76077	5.731667	0.2046476			20	
Benzyl alcohol	0.9174889	5.811494	5.1	1.760928E-02			20	
Benzyl butyl phthalate	0.6046501	6.04147	13.86	1.506493E-02			20	
Bis(2-chloroethoxy)methane	0.4397865	5.105068	5.75	0			SPCC (0.3)	
Bis(2-chloroethyl)ether	1.390802	3.612415	4.81125	0.0714098			SPCC (0.7)	
Bis(2-chloroisopropyl)ether	1.08933	4.010429	5.21	0.0093645			SPCC (0.01)	
Bis(2-ethylhexyl)phthalate	0.8079809	6.893397	15.265	3.253975E-02			20	
Caprolactam	0.1433643	5.29616	6.243333	8.048006E-02			SPCC (0.01)	
Carbazole	1.141478	3.978108	9.895	5.322122E-02			SPCC (0.01)	
Chrysene	1.336622	3.211449	15.01	8.760426E-02			SPCC (0.7)	
Dibenzo(a,h)anthracene	1.066791	8.920007	20.06375	5.321222E-02			SPCC (0.4)	
Dibenzofuran	1.871852	4.343986	7.69125	4.577261E-02			SPCC (0.8)	
Diethyl phthalate	1.478744	3.176155	8.00625	6.393183E-02			SPCC (0.01)	
Dimethyl phthalate	1.861507	15.96536	7.211667	5.560347E-02			SPCC (0.01)	
Di-n-butyl phthalate	1.297859	7.205905	10.65	1.055785E-02			SPCC (0.01)	
Di-n-octyl phthalate	1.24818	11.42855	16.625	3.640022E-02			SPCC (0.01)	
Fluoranthene	1.285305	5.372927	11.76375	4.600237E-02			SPCC (0.6)	
Fluorene	1.476831	3.523897	8.1125	0.0561348			SPCC (0.9)	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YJ90006 Instrument: BNA#6

Calibration Date: 10/03/19 08:21

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Hexachlorobenzene	9.614277E-02	3.140922	9.0025	5.243704E-02			SPCC (0.1)	
Hexachlorobutadiene	0.1978041	3.405973	6.07	3.752416E-03			SPCC (0.01)	
Hexachlorocyclopentadiene	0.3666021	8.448026	6.66	1.114616E-02			SPCC (0.05)	
Hexachloroethane	0.6765051	3.564726	5.37	3.605794E-03			SPCC (0.3)	
Indeno(1,2,3-cd)pyrene	1.31601	9.167888	20.0175	4.512403E-02			SPCC (0.5)	
Isophorone	0.6919659	3.365603	5.59875	0.0627416			SPCC (0.4)	
Naphthalene	1.057448	7.687331	5.95	2.120096E-02			SPCC (0.7)	
Nitrobenzene	0.3467544	3.687841	5.44	1.527583E-02			SPCC (0.2)	
N-Nitrosodimethylamine	0.8820671	3.848109	2.96	1.871633E-02			20	
N-nitroso-di-n-propylamine	0.9458731	2.919902	5.31375	9.900337E-02			SPCC (0.5)	
N-Nitrosodiphenylamine	0.1909876	4.493047	8.2625	5.117285E-02			SPCC (0.01)	
Parathion	0.1596961	30.52716	11.00833	4.027789E-02			20	*
Pentachloronitrobenzene	8.356038E-02	6.317272	9.42	2.007992E-02			20	
Pentachlorophenol	0.1334032	25.78475	9.28375	5.450711E-02			SPCC (0.05)	
Phenanthrene	1.096167	4.074796	9.52375	5.359414E-02			SPCC (0.7)	
Phenol	1.93061	3.866613	4.75	0			SPCC (0.8)	
Pyrene	1.401174	3.532804	12.225	0.0417359			SPCC (0.6)	
Pyridine	1.691324	8.337773	2.965	0.1848437			20	
SURR: 2,4,6-Tribromophenol	0.1019267	17.76851	8.47	1.404484E-02			20	
SURR: 2-Fluorobiphenyl	1.429233	4.090139	6.8	1.504259E-02			20	
SURR: 2-Fluorophenol	1.548709	2.472455	4.04	1.371295E-02			20	
SURR: Nitrobenzene-d5	0.3234593	5.906624	5.42	1.800334E-02			20	
SURR: Phenol-d5	1.934376	3.720297	4.74	8.17009E-03			20	
SURR: Terphenyl-d14	0.995378	4.070812	12.63375	4.266095E-02			20	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626690.D Vial: 3
Acq On : 3 Oct 2019 1:29 pm Operator: SR
Sample : SEQ-CAL1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:56 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1110464	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4298402	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2435799	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4728107	40.00	ug/mL	0.00
80) Chrysene-d12	14.94	240	4513428	40.00	ug/mL	-0.03
92) Perylene-d12	18.05	264	5427163	40.00	ug/mL	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	53043	1.26	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery =	1.68%#		
5) Phenol-d5	4.74	99	61849	1.16	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery =	1.55%#		
22) Nitrobenzene-d5	5.42	82	43483	1.32	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery =	2.64%#		
45) 2-Fluorobiphenyl	6.80	172	114126	1.35	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery =	2.70%#		
67) 2,4,6-Tribromophenol	8.47	330	10612m	0.87	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery =	1.16%#		
82) Terphenyl-d14	12.63	244	141644	1.28	ug/mL	-0.01
Spiked Amount 50.000	Range 35 - 127		Recovery =	2.56%#		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	29709	1.21	ug/mL#	75
7) Aniline	4.78	93	74434	1.25	ug/mL#	96
8) Phenol	4.75	94	66426	1.25	ug/mL	99
9) Bis(2-chloroethyl)ether	4.81	93	45987	1.18	ug/mL#	87
10) 2-Chlorophenol	4.86	128	53332	1.22	ug/mL#	92
11) 1,3-Dichlorobenzene	4.96	146	60285	1.22	ug/mL	95
12) 1,4-Dichlorobenzene	5.00	146	63430m	1.33	ug/mL	
13) Benzyl Alcohol	5.10	108	30930	1.21	ug/mL	97
14) 1,2-Dichlorobenzene	5.14	146	59584	1.28	ug/mL	96
15) 2-Methylphenol	5.19	107	51758	1.34	ug/mL	91
17) Bis(2-chloroisopropyl) eth	5.21	45	36794	0.95	ug/mL#	49
18) N-Nitroso-di-n-propylamine	5.32	70	32276	1.25	ug/mL#	88
19) 4-Methylphenol	5.29	107	63144	1.06	ug/mL#	58
20) Hexachloroethane	5.37	117	22942	1.27	ug/mL#	78
23) Nitrobenzene	5.44	77	46007	1.28	ug/mL#	85
24) Isophorone	5.60	82	90231	1.29	ug/mL#	90
25) 2-Nitrophenol	5.67	139	14980m	0.85	ug/mL	
26) 2,4-Dimethylphenol	5.68	122	45473	1.27	ug/mL	94
27) Bis(2-chloroethoxy) methan	5.75	93	61987	1.43	ug/mL#	97
29) 2,4-Dichlorophenol	5.83	162	34415m	1.05	ug/mL	
30) 1,2,4-Trichlorobenzene	5.90	180	51381	1.41	ug/mL	99
32) Naphthalene	5.95	128	155339	1.43	ug/mL	98
33) 4-Chloroaniline	6.00	127	63418	1.23	ug/mL#	89
34) Hexachlorobutadiene	6.07	225	25471	1.39	ug/mL	92
36) 4-Chloro-3-methylphenol	6.35	107	42243	1.23	ug/mL#	78
38) 2-Methylnaphthalene	6.48	142	95396	1.23	ug/mL	96
41) Hexachlorocyclopentadiene	6.66	237	24253	1.29	ug/mL#	83
43) 2,4,6-Trichlorophenol	6.74	196	24605	1.12	ug/mL#	86
44) 2,4,5-Trichlorophenol	6.77	196	33910	1.20	ug/mL#	67
46) 2-Chloronaphthalene	6.91	162	104158	1.32	ug/mL	98
47) 2-Nitroaniline	7.03	138	18584	0.77	ug/mL#	51
48) Dimethylphthalate	7.21	163	489934	5.02	ug/mL	99
49) 2,6-Dinitrotoluene	7.30	165	10522m	0.60	ug/mL	
50) Acenaphthylene	7.32	152	155700	1.22	ug/mL	98
51) 3-Nitroaniline	7.03	138	18587	0.85	ug/mL#	44
52) Acenaphthene	7.52	154	85662	1.17	ug/mL	90

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626690.D Vial: 3
Acq On : 3 Oct 2019 1:29 pm Operator: SR
Sample : SEQ-CAL1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:56 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

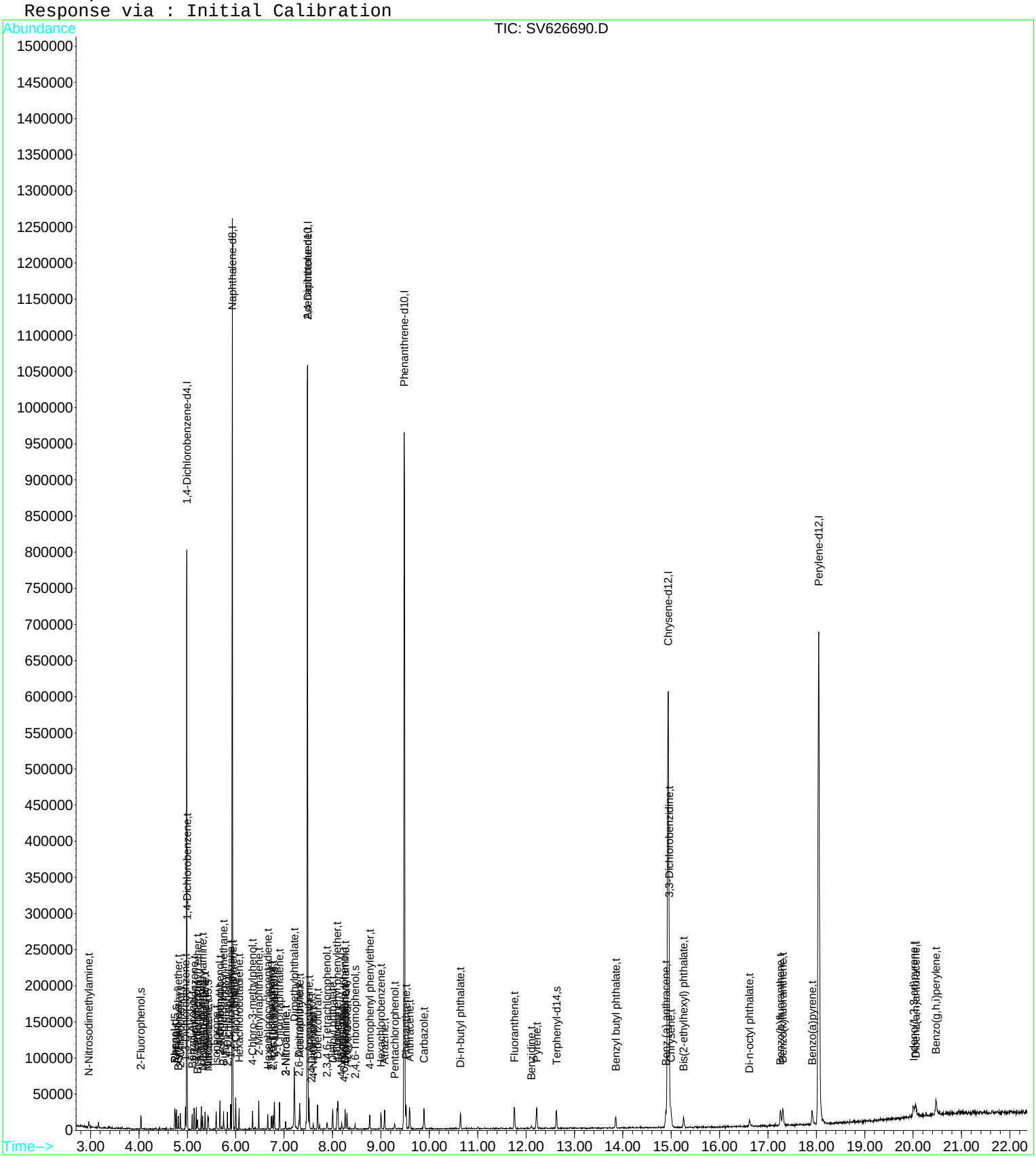
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
53) 2,4-Dinitrophenol	7.57	184	2067m	0.48	ug/mL	
54) Dibenzofuran	7.69	168	151302	1.35	ug/mL	93
55) 2,4-Dinitrotoluene	7.48	165	321577	13.75	ug/mL#	37
56) 4-Nitrophenol	7.60	65	13118m	0.98	ug/mL	
57) 2,3,4,6-Tetrachlorophenol	7.88	131	8801m	1.04	ug/mL	
58) Diethyl phthalate	8.01	149	111787	1.23	ug/mL#	87
59) Fluorene	8.11	166	112098	1.24	ug/mL#	88
60) 4-Chlorophenyl phenylether	8.10	204	58374	1.41	ug/mL	98
61) 4-Nitroaniline	8.19	138	13794m	0.61	ug/mL	
63) 4,6-Dinitro-2-methylphenol	8.24	198	3683m	0.48	ug/mL	
64) Diphenylamine	8.26	169	84968	1.17	ug/mL	93
65) N-Nitrosodiphenylamine	8.26	167	26800	1.09	ug/mL	92
66) Azobenzene	8.30	77	106300	1.18	ug/mL#	94
68) 4-Bromophenyl phenylether	8.77	248	31469	1.19	ug/mL#	76
69) Atrazine	9.08	200	44579	1.64	ug/mL	93
70) Hexachlorobenzene	9.00	142	13643m	1.16	ug/mL	
71) Pentachlorophenol	9.28	266	13791m	0.95	ug/mL	
73) Phenanthrene	9.52	178	167338	1.24	ug/mL	96
74) Anthracene	9.59	178	162237m	1.14	ug/mL	
75) Carbazole	9.89	167	162805	1.09	ug/mL#	96
76) Di-n-butyl phthalate	10.65	149	174128	0.98	ug/mL#	80
78) Fluoranthene	11.76	202	183484	1.19	ug/mL	99
79) Benzidine	12.11	184	37368	0.74	ug/mL#	69
81) Pyrene	12.22	202	192245	1.16	ug/mL	99
83) Benzyl butyl phthalate	13.85	149	62991	0.77	ug/mL#	80
84) Bis(2-ethylhexyl) phthalat	15.26	149	80408	0.72	ug/mL#	82
85) Benz (a) anthracene	14.89	228	183370	1.18	ug/mL	95
86) 3,3-Dichlorobenzidine	14.96	252	51540	0.96	ug/mL#	89
87) Chrysene	15.00	228	186205	1.25	ug/mL#	91
88) Di-n-octyl phthalate	16.62	149	108682m	0.60	ug/mL	
89) Benzo(b)fluoranthene	17.26	252	170768	1.12	ug/mL#	72
90) Benzo(k)fluoranthene	17.31	252	195568	1.17	ug/mL	96
91) Benzo(a)pyrene	17.91	252	150213	1.00	ug/mL#	73
93) Indeno(1,2,3-cd)pyrene	20.01	276	194055	1.03	ug/mL#	65
94) Dibenz(a,h)anthracene	20.05	278	151655m	1.00	ug/mL	
95) Benzo(g,h,i)perylene	20.47	276	175188	1.07	ug/mL#	81

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626690.D Vial: 3
Acq On : 3 Oct 2019 1:29 pm Operator: SR
Sample : SEQ-CAL1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:56 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626691.D Vial: 4
Acq On : 3 Oct 2019 2:01 pm Operator: SR
Sample : SEQ-CAL2 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1087697	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4221553	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2475847	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4785792	40.00	ug/mL	0.00
80) Chrysene-d12	14.94	240	4640046	40.00	ug/mL	-0.03
92) Perylene-d12	18.05	264	5478347	40.00	ug/mL	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	101990	2.47	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery =	3.29%#		
5) Phenol-d5	4.74	99	132379	2.54	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery =	3.39%#		
22) Nitrobenzene-d5	5.42	82	74094	2.29	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery =	4.58%#		
45) 2-Fluorobiphenyl	6.80	172	220017	2.55	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery =	5.10%#		
67) 2,4,6-Tribromophenol	8.47	330	24779	2.00	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery =	2.67%#		
82) Terphenyl-d14	12.63	244	266374	2.34	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery =	4.68%#		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	57362	2.39	ug/mL#	79
7) Aniline	4.78	93	151684	2.60	ug/mL	99
8) Phenol	4.75	94	121315	2.33	ug/mL	98
9) Bis(2-chloroethyl)ether	4.81	93	92364	2.43	ug/mL	98
10) 2-Chlorophenol	4.86	128	96994	2.27	ug/mL	98
11) 1,3-Dichlorobenzene	4.96	146	126028	2.59	ug/mL	95
12) 1,4-Dichlorobenzene	5.00	146	121535	2.60	ug/mL	95
13) Benzyl Alcohol	5.10	108	54914	2.20	ug/mL	89
14) 1,2-Dichlorobenzene	5.14	146	120598	2.64	ug/mL	95
15) 2-Methylphenol	5.19	107	84956	2.25	ug/mL	93
17) Bis(2-chloroisopropyl) eth	5.21	45	75605	1.98	ug/mL	98
18) N-Nitroso-di-n-propylamine	5.31	70	66785	2.65	ug/mL#	80
19) 4-Methylphenol	5.29	107	136842	2.35	ug/mL#	64
20) Hexachloroethane	5.37	117	43302	2.45	ug/mL	90
23) Nitrobenzene	5.44	77	86326	2.44	ug/mL	98
24) Isophorone	5.60	82	183919	2.68	ug/mL	99
25) 2-Nitrophenol	5.67	139	31146m	1.79	ug/mL	
26) 2,4-Dimethylphenol	5.68	122	86453	2.47	ug/mL	96
27) Bis(2-chloroethoxy) methan	5.75	93	116721	2.74	ug/mL	98
28) Benzoic acid	5.71	105	36844	1.59	ug/mL	78
29) 2,4-Dichlorophenol	5.83	162	76875	2.39	ug/mL	95
30) 1,2,4-Trichlorobenzene	5.90	180	105932	2.95	ug/mL	94
32) Naphthalene	5.95	128	292631	2.75	ug/mL	96
33) 4-Chloroaniline	6.00	127	127854	2.52	ug/mL	99
34) Hexachlorobutadiene	6.07	225	53385	2.96	ug/mL	94
36) 4-Chloro-3-methylphenol	6.35	107	84044	2.49	ug/mL	97
38) 2-Methylnaphthalene	6.48	142	196134	2.57	ug/mL	99
41) Hexachlorocyclopentadiene	6.66	237	50746	2.65	ug/mL#	94
43) 2,4,6-Trichlorophenol	6.74	196	55410	2.47	ug/mL	96
44) 2,4,5-Trichlorophenol	6.77	196	70284	2.44	ug/mL	86
46) 2-Chloronaphthalene	6.91	162	207138	2.59	ug/mL	95
47) 2-Nitroaniline	7.03	138	36719	1.49	ug/mL#	86
48) Dimethylphthalate	7.21	163	568902	5.74	ug/mL	98
49) 2,6-Dinitrotoluene	7.30	165	28237	1.60	ug/mL#	51
50) Acenaphthylene	7.32	152	305452	2.36	ug/mL	99
51) 3-Nitroaniline	7.46	138	30880	1.40	ug/mL#	48

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626691.D Vial: 4
Acq On : 3 Oct 2019 2:01 pm Operator: SR
Sample : SEQ-CAL2 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

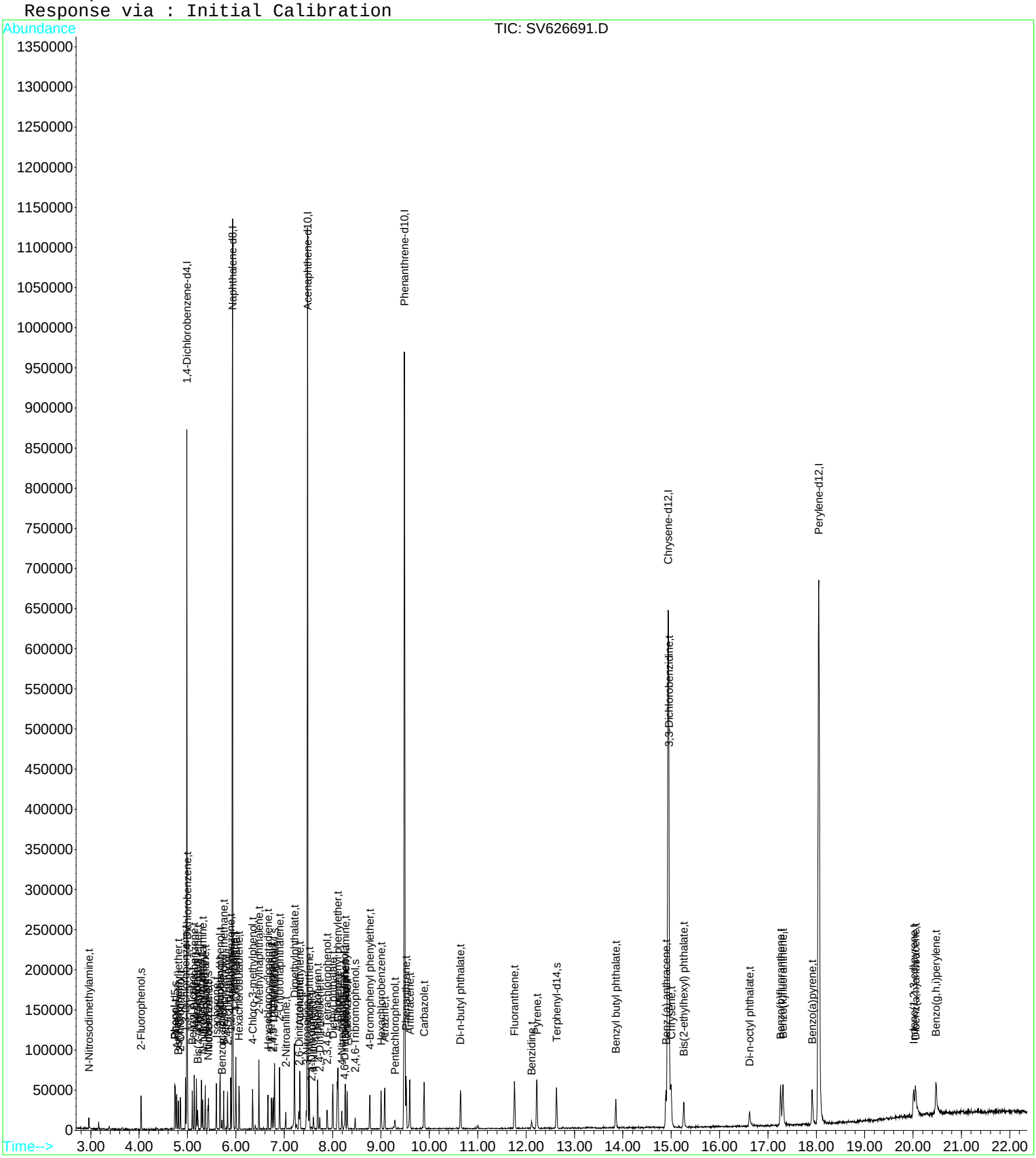
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
52)	Acenaphthene	7.52	154	178142	2.39	ug/mL	97
53)	2,4-Dinitrophenol	7.57	184	5791m	1.34	ug/mL	
54)	Dibenzofuran	7.69	168	279111	2.46	ug/mL	98
55)	2,4-Dinitrotoluene	7.73	165	29797m	1.25	ug/mL	
56)	4-Nitrophenol	7.60	65	23420	1.73	ug/mL#	77
57)	2,3,4,6-Tetrachlorophenol	7.89	131	16544m	1.91	ug/mL	
58)	Diethyl phthalate	8.01	149	217214	2.36	ug/mL	96
59)	Fluorene	8.11	166	220197	2.39	ug/mL	97
60)	4-Chlorophenyl phenylether	8.10	204	109991	2.61	ug/mL	95
61)	4-Nitroaniline	8.19	138	36398	1.59	ug/mL#	85
63)	4,6-Dinitro-2-methylphenol	8.24	198	9573m	1.22	ug/mL	
64)	Diphenylamine	8.26	169	139488	1.90	ug/mL	89
65)	N-Nitrosodiphenylamine	8.26	167	55371	2.23	ug/mL	86
66)	Azobenzene	8.30	77	212196	2.33	ug/mL	99
68)	4-Bromophenyl phenylether	8.77	248	67051	2.50	ug/mL	93
69)	Atrazine	9.08	200	74812	2.73	ug/mL	88
70)	Hexachlorobenzene	9.00	142	27798	2.33	ug/mL	95
71)	Pentachlorophenol	9.29	266	24516	1.67	ug/mL#	26
73)	Phenanthrene	9.52	178	325322	2.37	ug/mL	98
74)	Anthracene	9.60	178	322815	2.23	ug/mL	99
75)	Carbazole	9.89	167	328683	2.17	ug/mL#	100
76)	Di-n-butyl phthalate	10.65	149	348400	1.94	ug/mL#	91
78)	Fluoranthene	11.76	202	351128	2.24	ug/mL	99
79)	Benzidine	12.12	184	84502	1.65	ug/mL#	69
81)	Pyrene	12.22	202	386029	2.26	ug/mL	98
83)	Benzyl butyl phthalate	13.86	149	144713	1.72	ug/mL#	97
84)	Bis(2-ethylhexyl) phthalat	15.26	149	173058	1.50	ug/mL#	95
85)	Benz (a) anthracene	14.89	228	356935	2.23	ug/mL	97
86)	3,3-Dichlorobenzidine	14.96	252	113992	2.08	ug/mL#	81
87)	Chrysene	15.00	228	375967	2.46	ug/mL	98
88)	Di-n-octyl phthalate	16.62	149	228153m	1.23	ug/mL	
89)	Benzo(b)fluoranthene	17.26	252	322999	2.05	ug/mL	98
90)	Benzo(k)fluoranthene	17.31	252	416049m	2.42	ug/mL	
91)	Benzo(a)pyrene	17.92	252	324647	2.10	ug/mL	95
93)	Indeno(1,2,3-cd)pyrene	20.01	276	387430	2.04	ug/mL#	89
94)	Dibenz(a,h)anthracene	20.05	278	331026m	2.16	ug/mL	
95)	Benzo(g,h,i)perylene	20.48	276	366374	2.21	ug/mL#	92

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626691.D Vial: 4
Acq On : 3 Oct 2019 2:01 pm Operator: SR
Sample : SEQ-CAL2 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626692.D Vial: 5
Acq On : 3 Oct 2019 2:33 pm Operator: SR
Sample : SEQ-CAL3 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1032249	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4148178	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2375192	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4512991	40.00	ug/mL	0.00
80) Chrysene-d12	14.94	240	4355677	40.00	ug/mL	-0.02
92) Perylene-d12	18.06	264	5217146	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	197191	5.02	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 6.69%#			
5) Phenol-d5	4.74	99	247317	5.00	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 6.67%#			
22) Nitrobenzene-d5	5.42	82	164836	5.18	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 10.36%#			
45) 2-Fluorobiphenyl	6.80	172	414967	5.02	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 10.04%#			
67) 2,4,6-Tribromophenol	8.47	330	51698	4.42	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 5.89%#			
82) Terphenyl-d14	12.63	244	571795	5.36	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 10.72%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	109775	4.82	ug/mL#	94
3) Pyridine	2.97	79	252709	6.14	ug/mL#	82
6) Benzaldehyde	4.68	105	187577	7.03	ug/mL	95
7) Aniline	4.78	93	271726	4.91	ug/mL	94
8) Phenol	4.75	94	243269	4.92	ug/mL	97
9) Bis(2-chloroethyl)ether	4.81	93	187967	5.20	ug/mL	99
10) 2-Chlorophenol	4.86	128	201543	4.98	ug/mL	98
11) 1,3-Dichlorobenzene	4.96	146	226107	4.91	ug/mL	98
12) 1,4-Dichlorobenzene	5.00	146	227325	5.12	ug/mL	97
13) Benzyl Alcohol	5.10	108	115437	4.87	ug/mL	97
14) 1,2-Dichlorobenzene	5.14	146	225890	5.21	ug/mL	99
15) 2-Methylphenol	5.19	107	185248	5.16	ug/mL	93
16) Acetophenone	5.30	105	307106	5.67	ug/mL	99
17) Bis(2-chloroisopropyl) eth	5.21	45	148086	4.10	ug/mL	99
18) N-Nitroso-di-n-propylamine	5.31	70	117649	4.92	ug/mL	91
19) 4-Methylphenol	5.29	107	272743	4.93	ug/mL	95
20) Hexachloroethane	5.37	117	87584	5.22	ug/mL	97
23) Nitrobenzene	5.44	77	179926	5.17	ug/mL	97
24) Isophorone	5.60	82	366718	5.44	ug/mL	99
25) 2-Nitrophenol	5.67	139	71612m	4.19	ug/mL	
26) 2,4-Dimethylphenol	5.68	122	185154	5.38	ug/mL	99
27) Bis(2-chloroethoxy) methan	5.75	93	235975	5.64	ug/mL	98
28) Benzoic acid	5.72	105	94945	4.18	ug/mL	93
29) 2,4-Dichlorophenol	5.83	162	151996	4.81	ug/mL	98
30) 1,2,4-Trichlorobenzene	5.90	180	191334	5.43	ug/mL	99
31) Alpha-Terpineol	5.92	59	120332	5.06	ug/mL#	1
32) Naphthalene	5.95	128	572065	5.46	ug/mL	97
33) 4-Chloroaniline	6.00	127	256755	5.15	ug/mL	98
34) Hexachlorobutadiene	6.07	225	101728	5.75	ug/mL	94
35) Caprolactam	6.24	113	75053	5.18	ug/mL	87
36) 4-Chloro-3-methylphenol	6.35	107	175007	5.27	ug/mL	97
37) 1-Methylnaphthalene	6.57	141	400675	5.38	ug/mL	95
38) 2-Methylnaphthalene	6.48	142	384499	5.13	ug/mL	100
40) 1,2,4,5-tetrachlorobenzene	6.66	216	196634	6.86	ug/mL	97
41) Hexachlorocyclopentadiene	6.66	237	106807	5.81	ug/mL	96
42) Biphenyl	6.88	153	227751	5.83	ug/mL	93

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626692.D Vial: 5
Acq On : 3 Oct 2019 2:33 pm Operator: SR
Sample : SEQ-CAL3 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

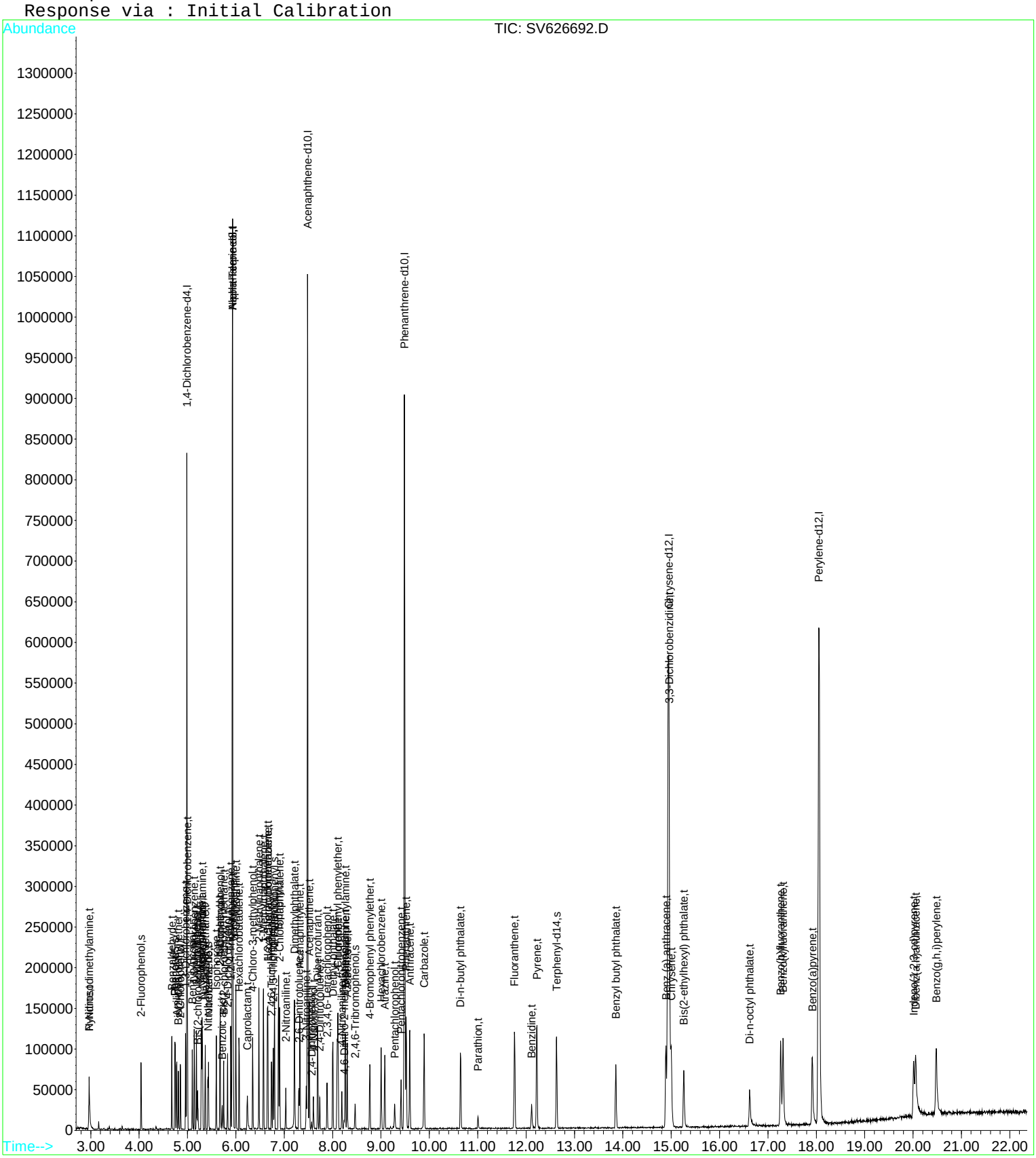
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.74	196	100932	4.70	ug/mL	91
44) 2,4,5-Trichlorophenol	6.77	196	144981	5.24	ug/mL	93
46) 2-Chloronaphthalene	6.91	162	393590	5.12	ug/mL	97
47) 2-Nitroaniline	7.03	138	80625m	3.40	ug/mL	
48) Dimethylphthalate	7.21	163	712569m	7.49	ug/mL	
49) 2,6-Dinitrotoluene	7.30	165	58924	3.47	ug/mL#	86
50) Acenaphthylene	7.32	152	632543	5.09	ug/mL	99
51) 3-Nitroaniline	7.45	138	82788m	3.90	ug/mL	
52) Acenaphthene	7.52	154	355158	4.97	ug/mL	97
53) 2,4-Dinitrophenol	7.57	184	12798m	3.08	ug/mL	
54) Dibenzofuran	7.69	168	551258	5.06	ug/mL	98
55) 2,4-Dinitrotoluene	7.74	165	64999m	2.85	ug/mL	
56) 4-Nitrophenol	7.60	65	54088	4.16	ug/mL	90
57) 2,3,4,6-Tetrachlorophenol	7.89	131	38714	4.67	ug/mL#	85
58) Diethyl phthalate	8.00	149	437507	4.95	ug/mL	96
59) Fluorene	8.11	166	448078	5.07	ug/mL	99
60) 4-Chlorophenyl phenylether	8.10	204	219443	5.43	ug/mL	98
61) 4-Nitroaniline	8.19	138	77632m	3.53	ug/mL	
63) 4,6-Dinitro-2-methylphenol	8.24	198	22759m	3.08	ug/mL	
64) Diphenylamine	8.26	169	324295	4.68	ug/mL	98
65) N-Nitrosodiphenylamine	8.26	167	110684	4.73	ug/mL	98
66) Azobenzene	8.30	77	447301	5.20	ug/mL	99
68) 4-Bromophenyl phenylether	8.77	248	137949	5.45	ug/mL	96
69) Atrazine	9.08	200	136894	5.29	ug/mL	95
70) Hexachlorobenzene	9.00	142	54452	4.85	ug/mL	95
71) Pentachlorophenol	9.28	266	61493m	4.43	ug/mL	
72) Pentachloronitrobenzene	9.42	237	43061	5.08	ug/mL	97
73) Phenanthrene	9.52	178	643223	4.98	ug/mL	99
74) Anthracene	9.60	178	634914	4.66	ug/mL	99
75) Carbazole	9.89	167	646514	4.54	ug/mL#	96
76) Di-n-butyl phthalate	10.65	149	698339	4.13	ug/mL	99
77) Parathion	11.00	97	27126m	2.75	ug/mL	
78) Fluoranthene	11.76	202	721546	4.88	ug/mL	98
79) Benzidine	12.11	184	230766m	4.78	ug/mL	
81) Pyrene	12.22	202	793767	4.96	ug/mL	99
83) Benzyl butyl phthalate	13.86	149	293731	3.72	ug/mL	96
84) Bis(2-ethylhexyl) phthalat	15.26	149	381983	3.53	ug/mL	97
85) Benz (a) anthracene	14.89	228	724809	4.83	ug/mL	100
86) 3,3-Dichlorobenzidine	14.96	252	543070m	10.53	ug/mL	
87) Chrysene	15.00	228	743078	5.19	ug/mL	99
88) Di-n-octyl phthalate	16.62	149	539163m	3.10	ug/mL	
89) Benzo(b)fluoranthene	17.27	252	677575	4.59	ug/mL	99
90) Benzo(k)fluoranthene	17.31	252	839100	5.20	ug/mL	98
91) Benzo(a)pyrene	17.92	252	718452m	4.96	ug/mL	
93) Indeno(1,2,3-cd)pyrene	20.01	276	842674m	4.66	ug/mL	
94) Dibenz(a,h)anthracene	20.06	278	673205m	4.61	ug/mL	
95) Benzo(g,h,i)perylene	20.48	276	760263m	4.82	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626692.D Vial: 5
Acq On : 3 Oct 2019 2:33 pm Operator: SR
Sample : SEQ-CAL3 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:58 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626693.D Vial: 6
Acq On : 3 Oct 2019 3:04 pm Operator: SR
Sample : SEQ-CAL4 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:49 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1056374	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4298631	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2493210	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4807744	40.00	ug/mL	0.00
80) Chrysene-d12	14.95	240	4858699	40.00	ug/mL	-0.02
92) Perylene-d12	18.06	264	5755732	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	408281	10.16	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 13.55%#			
5) Phenol-d5	4.74	99	518679	10.24	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 13.65%			
22) Nitrobenzene-d5	5.42	82	364235	11.04	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 22.08%#			
45) 2-Fluorobiphenyl	6.80	172	905167	10.43	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 20.86%#			
67) 2,4,6-Tribromophenol	8.47	330	123493	9.92	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 13.23%#			
82) Terphenyl-d14	12.63	244	1227893	10.32	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 20.64%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	242287	10.39	ug/mL	100
3) Pyridine	2.97	79	446086m	10.59	ug/mL	
6) Benzaldehyde	4.68	105	334669	12.25	ug/mL	95
7) Aniline	4.78	93	583769	10.31	ug/mL	97
8) Phenol	4.75	94	527619	10.43	ug/mL	99
9) Bis(2-chloroethyl)ether	4.81	93	369772	10.00	ug/mL	95
10) 2-Chlorophenol	4.86	128	424481	10.24	ug/mL	99
11) 1,3-Dichlorobenzene	4.96	146	497724	10.55	ug/mL	98
12) 1,4-Dichlorobenzene	5.00	146	474826	10.44	ug/mL	99
13) Benzyl Alcohol	5.10	108	253029	10.43	ug/mL	98
14) 1,2-Dichlorobenzene	5.14	146	464193	10.47	ug/mL	99
15) 2-Methylphenol	5.19	107	360796	9.83	ug/mL	98
16) Acetophenone	5.30	105	601079	10.84	ug/mL	99
17) Bis(2-chloroisopropyl) eth	5.21	45	300148	8.11	ug/mL	97
18) N-Nitroso-di-n-propylamine	5.31	70	260441	10.64	ug/mL	96
19) 4-Methylphenol	5.29	107	578091	10.22	ug/mL	98
20) Hexachloroethane	5.37	117	187469	10.92	ug/mL	99
23) Nitrobenzene	5.44	77	381025	10.57	ug/mL	97
24) Isophorone	5.60	82	775213	11.10	ug/mL	98
25) 2-Nitrophenol	5.67	139	173868	9.82	ug/mL	98
26) 2,4-Dimethylphenol	5.68	122	370081	10.37	ug/mL	98
27) Bis(2-chloroethoxy) methan	5.75	93	496369	11.45	ug/mL	98
28) Benzoic acid	5.72	105	217916	9.26	ug/mL	96
29) 2,4-Dichlorophenol	5.83	162	333121	10.17	ug/mL	98
30) 1,2,4-Trichlorobenzene	5.90	180	407613	11.16	ug/mL	98
31) Alpha-Terpineol	5.92	59	259708	10.54	ug/mL#	1
32) Naphthalene	5.95	128	1188788	10.96	ug/mL	99
33) 4-Chloroaniline	6.00	127	539338	10.43	ug/mL	98
34) Hexachlorobutadiene	6.07	225	224205	12.23	ug/mL	98
35) Caprolactam	6.24	113	152895	10.18	ug/mL	93
36) 4-Chloro-3-methylphenol	6.35	107	360087	10.47	ug/mL	99
37) 1-Methylnaphthalene	6.57	141	782396	10.13	ug/mL	99
38) 2-Methylnaphthalene	6.48	142	805693	10.37	ug/mL	98
40) 1,2,4,5-tetrachlorobenzene	6.65	216	356677	11.86	ug/mL	98
41) Hexachlorocyclopentadiene	6.66	237	241418	12.51	ug/mL	97
42) Biphenyl	6.88	153	422036	10.30	ug/mL	97

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626693.D Vial: 6
Acq On : 3 Oct 2019 3:04 pm Operator: SR
Sample : SEQ-CAL4 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:49 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

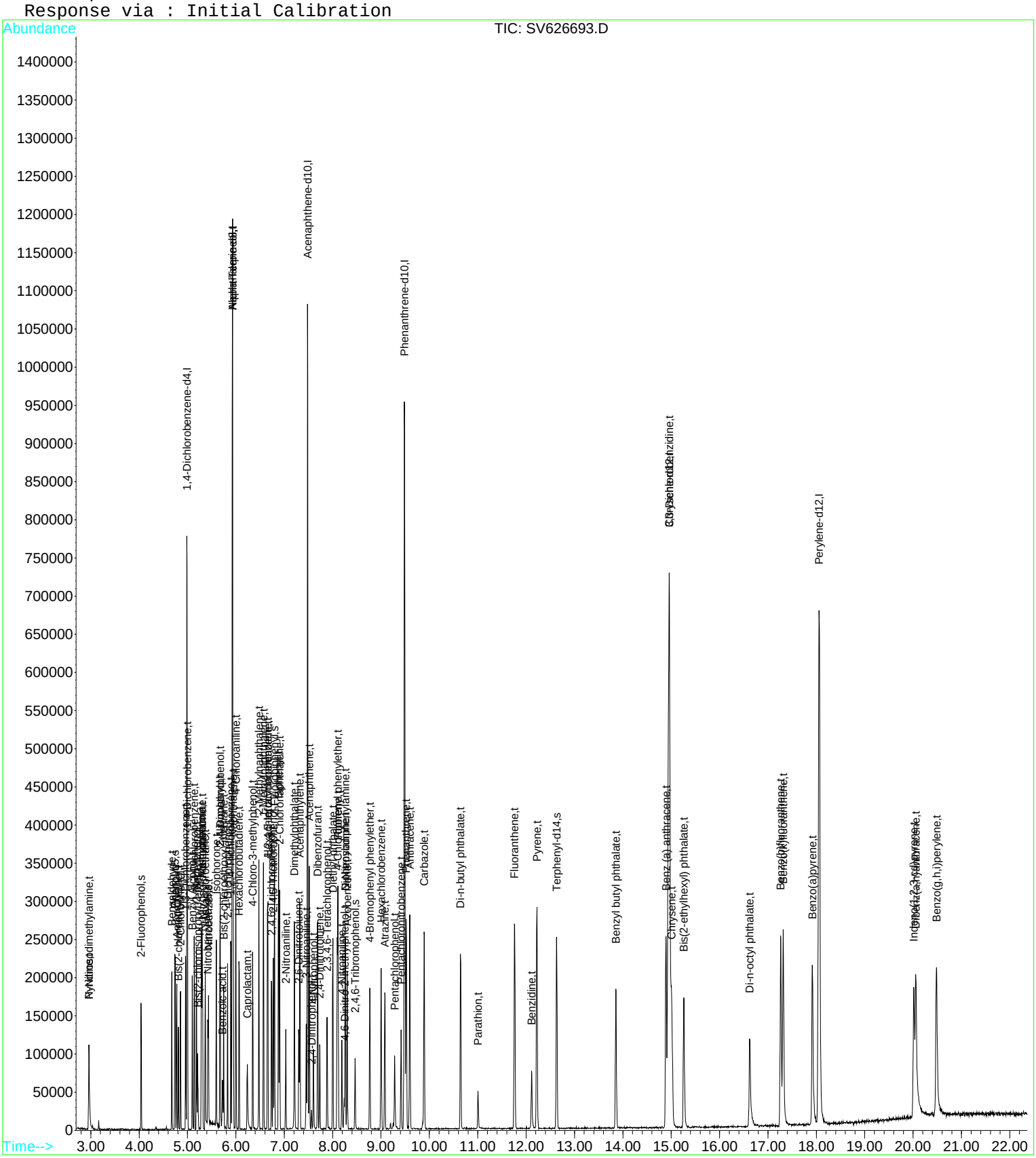
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.74	196	249705	11.07	ug/mL	98
44) 2,4,5-Trichlorophenol	6.77	196	322951	11.12	ug/mL	96
46) 2-Chloronaphthalene	6.91	162	819667	10.17	ug/mL	99
47) 2-Nitroaniline	7.03	138	213517	8.59	ug/mL	90
48) Dimethylphthalate	7.21	163	1213201m	12.15	ug/mL	
49) 2,6-Dinitrotoluene	7.30	165	157391	8.84	ug/mL	98
50) Acenaphthylene	7.32	152	1329520	10.20	ug/mL	100
51) 3-Nitroaniline	7.46	138	209702	9.42	ug/mL#	95
52) Acenaphthene	7.52	154	754427	10.06	ug/mL	96
53) 2,4-Dinitrophenol	7.57	184	40133m	9.19	ug/mL	
54) Dibenzofuran	7.69	168	1202681	10.52	ug/mL	99
55) 2,4-Dinitrotoluene	7.74	165	209370	8.75	ug/mL	94
56) 4-Nitrophenol	7.60	65	131815	9.66	ug/mL	93
57) 2,3,4,6-Tetrachlorophenol	7.88	131	91610	10.53	ug/mL#	96
58) Diethyl phthalate	8.00	149	954540	10.30	ug/mL	99
59) Fluorene	8.11	166	970700	10.46	ug/mL	100
60) 4-Chlorophenyl phenylether	8.10	204	488369	11.52	ug/mL	98
61) 4-Nitroaniline	8.19	138	213578	9.25	ug/mL	92
63) 4,6-Dinitro-2-methylphenol	8.24	198	65580	8.33	ug/mL#	86
64) Diphenylamine	8.26	169	701411	9.49	ug/mL	99
65) N-Nitrosodiphenylamine	8.26	167	247649	9.93	ug/mL	95
66) Azobenzene	8.30	77	954332	10.42	ug/mL	99
68) 4-Bromophenyl phenylether	8.77	248	289212	10.73	ug/mL	95
69) Atrazine	9.08	200	268309	9.74	ug/mL	100
70) Hexachlorobenzene	9.00	142	120619	10.08	ug/mL	98
71) Pentachlorophenol	9.28	266	162048m	10.97	ug/mL	
72) Pentachloronitrobenzene	9.42	237	106057	11.75	ug/mL	93
73) Phenanthrene	9.52	178	1353950	9.83	ug/mL	99
74) Anthracene	9.60	178	1404102	9.67	ug/mL	99
75) Carbazole	9.89	167	1437948	9.47	ug/mL#	96
76) Di-n-butyl phthalate	10.65	149	1690231	9.38	ug/mL	99
77) Parathion	11.01	97	71708	6.82	ug/mL#	85
78) Fluoranthene	11.76	202	1634833	10.39	ug/mL	99
79) Benzidine	12.11	184	501532m	9.74	ug/mL	
81) Pyrene	12.22	202	1762791	9.87	ug/mL	99
83) Benzyl butyl phthalate	13.86	149	713009	8.10	ug/mL	97
84) Bis(2-ethylhexyl) phthalat	15.26	149	982358	8.14	ug/mL	99
85) Benz (a) anthracene	14.89	228	1686581	10.07	ug/mL	98
86) 3,3-Dichlorobenzidine	14.97	252	1229146	21.37	ug/mL	99
87) Chrysene	15.00	228	1670838m	10.45	ug/mL	
88) Di-n-octyl phthalate	16.62	149	1469740	7.57	ug/mL	99
89) Benzo(b)fluoranthene	17.27	252	1592041	9.67	ug/mL	99
90) Benzo(k)fluoranthene	17.32	252	1887804	10.48	ug/mL	98
91) Benzo(a)pyrene	17.92	252	1520508	9.41	ug/mL	100
93) Indeno(1,2,3-cd)pyrene	20.01	276	1965522m	9.86	ug/mL	
94) Dibenz(a,h)anthracene	20.06	278	1611514m	10.01	ug/mL	
95) Benzo(g,h,i)perylene	20.48	276	1743835m	10.03	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626693.D Vial: 6
Acq On : 3 Oct 2019 3:04 pm Operator: SR
Sample : SEQ-CAL4 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:49 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626694.D Vial: 7
Acq On : 3 Oct 2019 3:36 pm Operator: SR
Sample : SEQ-CAL5 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:51 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1103017	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4387389	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2549049	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	5067717	40.00	ug/mL	0.00
80) Chrysene-d12	14.95	240	5093289	40.00	ug/mL	-0.01
92) Perylene-d12	18.06	264	6079511	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	632915	15.09	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 20.12%			
5) Phenol-d5	4.74	99	800675	15.15	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 20.20%			
22) Nitrobenzene-d5	5.42	82	545468	16.19	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 32.38%			
45) 2-Fluorobiphenyl	6.80	172	1410710	15.91	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 31.82%			
67) 2,4,6-Tribromophenol	8.47	330	212135	16.17	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 21.56%#			
82) Terphenyl-d14	12.63	244	1892686	15.18	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 30.36%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	368211	15.13	ug/mL	99
3) Pyridine	2.96	79	644471	14.65	ug/mL#	78
6) Benzaldehyde	4.68	105	485733	17.03	ug/mL	97
7) Aniline	4.78	93	911463	15.41	ug/mL	97
8) Phenol	4.75	94	810928	15.35	ug/mL	99
9) Bis(2-chloroethyl)ether	4.81	93	587195	15.21	ug/mL	98
10) 2-Chlorophenol	4.86	128	626810	14.48	ug/mL	97
11) 1,3-Dichlorobenzene	4.96	146	708222	14.38	ug/mL	97
12) 1,4-Dichlorobenzene	5.00	146	688544	14.50	ug/mL	98
13) Benzyl Alcohol	5.10	108	382481	15.10	ug/mL	98
14) 1,2-Dichlorobenzene	5.14	146	678170	14.65	ug/mL	99
15) 2-Methylphenol	5.19	107	573793	14.97	ug/mL	97
16) Acetophenone	5.30	105	925006	15.98	ug/mL	99
17) Bis(2-chloroisopropyl) eth	5.21	45	456291	11.81	ug/mL	96
18) N-Nitroso-di-n-propylamine	5.31	70	390034	15.27	ug/mL	98
19) 4-Methylphenol	5.29	107	856084	14.49	ug/mL	97
20) Hexachloroethane	5.37	117	279010	15.57	ug/mL	98
23) Nitrobenzene	5.44	77	604523	16.42	ug/mL	98
24) Isophorone	5.59	82	1170549	16.42	ug/mL	100
25) 2-Nitrophenol	5.67	139	263968	14.61	ug/mL	97
26) 2,4-Dimethylphenol	5.68	122	579759	15.92	ug/mL	98
27) Bis(2-chloroethoxy) methan	5.75	93	724099	16.37	ug/mL	99
28) Benzoic acid	5.73	105	374654	15.59	ug/mL	99
29) 2,4-Dichlorophenol	5.83	162	529694	15.84	ug/mL	99
30) 1,2,4-Trichlorobenzene	5.90	180	600367	16.10	ug/mL	98
31) Alpha-Terpineol	5.92	59	388014	15.43	ug/mL#	1
32) Naphthalene	5.95	128	1723990	15.57	ug/mL	99
33) 4-Chloroaniline	6.00	127	828379	15.70	ug/mL	98
34) Hexachlorobutadiene	6.07	225	327990	17.53	ug/mL	98
35) Caprolactam	6.24	113	257136	16.77	ug/mL	99
36) 4-Chloro-3-methylphenol	6.35	107	584352	16.64	ug/mL	96
37) 1-Methylnaphthalene	6.57	141	1241191	15.74	ug/mL	99
38) 2-Methylnaphthalene	6.48	142	1238665	15.62	ug/mL	98
40) 1,2,4,5-tetrachlorobenzene	6.65	216	562472	18.29	ug/mL	99
41) Hexachlorocyclopentadiene	6.66	237	348484	17.67	ug/mL	98
42) Biphenyl	6.88	153	680808	16.25	ug/mL	100

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626694.D Vial: 7
Acq On : 3 Oct 2019 3:36 pm Operator: SR
Sample : SEQ-CAL5 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:51 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

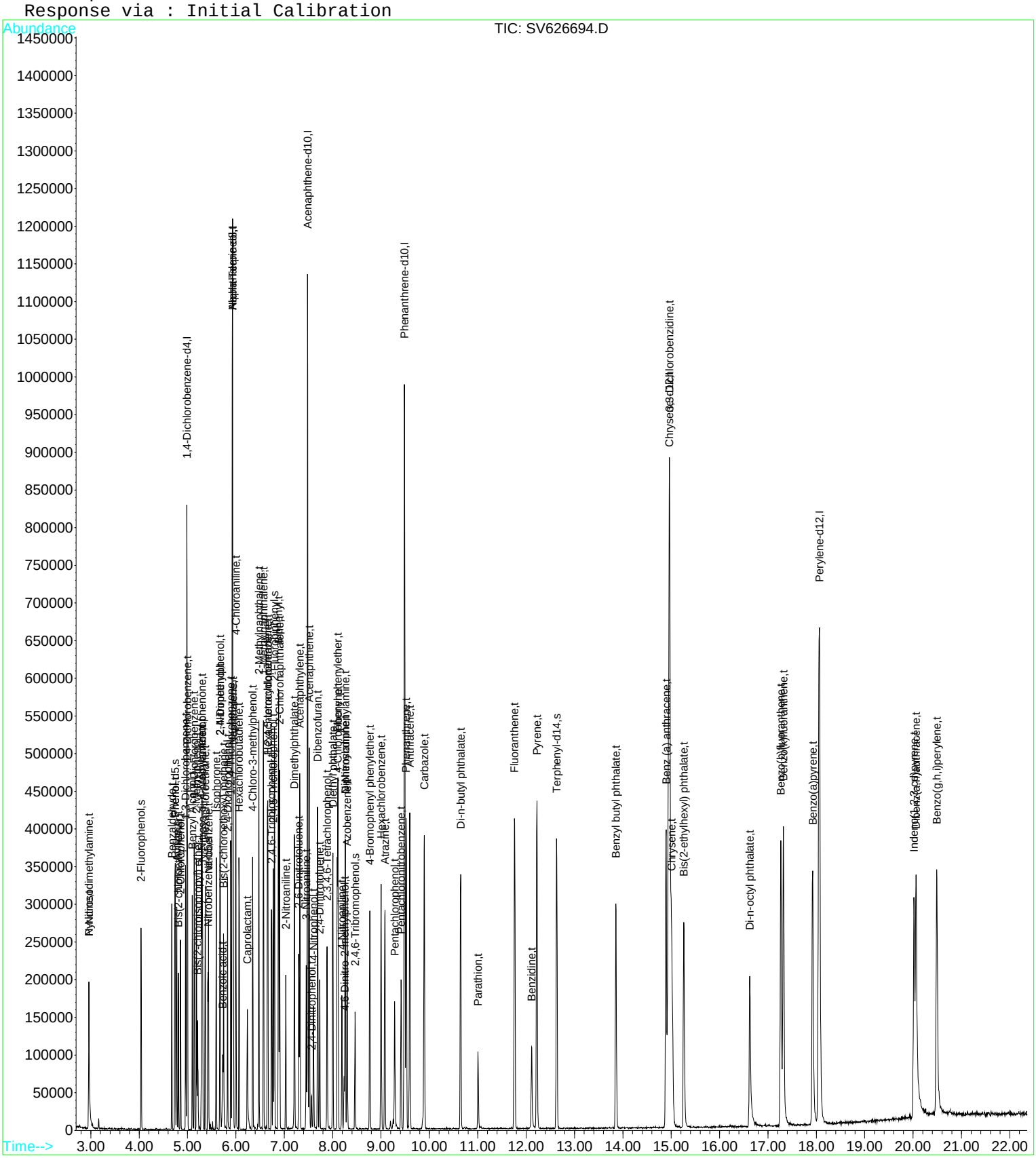
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	2,4,6-Trichlorophenol	6.74	196	378040	16.39	ug/mL	99
44)	2,4,5-Trichlorophenol	6.77	196	480553	16.19	ug/mL	98
46)	2-Chloronaphthalene	6.91	162	1252955	15.20	ug/mL	99
47)	2-Nitroaniline	7.03	138	358317	14.10	ug/mL	98
48)	Dimethylphthalate	7.21	163	1746199	17.10	ug/mL	99
49)	2,6-Dinitrotoluene	7.30	165	273666	15.03	ug/mL	100
50)	Acenaphthylene	7.32	152	2054119	15.41	ug/mL	99
51)	3-Nitroaniline	7.46	138	348798	15.32	ug/mL	96
52)	Acenaphthene	7.52	154	1164155	15.18	ug/mL	99
53)	2,4-Dinitrophenol	7.57	184	61949	13.87	ug/mL	83
54)	Dibenzofuran	7.69	168	1817203	15.55	ug/mL	99
55)	2,4-Dinitrotoluene	7.74	165	359648	14.70	ug/mL	96
56)	4-Nitrophenol	7.61	65	217869	15.61	ug/mL	96
57)	2,3,4,6-Tetrachlorophenol	7.89	131	158321	17.80	ug/mL#	90
58)	Diethyl phthalate	8.00	149	1463963	15.45	ug/mL	99
59)	Fluorene	8.11	166	1435911	15.14	ug/mL	100
60)	4-Chlorophenyl phenylether	8.10	204	720860	16.63	ug/mL	100
61)	4-Nitroaniline	8.19	138	337876	14.31	ug/mL	95
63)	4,6-Dinitro-2-methylphenol	8.24	198	121787	14.67	ug/mL	97
64)	Diphenylamine	8.26	169	1055053	13.55	ug/mL	99
65)	N-Nitrosodiphenylamine	8.26	167	370924	14.11	ug/mL	95
66)	Azobenzene	8.30	77	1439087	14.91	ug/mL	99
68)	4-Bromophenyl phenylether	8.77	248	445155	15.67	ug/mL	97
69)	Atrazine	9.08	200	431292	14.85	ug/mL	98
70)	Hexachlorobenzene	9.00	142	187554	14.87	ug/mL	95
71)	Pentachlorophenol	9.28	266	293011m	18.81	ug/mL	
72)	Pentachloronitrobenzene	9.42	237	148021	15.55	ug/mL	97
73)	Phenanthrene	9.52	178	2052954	14.14	ug/mL	99
74)	Anthracene	9.60	178	2150026	14.05	ug/mL	100
75)	Carbazole	9.90	167	2202453	13.76	ug/mL#	96
76)	Di-n-butyl phthalate	10.65	149	2538434	13.37	ug/mL	99
77)	Parathion	11.01	97	142770m	12.88	ug/mL	
78)	Fluoranthene	11.76	202	2474238	14.91	ug/mL	99
79)	Benzidine	12.11	184	741007m	13.66	ug/mL	
81)	Pyrene	12.23	202	2665045	14.24	ug/mL	99
83)	Benzyl butyl phthalate	13.86	149	1172037	12.71	ug/mL	99
84)	Bis(2-ethylhexyl) phthalat	15.26	149	1540273	12.18	ug/mL	99
85)	Benz (a) anthracene	14.90	228	2612778	14.88	ug/mL	98
86)	3,3-Dichlorobenzidine	14.97	252	1862870	30.90	ug/mL	99
87)	Chrysene	15.01	228	2635974m	15.73	ug/mL	
88)	Di-n-octyl phthalate	16.63	149	2373047m	11.66	ug/mL	
89)	Benzo(b)fluoranthene	17.27	252	2522244	14.61	ug/mL	99
90)	Benzo(k)fluoranthene	17.32	252	2914442	15.44	ug/mL	99
91)	Benzo(a)pyrene	17.93	252	2477791	14.62	ug/mL	99
93)	Indeno(1,2,3-cd)pyrene	20.02	276	3201577m	15.20	ug/mL	
94)	Dibenz(a,h)anthracene	20.07	278	2505158	14.73	ug/mL	97
95)	Benzo(g,h,i)perylene	20.49	276	2872390m	15.64	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626694.D Vial: 7
Acq On : 3 Oct 2019 3:36 pm Operator: SR
Sample : SEQ-CAL5 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:51 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626695.D Vial: 8
Acq On : 3 Oct 2019 4:07 pm Operator: SR
Sample : SEQ-CAL6 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:53 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1019309	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4195628	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2349040	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4473824	40.00	ug/mL	0.00
80) Chrysene-d12	14.96	240	4450402	40.00	ug/mL	0.00
92) Perylene-d12	18.06	264	5371359	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	815976	21.05	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 28.07%			
5) Phenol-d5	4.74	99	1000744	20.48	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 27.31%			
22) Nitrobenzene-d5	5.42	82	718099	22.29	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 44.58%			
45) 2-Fluorobiphenyl	6.80	172	1738322	21.27	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 42.54%			
67) 2,4,6-Tribromophenol	8.47	330	260431	22.48	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 29.97%#			
82) Terphenyl-d14	12.64	244	2285509	20.97	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 41.94%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	461003	20.49	ug/mL	98
3) Pyridine	2.96	79	851465m	20.94	ug/mL	
6) Benzaldehyde	4.67	105	539876m	20.48	ug/mL	
7) Aniline	4.78	93	1135496	20.78	ug/mL	98
8) Phenol	4.75	94	994143	20.36	ug/mL	99
9) Bis(2-chloroethyl)ether	4.81	93	694800	19.47	ug/mL	96
10) 2-Chlorophenol	4.86	128	825455	20.64	ug/mL	100
11) 1,3-Dichlorobenzene	4.96	146	913532	20.07	ug/mL	99
12) 1,4-Dichlorobenzene	5.00	146	895374	20.41	ug/mL	98
13) Benzyl Alcohol	5.10	108	487914	20.84	ug/mL	97
14) 1,2-Dichlorobenzene	5.14	146	848105	19.83	ug/mL	99
15) 2-Methylphenol	5.19	107	716280	20.22	ug/mL	99
16) Acetophenone	5.30	105	1084639	20.28	ug/mL	98
17) Bis(2-chloroisopropyl) eth	5.21	45	551813	15.46	ug/mL	99
18) N-Nitroso-di-n-propylamine	5.31	70	478413	20.26	ug/mL#	96
19) 4-Methylphenol	5.29	107	1105064	20.24	ug/mL	99
20) Hexachloroethane	5.37	117	352628	21.29	ug/mL	99
23) Nitrobenzene	5.44	77	749822	21.30	ug/mL	98
24) Isophorone	5.60	82	1472904	21.61	ug/mL	99
25) 2-Nitrophenol	5.67	139	334681	19.37	ug/mL	96
26) 2,4-Dimethylphenol	5.68	122	723238	20.76	ug/mL	99
27) Bis(2-chloroethoxy) methan	5.75	93	934236	22.08	ug/mL	100
28) Benzoic acid	5.73	105	529241m	23.04	ug/mL	
29) 2,4-Dichlorophenol	5.83	162	648725	20.29	ug/mL	98
30) 1,2,4-Trichlorobenzene	5.90	180	782806	21.95	ug/mL	99
31) Alpha-Terpineol	5.92	59	456858	18.99	ug/mL#	31
32) Naphthalene	5.95	128	2225564	21.02	ug/mL	99
33) 4-Chloroaniline	6.00	127	1051679	20.84	ug/mL	99
34) Hexachlorobutadiene	6.07	225	426196	23.82	ug/mL	99
35) Caprolactam	6.24	113	280951	19.16	ug/mL	93
36) 4-Chloro-3-methylphenol	6.35	107	731240	21.78	ug/mL	99
37) 1-Methylnaphthalene	6.57	141	1452371	19.26	ug/mL	98
38) 2-Methylnaphthalene	6.48	142	1528322	20.15	ug/mL	98
40) 1,2,4,5-tetrachlorobenzene	6.65	216	684229	24.15	ug/mL	98
41) Hexachlorocyclopentadiene	6.66	237	471203	25.92	ug/mL	97
42) Biphenyl	6.88	153	767058	19.86	ug/mL	98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626695.D Vial: 8
Acq On : 3 Oct 2019 4:07 pm Operator: SR
Sample : SEQ-CAL6 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:53 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

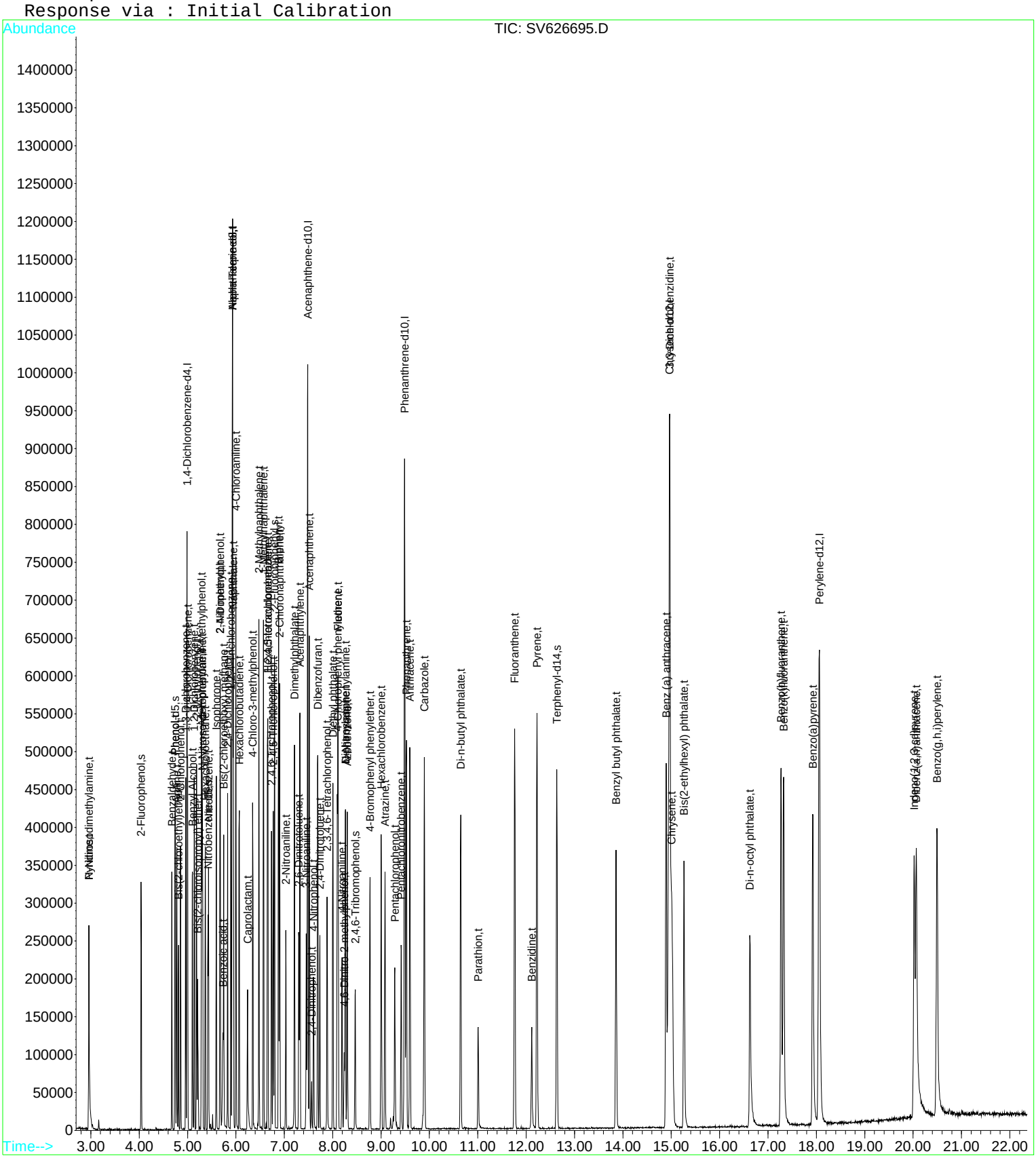
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.74	196	467869	22.01 ug/mL	98
44) 2,4,5-Trichlorophenol	6.77	196	577739	21.12 ug/mL	97
46) 2-Chloronaphthalene	6.91	162	1556558	20.49 ug/mL	99
47) 2-Nitroaniline	7.03	138	484760	20.70 ug/mL	99
48) Dimethylphthalate	7.21	163	2112815	22.45 ug/mL	100
49) 2,6-Dinitrotoluene	7.30	165	362554	21.61 ug/mL	96
50) Acenaphthylene	7.32	152	2518892	20.51 ug/mL	99
51) 3-Nitroaniline	7.46	138	429977	20.49 ug/mL#	96
52) Acenaphthene	7.52	154	1444975	20.45 ug/mL	100
53) 2,4-Dinitrophenol	7.57	184	88277	21.45 ug/mL	90
54) Dibenzofuran	7.69	168	2254669	20.93 ug/mL	100
55) 2,4-Dinitrotoluene	7.74	165	473048	20.98 ug/mL	98
56) 4-Nitrophenol	7.61	65	290013	22.55 ug/mL	94
57) 2,3,4,6-Tetrachlorophenol	7.89	131	176530	21.53 ug/mL	92
58) Diethyl phthalate	8.01	149	1759634	20.15 ug/mL	100
59) Fluorene	8.11	166	1756372	20.09 ug/mL	100
60) 4-Chlorophenyl phenylether	8.10	204	857670	21.47 ug/mL	99
61) 4-Nitroaniline	8.20	138	435196	19.99 ug/mL	96
63) 4,6-Dinitro-2-methylphenol	8.24	198	165415	22.57 ug/mL	96
64) Diphenylamine	8.26	169	1298921	18.89 ug/mL	99
65) N-Nitrosodiphenylamine	8.26	167	434375	18.72 ug/mL	97
66) Azobenzene	8.30	77	1771858	20.79 ug/mL	99
68) 4-Bromophenyl phenylether	8.77	248	556544	22.20 ug/mL	99
69) Atrazine	9.08	200	515863	20.11 ug/mL	93
70) Hexachlorobenzene	9.00	142	217847	19.57 ug/mL	96
71) Pentachlorophenol	9.28	266	355717m	25.87 ug/mL	
72) Pentachloronitrobenzene	9.42	237	193772	23.06 ug/mL	97
73) Phenanthrene	9.53	178	2538266	19.81 ug/mL	100
74) Anthracene	9.60	178	2673824	19.79 ug/mL	99
75) Carbazole	9.90	167	2714164	19.21 ug/mL#	96
76) Di-n-butyl phthalate	10.65	149	3125521	18.64 ug/mL	99
77) Parathion	11.01	97	190980	19.51 ug/mL#	98
78) Fluoranthene	11.77	202	3104594	21.19 ug/mL	99
79) Benzidine	12.12	184	876423m	18.30 ug/mL	
81) Pyrene	12.23	202	3251906	19.88 ug/mL	100
83) Benzyl butyl phthalate	13.86	149	1423411	17.66 ug/mL	99
84) Bis(2-ethylhexyl) phthalat	15.27	149	1866777	16.89 ug/mL	99
85) Benz (a) anthracene	14.90	228	3127492	20.38 ug/mL	98
86) 3,3-Dichlorobenzidine	14.97	252	2169056	41.17 ug/mL	100
87) Chrysene	15.01	228	3065606m	20.94 ug/mL	
88) Di-n-octyl phthalate	16.62	149	2984181m	16.78 ug/mL	
89) Benzo(b)fluoranthene	17.27	252	3042198	20.17 ug/mL	99
90) Benzo(k)fluoranthene	17.33	252	3431721	20.80 ug/mL	99
91) Benzo(a)pyrene	17.93	252	3225357m	21.78 ug/mL	
93) Indeno(1,2,3-cd)pyrene	20.02	276	3837304m	20.62 ug/mL	
94) Dibenz(a,h)anthracene	20.07	278	3104926m	20.66 ug/mL	
95) Benzo(g,h,i)perylene	20.49	276	3366779m	20.75 ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626695.D Vial: 8
Acq On : 3 Oct 2019 4:07 pm Operator: SR
Sample : SEQ-CAL6 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:53 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626696.D Vial: 9
Acq On : 3 Oct 2019 4:39 pm Operator: SR
Sample : SEQ-CAL7 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:54 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1142864	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4867111	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.49	164	2793654	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	5450926	40.00	ug/mL	0.00
80) Chrysene-d12	14.97	240	5289144	40.00	ug/mL	0.00
92) Perylene-d12	18.07	264	6095655	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	1323192	30.45	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 40.60%			
5) Phenol-d5	4.74	99	1651594	30.15	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 40.20%			
22) Nitrobenzene-d5	5.42	82	1176518	31.49	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 62.98%			
45) 2-Fluorobiphenyl	6.80	172	2784372	28.65	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 57.30%			
67) 2,4,6-Tribromophenol	8.47	330	473820	33.57	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 44.76%			
82) Terphenyl-d14	12.64	244	3810618	29.42	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 58.84%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	737309	29.23	ug/mL	100
3) Pyridine	2.97	79	1365306m	29.95	ug/mL	
6) Benzaldehyde	4.67	105	729628m	24.68	ug/mL	
7) Aniline	4.78	93	1788362	29.18	ug/mL	100
8) Phenol	4.75	94	1648971	30.12	ug/mL	100
9) Bis(2-chloroethyl)ether	4.81	93	1153911	28.84	ug/mL	100
10) 2-Chlorophenol	4.86	128	1294702	28.87	ug/mL	100
11) 1,3-Dichlorobenzene	4.96	146	1395082	27.34	ug/mL	100
12) 1,4-Dichlorobenzene	5.00	146	1354689	27.54	ug/mL	100
13) Benzyl Alcohol	5.10	108	799278	30.44	ug/mL	100
14) 1,2-Dichlorobenzene	5.14	146	1309096	27.29	ug/mL	100
15) 2-Methylphenol	5.19	107	1136865	28.62	ug/mL	100
16) Acetophenone	5.30	105	1775378	29.61	ug/mL	100
17) Bis(2-chloroisopropyl) eth	5.21	45	875103	21.86	ug/mL	100
18) N-Nitroso-di-n-propylamine	5.32	70	786728	29.72	ug/mL	100
19) 4-Methylphenol	5.29	107	1790572	29.25	ug/mL	100
20) Hexachloroethane	5.37	117	564243	30.39	ug/mL	100
23) Nitrobenzene	5.44	77	1225833	30.02	ug/mL	100
24) Isophorone	5.60	82	2432037	30.76	ug/mL	100
25) 2-Nitrophenol	5.67	139	620413	30.96	ug/mL	100
26) 2,4-Dimethylphenol	5.68	122	1244012	30.78	ug/mL	100
27) Bis(2-chloroethoxy) methan	5.75	93	1492407	30.41	ug/mL	100
28) Benzoic acid	5.74	105	940403	35.28	ug/mL	97
29) 2,4-Dichlorophenol	5.83	162	1108620	29.89	ug/mL	100
30) 1,2,4-Trichlorobenzene	5.90	180	1215127	29.37	ug/mL	100
31) Alpha-Terpineol	5.92	59	751294	26.93	ug/mL	100
32) Naphthalene	5.95	128	3358580	27.34	ug/mL	100
33) 4-Chloroaniline	6.00	127	1727213	29.51	ug/mL	100
34) Hexachlorobutadiene	6.07	225	695936	33.53	ug/mL	100
35) Caprolactam	6.25	113	528527	31.08	ug/mL	100
36) 4-Chloro-3-methylphenol	6.35	107	1208704	31.03	ug/mL	99
37) 1-Methylnaphthalene	6.57	141	2401363	27.46	ug/mL	100
38) 2-Methylnaphthalene	6.48	142	2510472	28.53	ug/mL	100
40) 1,2,4,5-tetrachlorobenzene	6.66	216	1183786	35.13	ug/mL	100
41) Hexachlorocyclopentadiene	6.66	237	779498	36.06	ug/mL	100
42) Biphenyl	6.88	153	1317525	28.69	ug/mL	100

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626696.D Vial: 9
Acq On : 3 Oct 2019 4:39 pm Operator: SR
Sample : SEQ-CAL7 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:54 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

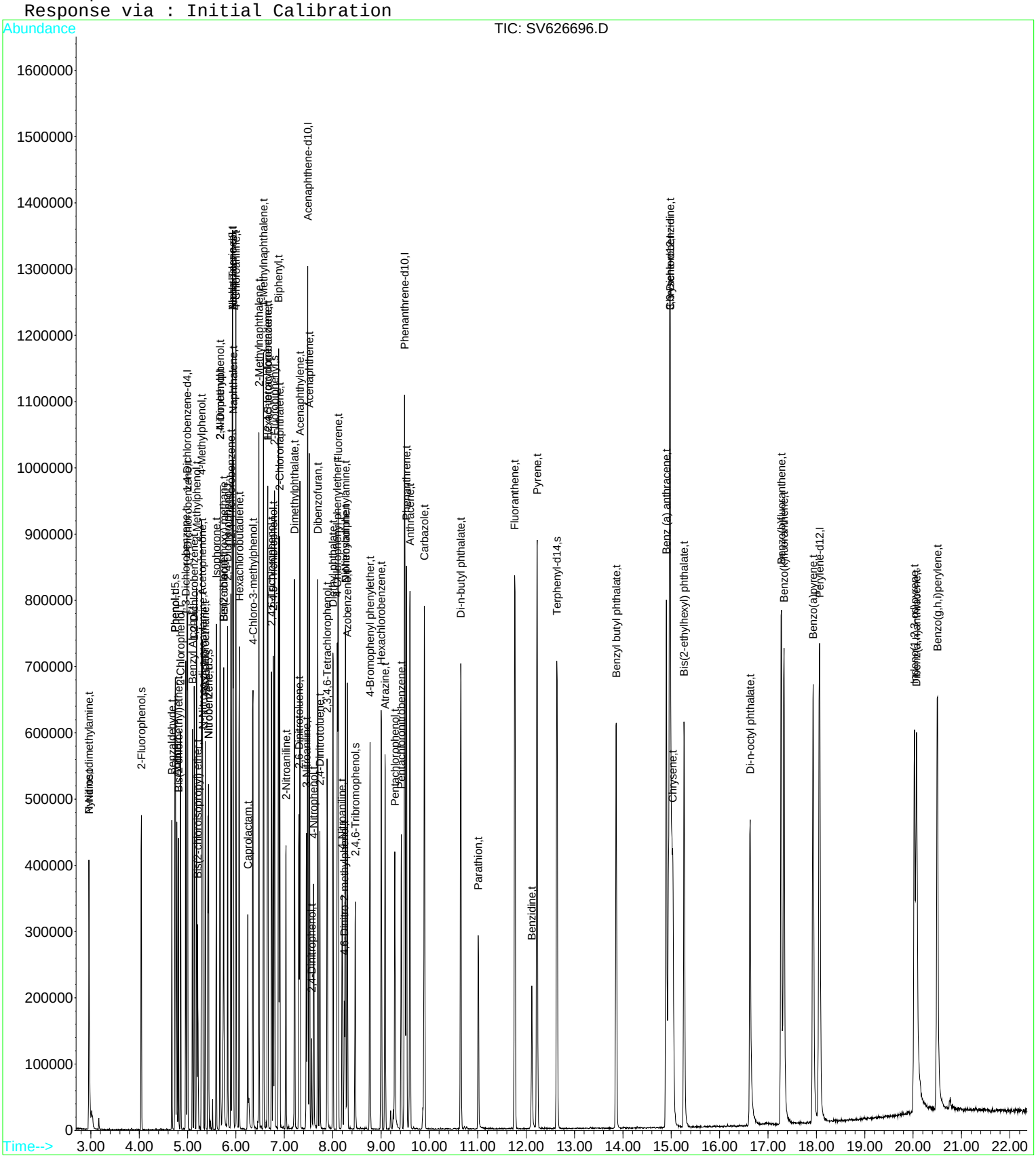
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	2,4,6-Trichlorophenol	6.74	196	833305	32.97	ug/mL	100
44)	2,4,5-Trichlorophenol	6.77	196	1028275	31.61	ug/mL	99
46)	2-Chloronaphthalene	6.91	162	2534033	28.05	ug/mL	100
47)	2-Nitroaniline	7.04	138	868469	31.18	ug/mL	100
48)	Dimethylphthalate	7.21	163	3304701	29.53	ug/mL	100
49)	2,6-Dinitrotoluene	7.30	165	628409	31.50	ug/mL	100
50)	Acenaphthylene	7.33	152	4071844	27.88	ug/mL	100
51)	3-Nitroaniline	7.46	138	761364	30.51	ug/mL	100
52)	Acenaphthene	7.52	154	2374726	28.25	ug/mL	100
53)	2,4-Dinitrophenol	7.57	184	197799	40.42	ug/mL	95
54)	Dibenzofuran	7.69	168	3618128	28.24	ug/mL	100
55)	2,4-Dinitrotoluene	7.74	165	864279	32.23	ug/mL	100
56)	4-Nitrophenol	7.61	65	484144	31.66	ug/mL	100
57)	2,3,4,6-Tetrachlorophenol	7.89	131	329523	33.80	ug/mL	97
58)	Diethyl phthalate	8.01	149	2978967	28.68	ug/mL	100
59)	Fluorene	8.12	166	2914595	28.03	ug/mL	100
60)	4-Chlorophenyl phenylether	8.10	204	1458120	30.69	ug/mL	100
61)	4-Nitroaniline	8.20	138	781914	30.21	ug/mL	99
63)	4,6-Dinitro-2-methylphenol	8.24	198	350088	39.20	ug/mL	100
64)	Diphenylamine	8.27	169	2164693	25.84	ug/mL	100
65)	N-Nitrosodiphenylamine	8.27	167	739324	26.14	ug/mL	100
66)	Azobenzene	8.30	77	2907549	28.00	ug/mL	100
68)	4-Bromophenyl phenylether	8.77	248	942927	30.87	ug/mL	100
69)	Atrazine	9.09	200	886988	28.39	ug/mL	100
70)	Hexachlorobenzene	9.01	142	380153	28.03	ug/mL	100
71)	Pentachlorophenol	9.29	266	669260	39.94	ug/mL	98
72)	Pentachloronitrobenzene	9.42	237	342847	33.49	ug/mL	100
73)	Phenanthrene	9.53	178	4187722	26.82	ug/mL	100
74)	Anthracene	9.60	178	4395933	26.70	ug/mL	100
75)	Carbazole	9.90	167	4478051	26.02	ug/mL#	96
76)	Di-n-butyl phthalate	10.65	149	5385255	26.37	ug/mL	100
77)	Parathion	11.01	97	390746	32.77	ug/mL#	97
78)	Fluoranthene	11.77	202	5054902	28.32	ug/mL	100
79)	Benzidine	12.12	184	1362376m	23.34	ug/mL	
81)	Pyrene	12.23	202	5453101	28.05	ug/mL	100
83)	Benzyl butyl phthalate	13.86	149	2454838	25.63	ug/mL	100
84)	Bis(2-ethylhexyl) phthalat	15.27	149	3305940	25.17	ug/mL	100
85)	Benz (a) anthracene	14.90	228	5103826	27.99	ug/mL	100
86)	3,3-Dichlorobenzidine	14.98	252	3552562	56.74	ug/mL	100
87)	Chrysene	15.03	228	5044237	28.99	ug/mL#	87
88)	Di-n-octyl phthalate	16.63	149	5205186	24.63	ug/mL	100
89)	Benzo(b)fluoranthene	17.28	252	5061448	28.23	ug/mL	100
90)	Benzo(k)fluoranthene	17.33	252	5520444	28.16	ug/mL	99
91)	Benzo(a)pyrene	17.93	252	5167458m	29.36	ug/mL	
93)	Indeno(1,2,3-cd)pyrene	20.03	276	6052464m	28.66	ug/mL	
94)	Dibenz(a,h)anthracene	20.07	278	5043351m	29.57	ug/mL	
95)	Benzo(g,h,i)perylene	20.50	276	5338577m	28.99	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626696.D Vial: 9
Acq On : 3 Oct 2019 4:39 pm Operator: SR
Sample : SEQ-CAL7 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:54 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626697.D Vial: 10
Acq On : 3 Oct 2019 5:11 pm Operator: SR
Sample : SEQ-CAL8 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:55 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1039927	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4568395	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.49	164	2477257	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4921869	40.00	ug/mL	0.00
80) Chrysene-d12	14.97	240	4896155	40.00	ug/mL	0.00
92) Perylene-d12	18.07	264	5857063	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	1676117	42.39	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 56.52%			
5) Phenol-d5	4.74	99	2119956	42.53	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 56.71%			
22) Nitrobenzene-d5	5.42	82	1508308	43.01	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 86.02%			
45) 2-Fluorobiphenyl	6.80	172	3413878	39.61	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 79.22%			
67) 2,4,6-Tribromophenol	8.47	330	602488	47.28	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 63.04%			
82) Terphenyl-d14	12.64	244	4898628	40.86	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 81.72%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	970785	42.30	ug/mL	100
3) Pyridine	2.96	79	1745739m	42.09	ug/mL	
6) Benzaldehyde	4.67	105	807609m	30.03	ug/mL	
7) Aniline	4.78	93	2247835	40.31	ug/mL	97
8) Phenol	4.75	94	2109007	42.34	ug/mL	99
9) Bis(2-chloroethyl)ether	4.82	93	1514687	41.61	ug/mL	98
10) 2-Chlorophenol	4.86	128	1663533	40.77	ug/mL	99
11) 1,3-Dichlorobenzene	4.96	146	1817970	39.15	ug/mL	99
12) 1,4-Dichlorobenzene	5.00	146	1749931	39.10	ug/mL	99
13) Benzyl Alcohol	5.10	108	1012428	42.38	ug/mL	99
14) 1,2-Dichlorobenzene	5.14	146	1710106	39.18	ug/mL	98
15) 2-Methylphenol	5.19	107	1442206	39.90	ug/mL	99
16) Acetophenone	5.31	105	2198284	40.29	ug/mL	98
17) Bis(2-chloroisopropyl) eth	5.21	45	1093177m	30.02	ug/mL	
18) N-Nitroso-di-n-propylamine	5.32	70	995247	41.32	ug/mL	98
19) 4-Methylphenol	5.29	107	2244385	40.30	ug/mL	99
20) Hexachloroethane	5.37	117	728574	43.12	ug/mL	97
23) Nitrobenzene	5.44	77	1562943	40.78	ug/mL	99
24) Isophorone	5.60	82	3008299	40.54	ug/mL	100
25) 2-Nitrophenol	5.67	139	828778	44.06	ug/mL	96
26) 2,4-Dimethylphenol	5.68	122	1571666	41.44	ug/mL	98
27) Bis(2-chloroethoxy) methan	5.75	93	1841862	39.98	ug/mL	99
28) Benzoic acid	5.75	105	1289086	51.53	ug/mL	95
29) 2,4-Dichlorophenol	5.83	162	1378449	39.60	ug/mL	99
30) 1,2,4-Trichlorobenzene	5.90	180	1511469	38.93	ug/mL	99
31) Alpha-Terpineol	5.92	59	909497	34.73	ug/mL	63
32) Naphthalene	5.95	128	4366346	37.87	ug/mL	100
33) 4-Chloroaniline	6.00	127	2173433	39.56	ug/mL	99
34) Hexachlorobutadiene	6.07	225	879392	45.13	ug/mL	99
35) Caprolactam	6.25	113	631198	39.54	ug/mL	98
36) 4-Chloro-3-methylphenol	6.35	107	1509713	41.29	ug/mL	100
37) 1-Methylnaphthalene	6.57	141	2982994	36.34	ug/mL	98
38) 2-Methylnaphthalene	6.48	142	3078029	37.27	ug/mL	99
40) 1,2,4,5-tetrachlorobenzene	6.66	216	1447110	48.43	ug/mL	98
41) Hexachlorocyclopentadiene	6.66	237	994388	51.87	ug/mL	100
42) Biphenyl	6.89	153	1626013	39.93	ug/mL	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626697.D Vial: 10
Acq On : 3 Oct 2019 5:11 pm Operator: SR
Sample : SEQ-CAL8 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:55 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 09:30:42 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

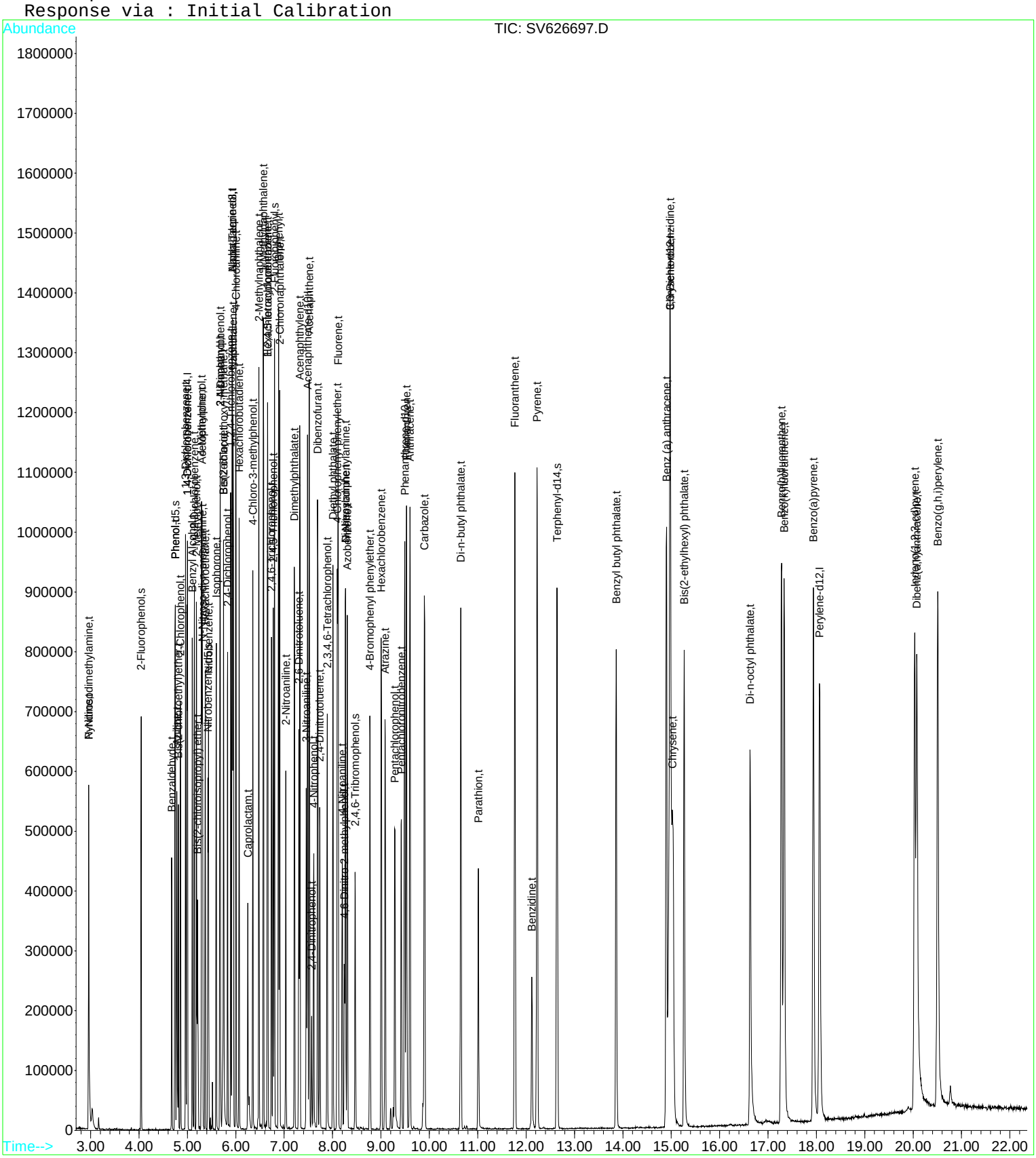
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.74	196	1034328	46.15 ug/mL	99
44) 2,4,5-Trichlorophenol	6.77	196	1274554	44.18 ug/mL	98
46) 2-Chloronaphthalene	6.91	162	3135065	39.13 ug/mL	96
47) 2-Nitroaniline	7.04	138	1114242	45.11 ug/mL	98
48) Dimethylphthalate	7.22	163	4012424	40.43 ug/mL	99
49) 2,6-Dinitrotoluene	7.30	165	856271	48.41 ug/mL	97
50) Acenaphthylene	7.33	152	5062318	39.08 ug/mL	100
51) 3-Nitroaniline	7.46	138	974692	44.04 ug/mL	99
52) Acenaphthene	7.52	154	2986976	40.08 ug/mL	99
53) 2,4-Dinitrophenol	7.57	184	278993	64.29 ug/mL	94
54) Dibenzofuran	7.70	168	4581897	40.33 ug/mL	99
55) 2,4-Dinitrotoluene	7.74	165	1124389	47.28 ug/mL	98
56) 4-Nitrophenol	7.61	65	631091	46.54 ug/mL	97
57) 2,3,4,6-Tetrachlorophenol	7.89	131	421920	48.80 ug/mL	99
58) Diethyl phthalate	8.01	149	3718760	40.37 ug/mL	100
59) Fluorene	8.12	166	3626225	39.33 ug/mL	99
60) 4-Chlorophenyl phenylether	8.10	204	1781495	42.29 ug/mL	100
61) 4-Nitroaniline	8.20	138	985176	42.92 ug/mL	99
63) 4,6-Dinitro-2-methylphenol	8.25	198	483358	59.95 ug/mL	97
64) Diphenylamine	8.27	169	2684798	35.49 ug/mL	99
65) N-Nitrosodiphenylamine	8.27	167	929943	36.42 ug/mL	98
66) Azobenzene	8.31	77	3602808	38.42 ug/mL	99
68) 4-Bromophenyl phenylether	8.78	248	1174859	42.59 ug/mL	98
69) Atrazine	9.09	200	1119767	39.69 ug/mL	96
70) Hexachlorobenzene	9.01	142	481971	39.35 ug/mL	98
71) Pentachlorophenol	9.29	266	842548m	55.69 ug/mL	
72) Pentachloronitrobenzene	9.42	237	435163	47.07 ug/mL	95
73) Phenanthrene	9.53	178	5134138	36.42 ug/mL	99
74) Anthracene	9.60	178	5492764	36.95 ug/mL	99
75) Carbazole	9.90	167	5517520	35.50 ug/mL#	100
76) Di-n-butyl phthalate	10.65	149	6620670	35.90 ug/mL	100
77) Parathion	11.01	97	567297	52.68 ug/mL#	94
78) Fluoranthene	11.77	202	6404205	39.74 ug/mL	99
79) Benzidine	12.12	184	1639085m	31.10 ug/mL	
81) Pyrene	12.23	202	6730887	37.41 ug/mL	100
83) Benzyl butyl phthalate	13.86	149	3080964	34.74 ug/mL	99
84) Bis(2-ethylhexyl) phthalat	15.27	149	4204887	34.58 ug/mL	100
85) Benz (a) anthracene	14.90	228	6582980	39.00 ug/mL	99
86) 3,3-Dichlorobenzidine	14.98	252	4411581	76.11 ug/mL	99
87) Chrysene	15.03	228	6397555	39.72 ug/mL	100
88) Di-n-octyl phthalate	16.63	149	6820964	34.87 ug/mL	98
89) Benzo(b)fluoranthene	17.28	252	6621010	39.90 ug/mL	99
90) Benzo(k)fluoranthene	17.34	252	7265308	40.03 ug/mL	99
91) Benzo(a)pyrene	17.94	252	6354575	39.01 ug/mL	99
93) Indeno(1,2,3-cd)pyrene	20.03	276	8418001	41.48 ug/mL#	98
94) Dibenz(a,h)anthracene	20.08	278	6811755	41.57 ug/mL	96
95) Benzo(g,h,i)perylene	20.51	276	7268060	41.07 ug/mL	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626697.D Vial: 10
Acq On : 3 Oct 2019 5:11 pm Operator: SR
Sample : SEQ-CAL8 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 13:55 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90006 **Laboratory ID:** Y9J0432-SCV1

Sequence: Y9J0432 **Standard ID:** Y19I152

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
1,2,4-Trichlorobenzene	30.0	28.0	-6.6	30.00
1,2-Dichlorobenzene	30.0	27.1	-9.7	30.00
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.7	-7.8	30.00
1,3-Dichlorobenzene	30.0	27.3	-9.1	30.00
1,4-Dichlorobenzene	30.0	27.0	-10.0	30.00
1-Methylnaphthalene	30.0	26.6	-11.5	30.00
2,4,5-Trichlorophenol	30.0	27.2	-9.4	30.00
2,4,6-Trichlorophenol	30.0	30.8	2.8	30.00
2,4-Dichlorophenol	30.0	31.8	6.0	30.00
2,4-Dimethylphenol	30.0	30.8	2.8	30.00
2,4-Dinitrophenol	30.0	44.5	48.2 *	30.00
2,4-Dinitrotoluene	30.0	32.9	9.6	30.00
2,6-Dinitrotoluene	30.0	35.5	18.2	30.00
2-Chloronaphthalene	30.0	28.6	-4.6	30.00
2-Chlorophenol	30.0	29.9	-0.2	30.00
2-Methylnaphthalene	30.0	32.8	9.4	30.00
2-Methylphenol	30.0	26.7	-11.0	30.00
2-Nitroaniline	30.0	31.9	6.3	30.00
2-Nitrophenol	30.0	37.3	24.2	30.00
3- & 4-Methylphenols	30.0	23.5	-21.7	30.00
3-Nitroaniline	30.0	31.9	6.4	30.00
4,6-Dinitro-2-methylphenol	30.0	44.1	47.1 *	30.00
4-Bromophenyl phenyl ether	30.0	30.0	0.2	30.00
4-Chloro-3-methylphenol	30.0	30.9	2.9	30.00
4-Chloroaniline	30.0	30.5	1.7	30.00
4-Chlorophenyl phenyl ether	30.0	28.8	-3.8	30.00
4-Nitroaniline	30.0	34.3	14.3	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90006 **Laboratory ID:** Y9J0432-SCV1

Sequence: Y9J0432 **Standard ID:** Y19I152

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
4-Nitrophenol	30.0	32.5	8.4	30.00
Acenaphthene	30.0	28.7	-4.3	30.00
Acenaphthylene	30.0	27.9	-7.1	30.00
Aniline	30.0	31.8	5.8	30.00
Anthracene	30.0	30.0	-0.07	30.00
Benzo(a)anthracene	30.0	30.0	0.0	30.00
Benzo(a)pyrene	30.0	34.5	15.0	30.00
Benzo(b)fluoranthene	30.0	32.1	6.9	30.00
Benzo(g,h,i)perylene	30.0	32.9	9.8	30.00
Benzo(k)fluoranthene	30.0	30.0	0.2	30.00
Benzyl alcohol	30.0	33.0	10.0	30.00
Benzyl butyl phthalate	30.0	29.9	-0.3	30.00
Bis(2-chloroethoxy)methane	30.0	31.4	4.6	30.00
Bis(2-chloroethyl)ether	30.0	31.0	3.4	30.00
Bis(2-chloroisopropyl)ether	30.0	34.8	16.1	30.00
Bis(2-ethylhexyl)phthalate	30.0	30.3	1.0	30.00
Carbazole	30.0	29.3	-2.2	30.00
Chrysene	30.0	29.6	-1.2	30.00
Cresols, total	60.0	50.2	-16.3	30.00
Dibenzo(a,h)anthracene	30.0	32.1	6.9	30.00
Dibenzofuran	30.0	28.8	-4.1	30.00
Diethyl phthalate	30.0	28.4	-5.4	30.00
Dimethyl phthalate	30.0	26.4	-12.2	30.00
Di-n-butyl phthalate	30.0	29.9	-0.5	30.00
Di-n-octyl phthalate	30.0	31.4	4.8	30.00
Diphenylamine	30.0	35.5	18.3	30.00
Fluoranthene	30.0	30.3	1.1	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YJ90006 **Laboratory ID:** Y9J0432-SCV1

Sequence: Y9J0432 **Standard ID:** Y19I152

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
Fluorene	30.0	28.9	-3.7	30.00
Hexachlorobenzene	30.0	29.3	-2.3	30.00
Hexachlorobutadiene	30.0	29.0	-3.4	30.00
Hexachlorocyclopentadiene	30.0	30.2	0.6	30.00
Hexachloroethane	30.0	28.3	-5.6	30.00
Indeno(1,2,3-cd)pyrene	30.0	31.7	5.6	30.00
Isophorone	30.0	31.4	4.7	30.00
Naphthalene	30.0	30.0	0.2	30.00
Nitrobenzene	30.0	29.7	-0.9	30.00
N-Nitrosodimethylamine	30.0	31.1	3.7	30.00
N-nitroso-di-n-propylamine	30.0	29.6	-1.3	30.00
N-Nitrosodiphenylamine	30.0	35.6	18.5	30.00
Pentachlorophenol	30.0	34.3	14.5	30.00
Phenanthrene	30.0	29.8	-0.5	30.00
Phenol	30.0	31.0	3.3	30.00
Pyrene	30.0	30.0	0.07	30.00
Pyridine	30.0	27.9	-6.9	30.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626698.D Vial: 11
Acq On : 3 Oct 2019 5:43 pm Operator: SR
Sample : SEQ-SCV1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 14:06 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.99	152	1051564	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4137183	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.49	164	2416239	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	4698311	40.00	ug/mL	0.00
80) Chrysene-d12	14.95	240	4629686	40.00	ug/mL	0.01
92) Perylene-d12	18.07	264	5653573	40.00	ug/mL	0.01
System Monitoring Compounds						
4) 2-Fluorophenol	0.00	112	0	0.00	ug/mL	
Spiked Amount 75.000	Range 15 - 87		Recovery =	0.00%#		
5) Phenol-d5	0.00	99	0d	0.00	ug/mL	
Spiked Amount 75.000	Range 10 - 100		Recovery =	0.00%#		
22) Nitrobenzene-d5	0.00	82	0d	0.00	ug/mL	
Spiked Amount 50.000	Range 26 - 120		Recovery =	0.00%#		
45) 2-Fluorobiphenyl	0.00	172	0	0.00	ug/mL	
Spiked Amount 50.000	Range 29 - 120		Recovery =	0.00%#		
67) 2,4,6-Tribromophenol	0.00	330	0	0.00	ug/mL	
Spiked Amount 75.000	Range 35 - 126		Recovery =	0.00%#		
82) Terphenyl-d14	0.00	244	0	0.00	ug/mL	
Spiked Amount 50.000	Range 35 - 127		Recovery =	0.00%#		
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.96	74	721403	31.11	ug/mL	98
3) Pyridine	2.96	79	1241636m	27.92	ug/mL	
7) Aniline	4.78	93	1812562	31.75	ug/mL	99
8) Phenol	4.75	94	1573106	30.99	ug/mL	95
9) Bis(2-chloroethyl)ether	4.82	93	1134229	31.02	ug/mL	98
10) 2-Chlorophenol	4.86	128	1217354	29.93	ug/mL	99
11) 1,3-Dichlorobenzene	4.96	146	1264688	27.28	ug/mL	99
12) 1,4-Dichlorobenzene	5.00	146	1230352	27.01	ug/mL	99
13) Benzyl Alcohol	5.10	108	796083	33.01	ug/mL	97
14) 1,2-Dichlorobenzene	5.14	146	1199558	27.09	ug/mL	99
15) 2-Methylphenol	5.19	107	969563	26.70	ug/mL	98
17) Bis(2-chloroisopropyl) eth	5.21	45	997062	34.82	ug/mL#	91
18) N-Nitroso-di-n-propylamine	5.32	70	735966	29.60	ug/mL	88
19) 4-Methylphenol	5.29	107	1283569	23.50	ug/mL#	59
20) Hexachloroethane	5.37	117	503929	28.33	ug/mL	99
23) Nitrobenzene	5.44	77	1066605	29.74	ug/mL	97
24) Isophorone	5.60	82	2248879	31.42	ug/mL	100
25) 2-Nitrophenol	5.67	139	578402	37.26	ug/mL	95
26) 2,4-Dimethylphenol	5.68	122	1096820	30.85	ug/mL	98
27) Bis(2-chloroethoxy) methan	5.75	93	1426875	31.37	ug/mL	98
29) 2,4-Dichlorophenol	5.83	162	981596	31.80	ug/mL	99
30) 1,2,4-Trichlorobenzene	5.90	180	1063138	28.03	ug/mL	99
32) Naphthalene	5.95	128	3287132	30.05	ug/mL	99
33) 4-Chloroaniline	6.00	127	1541623	30.52	ug/mL	99
34) Hexachlorobutadiene	6.07	225	592890	28.98	ug/mL	98
36) 4-Chloro-3-methylphenol	6.35	107	1066499	30.88	ug/mL	98
37) 1-Methylnaphthalene	6.57	141	1949325	26.56	ug/mL	100
38) 2-Methylnaphthalene	6.48	142	2455211	32.81	ug/mL	100
41) Hexachlorocyclopentadiene	6.67	237	668102	30.17	ug/mL	99
43) 2,4,6-Trichlorophenol	6.74	196	705929	30.85	ug/mL	99
44) 2,4,5-Trichlorophenol	6.77	196	801679	27.18	ug/mL	98
46) 2-Chloronaphthalene	6.91	162	2259550	28.61	ug/mL	96
47) 2-Nitroaniline	7.04	138	727469	31.89	ug/mL	98
48) Dimethylphthalate	7.22	163	2962417	26.35	ug/mL	100
49) 2,6-Dinitrotoluene	7.30	165	603856	35.46	ug/mL	94
50) Acenaphthylene	7.33	152	3484259	27.86	ug/mL	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100319A\SV626698.D Vial: 11
Acq On : 3 Oct 2019 5:43 pm Operator: SR
Sample : SEQ-SCV1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 14:06 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

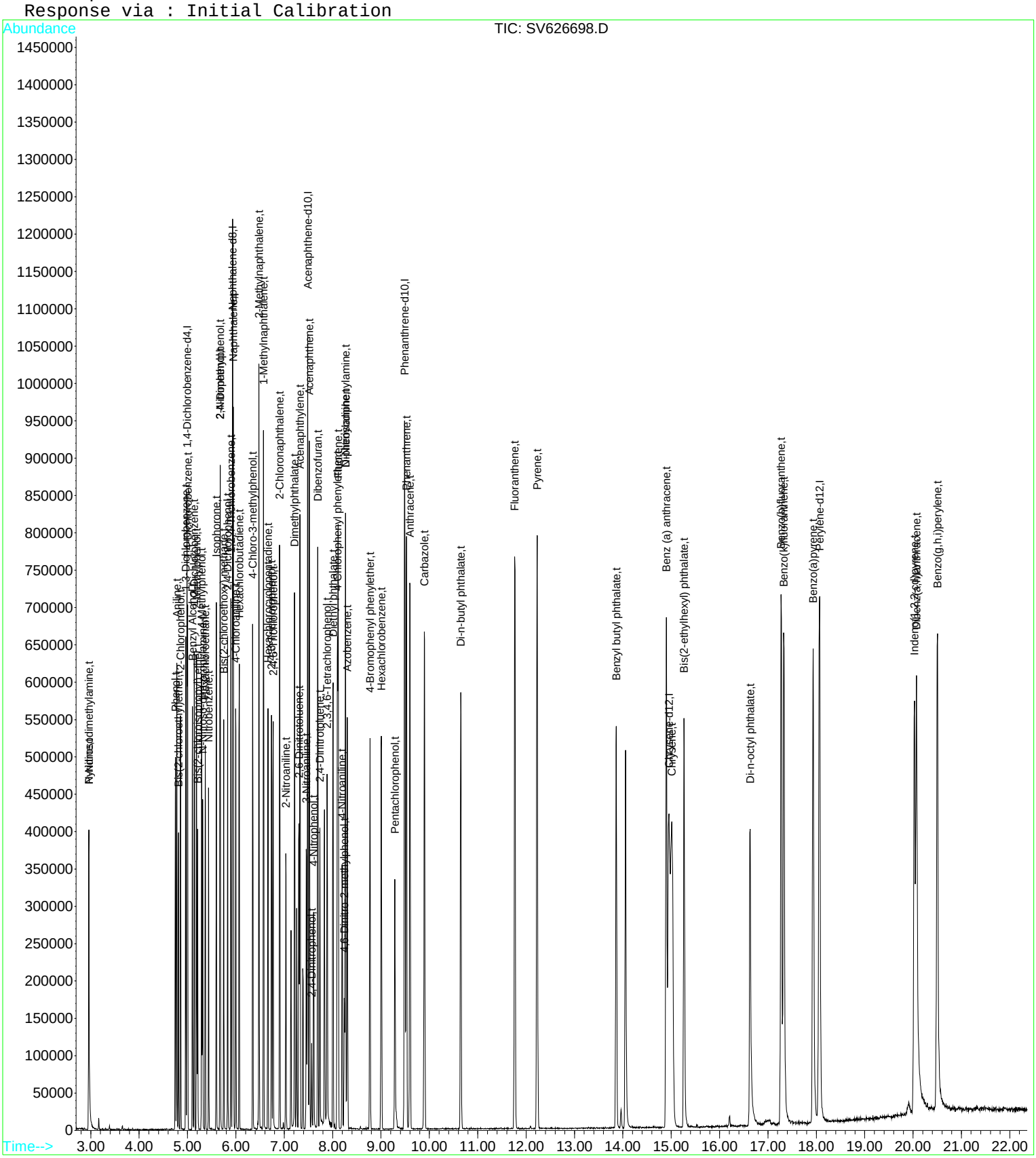
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
51)	3-Nitroaniline	7.46	138	675888	31.92	ug/mL	99
52)	Acenaphthene	7.52	154	2053048	28.71	ug/mL	99
53)	2,4-Dinitrophenol	7.57	184	174286	44.47	ug/mL	93
54)	Dibenzofuran	7.70	168	3251460	28.76	ug/mL	99
55)	2,4-Dinitrotoluene	7.74	165	728650	32.89	ug/mL	98
56)	4-Nitrophenol	7.61	65	412218	32.53	ug/mL	95
57)	2,3,4,6-Tetrachlorophenol	7.89	131	291372	33.75	ug/mL	95
58)	Diethyl phthalate	8.01	149	2534511	28.37	ug/mL	98
59)	Fluorene	8.12	166	2578246	28.90	ug/mL	100
60)	4-Chlorophenyl phenylether	8.10	204	1285343	28.85	ug/mL	100
61)	4-Nitroaniline	8.20	138	724662	34.29	ug/mL	98
63)	4,6-Dinitro-2-methylphenol	8.24	198	307020	44.14	ug/mL	99
64)	Diphenylamine	8.27	169	2299056	35.50	ug/mL	99
65)	N-Nitrosodiphenylamine	8.27	167	797558	35.55	ug/mL	98
66)	Azobenzene	8.31	77	2440510	27.67	ug/mL	100
68)	4-Bromophenyl phenylether	8.78	248	827017	30.05	ug/mL	99
70)	Hexachlorobenzene	9.01	142	331158	29.32	ug/mL	94
71)	Pentachlorophenol	9.29	266	538142m	34.34	ug/mL	
73)	Phenanthrene	9.53	178	3843228	29.85	ug/mL	99
74)	Anthracene	9.60	178	3956639	29.98	ug/mL	99
75)	Carbazole	9.90	167	3933526	29.34	ug/mL#	92
76)	Di-n-butyl phthalate	10.65	149	4551319	29.86	ug/mL	100
78)	Fluoranthene	11.77	202	4577112	30.32	ug/mL	99
81)	Pyrene	12.23	202	4868703	30.02	ug/mL	99
83)	Benzyl butyl phthalate	13.86	149	2092509	29.90	ug/mL	100
84)	Bis(2-ethylhexyl) phthalat	15.27	149	2834963	30.31	ug/mL	100
85)	Benz (a) anthracene	14.90	228	4624453	30.00	ug/mL	99
87)	Chrysene	15.02	228	4584212	29.63	ug/mL#	90
88)	Di-n-octyl phthalate	16.63	149	4542011	31.44	ug/mL	98
89)	Benzo(b)fluoranthene	17.28	252	4729488	32.06	ug/mL	99
90)	Benzo(k)fluoranthene	17.33	252	5155432	30.05	ug/mL	99
91)	Benzo(a)pyrene	17.93	252	5043055m	34.50	ug/mL	
93)	Indeno(1,2,3-cd)pyrene	20.03	276	5893602	31.69	ug/mL#	94
94)	Dibenz(a,h)anthracene	20.07	278	4835650	32.07	ug/mL	94
95)	Benzo(g,h,i)perylene	20.50	276	5472487m	32.94	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100319A\SV626698.D Vial: 11
Acq On : 3 Oct 2019 5:43 pm Operator: SR
Sample : SEQ-SCV1 Inst : BNA#6
Misc : QBSV6100319A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 4 14:06 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626728.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0808	Injection Date:	10/07/19
Lab Sample ID:	Y9J0808-CCV1	Injection Time:	10:07

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1-Biphenyl	A	30.0	27.5	0.682449	0.6251255	0.01	-8.4	20	
1,2,4,5-Tetrachlorobenzene	A	30.0	29.1	0.5924437	0.5743597	0.01	-3.1	20	
1,2,4-Trichlorobenzene	A	30.0	29.1	0.3667611	0.3556546		-3.0	20	
1,2-Dichlorobenzene	A	30.0	28.7	1.684338	1.60905		-4.5	20	
1,2-Diphenylhydrazine (as Azobenzene)	A	30.0	28.7	0.7510417	0.7194524		-4.2	20	
1,3-Dichlorobenzene	A	30.0	29.2	1.763563	1.716944		-2.6	20	
1,4-Dichlorobenzene	A	30.0	28.6	1.732502	1.651107		-4.7	20	
1-Methylnaphthalene	A	30.0	27.4	0.7097171	0.6478738		-8.7	20	
2,3,4,6-Tetrachlorophenol	A	30.0	34.0	0.1429277	0.1618292	0.01	13.2	20	
2,4,5-Trichlorophenol	A	30.0	30.9	0.4882538	0.5032783	0.2	3.1	20	
2,4,6-Trichlorophenol	A	30.0	32.9	0.3788718	0.4150532	0.2	9.5	20	
2,4-Dichlorophenol	A	30.0	32.2	0.2984135	0.3198622	0.2	7.2	20	
2,4-Dimethylphenol	A	30.0	29.9	0.3437007	0.3425679	0.2	-0.3	20	
2,4-Dinitrophenol	A	30.0	64.6	6.488317E-02	0.1396183	0.01	115	20	*
2,4-Dinitrotoluene	A	30.0	38.1	0.3667022	0.4654086	0.2	26.9	20	*
2,6-Dinitrotoluene	A	30.0	35.3	0.2819212	0.3314403	0.2	17.6	20	
2-Chloronaphthalene	A	30.0	28.5	1.307336	1.240826	0.8	-5.1	20	
2-Chlorophenol	A	30.0	31.5	1.54726	1.62244	0.8	4.9	20	
2-Methylnaphthalene	A	30.0	29.8	0.7234622	0.7177495	0.4	-0.8	20	
2-Methylphenol	A	30.0	29.6	1.381107	1.361398	0.7	-1.4	20	
2-Nitroaniline	A	30.0	36.9	0.3776633	0.4642926	0.01	22.9	20	*
2-Nitrophenol	A	30.0	40.9	0.1501023	0.2048195	0.1	36.5	20	*
3- & 4-Methylphenols	A	30.0	29.3	2.077554	2.029731	0.6	-2.3	20	
3,3-Dichlorobenzidine	A	60.0	56.0	0.4545644	0.4239907	0.01	-6.7	20	
3-Nitroaniline	A	30.0	34.3	0.3505155	0.4009621	0.01	14.4	20	
4,6-Dinitro-2-methylphenol	A	30.0	63.5	5.921381E-02	0.125336	0.01	112	20	*
4-Bromophenyl phenyl ether	A	30.0	31.0	0.2343375	0.2420696	0.1	3.3	20	
4-Chloro-3-methylphenol	A	30.0	30.7	0.3338666	0.3421349	0.2	2.5	20	
4-Chloroaniline	A	30.0	29.6	0.4884335	0.4823846	0.01	-1.2	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626728.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0808	Injection Date:	10/07/19
Lab Sample ID:	Y9J0808-CCV1	Injection Time:	10:07

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4-Chlorophenyl phenyl ether	A	30.0	28.6	0.7374673	0.7034182	0.4	-4.6	20	
4-Nitroaniline	A	30.0	34.2	0.3498338	0.3993736	0.01	14.2	20	
4-Nitrophenol	A	30.0	35.9	0.2097507	0.2512556	0.01	19.8	20	
Acenaphthene	A	30.0	29.5	1.183811	1.164424	0.9	-1.6	20	
Acenaphthylene	A	30.0	28.5	2.070423	1.964372	0.9	-5.1	20	
Acetophenone	A	30.0	25.8	2.200956	1.894011	0.01	-13.9	20	
Alpha Terpineol	A	30.0	26.8	0.2220411	0.1986838		-10.5	20	
Aniline	A	30.0	27.7	2.171506	2.007404		-7.6	20	
Anthracene	A	30.0	31.8	1.123613	1.192825	0.7	6.2	20	
Atrazine	A	30.0	21.9	0.2399697	0.174901	0.01	-27.1	20	*
Benzaldehyde	A	30.0	19.8	1.097069	0.7257133	0.01	-33.8	20	*
Benzidine	A	30.0	22.6	0.3790551	0.2851982		-24.8	20	*
Benzo(a)anthracene	A	30.0	31.8	1.331902	1.410876	0.8	5.9	20	
Benzo(a)pyrene	A	30.0	33.5	1.262887	1.411246	0.7	11.7	20	
Benzo(b)fluoranthene	A	30.0	33.7	1.274452	1.432463	0.7	12.4	20	
Benzo(g,h,i)perylene	A	30.0	30.2	1.175354	1.181824	0.5	0.6	20	
Benzo(k)fluoranthene	A	30.0	30.6	1.48252	1.509463	0.7	1.8	20	
Benzoic acid	A	30.0	36.5	0.2342796	0.2848363		21.6	20	*
Benzyl alcohol	A	30.0	31.6	0.9174889	0.9666717		5.4	20	
Benzyl butyl phthalate	A	30.0	33.2	0.6046501	0.6700114		10.8	20	
Bis(2-chloroethoxy)methane	A	30.0	26.9	0.4397865	0.3948391	0.3	-10.2	20	
Bis(2-chloroethyl)ether	A	30.0	27.9	1.390802	1.291608	0.7	-7.1	20	
Bis(2-chloroisopropyl)ether	A	30.0	25.6	1.08933	0.9276287	0.01	-14.8	20	
Bis(2-ethylhexyl)phthalate	A	30.0	34.3	0.8079809	0.9237233		14.3	20	
Caprolactam	A	30.0	29.4	0.1433643	0.1406467	0.01	-1.9	20	
Carbazole	A	30.0	30.6	1.141478	1.166279	0.01	2.2	20	
Chrysene	A	30.0	30.2	1.336622	1.346406	0.7	0.7	20	
Dibenzo(a,h)anthracene	A	30.0	31.4	1.066791	1.115236	0.4	4.5	20	
Dibenzofuran	A	30.0	28.4	1.871852	1.768628	0.8	-5.5	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626728.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0808	Injection Date:	10/07/19
Lab Sample ID:	Y9J0808-CCV1	Injection Time:	10:07

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Diethyl phthalate	A	30.0	29.1	1.478744	1.436197	0.01	-2.9	20	
Dimethyl phthalate	A	30.0	23.5	1.861507	1.458262	0.01	-21.7	20	*
Di-n-butyl phthalate	A	30.0	33.3	1.297859	1.439356	0.01	10.9	20	
Di-n-octyl phthalate	A	30.0	37.5	1.24818	1.561577	0.01	25.1	20	*
Fluoranthene	A	30.0	32.2	1.285305	1.381602	0.6	7.5	20	
Fluorene	A	30.0	29.0	1.476831	1.428691	0.9	-3.3	20	
Hexachlorobenzene	A	30.0	29.8	9.614277E-02	9.536236E-02	0.1	-0.8	20	
Hexachlorobutadiene	A	30.0	31.4	0.1978041	0.2072323	0.01	4.8	20	
Hexachlorocyclopentadiene	A	30.0	35.0	0.3666021	0.4280589	0.05	16.8	20	
Hexachloroethane	A	30.0	30.3	0.6765051	0.6835525	0.3	1.0	20	
Indeno(1,2,3-cd)pyrene	A	30.0	32.2	1.31601	1.410981	0.5	7.2	20	
Isophorone	A	30.0	27.8	0.6919659	0.6411349	0.4	-7.3	20	
Naphthalene	A	30.0	27.9	1.057448	0.984143	0.7	-6.9	20	
Nitrobenzene	A	30.0	30.2	0.3467544	0.3495699	0.2	0.8	20	
N-Nitrosodimethylamine	A	30.0	28.3	0.8820671	0.8311825		-5.8	20	
N-nitroso-di-n-propylamine	A	30.0	27.9	0.9458731	0.8802972	0.5	-6.9	20	
N-Nitrosodiphenylamine	A	30.0	31.0	0.1909876	0.197643	0.01	3.5	20	
Parathion	A	30.0	50.3	0.1596961	0.1338757		-16.2	20	
Pentachloronitrobenzene	A	30.0	34.4	8.356038E-02	9.591968E-02		14.8	20	
Pentachlorophenol	A	30.0	39.8	0.1334032	0.1767756	0.05	32.5	20	*
Phenanthrene	A	30.0	30.1	1.096167	1.100612	0.7	0.4	20	
Phenol	A	30.0	28.6	1.93061	1.842189	0.8	-4.6	20	
Pyrene	A	30.0	30.0	1.401174	1.399718	0.6	-0.1	20	
Pyridine	A	30.0	28.0	1.691324	1.577879		-6.7	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626728.D Vial: 2
Acq On : 7 Oct 2019 10:07 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100719A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 7 10:31 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1310727	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5413365	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3140982	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.49	188	5811112	40.00	ug/mL	0.00
80) Chrysene-d12	14.94	240	5986891	40.00	ug/mL	0.00
92) Perylene-d12	18.05	264	7460584	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	1518959	29.93	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 39.91%			
5) Phenol-d5	4.74	99	1909782	30.13	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 40.17%			
22) Nitrobenzene-d5	5.41	82	1383216	31.60	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 63.20%			
45) 2-Fluorobiphenyl	6.79	172	3072527	27.38	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 54.76%			
67) 2,4,6-Tribromophenol	8.47	330	560133	37.83	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 50.44%			
82) Terphenyl-d14	12.63	244	4595895	30.85	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 61.70%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.94	74	817090	28.27	ug/mL	99
3) Pyridine	2.94	79	1551126m	27.99	ug/mL	
6) Benzaldehyde	4.67	105	713409	19.85	ug/mL	93
7) Aniline	4.77	93	1973369	27.73	ug/mL	99
8) Phenol	4.75	94	1810955	28.63	ug/mL	97
9) Bis(2-chloroethyl)ether	4.80	93	1269709	27.86	ug/mL	99
10) 2-Chlorophenol	4.85	128	1594932	31.46	ug/mL	98
11) 1,3-Dichlorobenzene	4.96	146	1687834	29.21	ug/mL	98
12) 1,4-Dichlorobenzene	4.99	146	1623113	28.59	ug/mL	99
13) Benzyl Alcohol	5.09	108	950282	31.61	ug/mL	97
14) 1,2-Dichlorobenzene	5.13	146	1581769	28.66	ug/mL	99
15) 2-Methylphenol	5.19	107	1338316	29.57	ug/mL#	89
16) Acetophenone	5.30	105	1861899	25.82	ug/mL	98
17) Bis(2-chloroisopropyl) eth	5.20	45	911901	25.55	ug/mL#	49
18) N-Nitroso-di-n-propylamine	5.31	70	865372	27.92	ug/mL	95
19) 4-Methylphenol	5.29	107	1995317	29.31	ug/mL	95
20) Hexachloroethane	5.36	117	671963	30.31	ug/mL	98
23) Nitrobenzene	5.43	77	1419262	30.24	ug/mL	98
24) Isophorone	5.59	82	2603023	27.80	ug/mL	98
25) 2-Nitrophenol	5.66	139	831572	40.94	ug/mL	90
26) 2,4-Dimethylphenol	5.67	122	1390834	29.90	ug/mL	97
27) Bis(2-chloroethoxy) methan	5.74	93	1603056	26.93	ug/mL	99
28) Benzoic acid	5.74	105	1156442m	36.47	ug/mL	
29) 2,4-Dichlorophenol	5.83	162	1298648	32.16	ug/mL	98
30) 1,2,4-Trichlorobenzene	5.89	180	1443966	29.09	ug/mL	99
31) Alpha-Terpineol	5.92	59	806661	26.84	ug/mL	92
32) Naphthalene	5.94	128	3995644	27.92	ug/mL	99
33) 4-Chloroaniline	5.99	127	1958493	29.63	ug/mL	98
34) Hexachlorobutadiene	6.06	225	841368	31.43	ug/mL	98
35) Caprolactam	6.25	113	571029	29.43	ug/mL	98
36) 4-Chloro-3-methylphenol	6.35	107	1389076	30.74	ug/mL	97
37) 1-Methylnaphthalene	6.57	141	2630383	27.39	ug/mL	98
38) 2-Methylnaphthalene	6.47	142	2914080	29.76	ug/mL	97
40) 1,2,4,5-tetrachlorobenzene	6.65	216	1353040	29.08	ug/mL	97
41) Hexachlorocyclopentadiene	6.66	237	1008394	35.03	ug/mL	99
42) Biphenyl	6.88	153	1472631	27.48	ug/mL	100

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626728.D Vial: 2
Acq On : 7 Oct 2019 10:07 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100719A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 7 10:31 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

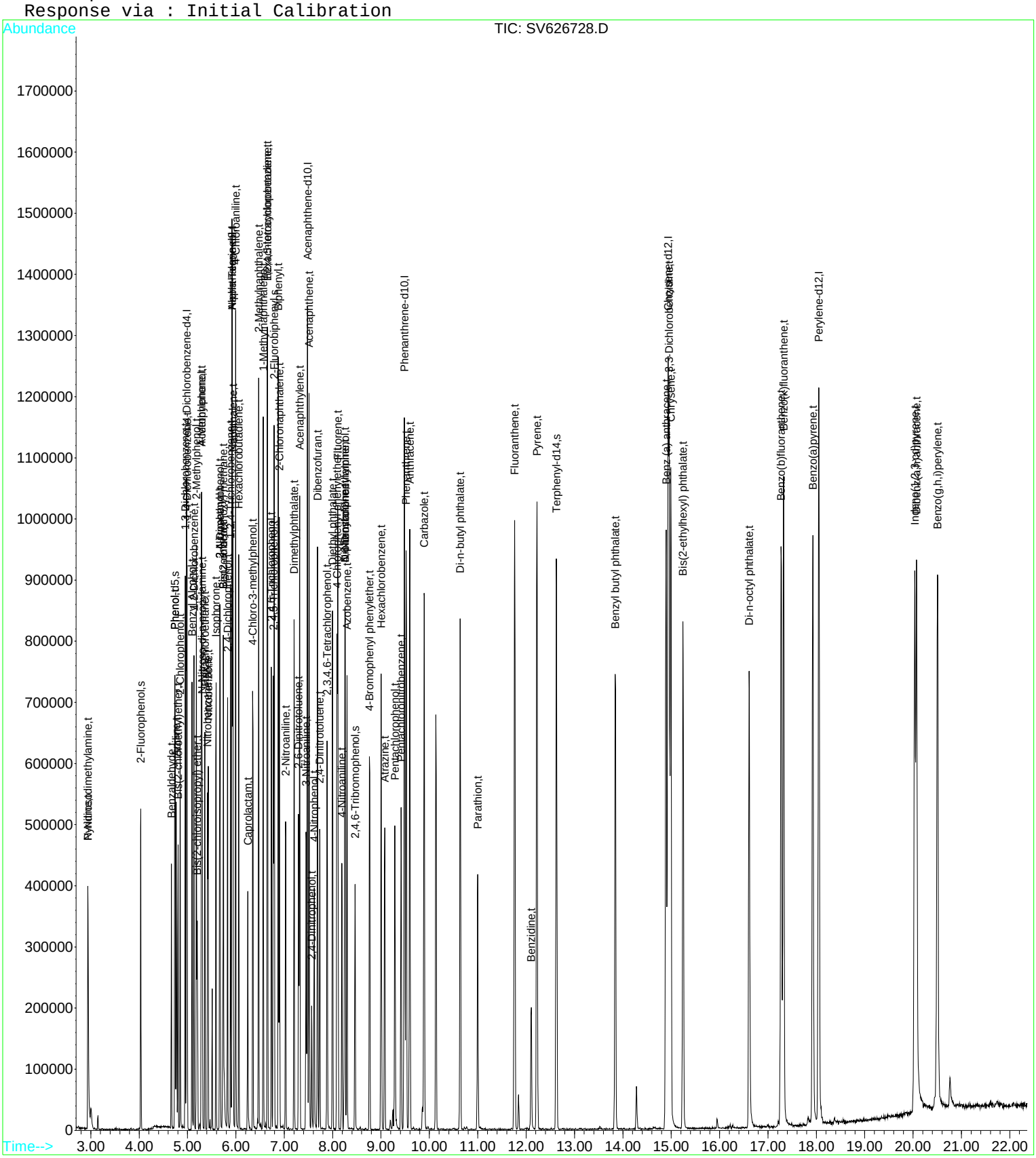
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.74	196	977756	32.86	ug/mL	97
44) 2,4,5-Trichlorophenol	6.78	196	1185591	30.92	ug/mL	97
46) 2-Chloronaphthalene	6.90	162	2923058	28.47	ug/mL	99
47) 2-Nitroaniline	7.03	138	1093751	36.88	ug/mL	93
48) Dimethylphthalate	7.20	163	3435280m	23.50	ug/mL	
49) 2,6-Dinitrotoluene	7.30	165	780786	35.27	ug/mL	91
50) Acenaphthylene	7.32	152	4627543	28.46	ug/mL	99
51) 3-Nitroaniline	7.45	138	944561	34.32	ug/mL	90
52) Acenaphthene	7.51	154	2743077	29.51	ug/mL	99
53) 2,4-Dinitrophenol	7.57	184	328904	64.55	ug/mL	97
54) Dibenzofuran	7.69	168	4166421	28.35	ug/mL	99
55) 2,4-Dinitrotoluene	7.74	165	1096380	38.08	ug/mL	97
56) 4-Nitrophenol	7.62	65	591892m	35.94	ug/mL	
57) 2,3,4,6-Tetrachlorophenol	7.89	131	381227	33.97	ug/mL	96
58) Diethyl phthalate	8.00	149	3383301	29.14	ug/mL	99
59) Fluorene	8.11	166	3365619	29.02	ug/mL	100
60) 4-Chlorophenyl phenylether	8.09	204	1657068	28.61	ug/mL	99
61) 4-Nitroaniline	8.19	138	940819	34.25	ug/mL	93
63) 4,6-Dinitro-2-methylphenol	8.25	198	546256	63.50	ug/mL	94
64) Diphenylamine	8.26	169	2522586	31.49	ug/mL	99
65) N-Nitrosodiphenylamine	8.26	167	861394	31.05	ug/mL	99
66) Azobenzene	8.30	77	3135614	28.74	ug/mL	97
68) 4-Bromophenyl phenylether	8.77	248	1055020	30.99	ug/mL	97
69) Atrazine	9.08	200	762277m	21.87	ug/mL	
70) Hexachlorobenzene	9.00	142	415621	29.76	ug/mL	93
71) Pentachlorophenol	9.29	266	770447	39.75	ug/mL	94
72) Pentachloronitrobenzene	9.42	237	418050	34.44	ug/mL	97
73) Phenanthrene	9.52	178	4796836	30.12	ug/mL	100
74) Anthracene	9.60	178	5198728	31.85	ug/mL	99
75) Carbazole	9.89	167	5083034	30.65	ug/mL#	100
76) Di-n-butyl phthalate	10.64	149	6273194	33.27	ug/mL	99
77) Parathion	11.00	97	583475	50.30	ug/mL#	95
78) Fluoranthene	11.77	202	6021481	32.25	ug/mL	100
79) Benzidine	12.11	184	1242989m	22.57	ug/mL	
81) Pyrene	12.23	202	6284970	29.97	ug/mL	100
83) Benzyl butyl phthalate	13.85	149	3008464	33.24	ug/mL	96
84) Bis(2-ethylhexyl) phthalat	15.25	149	4147673	34.30	ug/mL	99
85) Benz (a) anthracene	14.90	228	6335071	31.78	ug/mL	99
86) 3,3-Dichlorobenzidine	14.96	252	3807579	55.96	ug/mL	100
87) Chrysene	14.99	228	6045588	30.22	ug/mL#	89
88) Di-n-octyl phthalate	16.61	149	7011744m	37.53	ug/mL	
89) Benzo(b)fluoranthene	17.28	252	6431998	33.72	ug/mL	99
90) Benzo(k)fluoranthene	17.33	252	6777743	30.55	ug/mL	98
91) Benzo(a)pyrene	17.93	252	6336730	33.52	ug/mL	98
93) Indeno(1,2,3-cd)pyrene	20.04	276	7895056	32.16	ug/mL#	94
94) Dibenz(a,h)anthracene	20.07	278	6240234	31.36	ug/mL	96
95) Benzo(g,h,i)perylene	20.51	276	6612822	30.17	ug/mL	98

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626728.D Vial: 2
Acq On : 7 Oct 2019 10:07 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100719A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 7 10:31 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626751.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0832	Injection Date:	10/08/19
Lab Sample ID:	Y9J0832-CCV1	Injection Time:	08:57

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
1,1-Biphenyl	A	30.0	28.4	0.682449	0.6451737	0.01	-5.5	20	
1,2,4,5-Tetrachlorobenzene	A	30.0	30.7	0.5924437	0.6053972	0.01	2.2	20	
1,2,4-Trichlorobenzene	A	30.0	28.1	0.3667611	0.3437378		-6.3	20	
1,2-Dichlorobenzene	A	30.0	28.1	1.684338	1.576869		-6.4	20	
1,2-Diphenylhydrazine (as Azobenzene)	A	30.0	28.5	0.7510417	0.7133093		-5.0	20	
1,3-Dichlorobenzene	A	30.0	28.8	1.763563	1.692768		-4.0	20	
1,4-Dichlorobenzene	A	30.0	28.4	1.732502	1.637658		-5.5	20	
1-Methylnaphthalene	A	30.0	27.4	0.7097171	0.6491872		-8.5	20	
2,3,4,6-Tetrachlorophenol	A	30.0	34.6	0.1429277	0.1646886	0.01	15.2	20	
2,4,5-Trichlorophenol	A	30.0	32.4	0.4882538	0.5277548	0.2	8.1	20	
2,4,6-Trichlorophenol	A	30.0	33.9	0.3788718	0.4286907	0.2	13.1	20	
2,4-Dichlorophenol	A	30.0	32.0	0.2984135	0.3181847	0.2	6.6	20	
2,4-Dimethylphenol	A	30.0	30.3	0.3437007	0.3467581	0.2	0.9	20	
2,4-Dinitrophenol	A	30.0	71.0	6.488317E-02	0.1535732	0.01	137	20	*
2,4-Dinitrotoluene	A	30.0	40.1	0.3667022	0.4898431	0.2	33.6	20	*
2,6-Dinitrotoluene	A	30.0	38.0	0.2819212	0.3573057	0.2	26.7	20	*
2-Chloronaphthalene	A	30.0	29.5	1.307336	1.285896	0.8	-1.6	20	
2-Chlorophenol	A	30.0	30.5	1.54726	1.571514	0.8	1.6	20	
2-Methylnaphthalene	A	30.0	29.8	0.7234622	0.7182032	0.4	-0.7	20	
2-Methylphenol	A	30.0	28.1	1.381107	1.293675	0.7	-6.3	20	
2-Nitroaniline	A	30.0	37.5	0.3776633	0.4715747	0.01	24.9	20	*
2-Nitrophenol	A	30.0	40.4	0.1501023	0.2020908	0.1	34.6	20	*
3- & 4-Methylphenols	A	30.0	29.4	2.077554	2.036355	0.6	-2.0	20	
3,3-Dichlorobenzidine	A	60.0	55.0	0.4545644	0.4167909	0.01	-8.3	20	
3-Nitroaniline	A	30.0	34.8	0.3505155	0.4060701	0.01	15.8	20	
4,6-Dinitro-2-methylphenol	A	30.0	67.7	5.921381E-02	0.133712	0.01	126	20	*
4-Bromophenyl phenyl ether	A	30.0	31.2	0.2343375	0.2433064	0.1	3.8	20	
4-Chloro-3-methylphenol	A	30.0	29.9	0.3338666	0.3323365	0.2	-0.5	20	
4-Chloroaniline	A	30.0	30.2	0.4884335	0.4909755	0.01	0.5	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626751.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0832	Injection Date:	10/08/19
Lab Sample ID:	Y9J0832-CCV1	Injection Time:	08:57

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4-Chlorophenyl phenyl ether	A	30.0	30.2	0.7374673	0.7421766	0.4	0.6	20	
4-Nitroaniline	A	30.0	34.0	0.3498338	0.3965726	0.01	13.4	20	
4-Nitrophenol	A	30.0	37.0	0.2097507	0.2586246	0.01	23.3	20	*
Acenaphthene	A	30.0	29.8	1.183811	1.17796	0.9	-0.5	20	
Acenaphthylene	A	30.0	29.6	2.070423	2.041926	0.9	-1.4	20	
Acetophenone	A	30.0	26.1	2.200956	1.912689	0.01	-13.1	20	
Alpha Terpineol	A	30.0	26.6	0.2220411	0.1969642		-11.3	20	
Aniline	A	30.0	27.4	2.171506	1.986631		-8.5	20	
Anthracene	A	30.0	31.8	1.123613	1.192979	0.7	6.2	20	
Atrazine	A	30.0	25.4	0.2399697	0.2034193	0.01	-15.2	20	
Benzaldehyde	A	30.0	19.5	1.097069	0.7140899	0.01	-34.9	20	*
Benzidine	A	30.0	20.9	0.3790551	0.2644145		-30.2	20	*
Benzo(a)anthracene	A	30.0	31.6	1.331902	1.403065	0.8	5.3	20	
Benzo(a)pyrene	A	30.0	32.9	1.262887	1.385698	0.7	9.7	20	
Benzo(b)fluoranthene	A	30.0	32.7	1.274452	1.390122	0.7	9.1	20	
Benzo(g,h,i)perylene	A	30.0	30.6	1.175354	1.199792	0.5	2.1	20	
Benzo(k)fluoranthene	A	30.0	29.3	1.48252	1.447625	0.7	-2.4	20	
Benzoic acid	A	30.0	40.2	0.2342796	0.313851		34.0	20	*
Benzyl alcohol	A	30.0	29.7	0.9174889	0.9077366		-1.1	20	
Benzyl butyl phthalate	A	30.0	32.2	0.6046501	0.648937		7.3	20	
Bis(2-chloroethoxy)methane	A	30.0	27.4	0.4397865	0.4017007	0.3	-8.7	20	
Bis(2-chloroethyl)ether	A	30.0	27.9	1.390802	1.2945	0.7	-6.9	20	
Bis(2-chloroisopropyl)ether	A	30.0	24.9	1.08933	0.9054831	0.01	-16.9	20	
Bis(2-ethylhexyl)phthalate	A	30.0	34.5	0.8079809	0.9296637		15.1	20	
Caprolactam	A	30.0	28.6	0.1433643	0.1365883	0.01	-4.7	20	
Carbazole	A	30.0	29.5	1.141478	1.122756	0.01	-1.6	20	
Chrysene	A	30.0	29.2	1.336622	1.302002	0.7	-2.6	20	
Dibenzo(a,h)anthracene	A	30.0	32.1	1.066791	1.140941	0.4	7.0	20	
Dibenzofuran	A	30.0	29.5	1.871852	1.841306	0.8	-1.6	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	BNA#6	Calibration:	YJ90006
Lab File ID:	SV626751.D	Calibration Date:	10/03/19 08:21
Sequence:	Y9J0832	Injection Date:	10/08/19
Lab Sample ID:	Y9J0832-CCV1	Injection Time:	08:57

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Diethyl phthalate	A	30.0	30.6	1.478744	1.506827	0.01	1.9	20	
Dimethyl phthalate	A	30.0	23.9	1.861507	1.481637	0.01	-20.4	20	*
Di-n-butyl phthalate	A	30.0	32.8	1.297859	1.420356	0.01	9.4	20	
Di-n-octyl phthalate	A	30.0	36.0	1.24818	1.498848	0.01	20.1	20	*
Fluoranthene	A	30.0	31.5	1.285305	1.350353	0.6	5.1	20	
Fluorene	A	30.0	29.8	1.476831	1.46834	0.9	-0.6	20	
Hexachlorobenzene	A	30.0	31.1	9.614277E-02	9.968077E-02	0.1	3.7	20	
Hexachlorobutadiene	A	30.0	31.4	0.1978041	0.2069843	0.01	4.6	20	
Hexachlorocyclopentadiene	A	30.0	36.1	0.3666021	0.4406633	0.05	20.2	20	*
Hexachloroethane	A	30.0	29.1	0.6765051	0.6558773	0.3	-3.0	20	
Indeno(1,2,3-cd)pyrene	A	30.0	32.4	1.31601	1.420308	0.5	7.9	20	
Isophorone	A	30.0	27.5	0.6919659	0.6336095	0.4	-8.4	20	
Naphthalene	A	30.0	27.8	1.057448	0.9798592	0.7	-7.3	20	
Nitrobenzene	A	30.0	29.7	0.3467544	0.3433431	0.2	-1.0	20	
N-Nitrosodimethylamine	A	30.0	27.0	0.8820671	0.7928459		-10.1	20	
N-nitroso-di-n-propylamine	A	30.0	28.0	0.9458731	0.8822081	0.5	-6.7	20	
N-Nitrosodiphenylamine	A	30.0	31.1	0.1909876	0.197826	0.01	3.6	20	
Parathion	A	30.0	52.0	0.1596961	0.1384067		-13.3	20	
Pentachloronitrobenzene	A	30.0	34.9	8.356038E-02	9.712654E-02		16.2	20	
Pentachlorophenol	A	30.0	38.0	0.1334032	0.1692208	0.05	26.8	20	*
Phenanthrene	A	30.0	30.1	1.096167	1.100831	0.7	0.4	20	
Phenol	A	30.0	28.5	1.93061	1.832798	0.8	-5.1	20	
Pyrene	A	30.0	29.8	1.401174	1.389505	0.6	-0.8	20	
Pyridine	A	30.0	26.5	1.691324	1.495062		-11.6	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626751.D Vial: 2
Acq On : 8 Oct 2019 8:57 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100819A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 12:57 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1333046	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5525424	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3115909	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5913317	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5994949	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	7224087	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	1531936	29.68	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 39.57%			
5) Phenol-d5	4.74	99	1913651	29.68	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 39.57%			
22) Nitrobenzene-d5	5.41	82	1424599	31.88	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 63.76%			
45) 2-Fluorobiphenyl	6.79	172	3203705	28.78	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 57.56%			
67) 2,4,6-Tribromophenol	8.46	330	568202	37.71	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 50.28%			
82) Terphenyl-d14	12.62	244	4598303	30.82	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 61.64%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.94	74	792675	26.97	ug/mL	98
3) Pyridine	2.94	79	1494740m	26.52	ug/mL	
6) Benzaldehyde	4.67	105	713936	19.53	ug/mL	92
7) Aniline	4.77	93	1986203	27.45	ug/mL	99
8) Phenol	4.75	94	1832403	28.48	ug/mL	99
9) Bis(2-chloroethyl)ether	4.80	93	1294221	27.92	ug/mL	99
10) 2-Chlorophenol	4.85	128	1571175	30.47	ug/mL	98
11) 1,3-Dichlorobenzene	4.95	146	1692403	28.80	ug/mL	98
12) 1,4-Dichlorobenzene	4.99	146	1637305	28.36	ug/mL	99
13) Benzyl Alcohol	5.09	108	907541	29.68	ug/mL	98
14) 1,2-Dichlorobenzene	5.13	146	1576529	28.09	ug/mL	98
15) 2-Methylphenol	5.18	107	1293396	28.10	ug/mL#	86
16) Acetophenone	5.30	105	1912277	26.07	ug/mL	99
17) Bis(2-chloroisopropyl) eth	5.20	45	905288	24.94	ug/mL#	48
18) N-Nitroso-di-n-propylamine	5.31	70	882018	27.98	ug/mL	95
19) 4-Methylphenol	5.29	107	2035916	29.41	ug/mL	95
20) Hexachloroethane	5.36	117	655736	29.09	ug/mL	98
23) Nitrobenzene	5.43	77	1422837	29.70	ug/mL	97
24) Isophorone	5.59	82	2625721	27.47	ug/mL	98
25) 2-Nitrophenol	5.66	139	837478	40.39	ug/mL	91
26) 2,4-Dimethylphenol	5.67	122	1436989	30.27	ug/mL	97
27) Bis(2-chloroethoxy) methan	5.74	93	1664675	27.40	ug/mL	98
28) Benzoic acid	5.74	105	1300620	40.19	ug/mL	94
29) 2,4-Dichlorophenol	5.83	162	1318579	31.99	ug/mL	99
30) 1,2,4-Trichlorobenzene	5.89	180	1424473	28.12	ug/mL	97
31) Alpha-Terpineol	5.92	59	816233	26.61	ug/mL	90
32) Naphthalene	5.94	128	4060603	27.80	ug/mL	99
33) 4-Chloroaniline	5.99	127	2034636	30.16	ug/mL	98
34) Hexachlorobutadiene	6.06	225	857757	31.39	ug/mL	97
35) Caprolactam	6.25	113	566031	28.58	ug/mL	96
36) 4-Chloro-3-methylphenol	6.35	107	1377225	29.86	ug/mL	95
37) 1-Methylnaphthalene	6.57	141	2690276	27.44	ug/mL	99
38) 2-Methylnaphthalene	6.47	142	2976283	29.78	ug/mL	98
40) 1,2,4,5-tetrachlorobenzene	6.65	216	1414772	30.66	ug/mL	97
41) Hexachlorocyclopentadiene	6.66	237	1029800	36.06	ug/mL	99
42) Biphenyl	6.88	153	1507727	28.36	ug/mL	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626751.D Vial: 2
Acq On : 8 Oct 2019 8:57 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100819A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 12:57 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

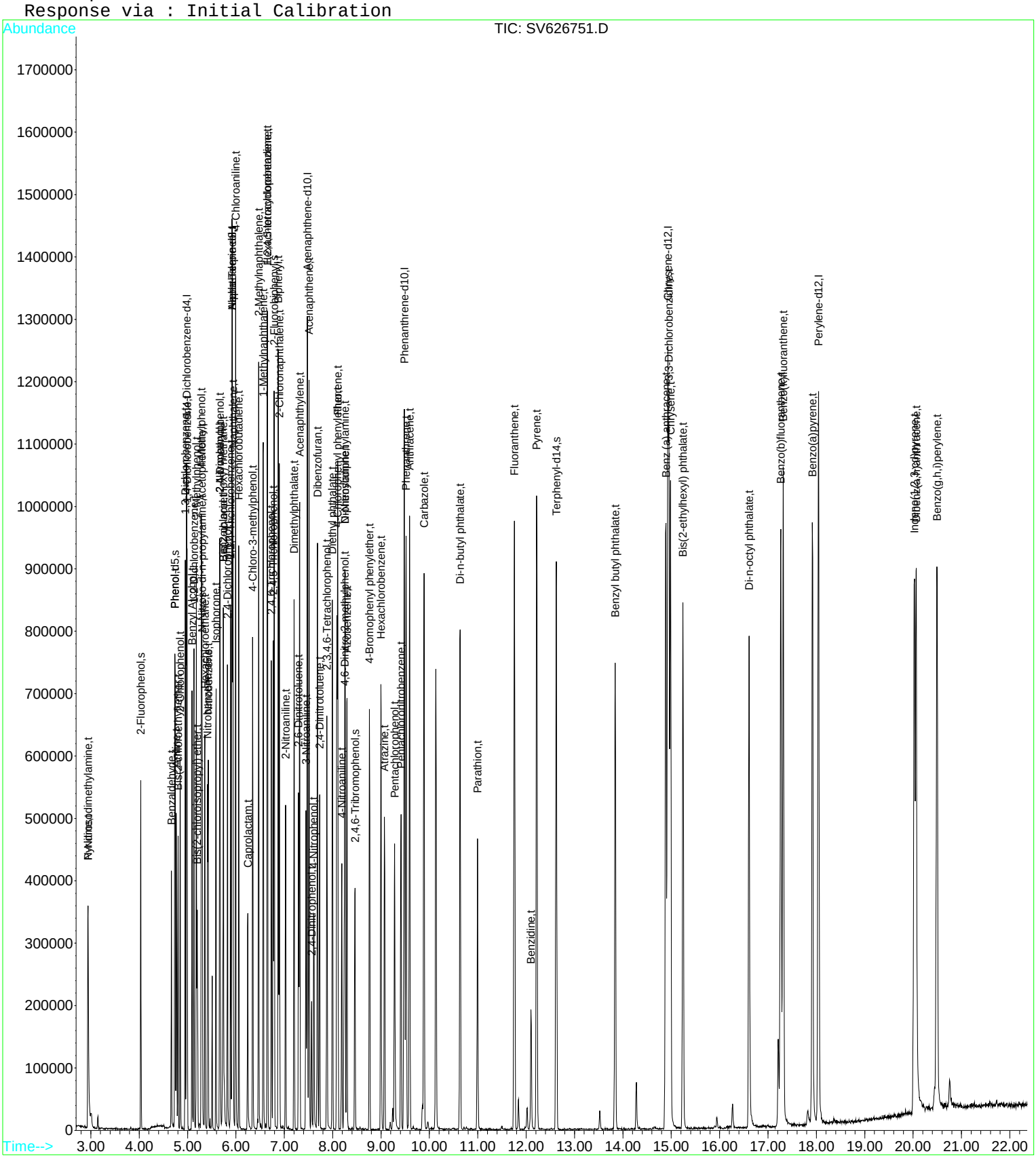
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 2,4,6-Trichlorophenol	6.73	196	1001821	33.94	ug/mL	98
44) 2,4,5-Trichlorophenol	6.77	196	1233327	32.43	ug/mL	98
46) 2-Chloronaphthalene	6.90	162	3005051	29.51	ug/mL	99
47) 2-Nitroaniline	7.03	138	1102038	37.46	ug/mL	94
48) Dimethylphthalate	7.20	163	3462485m	23.88	ug/mL	
49) 2,6-Dinitrotoluene	7.30	165	834999	38.02	ug/mL	89
50) Acenaphthylene	7.32	152	4771841	29.59	ug/mL	99
51) 3-Nitroaniline	7.45	138	948958	34.75	ug/mL	91
52) Acenaphthene	7.51	154	2752813	29.85	ug/mL	99
53) 2,4-Dinitrophenol	7.57	184	358890	71.01	ug/mL	96
54) Dibenzofuran	7.69	168	4303007	29.51	ug/mL	99
55) 2,4-Dinitrotoluene	7.73	165	1144730	40.07	ug/mL	96
56) 4-Nitrophenol	7.61	65	604388	36.99	ug/mL	97
57) 2,3,4,6-Tetrachlorophenol	7.88	131	384866	34.57	ug/mL	91
58) Diethyl phthalate	8.00	149	3521352	30.57	ug/mL	99
59) Fluorene	8.11	166	3431411	29.83	ug/mL	100
60) 4-Chlorophenyl phenylether	8.09	204	1734416	30.19	ug/mL	99
61) 4-Nitroaniline	8.19	138	926763	34.01	ug/mL	95
63) 4,6-Dinitro-2-methylphenol	8.24	198	593011	67.74	ug/mL	94
64) Diphenylamine	8.26	169	2552892	31.32	ug/mL	99
65) N-Nitrosodiphenylamine	8.26	167	877356	31.07	ug/mL	99
66) Azobenzene	8.30	77	3163518	28.49	ug/mL	96
68) 4-Bromophenyl phenylether	8.76	248	1079061	31.15	ug/mL	98
69) Atrazine	9.07	200	902162m	25.43	ug/mL	
70) Hexachlorobenzene	9.00	142	442083	31.10	ug/mL	99
71) Pentachlorophenol	9.28	266	750492	38.05	ug/mL	93
72) Pentachloronitrobenzene	9.41	237	430755	34.87	ug/mL	95
73) Phenanthrene	9.52	178	4882174	30.13	ug/mL	99
74) Anthracene	9.59	178	5290846	31.85	ug/mL	99
75) Carbazole	9.89	167	4979411	29.51	ug/mL#	92
76) Di-n-butyl phthalate	10.64	149	6299261	32.83	ug/mL	99
77) Parathion	11.00	97	613832	52.00	ug/mL#	94
78) Fluoranthene	11.76	202	5988798	31.52	ug/mL	100
79) Benzidine	12.10	184	1172675m	20.93	ug/mL	
81) Pyrene	12.22	202	6247507	29.75	ug/mL	100
83) Benzyl butyl phthalate	13.84	149	2917758	32.20	ug/mL	96
84) Bis(2-ethylhexyl) phthalat	15.24	149	4179965	34.52	ug/mL	99
85) Benz (a) anthracene	14.89	228	6308478	31.60	ug/mL	98
86) 3,3-Dichlorobenzidine	14.96	252	3747960	55.01	ug/mL	99
87) Chrysene	14.99	228	5854076	29.22	ug/mL#	89
88) Di-n-octyl phthalate	16.61	149	6739136m	36.02	ug/mL	
89) Benzo(b)fluoranthene	17.27	252	6250283	32.72	ug/mL	99
90) Benzo(k)fluoranthene	17.32	252	6508828	29.29	ug/mL	99
91) Benzo(a)pyrene	17.92	252	6230390	32.92	ug/mL	99
93) Indeno(1,2,3-cd)pyrene	20.03	276	7695319m	32.38	ug/mL	
94) Dibenz(a,h)anthracene	20.07	278	6181692	32.09	ug/mL	96
95) Benzo(g,h,i)perylene	20.49	276	6500550m	30.62	ug/mL	

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

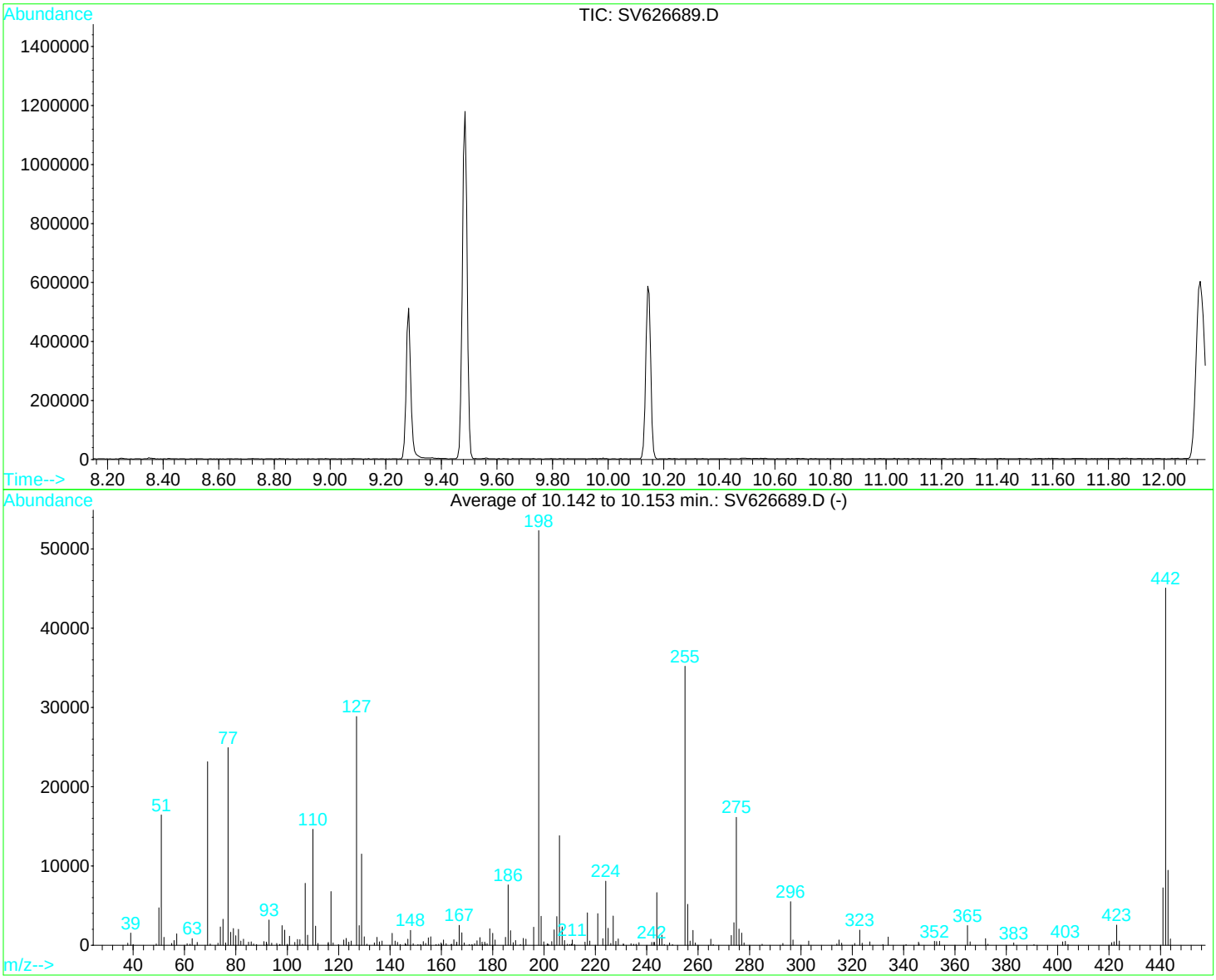
Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626751.D Vial: 2
Acq On : 8 Oct 2019 8:57 am Operator: SR
Sample : SEQ-CCV1 Inst : BNA#6
Misc : QBSV6100819A CCV=Y19I240 Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 12:57 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\100319A\SV626689.D Vial: 1
Acq On : 3 Oct 2019 11:22 am Operator: SR
Sample : SEQ-TUN1 Inst : BNA#6
Misc : QBSV6100319A TUNE=Y19G290 Multiplr: 1.00
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D

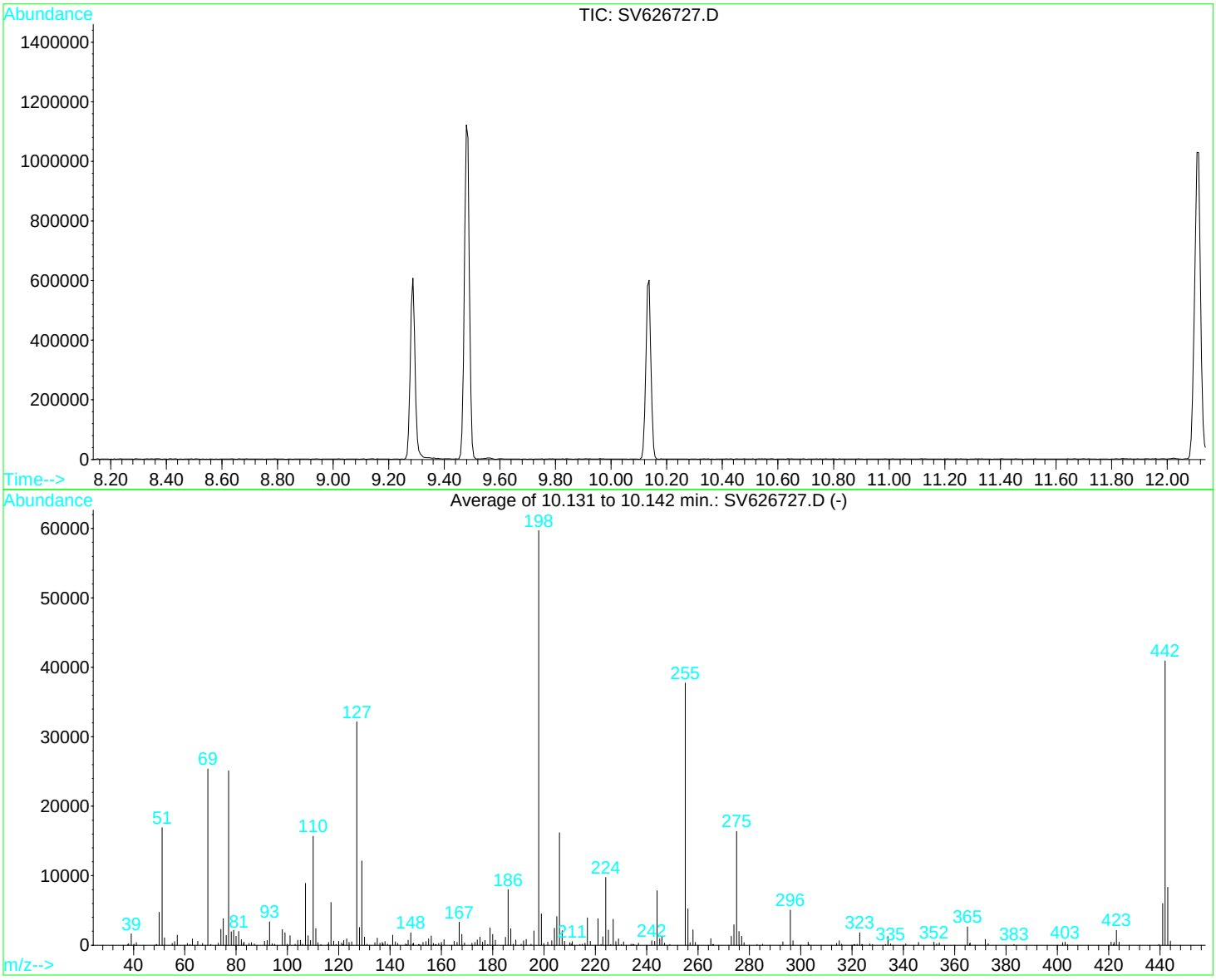


AutoFind: Scans 1395, 1396, 1397; Background Corrected with Scan 1389

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.4	16431	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.2	23142	PASS
70	69	0.00	2	0.6	138	PASS
127	198	10	80	55.2	28859	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	52299	PASS
199	198	5	9	7.0	3654	PASS
275	198	10	60	30.8	16117	PASS
365	198	1	100	4.7	2456	PASS
441	442	0.01	24	16.1	7246	PASS
442	198	50	100	86.2	45056	PASS
443	442	15	24	20.9	9438	PASS

DFTPP1

Data File : C:\HPCHEM\1\DATA\100719A\SV626727.D Vial: 1
Acq On : 7 Oct 2019 9:35 am Operator: SR
Sample : SEQ-TUN1 Inst : BNA#6
Misc : QBSV6100719A TUNE=Y19J065 Multiplr: 1.00
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D

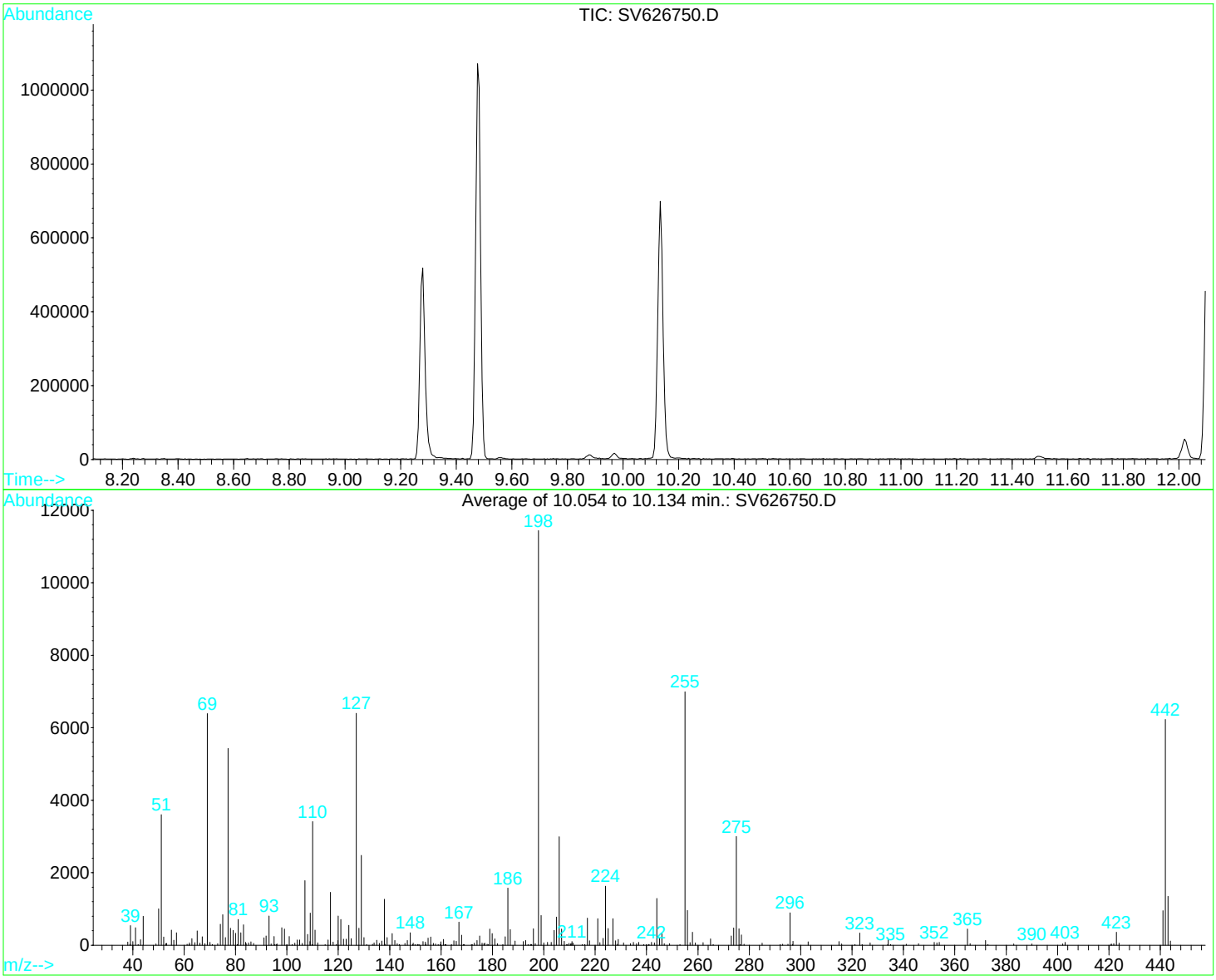


AutoFind: Scans 1393, 1394, 1395; Background Corrected with Scan 1384

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	28.3	16896	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	42.5	25381	PASS
70	69	0.00	2	0.4	112	PASS
127	198	10	80	53.9	32141	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	59680	PASS
199	198	5	9	7.6	4513	PASS
275	198	10	60	27.4	16358	PASS
365	198	1	100	4.4	2642	PASS
441	442	0.01	24	14.7	6014	PASS
442	198	50	100	68.6	40944	PASS
443	442	15	24	20.3	8317	PASS

SV626727.D BNA6M038.M Tue Oct 08 10:03:55 2019

Data File : C:\HPCHEM\1\DATA\100819A\SV626750.D Vial: 1
Acq On : 8 Oct 2019 8:25 am Operator: SR
Sample : SEQ-TUN1 Inst : BNA#6
Misc : QBSV6100819A TUNE=Y19J065 Multiplr: 1.00
MS Integration Params: EVENTS.E
Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D



Spectrum Information: Average of 10.054 to 10.134 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	31.5	3603	PASS
68	69	0.00	2	0.7	43	PASS
69	198	0.00	100	55.8	6386	PASS
70	69	0.00	2	1.2	75	PASS
127	198	10	80	56.0	6399	PASS
197	198	0.00	2	0.3	39	PASS
198	198	100	100	100.0	11436	PASS
199	198	5	9	7.2	818	PASS
275	198	10	60	26.2	2995	PASS
365	198	1	100	3.9	442	PASS
441	442	0.01	24	15.2	949	PASS
442	198	50	100	54.5	6228	PASS
443	442	15	24	21.7	1349	PASS

METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: SVOA
METHOD: EPA 8270D

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90324-BLK1	File ID:	SV626729.D
Prepared:	10/04/19 13:58	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/07/19 10:38	Instrument:	BNA#6		
Batch:	BJ90324	Sequence:	Y9J0808	Calibration:	YJ90006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
95-48-7	2-Methylphenol	0.0416	U
65794-96-9	3- & 4-Methylphenols	0.0416	U
83-32-9	Acenaphthene	0.0416	U
208-96-8	Acenaphthylene	0.0416	U
120-12-7	Anthracene	0.0416	U
56-55-3	Benzo(a)anthracene	0.0416	U
50-32-8	Benzo(a)pyrene	0.0416	U
205-99-2	Benzo(b)fluoranthene	0.0416	U
191-24-2	Benzo(g,h,i)perylene	0.0416	U
207-08-9	Benzo(k)fluoranthene	0.0416	U
218-01-9	Chrysene	0.0416	U
53-70-3	Dibenzo(a,h)anthracene	0.0416	U
132-64-9	Dibenzofuran	0.0416	U
206-44-0	Fluoranthene	0.0416	U
86-73-7	Fluorene	0.0416	U
118-74-1	Hexachlorobenzene	0.0416	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0416	U
91-20-3	Naphthalene	0.0416	U
87-86-5	Pentachlorophenol	0.0416	U
85-01-8	Phenanthrene	0.0416	U
108-95-2	Phenol	0.0416	U
129-00-0	Pyrene	0.0416	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.66	1.02	61.7	20 - 108	
SURR: Phenol-d5	1.66	0.993	59.8	23 - 114	
SURR: Nitrobenzene-d5	0.831	0.606	72.9	22 - 108	
SURR: 2-Fluorobiphenyl	0.831	0.555	66.8	21 - 113	
SURR: 2,4,6-Tribromophenol	1.66	1.17	70.5	19 - 110	
SURR: Terphenyl-d14	0.831	0.578	69.6	24 - 116	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90324-BLK1	File ID:	SV626729.D
Prepared:	10/04/19 13:58	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/07/19 10:38	Instrument:	BNA#6		
Batch:	BJ90324	Sequence:	Y9J0808	Calibration:	YJ90006

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1283884	4.98	1310727	4.98	
ISTD: Naphthalene-d8	4837191	5.93	5413365	5.93	
ISTD: Acenaphthene-d10	2723234	7.48	3140982	7.48	
ISTD: Phenanthrene-d10	5212652	9.48	5811112	9.49	
ISTD: Chrysene-d12	4872214	14.93	5986891	14.94	
ISTD: Perylene-d12	5654623	18.05	7460584	18.05	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626729.D Vial: 3
Acq On : 7 Oct 2019 10:38 am Operator: SR
Sample : BJ90324-BLK1 Inst : BNA#6
Misc : QBSV6100719A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:45 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1283884	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4837191	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2723234	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5212652	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	4872214	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	5654623	40.00	ug/mL	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	1532549	30.83	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 41.11%			
5) Phenol-d5	4.74	99	1855031	29.88	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 39.84%			
22) Nitrobenzene-d5	5.41	82	713048	18.23	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 36.46%			
45) 2-Fluorobiphenyl	6.79	172	1624745	16.70	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 33.40%			
67) 2,4,6-Tribromophenol	8.46	330	468534	35.27	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 47.03%			
82) Terphenyl-d14	12.62	244	2108166	17.39	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 34.78%#			

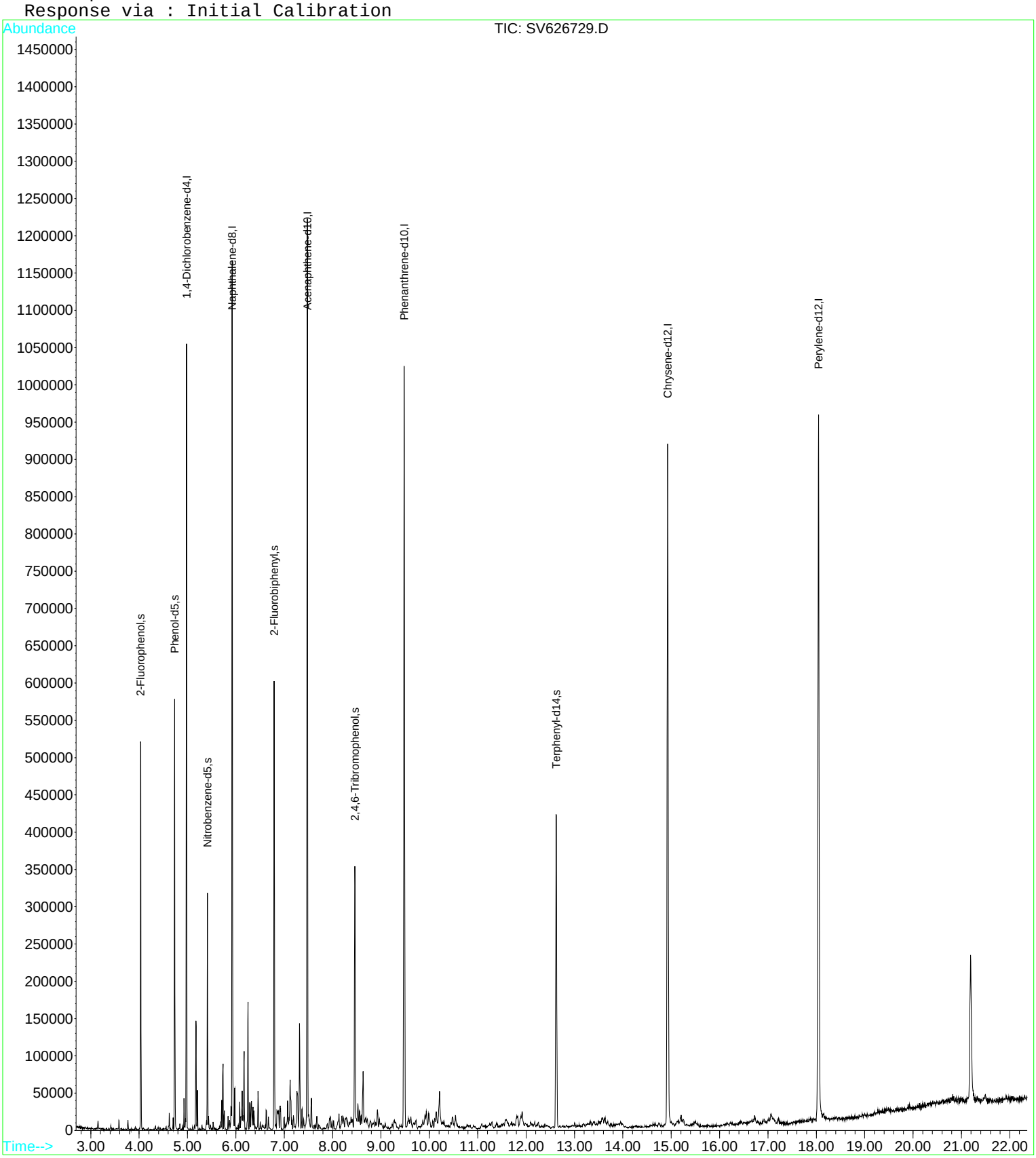
Target Compounds Qvalue

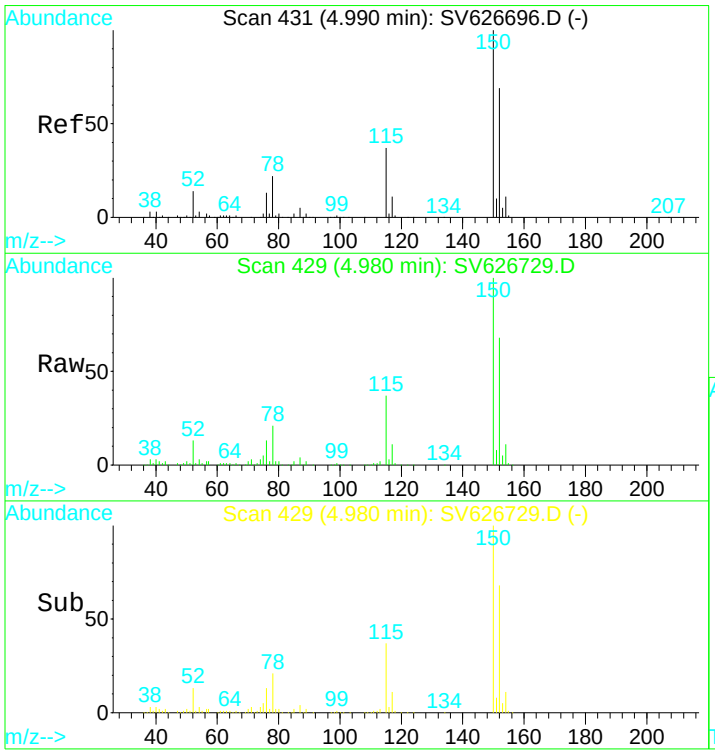
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626729.D Vial: 3
Acq On : 7 Oct 2019 10:38 am Operator: SR
Sample : BJ90324-BLK1 Inst : BNA#6
Misc : QBSV6100719A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:45 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration

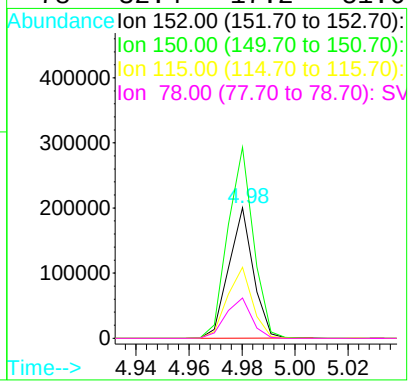


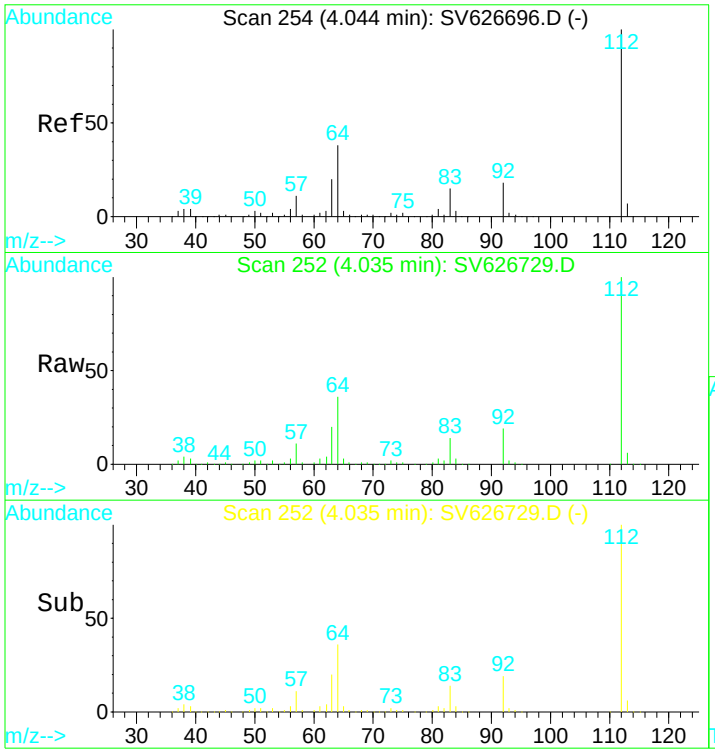


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:152 Resp: 1283884

Ion	Ratio	Lower	Upper
152	100		
150	152.2	82.1	246.3
115	56.0	28.4	85.2
78	32.4	17.2	51.6

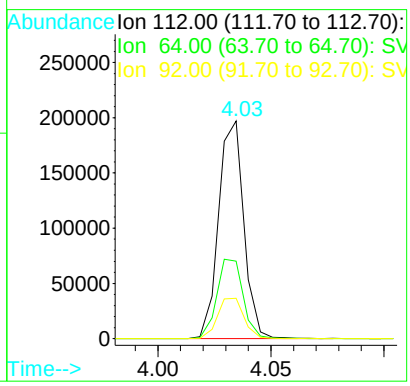


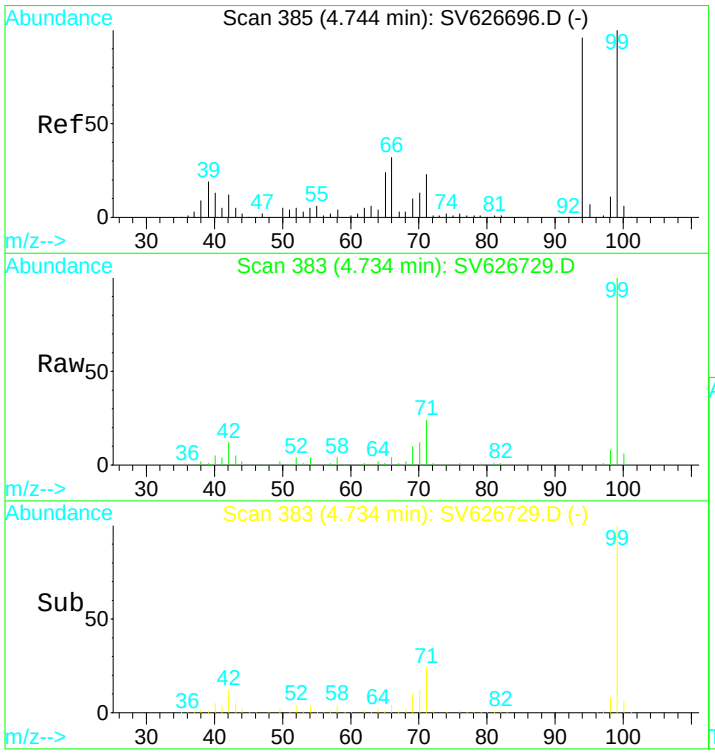


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.03 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:112 Resp: 1532549

Ion	Ratio	Lower	Upper
112	100		
64	38.2	32.0	48.0
92	19.6	15.8	23.8

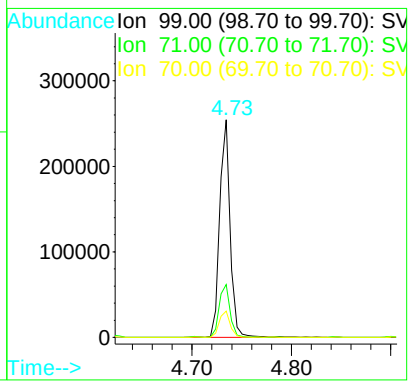


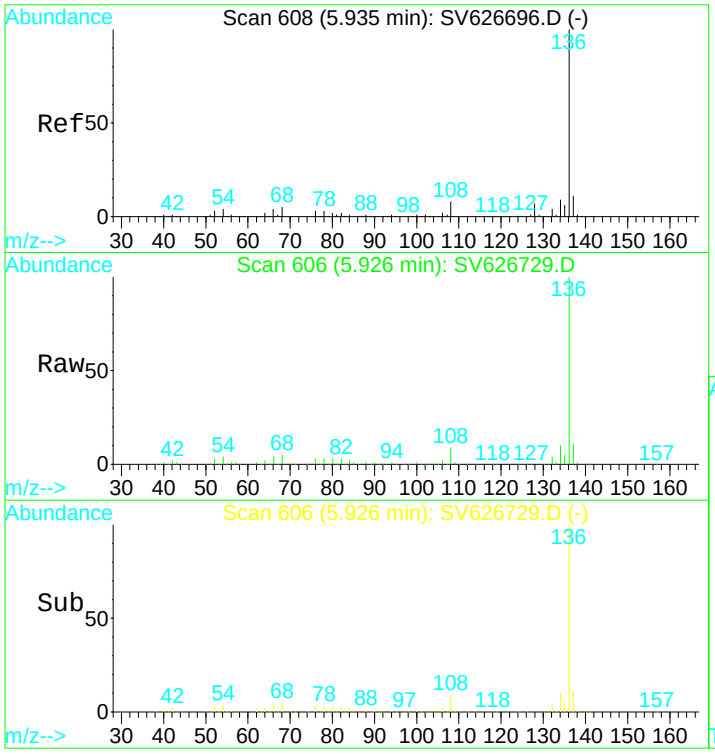


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.74 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion: 99 Resp: 1855031

Ion	Ratio	Lower	Upper
99	100		
71	25.5	20.6	31.0
70	12.8	10.6	15.8

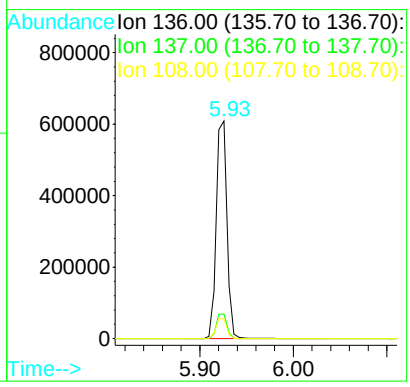


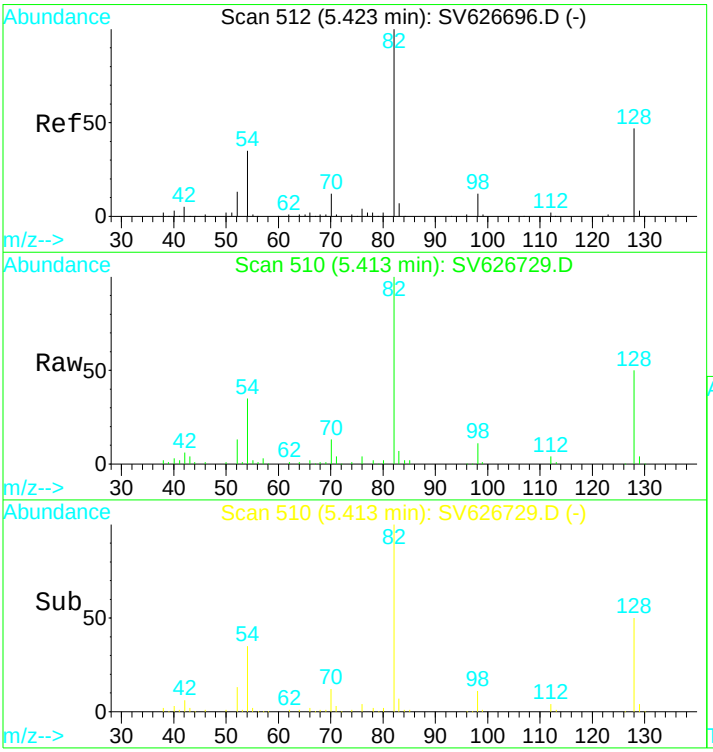


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.93 min Scan# 606
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:136 Resp: 4837191

Ion	Ratio	Lower	Upper
136	100		
137	11.3	5.5	16.7
108	9.4	4.7	14.1

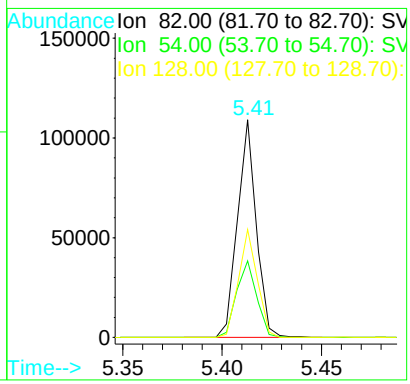


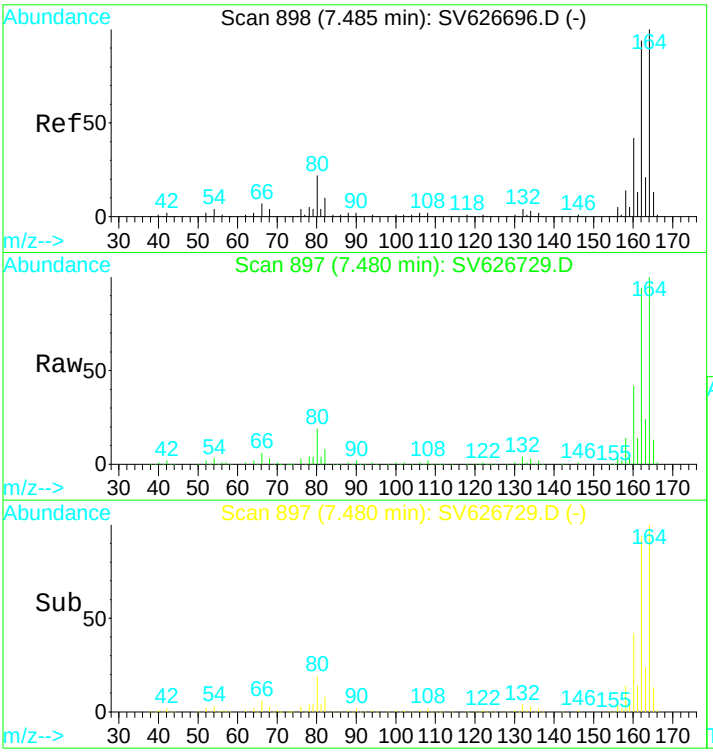


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.41 min Scan# 510
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion: 82 Resp: 713048

Ion	Ratio	Lower	Upper
82	100		
54	37.7	29.0	43.4
128	49.4	38.0	57.0

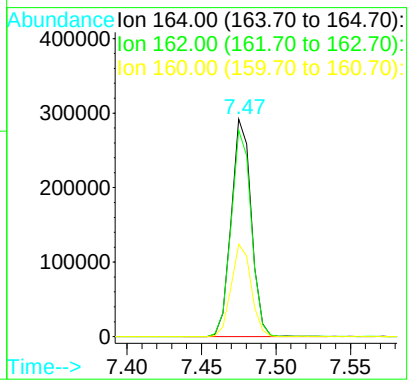


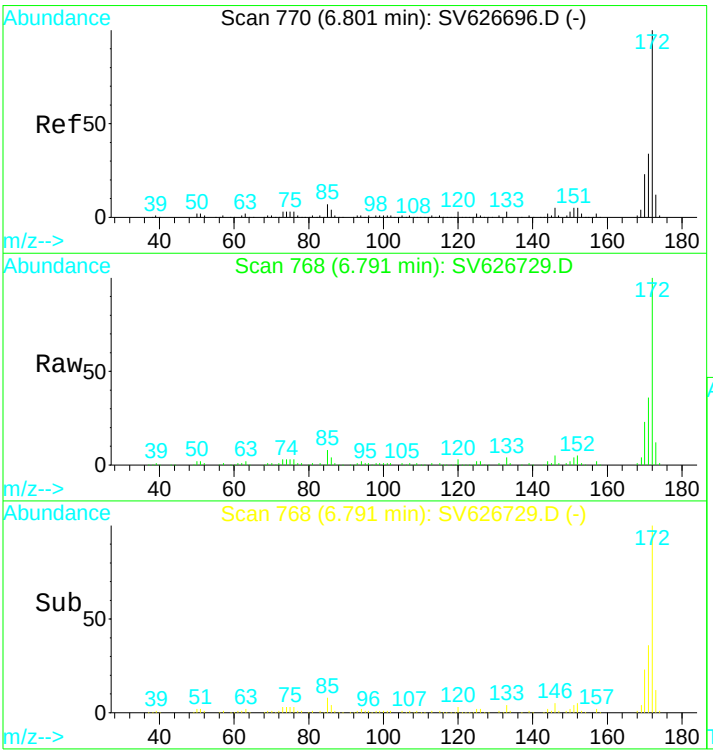


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:164 Resp: 2723234

Ion	Ratio	Lower	Upper
164	100		
162	95.7	47.4	142.2
160	42.2	21.0	63.0

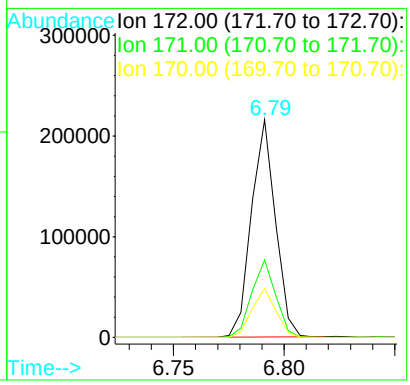


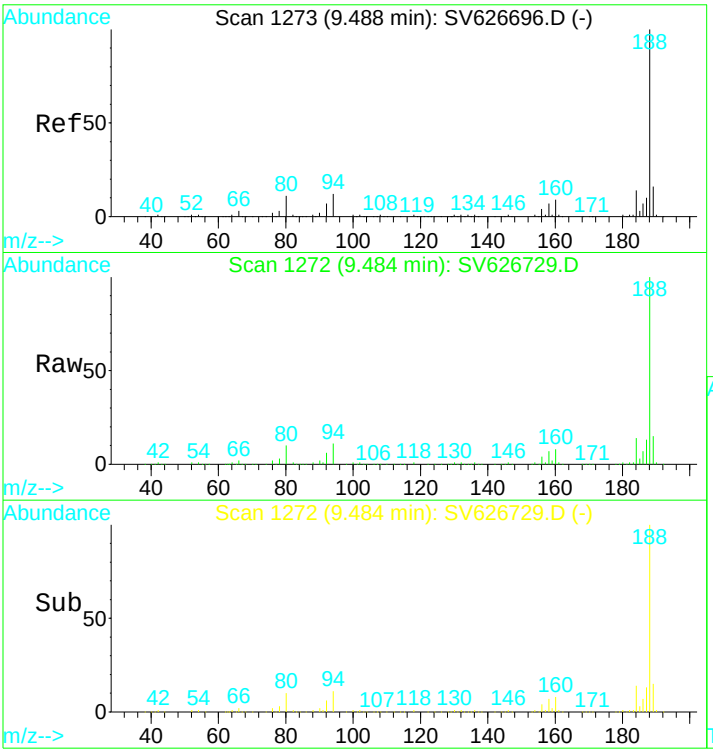


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 768
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:172 Resp: 1624745

Ion	Ratio	Lower	Upper
172	100		
171	35.8	28.2	42.4
170	22.6	18.4	27.6

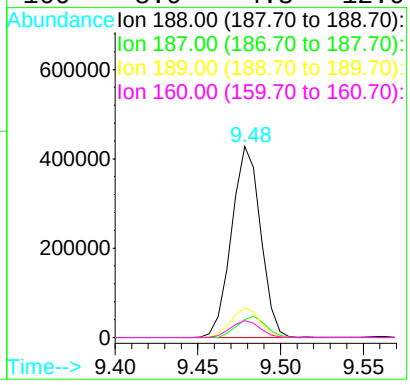


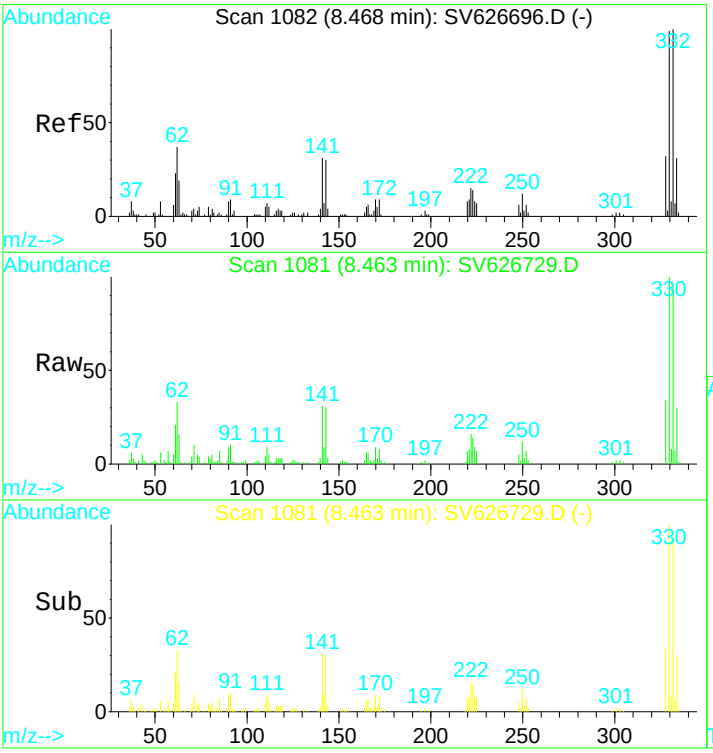


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:188 Resp: 5212652

Ion	Ratio	Lower	Upper
188	100		
187	10.8	8.5	12.7
189	15.3	7.8	23.4
160	8.9	4.3	12.9

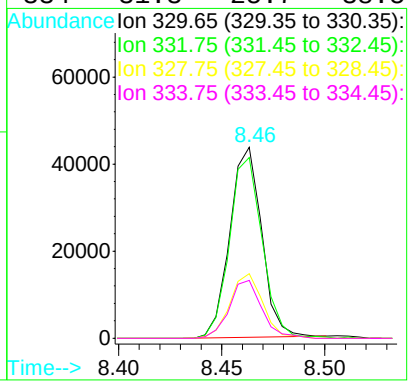


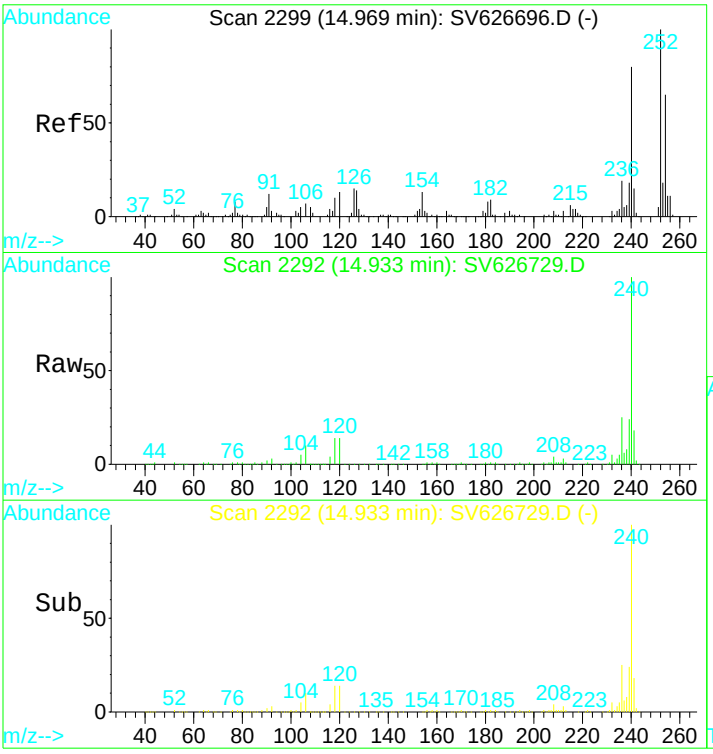


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1081
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:330 Resp: 468534

Ion	Ratio	Lower	Upper
330	100		
332	98.5	78.8	118.2
328	35.1	27.4	41.0
334	31.3	25.7	38.5

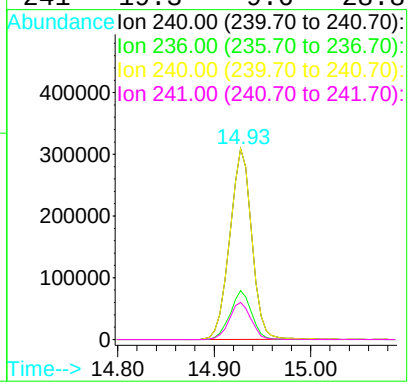


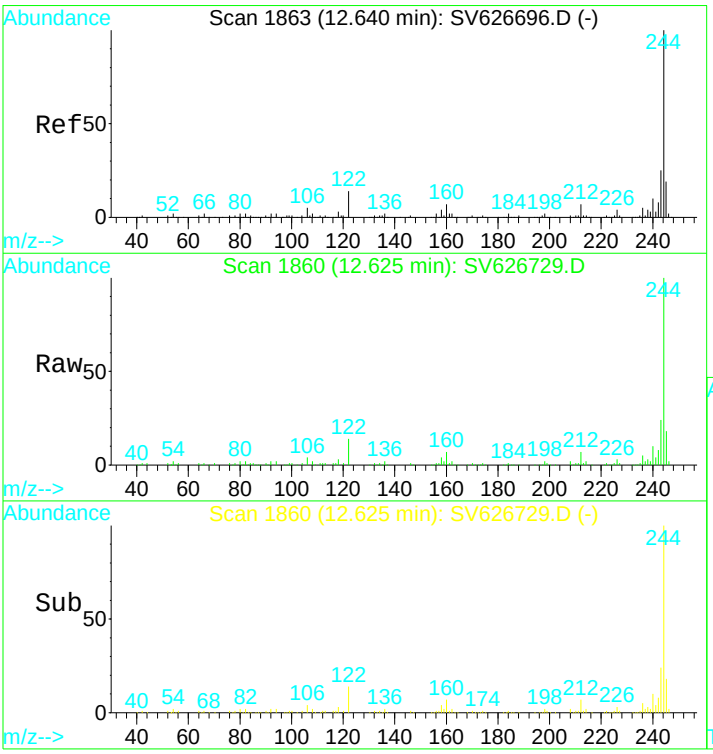


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2292
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:240 Resp: 4872214

Ion	Ratio	Lower	Upper
240	100		
236	24.9	12.4	37.0
240	100.0	50.0	150.0
241	19.3	9.6	28.8

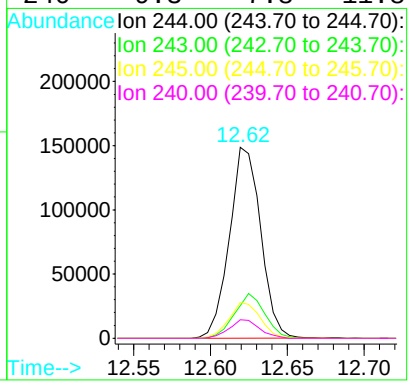


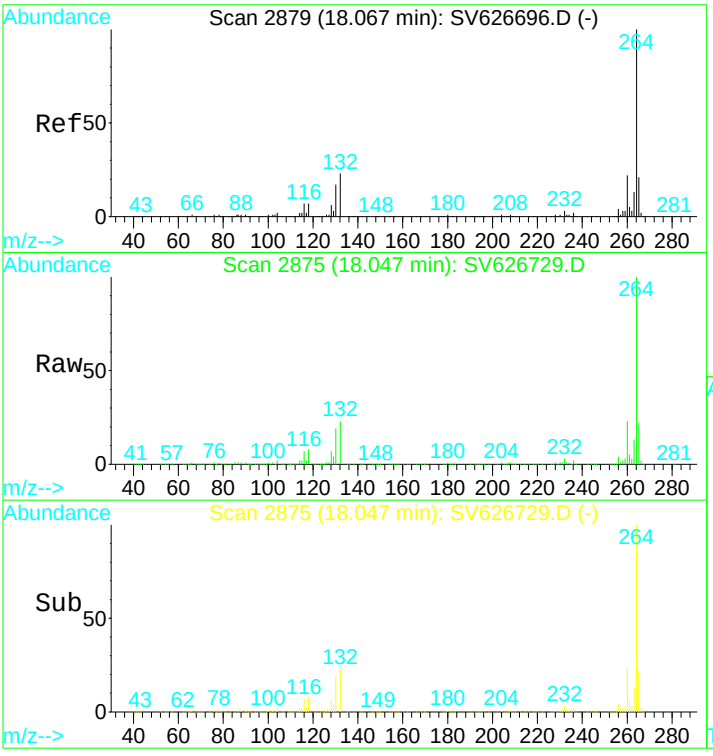


#82
Terphenyl-d14
Concen: N.D. ug/mL
RT: 12.62 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:244 Resp: 2108166

Ion	Ratio	Lower	Upper
244	100		
243	22.5	18.6	28.0
245	18.8	15.7	23.5
240	9.3	7.8	11.8

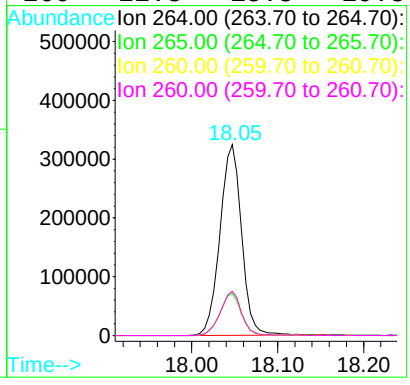




#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.05 min Scan# 2875
Delta R.T. -0.01 min
Lab File: SV626729.D
Acq: 7 Oct 2019 10:38 am

Tgt Ion:264 Resp: 5654623

Ion	Ratio	Lower	Upper
264	100		
265	21.9	0.0	0.0#
260	22.3	18.0	27.0
260	22.3	15.8	29.3



METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: SVOA
METHOD: EPA 8270D

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90406-BLK1	File ID:	SV626752.D
Prepared:	10/07/19 14:12	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/08/19 09:29	Instrument:	BNA#6		
Batch:	BJ90406	Sequence:	Y9J0832	Calibration:	YJ90006

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
95-48-7	2-Methylphenol	0.0416	U
65794-96-9	3- & 4-Methylphenols	0.0416	U
83-32-9	Acenaphthene	0.0416	U
208-96-8	Acenaphthylene	0.0416	U
120-12-7	Anthracene	0.0416	U
56-55-3	Benzo(a)anthracene	0.0416	U
50-32-8	Benzo(a)pyrene	0.0416	U
205-99-2	Benzo(b)fluoranthene	0.0416	U
191-24-2	Benzo(g,h,i)perylene	0.0416	U
207-08-9	Benzo(k)fluoranthene	0.0416	U
218-01-9	Chrysene	0.0416	U
53-70-3	Dibenzo(a,h)anthracene	0.0416	U
132-64-9	Dibenzofuran	0.0416	U
206-44-0	Fluoranthene	0.0416	U
86-73-7	Fluorene	0.0416	U
118-74-1	Hexachlorobenzene	0.0416	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.0416	U
91-20-3	Naphthalene	0.0416	U
87-86-5	Pentachlorophenol	0.0416	U
85-01-8	Phenanthrene	0.0416	U
108-95-2	Phenol	0.0416	U
129-00-0	Pyrene	0.0416	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
SURR: 2-Fluorophenol	1.66	0.888	53.4	20 - 108	
SURR: Phenol-d5	1.66	0.868	52.2	23 - 114	
SURR: Nitrobenzene-d5	0.831	0.513	61.8	22 - 108	
SURR: 2-Fluorobiphenyl	0.831	0.496	59.8	21 - 113	
SURR: 2,4,6-Tribromophenol	1.66	1.06	64.1	19 - 110	
SURR: Terphenyl-d14	0.831	0.547	65.8	24 - 116	

FORM I

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90406-BLK1	File ID:	SV626752.D
Prepared:	10/07/19 14:12	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 1 mL
Analyzed:	10/08/19 09:29	Instrument:	BNA#6		
Batch:	BJ90406	Sequence:	Y9J0832	Calibration:	YJ90006

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
ISTD: 1,4-Dichlorobenzene-d4	1344493	4.98	1333046	4.98	
ISTD: Naphthalene-d8	5319048	5.93	5525424	5.93	
ISTD: Acenaphthene-d10	3003188	7.48	3115909	7.48	
ISTD: Phenanthrene-d10	5701826	9.48	5913317	9.48	
ISTD: Chrysene-d12	5381602	14.93	5994949	14.93	
ISTD: Perylene-d12	6430176	18.04	7224087	18.05	

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626752.D Vial: 3
Acq On : 8 Oct 2019 9:29 am Operator: SR
Sample : BJ90406-BLK1 Inst : BNA#6
Misc : QBSV6100819A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:37 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1344493	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	5319048	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3003188	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5701826	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5381602	40.00	ug/mL	-0.02
92) Perylene-d12	18.04	264	6430176	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	1391006	26.72	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 35.63%			
5) Phenol-d5	4.74	99	1698266	26.12	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 34.83%			
22) Nitrobenzene-d5	5.42	82	664015	15.44	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 30.88%			
45) 2-Fluorobiphenyl	6.79	172	1602968	14.94	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 29.88%			
67) 2,4,6-Tribromophenol	8.46	330	465645	32.05	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 42.73%			
82) Terphenyl-d14	12.62	244	2204943	16.46	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 32.92%#			

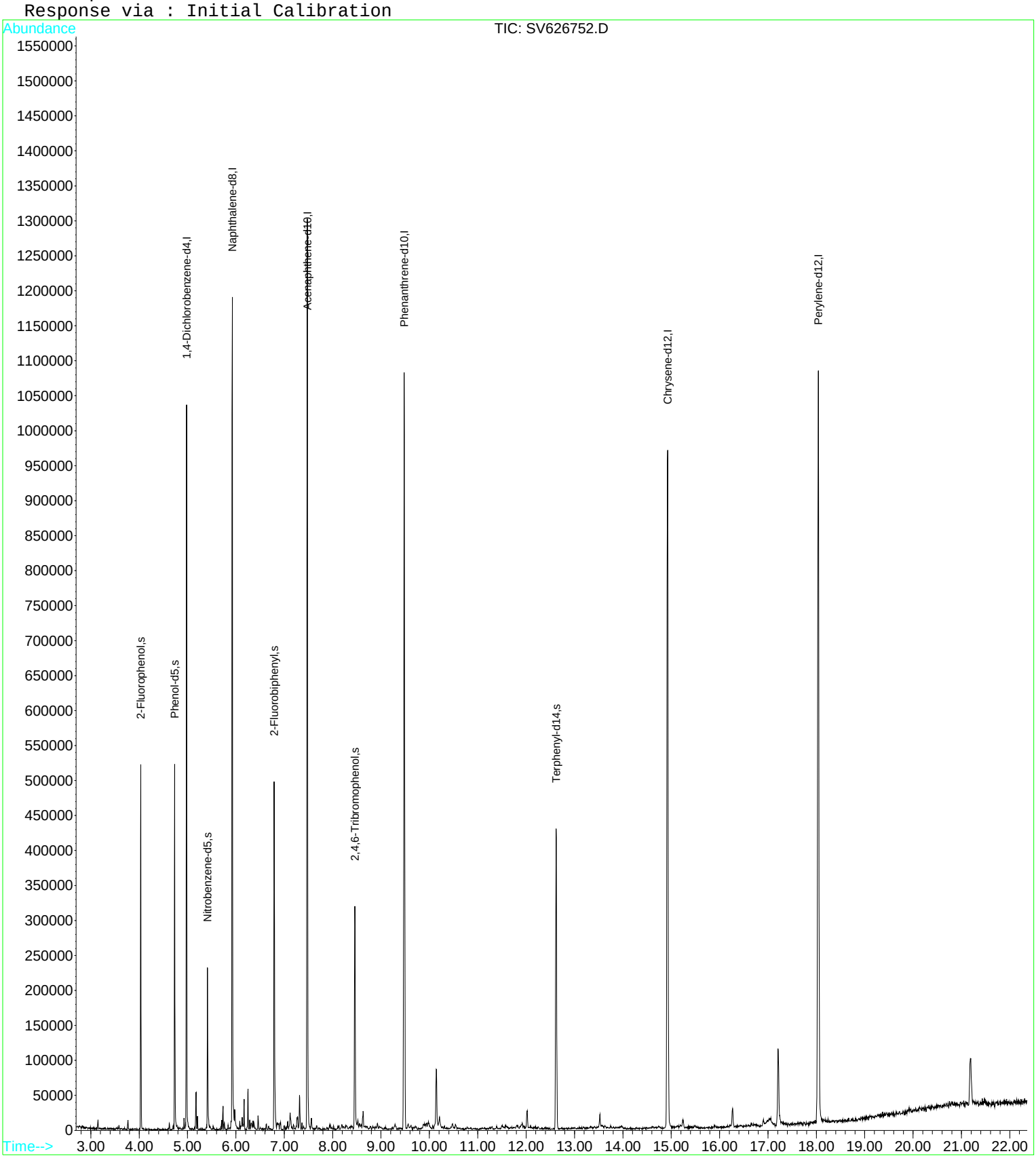
Target Compounds	Qvalue

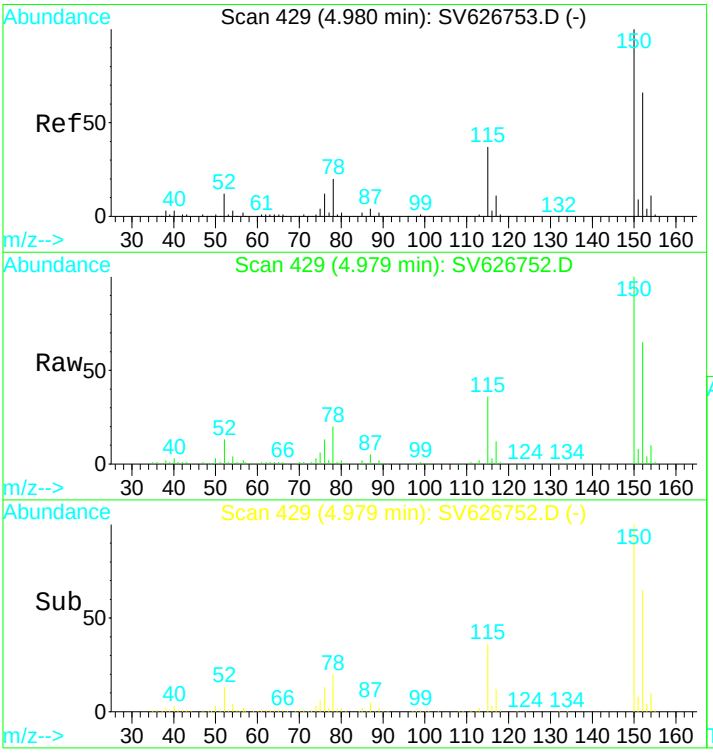
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626752.D Vial: 3
Acq On : 8 Oct 2019 9:29 am Operator: SR
Sample : BJ90406-BLK1 Inst : BNA#6
Misc : QBSV6100819A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:37 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration

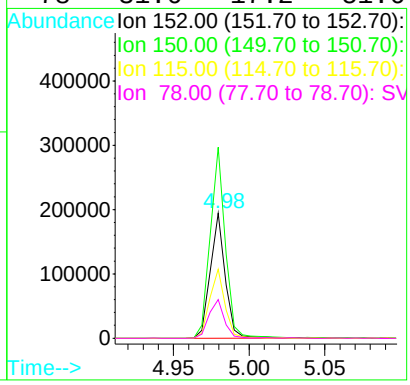


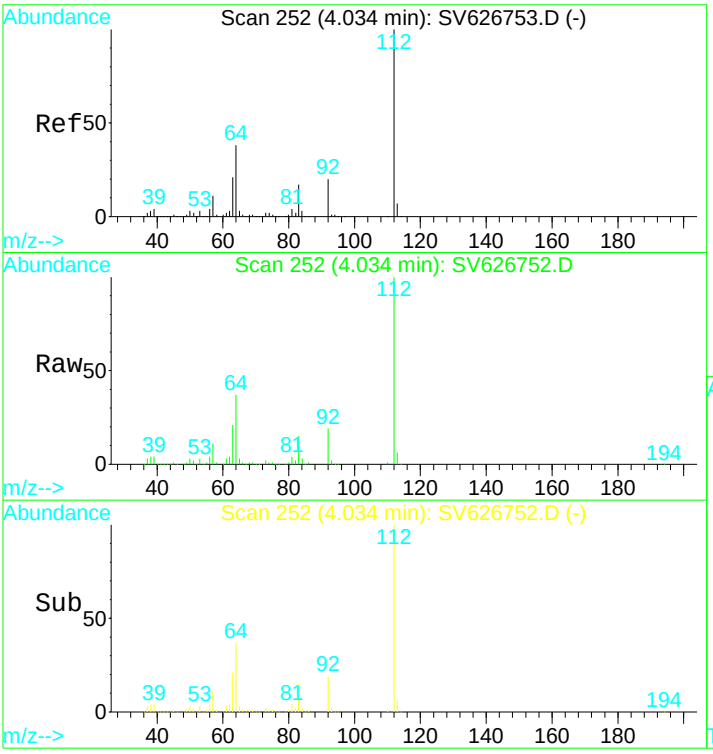


#1
1,4-Dichlorobenzene-d4
Concen: 40.00 ug/mL
RT: 4.98 min Scan# 429
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:152 Resp: 1344493

Ion	Ratio	Lower	Upper
152	100		
150	152.6	82.1	246.3
115	56.6	28.4	85.2
78	31.6	17.2	51.6

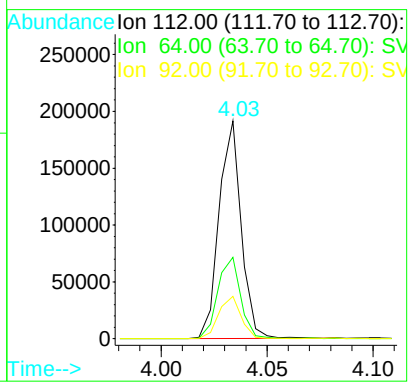


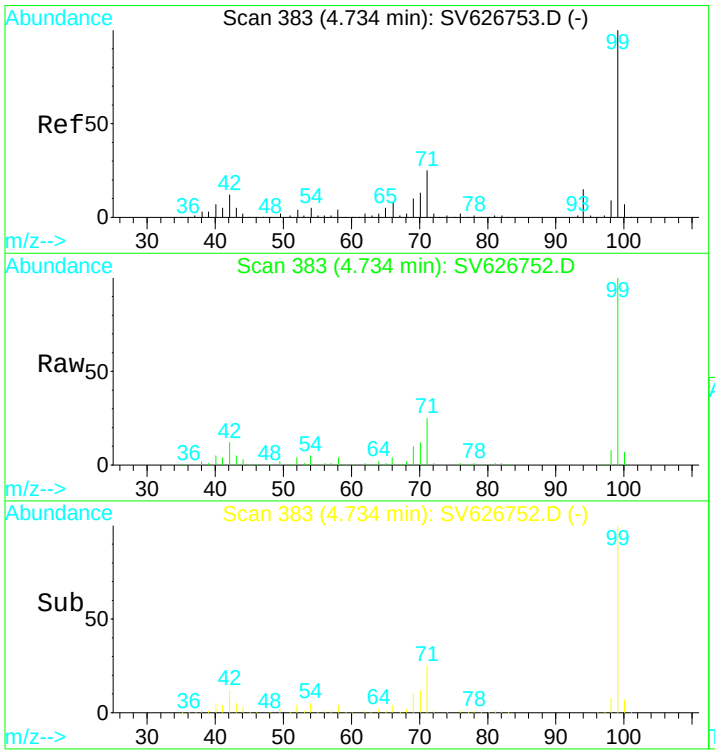


#4
2-Fluorophenol
Concen: N.D. ug/mL
RT: 4.03 min Scan# 252
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:112 Resp: 1391006

Ion	Ratio	Lower	Upper
112	100		
64	38.8	32.0	48.0
92	19.7	15.8	23.8

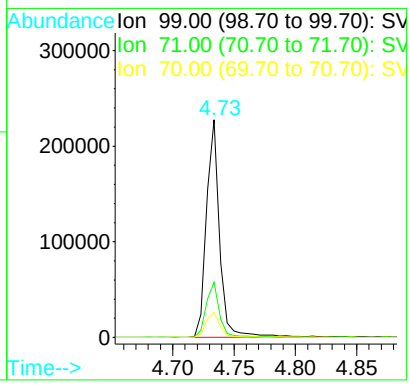


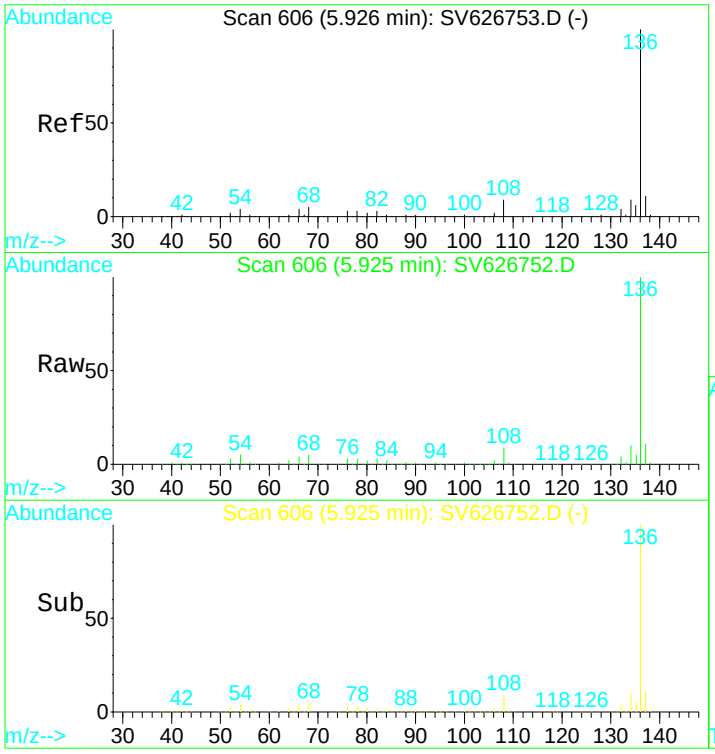


#5
Phenol-d5
Concen: N.D. ug/mL
RT: 4.74 min Scan# 383
Delta R.T. -0.00 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion: 99 Resp: 1698266

Ion	Ratio	Lower	Upper
99	100		
71	25.4	20.6	31.0
70	12.6	10.6	15.8

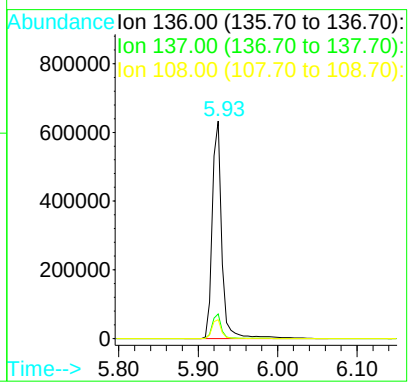


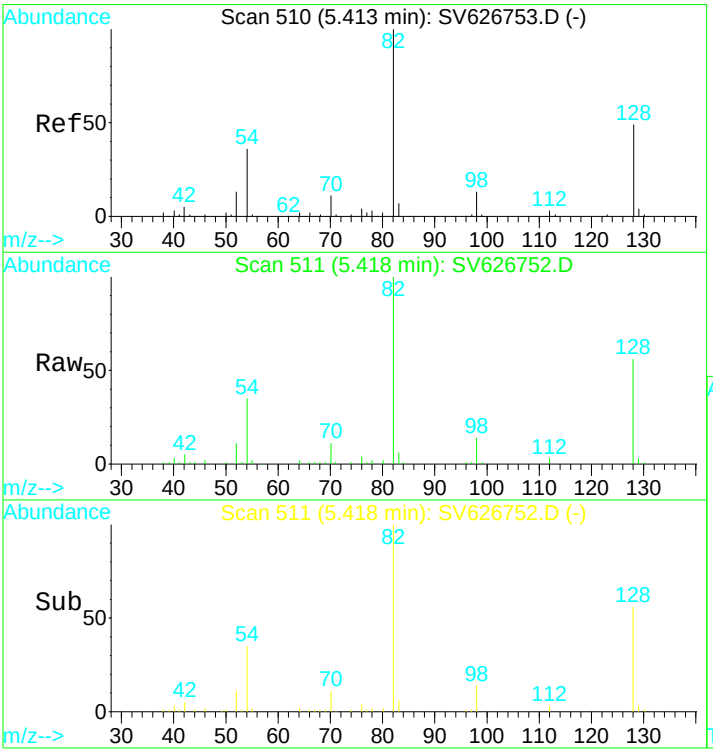


#21
Naphthalene-d8
Concen: 40.00 ug/mL
RT: 5.93 min Scan# 606
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:136 Resp: 5319048

Ion	Ratio	Lower	Upper
136	100		
137	11.0	5.5	16.7
108	8.4	4.7	14.1

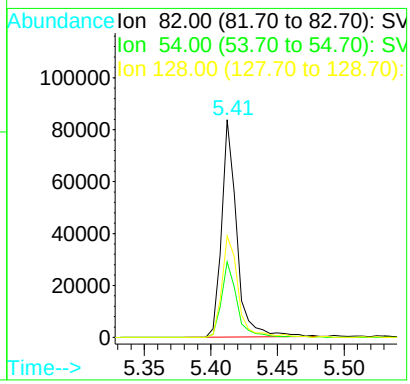


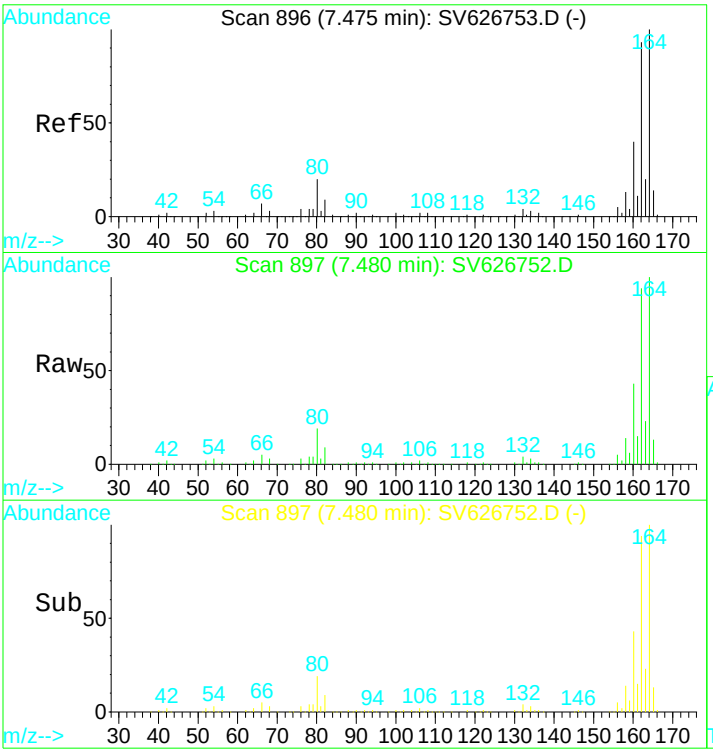


#22
Nitrobenzene-d5
Concen: 40.00 ug/mL
RT: 5.42 min Scan# 511
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion: 82 Resp: 664015

Ion	Ratio	Lower	Upper
82	100		
54	35.4	29.0	43.4
128	50.6	38.0	57.0

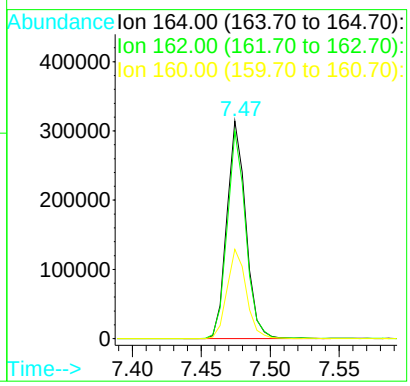


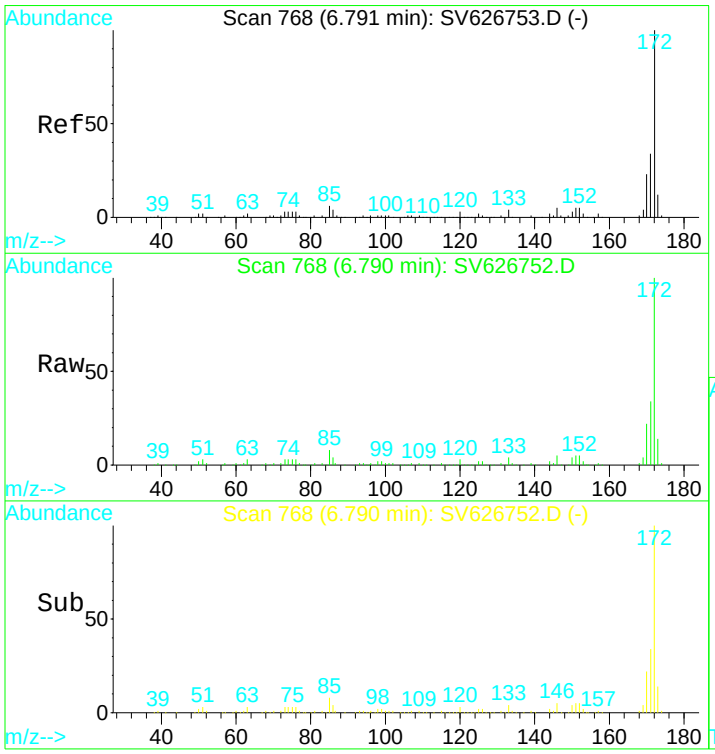


#39
Acenaphthene-d10
Concen: 40.00 ug/mL
RT: 7.48 min Scan# 897
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:164 Resp: 3003188

Ion	Ratio	Lower	Upper
164	100		
162	93.5	47.4	142.2
160	41.8	21.0	63.0

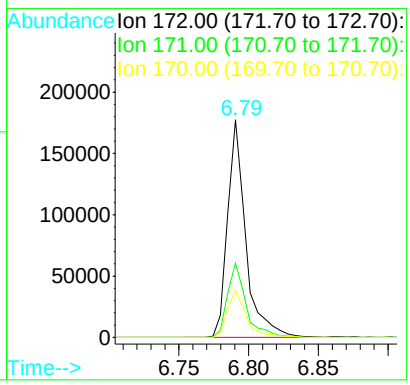


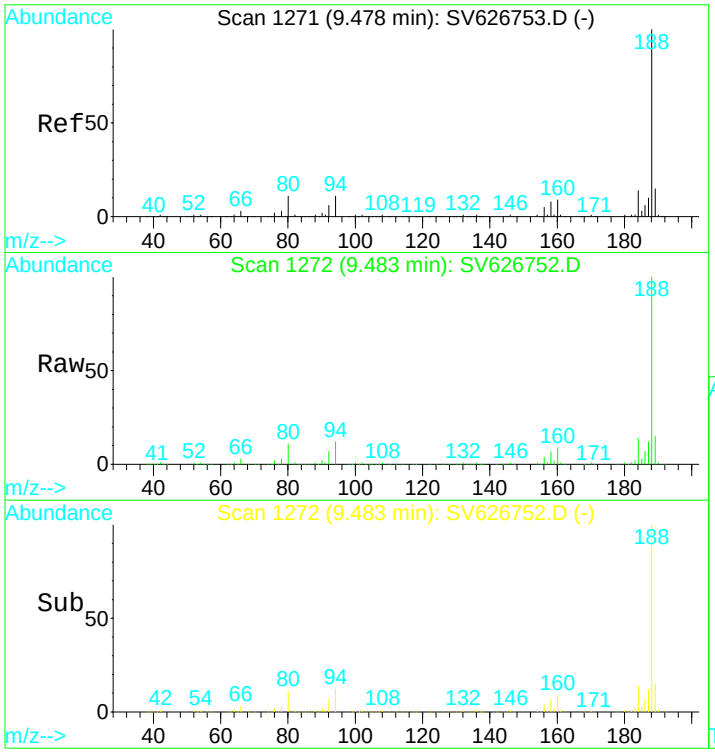


#45
2-Fluorobiphenyl
Concen: N.D. ug/mL
RT: 6.79 min Scan# 768
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:172 Resp: 1602968

Ion	Ratio	Lower	Upper
172	100		
171	35.1	28.2	42.4
170	22.5	18.4	27.6

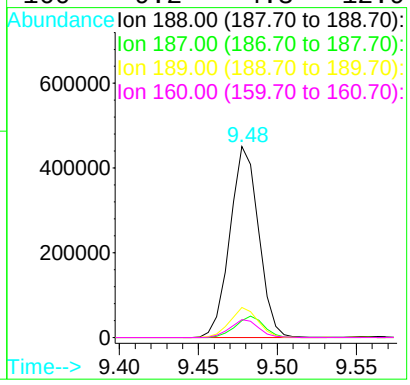


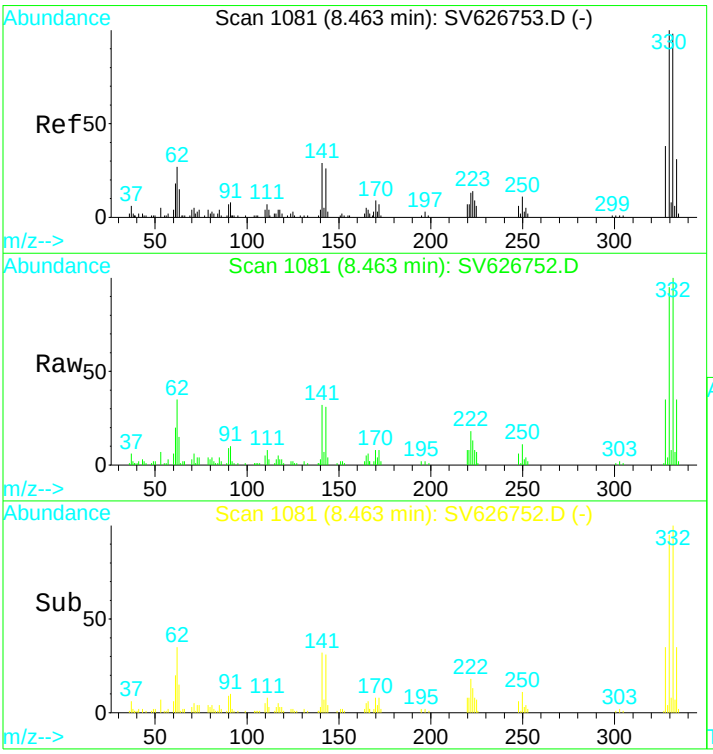


#62
Phenanthrene-d10
Concen: 40.00 ug/mL
RT: 9.48 min Scan# 1272
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:188 Resp: 5701826

Ion	Ratio	Lower	Upper
188	100		
187	10.9	8.5	12.7
189	15.3	7.8	23.4
160	9.2	4.3	12.9

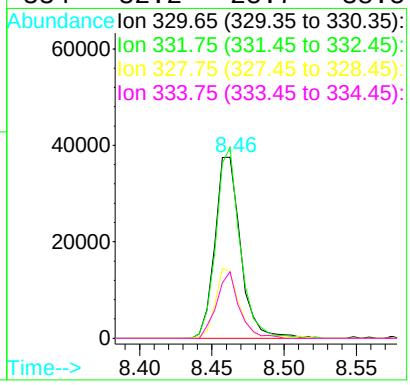


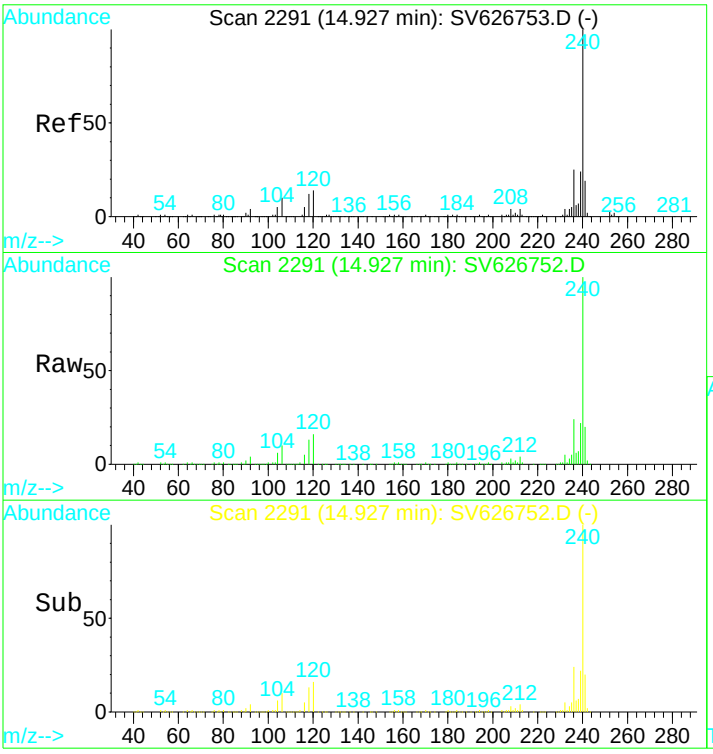


#67
2,4,6-Tribromophenol
Concen: N.D. ug/mL
RT: 8.46 min Scan# 1081
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:330 Resp: 465645

Ion	Ratio	Lower	Upper
330	100		
332	98.7	78.8	118.2
328	35.3	27.4	41.0
334	32.2	25.7	38.5

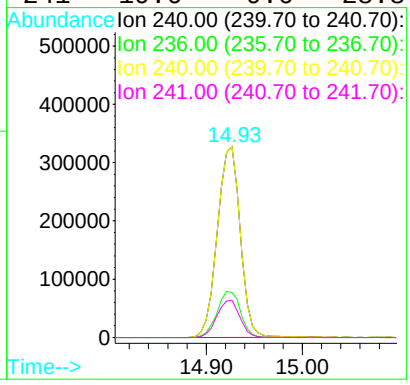


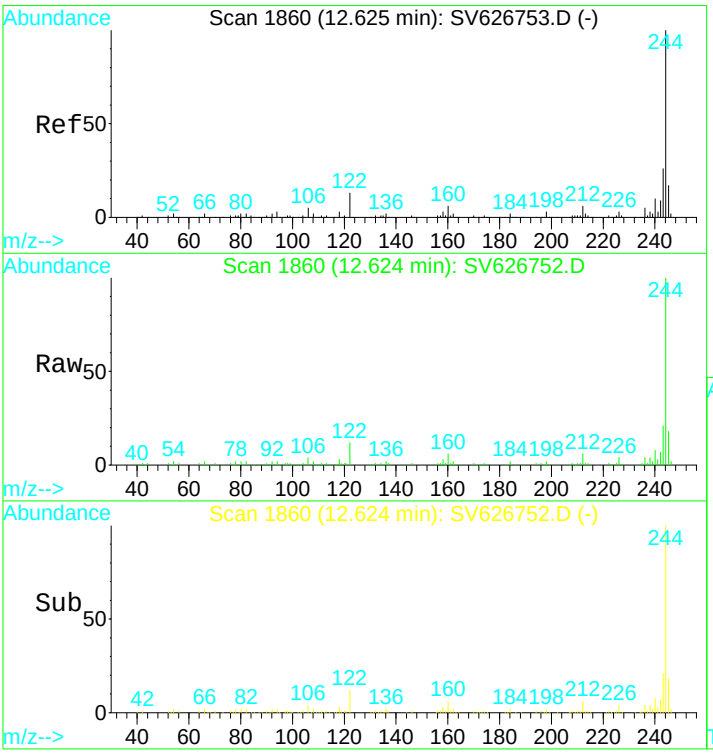


#80
Chrysene-d12
Concen: 40.00 ug/mL
RT: 14.93 min Scan# 2291
Delta R.T. -0.02 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:240 Resp: 5381602

Ion	Ratio	Lower	Upper
240	100		
236	24.8	12.4	37.0
240	100.0	50.0	150.0
241	19.6	9.6	28.8

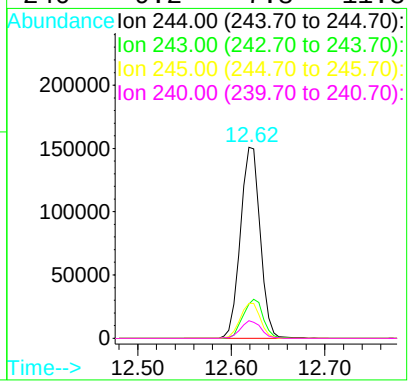


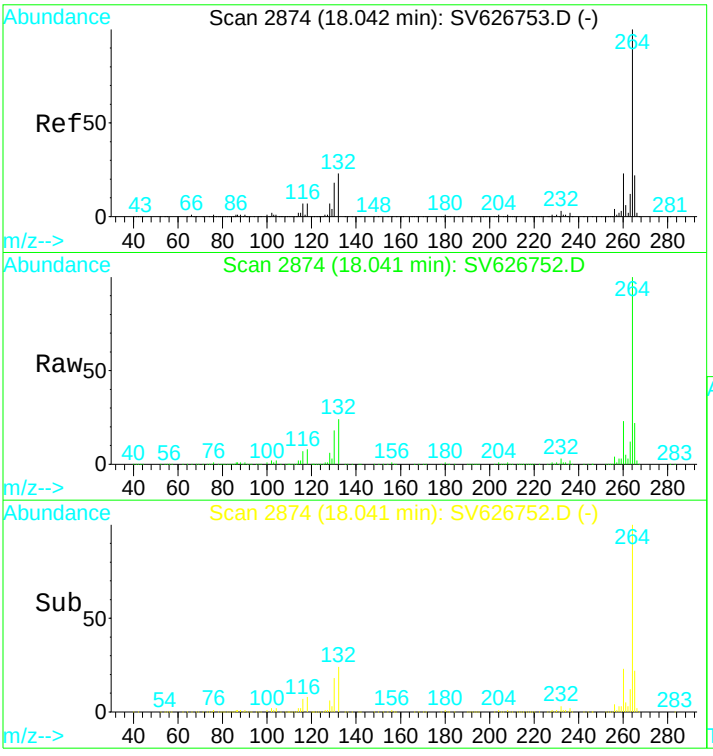


#82
Terphenyl-d14
Concen: N.D. ug/mL
RT: 12.62 min Scan# 1860
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:244 Resp: 2204943

Ion	Ratio	Lower	Upper
244	100		
243	20.7	18.6	28.0
245	18.6	15.7	23.5
240	9.2	7.8	11.8

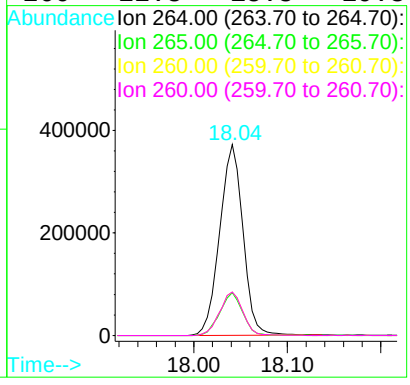




#92
Perylene-d12
Concen: 40.00 ug/mL
RT: 18.04 min Scan# 2874
Delta R.T. -0.01 min
Lab File: SV626752.D
Acq: 8 Oct 2019 9:29 am

Tgt Ion:264 Resp: 6430176

Ion	Ratio	Lower	Upper
264	100		
265	21.7	0.0	0.0#
260	22.8	18.0	27.0
260	22.8	15.8	29.3



LCS RAW DATA

SDG: 19J0144
CLASS: SVOA
METHOD: EPA 8270D

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626730.D Vial: 4
Acq On : 7 Oct 2019 11:10 am Operator: SR
Sample : BJ90324-BS1 Inst : BNA#6
Misc : QBSV6100719A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:46 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1340760	40.00	ug/mL	0.00
21) Naphthalene-d8	5.93	136	4938519	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	2922033	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5444910	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5066575	40.00	ug/mL	-0.01
92) Perylene-d12	18.05	264	6034947	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.04	112	1608794	30.99	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 41.32%			
5) Phenol-d5	4.74	99	1902076	29.34	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 39.12%			
22) Nitrobenzene-d5	5.42	82	735752	18.42	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 36.84%			
45) 2-Fluorobiphenyl	6.79	172	1679115	16.08	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 32.16%			
67) 2,4,6-Tribromophenol	8.46	330	519209	37.42	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 49.89%			
82) Terphenyl-d14	12.62	244	2224530	17.64	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 35.28%			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.94	74	438979	14.85	ug/mL	97
3) Pyridine	2.95	79	633136	11.17	ug/mL#	83
6) Benzaldehyde	4.67	105	681410	18.53	ug/mL	98
7) Aniline	4.77	93	1072551	14.74	ug/mL	99
8) Phenol	4.75	94	948384	14.66	ug/mL	95
9) Bis(2-chloroethyl)ether	4.81	93	734432	15.75	ug/mL	100
10) 2-Chlorophenol	4.85	128	844530	16.28	ug/mL	98
11) 1,3-Dichlorobenzene	4.96	146	837814	14.17	ug/mL	99
12) 1,4-Dichlorobenzene	4.99	146	851513	14.66	ug/mL	99
13) Benzyl Alcohol	5.09	108	533071	17.33	ug/mL	99
14) 1,2-Dichlorobenzene	5.14	146	825871	14.63	ug/mL	98
15) 2-Methylphenol	5.18	107	654101	14.13	ug/mL	99
16) Acetophenone	5.30	105	1052216	14.26	ug/mL	99
17) Bis(2-chloroisopropyl) eth	5.20	45	597944	16.38	ug/mL#	90
18) N-Nitroso-di-n-propylamine	5.31	70	481206	15.18	ug/mL	94
19) 4-Methylphenol	5.29	107	902835	12.96	ug/mL#	88
20) Hexachloroethane	5.36	117	345252	15.23	ug/mL	99
23) Nitrobenzene	5.43	77	718203	16.78	ug/mL	98
24) Isophorone	5.59	82	1398456	16.37	ug/mL	99
25) 2-Nitrophenol	5.66	139	415230	22.41	ug/mL	90
26) 2,4-Dimethylphenol	5.67	122	751879	17.72	ug/mL	98
27) Bis(2-chloroethoxy) methan	5.74	93	891949	16.43	ug/mL	97
28) Benzoic acid	5.73	105	546059	18.88	ug/mL#	44
29) 2,4-Dichlorophenol	5.83	162	674790	18.32	ug/mL	98
30) 1,2,4-Trichlorobenzene	5.89	180	738617	16.31	ug/mL	99
32) Naphthalene	5.94	128	2170359	16.62	ug/mL	100
33) 4-Chloroaniline	5.99	127	817361	13.55	ug/mL	99
34) Hexachlorobutadiene	6.06	225	410103	16.79	ug/mL	96
35) Caprolactam	6.24	113	309789	17.50	ug/mL#	68
36) 4-Chloro-3-methylphenol	6.35	107	712436	17.28	ug/mL	97
37) 1-Methylnaphthalene	6.57	141	1362688	15.55	ug/mL	99
38) 2-Methylnaphthalene	6.47	142	1620235	18.14	ug/mL	96
40) 1,2,4,5-tetrachlorobenzene	6.65	216	888283	20.52	ug/mL	98
41) Hexachlorocyclopentadiene	6.66	237	445537	16.64	ug/mL	98
42) Biphenyl	6.88	153	771078	15.47	ug/mL	99
43) 2,4,6-Trichlorophenol	6.73	196	493135	17.82	ug/mL	99

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100719A\SV626730.D Vial: 4
Acq On : 7 Oct 2019 11:10 am Operator: SR
Sample : BJ90324-BS1 Inst : BNA#6
Misc : QBSV6100719A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:46 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

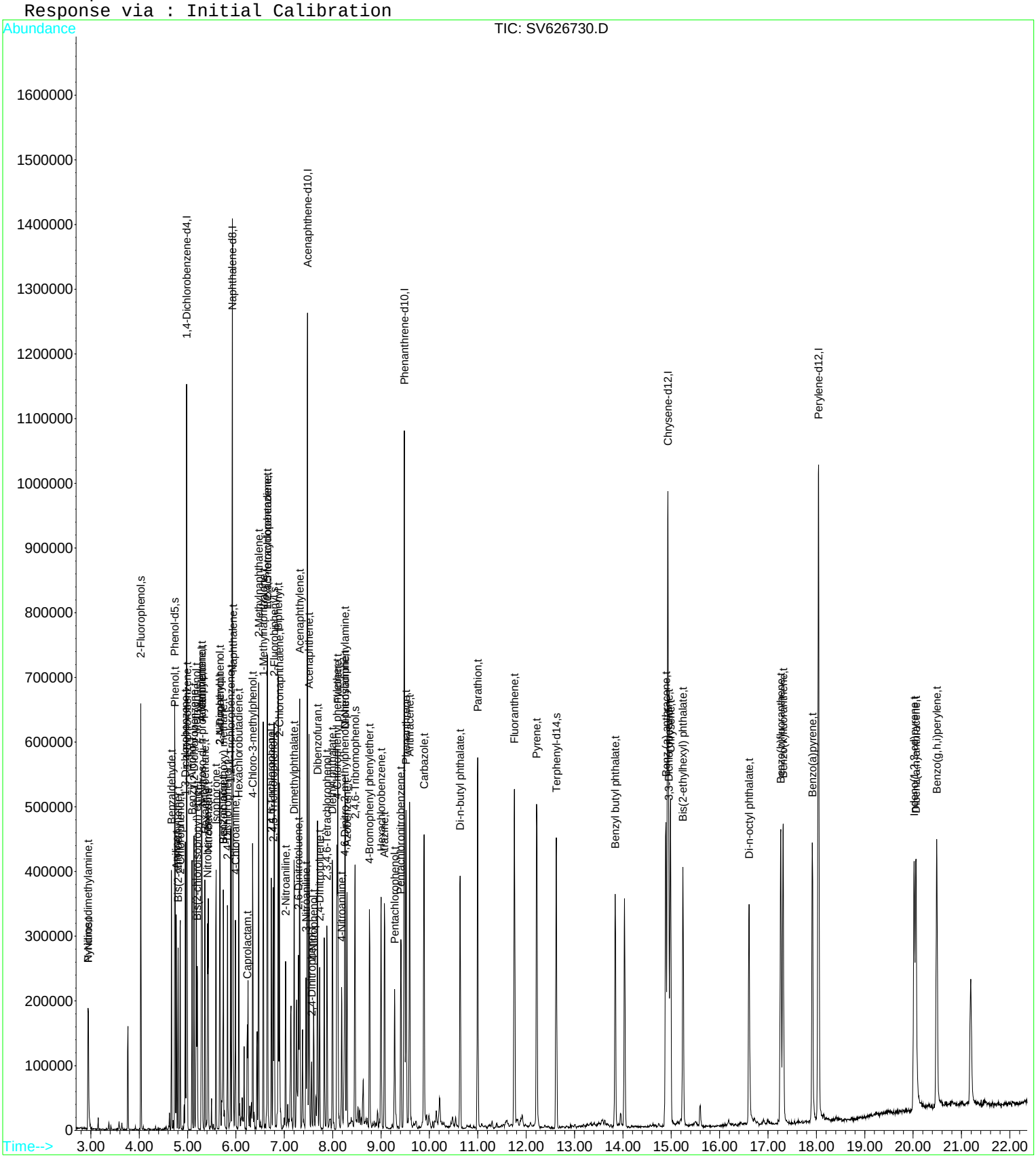
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	2,4,5-Trichlorophenol	6.77	196	540694	15.16	ug/mL	98
46)	2-Chloronaphthalene	6.90	162	1460218	15.29	ug/mL	99
47)	2-Nitroaniline	7.03	138	492031	17.83	ug/mL	99
48)	Dimethylphthalate	7.21	163	1790931	13.17	ug/mL	99
49)	2,6-Dinitrotoluene	7.30	165	392607	19.06	ug/mL	92
50)	Acenaphthylene	7.32	152	2303358	15.23	ug/mL	98
51)	3-Nitroaniline	7.45	138	392073	15.31	ug/mL	94
52)	Acenaphthene	7.51	154	1358339	15.71	ug/mL	98
53)	2,4-Dinitrophenol	7.57	184	98281	20.74	ug/mL	98
54)	Dibenzofuran	7.69	168	2159465	15.79	ug/mL	98
55)	2,4-Dinitrotoluene	7.73	165	486953	18.18	ug/mL	98
56)	4-Nitrophenol	7.61	65	250758	16.37	ug/mL	96
57)	2,3,4,6-Tetrachlorophenol	7.88	131	191831	18.37	ug/mL	87
58)	Diethyl phthalate	8.00	149	1740951	16.12	ug/mL	99
59)	Fluorene	8.11	166	1778069	16.48	ug/mL	98
60)	4-Chlorophenyl phenylether	8.09	204	880953	16.35	ug/mL	98
61)	4-Nitroaniline	8.19	138	425247	16.64	ug/mL	97
63)	4,6-Dinitro-2-methylphenol	8.24	198	205288	25.47	ug/mL	96
64)	Diphenylamine	8.26	169	1579094	21.04	ug/mL	99
65)	N-Nitrosodiphenylamine	8.26	167	556887	21.42	ug/mL	96
66)	Azobenzene	8.30	77	1561119	15.27	ug/mL	96
68)	4-Bromophenyl phenylether	8.77	248	532180	16.68	ug/mL	97
69)	Atrazine	9.08	200	531794	16.28	ug/mL	99
70)	Hexachlorobenzene	9.00	142	223773	17.10	ug/mL	94
71)	Pentachlorophenol	9.28	266	344244	18.96	ug/mL	95
72)	Pentachloronitrobenzene	9.41	237	240649	21.16	ug/mL	98
73)	Phenanthrene	9.52	178	2549989	17.09	ug/mL	99
74)	Anthracene	9.59	178	2695777	17.63	ug/mL	99
75)	Carbazole	9.89	167	2564473	16.50	ug/mL#	92
76)	Di-n-butyl phthalate	10.64	149	3060398	17.32	ug/mL	100
77)	Parathion	11.00	97	802083	73.79	ug/mL#	97
78)	Fluoranthene	11.76	202	3064930	17.52	ug/mL	100
81)	Pyrene	12.22	202	3141483	17.70	ug/mL	100
83)	Benzyl butyl phthalate	13.84	149	1409216	18.40	ug/mL	98
84)	Bis(2-ethylhexyl) phthalat	15.24	149	1980004	19.35	ug/mL	99
85)	Benz (a) anthracene	14.89	228	2980066	17.66	ug/mL	97
86)	3,3-Dichlorobenzidine	14.95	252	968539	16.82	ug/mL	96
87)	Chrysene	14.99	228	2847527	16.82	ug/mL#	89
88)	Di-n-octyl phthalate	16.61	149	3216717	20.35	ug/mL	97
89)	Benzo(b)fluoranthene	17.27	252	2957916	18.32	ug/mL	99
90)	Benzo(k)fluoranthene	17.31	252	3054741	16.27	ug/mL	98
91)	Benzo(a)pyrene	17.92	252	2758752	17.25	ug/mL	98
93)	Indeno(1,2,3-cd)pyrene	20.02	276	3398312	17.12	ug/mL#	92
94)	Dibenz(a,h)anthracene	20.06	278	2827551	17.57	ug/mL	98
95)	Benzo(g,h,i)perylene	20.49	276	3092826m	17.44	ug/mL	

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100719A\SV626730.D Vial: 4
Acq On : 7 Oct 2019 11:10 am Operator: SR
Sample : BJ90324-BS1 Inst : BNA#6
Misc : QBSV6100719A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 9:46 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration



LCS RAW DATA

SDG: 19J0144
CLASS: SVOA
METHOD: EPA 8270D

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626753.D Vial: 4
Acq On : 8 Oct 2019 10:01 am Operator: SR
Sample : BJ90406-BS1 Inst : BNA#6
Misc : QBSV6100819A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:38 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	4.98	152	1389459	40.00	ug/mL	0.00
21) Naphthalene-d8	5.92	136	5308894	40.00	ug/mL	0.00
39) Acenaphthene-d10	7.48	164	3074543	40.00	ug/mL	0.00
62) Phenanthrene-d10	9.48	188	5842169	40.00	ug/mL	0.00
80) Chrysene-d12	14.93	240	5410683	40.00	ug/mL	-0.02
92) Perylene-d12	18.04	264	6507327	40.00	ug/mL	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol	4.03	112	1498330	27.85	ug/mL	0.00
Spiked Amount 75.000	Range 15 - 87		Recovery = 37.13%			
5) Phenol-d5	4.74	99	1782853	26.53	ug/mL	0.00
Spiked Amount 75.000	Range 10 - 100		Recovery = 35.37%			
22) Nitrobenzene-d5	5.41	82	679928	15.84	ug/mL	0.00
Spiked Amount 50.000	Range 26 - 120		Recovery = 31.68%			
45) 2-Fluorobiphenyl	6.79	172	1595699	14.53	ug/mL	0.00
Spiked Amount 50.000	Range 29 - 120		Recovery = 29.06%			
67) 2,4,6-Tribromophenol	8.46	330	511518	34.36	ug/mL	0.00
Spiked Amount 75.000	Range 35 - 126		Recovery = 45.81%			
82) Terphenyl-d14	12.62	244	2081012	15.46	ug/mL	0.00
Spiked Amount 50.000	Range 35 - 127		Recovery = 30.92%#			
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	2.94	74	418183	13.65	ug/mL	97
3) Pyridine	2.95	79	638553m	10.87	ug/mL	
6) Benzaldehyde	4.67	105	681577	17.89	ug/mL	95
7) Aniline	4.77	93	995608	13.20	ug/mL	98
8) Phenol	4.74	94	1021153	15.23	ug/mL	95
9) Bis(2-chloroethyl)ether	4.80	93	719146	14.89	ug/mL	96
10) 2-Chlorophenol	4.85	128	797274	14.83	ug/mL	98
11) 1,3-Dichlorobenzene	4.95	146	829609	13.54	ug/mL	98
12) 1,4-Dichlorobenzene	4.99	146	792754	13.17	ug/mL	100
13) Benzyl Alcohol	5.09	108	503371	15.79	ug/mL	98
14) 1,2-Dichlorobenzene	5.13	146	786761	13.45	ug/mL	100
15) 2-Methylphenol	5.18	107	630141	13.13	ug/mL	97
16) Acetophenone	5.30	105	1021431	13.36	ug/mL	98
17) Bis(2-chloroisopropyl) eth	5.20	45	552555	14.60	ug/mL#	93
18) N-Nitroso-di-n-propylamine	5.30	70	428616	13.05	ug/mL	95
19) 4-Methylphenol	5.29	107	812786	11.26	ug/mL#	81
20) Hexachloroethane	5.36	117	320831	13.65	ug/mL	97
23) Nitrobenzene	5.43	77	672012	14.60	ug/mL	97
24) Isophorone	5.59	82	1318685	14.36	ug/mL	98
25) 2-Nitrophenol	5.66	139	380218	19.09	ug/mL	97
26) 2,4-Dimethylphenol	5.67	122	680244	14.91	ug/mL	99
27) Bis(2-chloroethoxy) methan	5.74	93	848958	14.54	ug/mL	98
28) Benzoic acid	5.73	105	400037	12.87	ug/mL	74
29) 2,4-Dichlorophenol	5.83	162	630382	15.92	ug/mL	99
30) 1,2,4-Trichlorobenzene	5.89	180	700028	14.38	ug/mL	99
32) Naphthalene	5.94	128	2055854	14.65	ug/mL	100
33) 4-Chloroaniline	5.99	127	808362	12.47	ug/mL	98
34) Hexachlorobutadiene	6.06	225	406754	15.49	ug/mL	98
35) Caprolactam	6.24	113	299761	15.75	ug/mL#	86
36) 4-Chloro-3-methylphenol	6.35	107	670842	15.14	ug/mL	99
37) 1-Methylnaphthalene	6.56	141	1319457	14.01	ug/mL	99
38) 2-Methylnaphthalene	6.47	142	1530127	15.94	ug/mL	96
40) 1,2,4,5-tetrachlorobenzene	6.65	216	845417	18.57	ug/mL	98
41) Hexachlorocyclopentadiene	6.65	237	438521	15.56	ug/mL	98
42) Biphenyl	6.88	153	747919	14.26	ug/mL	97
43) 2,4,6-Trichlorophenol	6.73	196	458643	15.75	ug/mL	98

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

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100819A\SV626753.D Vial: 4
Acq On : 8 Oct 2019 10:01 am Operator: SR
Sample : BJ90406-BS1 Inst : BNA#6
Misc : QBSV6100819A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:38 2019 Quant Results File: BNA6M038.RES

Quant Method : C:\HPCHEM\1...\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Fri Oct 04 14:03:02 2019
Response via : Initial Calibration
DataAcq Meth : BNA6ACQ

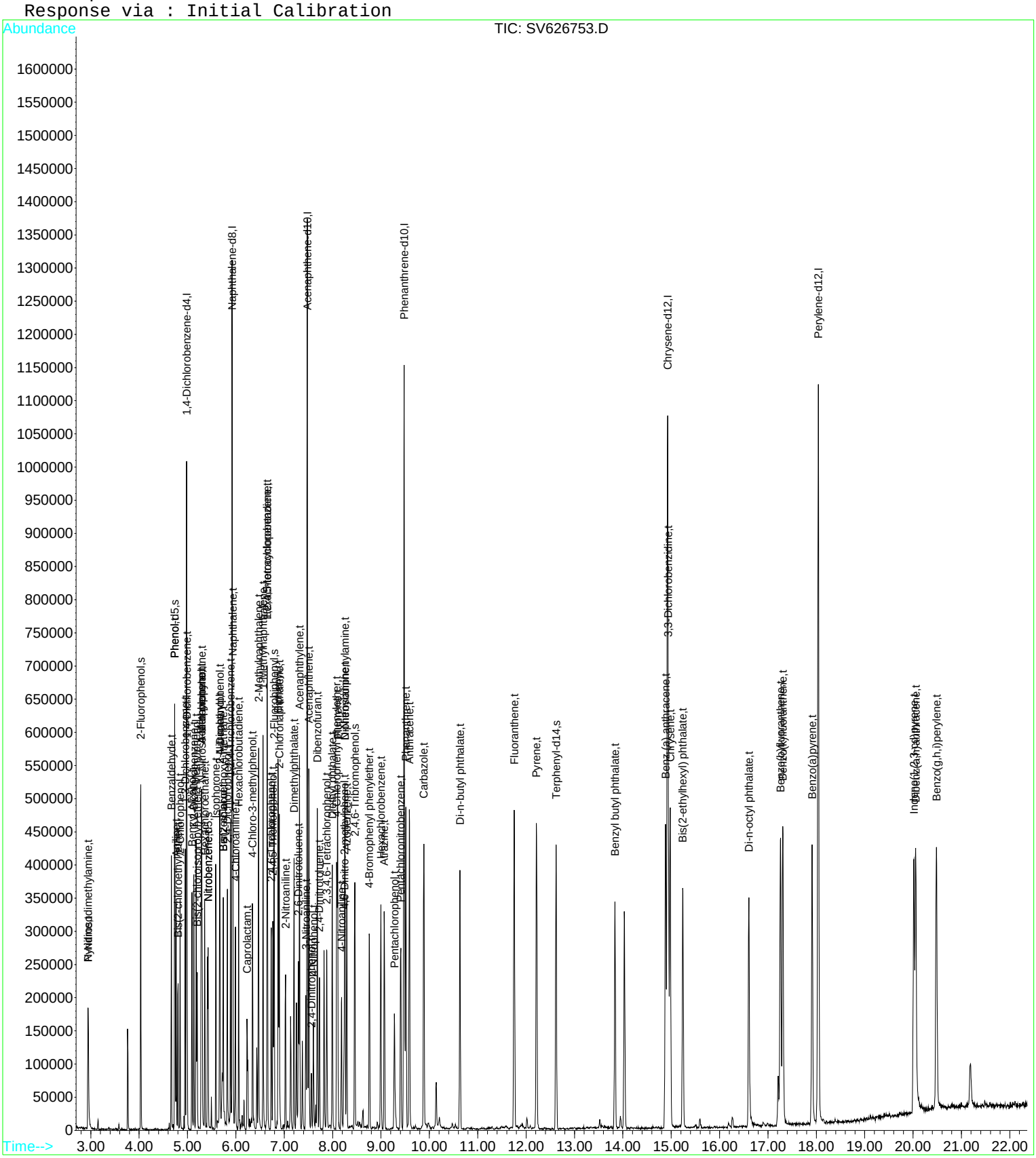
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	2,4,5-Trichlorophenol	6.77	196	520846	13.88	ug/mL	99
46)	2-Chloronaphthalene	6.90	162	1373490	13.67	ug/mL	97
47)	2-Nitroaniline	7.03	138	496345	17.10	ug/mL	93
48)	Dimethylphthalate	7.20	163	1675447	11.71	ug/mL	99
49)	2,6-Dinitrotoluene	7.29	165	377950	17.44	ug/mL	92
50)	Acenaphthylene	7.32	152	2249798	14.14	ug/mL	99
51)	3-Nitroaniline	7.45	138	385852	14.32	ug/mL	94
52)	Acenaphthene	7.51	154	1327560	14.59	ug/mL	99
53)	2,4-Dinitrophenol	7.56	184	111233	22.30	ug/mL	97
54)	Dibenzofuran	7.69	168	2074780	14.42	ug/mL	99
55)	2,4-Dinitrotoluene	7.73	165	482496	17.12	ug/mL	98
56)	4-Nitrophenol	7.60	65	251942	15.63	ug/mL	97
57)	2,3,4,6-Tetrachlorophenol	7.88	131	188547	17.16	ug/mL#	97
58)	Diethyl phthalate	7.99	149	1636537	14.40	ug/mL	99
59)	Fluorene	8.11	166	1642752	14.47	ug/mL	99
60)	4-Chlorophenyl phenylether	8.09	204	821420	14.49	ug/mL	99
61)	4-Nitroaniline	8.19	138	433216	16.11	ug/mL	94
63)	4,6-Dinitro-2-methylphenol	8.24	198	218128	25.22	ug/mL	96
64)	Diphenylamine	8.26	169	1496942	18.59	ug/mL	100
65)	N-Nitrosodiphenylamine	8.26	167	521489	18.70	ug/mL	97
66)	Azobenzene	8.29	77	1479855	13.49	ug/mL	97
68)	4-Bromophenyl phenylether	8.76	248	526836	15.39	ug/mL	95
69)	Atrazine	9.07	200	522936	14.92	ug/mL	98
70)	Hexachlorobenzene	9.00	142	201289	14.33	ug/mL	97
71)	Pentachlorophenol	9.28	266	328529	16.86	ug/mL	98
72)	Pentachloronitrobenzene	9.41	237	230030	18.85	ug/mL	95
73)	Phenanthrene	9.52	178	2426519	15.16	ug/mL	99
74)	Anthracene	9.59	178	2576937	15.70	ug/mL	99
75)	Carbazole	9.89	167	2485403	14.91	ug/mL#	92
76)	Di-n-butyl phthalate	10.63	149	2969806	15.67	ug/mL	99
78)	Fluoranthene	11.76	202	2899996	15.45	ug/mL	100
81)	Pyrene	12.22	202	2962397	15.63	ug/mL	100
83)	Benzyl butyl phthalate	13.84	149	1309313	16.01	ug/mL	98
84)	Bis(2-ethylhexyl) phthalat	15.24	149	1906329	17.44	ug/mL	99
85)	Benz (a) anthracene	14.89	228	2891312	16.05	ug/mL	97
86)	3,3-Dichlorobenzidine	14.95	252	1024160	16.66	ug/mL	98
87)	Chrysene	14.98	228	2721158	15.05	ug/mL#	89
88)	Di-n-octyl phthalate	16.61	149	3107383	18.40	ug/mL	98
89)	Benzo(b)fluoranthene	17.26	252	2810072	16.30	ug/mL	99
90)	Benzo(k)fluoranthene	17.31	252	2970362	14.81	ug/mL	98
91)	Benzo(a)pyrene	17.92	252	2628549	15.39	ug/mL	97
93)	Indeno(1,2,3-cd)pyrene	20.02	276	3341051m	15.61	ug/mL	
94)	Dibenz(a,h)anthracene	20.06	278	2839214	16.36	ug/mL	97
95)	Benzo(g,h,i)perylene	20.48	276	2961547	15.49	ug/mL	99

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100819A\SV626753.D Vial: 4
Acq On : 8 Oct 2019 10:01 am Operator: SR
Sample : BJ90406-BS1 Inst : BNA#6
Misc : QBSV6100819A Multiplr: 1.00
MS Integration Params: EVENTS.E
Quant Time: Oct 8 14:38 2019 Quant Results File: BNA6M038.RES

Method : C:\HPCHEM\1\METHODS\METHODS\BNA6M038.M (Chemstation Integrator)
Title : GC MS BNA 6 8270D
Last Update : Tue Oct 08 14:38:53 2019
Response via : Initial Calibration



BENCHSHEETS

SDG: 19J0144

CLASS: SVOA

METHOD: EPA 8270D

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90324

Preparation Date: 10/04/2019 13:58

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:53:23PM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19I234 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0113-01 A	Semi-Volatiles, Parathion by 8270	30.2	1				
19J0113-01 A	Semi-Volatiles, EPA TCL List	30.2	1				
19J0113-01 A	Semi-Volatiles, Tentatively Identified Cmpds.	30.2	1				
19J0113-01RE1 A	Semi-Volatiles, EPA TCL List	30.2	1				Added 10/8/2019 by KH
19J0113-02 A	Semi-Volatiles, Parathion by 8270	30.2	1				
19J0113-02 A	Semi-Volatiles, Tentatively Identified Cmpds.	30.2	1				
19J0113-02 A	Semi-Volatiles, EPA TCL List	30.2	1				
19J0144-04 A	SVOA, 8270 MASTER	30.3	1				
19J0144-05 A	SVOA, 8270 MASTER	30.4	1				
19J0144-06 A	SVOA, 8270 MASTER	30.7	1				
19J0146-04 A	SVOA, 8270 MASTER	30.1	1				
19J0146-05 A	SVOA, 8270 MASTER	30.5	1				
19J0146-06 A	SVOA, 8270 MASTER	30.1	1				
19J0146-07 A	SVOA, 8270 MASTER	30.4	1				
19J0148-01 E	Semi-Volatiles, EPA TCL List	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, Parathion by 8270	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, 8270 Acid Extractables	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, PAH Target List	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, Tentatively Identified Cmpds.	30.1	1				
19J0148-01 E	Semi-Volatiles, 8270 Base/Neutrals	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, 8270 - Comprehensive	30.1	1				
19J0148-01 E	SVOA, 8270 MASTER	30.1	1				Added for BatchQC in: BJ90
19J0148-01 E	Semi-Volatiles, CP-51 (formerly STARS) List	30.1	1				Added for BatchQC in: BJ90
19J0149-01 E	Semi-Volatiles, 8270 - Comprehensive	30.1	1				
19J0149-01 E	Semi-Volatiles, Tentatively Identified Cmpds.	30.1	1				
19J0152-01 A	Semi-Volatiles, 8270 - Comprehensive	30.3	1				
19J0152-03 A	Semi-Volatiles, 8270 - Comprehensive	30.3	1				
19J0183-01 A	Semi-Volatiles, PAH Target List	30.2	1				
19J0209-04 A	Semi-Volatiles, 8270 Base/Neutrals	30.6	1				
19J0209-04 A	Semi-Volatiles, 8270 Acid Extractables	30.6	1				
19J0209-16 A	Semi-Volatiles, 8270 Acid Extractables	30.2	1				
19J0209-16 A	Semi-Volatiles, 8270 Base/Neutrals	30.2	1				
19J0209-28 A	Semi-Volatiles, 8270 Base/Neutrals	30.5	1				

Preparations Performed by **CLS2** **Date:** **10/04/2019 13:58**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90324

Preparation Date: 10/04/2019 13:58

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:53:23PM

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19I234 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0209-28 A	Semi-Volatiles, 8270 Acid Extractables	30.5	1				
19J0209-40 A	Semi-Volatiles, 8270 Acid Extractables	30.6	1				
19J0209-40 A	Semi-Volatiles, 8270 Base/Neutrals	30.6	1				
19J0221-01 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.1	1				
19J0222-01 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.1	1				
BJ90324-BLK1	QC	30.1	1				
BJ90324-BS1	QC	30.1	1	Y19J069		500	250 uL PARATHION ADDE
BJ90324-MS1	QC	30.1	1	Y19J069	19J0148-01	500	250 uL PARATHION ADDE
BJ90324-MSD1	QC	30.1	1	Y19J069	19J0148-01	500	250 uL PARATHION ADDE

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G253	ACETONE	0000197753	Y19G287	Ottawa Sand Mix	072319
Y19I222	Sodium Sulfate, Anhydrous	0000238269	Y19I225	Methylene Chloride HW	DW225-US

Preparations Performed by **CLS2** **Date:** **10/04/2019 13:58**

BENCHSHEETS

SDG: 19J0144

CLASS: SVOA

METHOD: EPA 8270D

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90406

Preparation Date: 10/07/2019 14:12

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:54:17PM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19I234 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0095-01 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.2	1				FAINT OILY SMELL
19J0095-01RE1 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.2	1				FAINT OILY SMELL
19J0095-02 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				
19J0095-02RE1 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				Added 10/9/2019 by OW
19J0095-02RE2 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				Added 10/9/2019 by OW
19J0095-03 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.1	1				
19J0095-04 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.3	1				
19J0098-01 E	Semi-Volatiles, CP-51 (formerly STARS) List	30.2	1				
19J0098-01RE1 E	Semi-Volatiles, CP-51 (formerly STARS) List	30.2	1				Added 10/9/2019 by OW
19J0115-01 B	Semi-Volatiles, 8270 - Comprehensive	30.2	1				
19J0115-02 B	Semi-Volatiles, 8270 - Comprehensive	30.8	1				
19J0119-01 B	Semi-Volatiles, Suffolk Co. DHS App. A List	30.5	1				BLACK SLUDGE
19J0119-02 B	Semi-Volatiles, Suffolk Co. DHS App. A List	30.5	1				ROCKY
19J0144-01 A	SVOA, 8270 MASTER	30.1	1				
19J0144-02 A	SVOA, 8270 MASTER	30.8	1				
19J0144-03 A	SVOA, 8270 MASTER	30.3	1				
19J0154-01 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.1	1				
19J0154-02 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				
19J0154-03 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.7	1				
19J0154-04 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.3	1				
19J0159-01 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.8	1				
19J0159-02 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				
19J0159-03 B	Semi-Volatiles, 8270 - Comprehensive	30.4	1				Added for BatchQC in: BJ90
19J0159-03 B	SVOA, 8270 MASTER	30.4	1				Added for BatchQC in: BJ90
19J0159-03 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.4	1				
19J0159-03 B	Semi-Volatiles, Suffolk Co. DHS App. A List	30.4	1				Added for BatchQC in: BJ90
19J0159-04 B	Semi-Volatiles, CP-51 (formerly STARS) List	30.2	1				
BJ90406-BLK1	QC	30.1	1				
BJ90406-BS1	QC	30.1	1	Y19J090		500	
BJ90406-MS1	QC	30.1	1	Y19J090	19J0159-03	500	
BJ90406-MSD1	QC	30.1	1	Y19J090	19J0159-03	500	

Preparations Performed by **CLS2** **Date:** **10/07/2019 14:12**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90406

Preparation Date: 10/07/2019 14:12

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:54:17PM

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19I234 1000 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G253	ACETONE	0000197753	Y19G287	Ottawa Sand Mix	072319
Y19I222	Sodium Sulfate, Anhydrous	0000238269	Y19I225	Methylene Chloride HW	DW225-US

Preparations Performed by **CLS2** **Date:** **10/07/2019 14:12**

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: PFAS
METHOD: EPA 537m

DATA PACKAGE COVER PAGE

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002

Client Sample Id:	Lab Sample Id:
SB19_8-9	19J0144-02
SB27_6-8	19J0144-04
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature: 

Name: Benjamin Gulizia

Date: 10/14/2019

Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9I2721	Instrument:	LCQQQ
		Calibration:	YI90019

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Secondary Cal Check (Y9I2721-SCV1)			Lab File ID: QQQ1894.d		Analyzed: 09/26/19 16:46			
M3PFBS	4.64	105	70 - 130	8.768367	8.753059	0.0153	+/-1.00	
M5PFHxA	5.00	105	70 - 130	10.35307	10.33216	0.0209	+/-1.00	
M4PFHpA	5.00	104	70 - 130	11.85192	11.84216	0.0098	+/-1.00	
M3PFHxS	4.73	104	70 - 130	11.97397	11.967	0.0070	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	109	70 - 130	12.95755	12.95704	0.0005	+/-1.00	
M6PFDA	5.00	93.1	70 - 130	14.56808	14.56527	0.0028	+/-1.00	
M7PFUdA	5.00	97.9	70 - 130	15.19798	15.19518	0.0028	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	101	70 - 130	15.74157	15.74017	0.0014	+/-1.00	
M2PFTeDA	5.00	101	70 - 130	16.62048	16.61074	0.0097	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	104	70 - 130	4.104183	4.102791	0.0014	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	106	70 - 130	13.84387	13.84247	0.0014	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	104	70 - 130	8.055734	8.047383	0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	104	70 - 130	15.17703	15.16863	0.0084	+/-1.00	
d3-N-MeFOSAA	5.00	104	70 - 130	14.88588	14.88144	0.0044	+/-1.00	
d5-N-EtFOSAA	5.00	106	70 - 130	15.21338	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.74	104	70 - 130	12.9037	12.89954	0.0042	+/-1.00	
M2-8:2 FTS	4.79	115	70 - 130	14.55878	14.55598	0.0028	+/-1.00	
M9PFNA	5.00	107	70 - 130	13.8284	13.83261	-0.0042	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9I2721 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9I2721-CCV1)				Lab File ID: QQQ1895.d		Analyzed: 09/26/19 17:12		
M3PFBS	4.64	98.8	70 - 130	8.743317	8.753059	-0.0097	+/-1.00	
M5PFHxA	5.00	98.1	70 - 130	10.32798	10.33216	-0.0042	+/-1.00	
M4PFHpA	5.00	96.2	70 - 130	11.85192	11.84216	0.0098	+/-1.00	
M3PFHxS	4.73	97.3	70 - 130	11.97397	11.967	0.0070	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	101	70 - 130	12.96593	12.95704	0.0089	+/-1.00	
M6PFDA	5.00	98.4	70 - 130	14.57687	14.56527	0.0116	+/-1.00	
M7PFUdA	5.00	94.0	70 - 130	15.20638	15.19518	0.0112	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	89.8	70 - 130	15.74995	15.74017	0.0098	+/-1.00	
M2PFTeDA	5.00	96.5	70 - 130	16.6205	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	97.2	70 - 130	4.095833	4.102791	-0.0070	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	96.2	70 - 130	13.85227	13.84247	0.0098	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	98.5	70 - 130	8.039033	8.047383	-0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	98.7	70 - 130	15.18543	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.00	96.6	70 - 130	14.8943	14.88144	0.0129	+/-1.00	
d5-N-EtFOSAA	5.00	97.5	70 - 130	15.21338	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.74	95.8	70 - 130	12.9037	12.89954	0.0042	+/-1.00	
M2-8:2 FTS	4.79	104	70 - 130	14.5672	14.55598	0.0112	+/-1.00	
M9PFNA	5.00	95.0	70 - 130	13.84522	13.83261	0.0126	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0727-CCV1)			Lab File ID: QQQ1966.d		Analyzed: 10/04/19 15:38			
M3PFBS	4.64	104	70 - 130	8.743317	8.753059	-0.0097	+/-1.00	
M5PFHxA	5.00	101	70 - 130	10.31963	10.33216	-0.0125	+/-1.00	
M4PFHpA	5.00	119	70 - 130	11.82683	11.84216	-0.0153	+/-1.00	
M3PFHxS	4.73	105	70 - 130	11.95725	11.967	-0.0098	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	110	70 - 130	12.93925	12.95704	-0.0178	+/-1.00	
M6PFDA	5.00	106	70 - 130	14.5681	14.56527	0.0028	+/-1.00	
M7PFUdA	5.00	101	70 - 130	15.1896	15.19518	-0.0056	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	109	70 - 130	15.7416	15.74017	0.0014	+/-1.00	
M2PFTeDA	5.00	112	70 - 130	16.62052	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	105	70 - 130	4.0875	4.102791	-0.0153	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	107	70 - 130	13.83548	13.84247	-0.0070	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	104	70 - 130	8.039033	8.047383	-0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	108	70 - 130	15.17705	15.16863	0.0084	+/-1.00	
d3-N-MeFOSAA	5.00	112	70 - 130	14.87703	14.88144	-0.0044	+/-1.00	
d5-N-EtFOSAA	5.00	109	70 - 130	15.205	15.20638	-0.0014	+/-1.00	
M2-6:2 FTS	4.74	119	70 - 130	12.88697	12.89954	-0.0126	+/-1.00	
M2-8:2 FTS	4.79	126	70 - 130	14.55038	14.55598	-0.0056	+/-1.00	
M9PFNA	5.00	109	70 - 130	13.82002	13.83261	-0.0126	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Blank (BJ90227-BLK1)			Lab File ID: QQQ1971.d		Analyzed: 10/04/19 18:02			
M3PFBS	4.54	69.0	25 - 150	8.751683	8.753059	-0.0014	+/-1.00	
M5PFHxA	4.88	69.2	25 - 150	10.33635	10.33216	0.0042	+/-1.00	
M4PFHpA	4.88	78.9	25 - 150	11.84357	11.84216	0.0014	+/-1.00	
M3PFHxS	4.62	69.3	25 - 150	11.97397	11.967	0.0070	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.88	75.6	25 - 150	12.95757	12.95704	0.0005	+/-1.00	
M6PFDA	4.88	77.1	25 - 150	14.57687	14.56527	0.0116	+/-1.00	
M7PFUdA	4.88	62.8	25 - 150	15.2064	15.19518	0.0112	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.88	63.4	25 - 150	15.74997	15.74017	0.0098	+/-1.00	
M2PFTeDA	4.88	66.3	10 - 150	16.6205	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.88	70.6	25 - 150	4.09585	4.102791	-0.0069	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.67	67.1	25 - 150	13.84388	13.84247	0.0014	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.88	69.1	25 - 150	8.0474	8.047383	0.0000	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.88	57.4	10 - 150	15.19435	15.16863	0.0257	+/-1.00	
d3-N-MeFOSAA	4.88	65.1	25 - 150	14.8943	14.88144	0.0129	+/-1.00	
d5-N-EtFOSAA	4.88	68.2	25 - 150	15.2218	15.20638	0.0154	+/-1.00	
M2-6:2 FTS	4.63	80.9	25 - 150	12.90372	12.89954	0.0042	+/-1.00	
M2-8:2 FTS	4.68	94.6	25 - 150	14.55878	14.55598	0.0028	+/-1.00	
M9PFNA	4.88	81.7	25 - 150	13.83682	13.83261	0.0042	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90227-BS1)			Lab File ID: QQQ1972.d		Analyzed: 10/04/19 18:29			
M3PFBS	4.55	68.5	25 - 150	8.776716	8.753059	0.0237	+/-1.00	
M5PFHxA	4.90	68.9	25 - 150	10.36143	10.33216	0.0293	+/-1.00	
M4PFHpA	4.90	80.7	25 - 150	11.85192	11.84216	0.0098	+/-1.00	
M3PFHxS	4.64	70.7	25 - 150	11.97397	11.967	0.0070	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.90	73.0	25 - 150	12.94762	12.95704	-0.0094	+/-1.00	
M6PFDA	4.90	76.3	25 - 150	14.56808	14.56527	0.0028	+/-1.00	
M7PFUdA	4.90	65.7	25 - 150	15.198	15.19518	0.0028	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.90	65.6	25 - 150	15.74158	15.74017	0.0014	+/-1.00	
M2PFTeDA	4.90	69.4	10 - 150	16.62052	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.90	71.0	25 - 150	4.095833	4.102791	-0.0070	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.69	68.9	25 - 150	13.83547	13.84247	-0.0070	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.90	69.2	25 - 150	8.072433	8.047383	0.0251	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.90	57.7	10 - 150	15.18545	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	4.90	67.7	25 - 150	14.8859	14.88144	0.0045	+/-1.00	
d5-N-EtFOSAA	4.90	65.7	25 - 150	15.2134	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.65	81.8	25 - 150	12.89532	12.89954	-0.0042	+/-1.00	
M2-8:2 FTS	4.69	87.4	25 - 150	14.55878	14.55598	0.0028	+/-1.00	
M9PFNA	4.90	75.1	25 - 150	13.8284	13.83261	-0.0042	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0727-CCV2)				Lab File ID: QQQ1977.d		Analyzed: 10/04/19 20:43		
M3PFBS	4.64	94.4	70 - 130	8.751683	8.753059	-0.0014	+/-1.00	
M5PFHxA	5.00	93.5	70 - 130	10.33635	10.33216	0.0042	+/-1.00	
M4PFHpA	5.00	110	70 - 130	11.84357	11.84216	0.0014	+/-1.00	
M3PFHxS	4.73	95.9	70 - 130	11.96562	11.967	-0.0014	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	92.2	70 - 130	12.94762	12.95704	-0.0094	+/-1.00	
M6PFDA	5.00	98.6	70 - 130	14.56808	14.56527	0.0028	+/-1.00	
M7PFUdA	5.00	90.7	70 - 130	15.2064	15.19518	0.0112	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	105	70 - 130	15.74997	15.74017	0.0098	+/-1.00	
M2PFTeDA	5.00	93.2	70 - 130	16.62052	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	96.2	70 - 130	4.079167	4.102791	-0.0236	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	96.0	70 - 130	13.83547	13.84247	-0.0070	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	94.2	70 - 130	8.047383	8.047383	0.0000	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	94.8	70 - 130	15.18545	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.00	96.4	70 - 130	14.8859	14.88144	0.0045	+/-1.00	
d5-N-EtFOSAA	5.00	96.0	70 - 130	15.2134	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.74	99.6	70 - 130	12.89533	12.89954	-0.0042	+/-1.00	
M2-8:2 FTS	4.79	99.3	70 - 130	14.55878	14.55598	0.0028	+/-1.00	
M9PFNA	5.00	93.6	70 - 130	13.82842	13.83261	-0.0042	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB19_8-9 (19J0144-02)			Lab File ID: QQQ1981.d		Analyzed: 10/04/19 22:31			
M3PFBS	4.84	64.9	25 - 150	8.743333	8.753059	-0.0097	+/-1.00	
M5PFHxA	5.21	64.9	25 - 150	10.31963	10.33216	-0.0125	+/-1.00	
M4PFHpA	5.21	79.2	25 - 150	11.8352	11.84216	-0.0070	+/-1.00	
M3PFHxS	4.93	67.2	25 - 150	11.95725	11.967	-0.0098	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.21	72.0	25 - 150	12.94763	12.95704	-0.0094	+/-1.00	
M6PFDA	5.21	78.6	25 - 150	14.5681	14.56527	0.0028	+/-1.00	
M7PFUdA	5.21	62.5	25 - 150	15.20642	15.19518	0.0112	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.21	59.9	25 - 150	15.7416	15.74017	0.0014	+/-1.00	
M2PFTeDA	5.21	64.3	10 - 150	16.62888	16.61074	0.0181	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.21	66.9	25 - 150	4.0875	4.102791	-0.0153	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.99	65.8	25 - 150	13.83548	13.84247	-0.0070	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.21	65.9	25 - 150	8.03905	8.047383	-0.0083	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.21	57.8	10 - 150	15.18547	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.21	64.5	25 - 150	14.8859	14.88144	0.0045	+/-1.00	
d5-N-EtFOSAA	5.21	70.0	25 - 150	15.21342	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.94	81.6	25 - 150	12.89535	12.89954	-0.0042	+/-1.00	
M2-8:2 FTS	4.99	99.0	25 - 150	14.5588	14.55598	0.0028	+/-1.00	
M9PFNA	5.21	74.2	25 - 150	13.82843	13.83261	-0.0042	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB27_6-8 (19J0144-04)			Lab File ID: QQQ1982.d		Analyzed: 10/04/19 22:58			
M3PFBS	5.24	63.4	25 - 150	8.743317	8.753059	-0.0097	+/-1.00	
M5PFHxA	5.64	65.8	25 - 150	10.31962	10.33216	-0.0125	+/-1.00	
M4PFHpA	5.64	76.9	25 - 150	11.82683	11.84216	-0.0153	+/-1.00	
M3PFHxS	5.34	65.0	25 - 150	11.94888	11.967	-0.0181	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.64	72.3	25 - 150	12.93923	12.95704	-0.0178	+/-1.00	
M6PFDA	5.64	69.7	25 - 150	14.55965	14.56527	-0.0056	+/-1.00	
M7PFUdA	5.64	60.5	25 - 150	15.19798	15.19518	0.0028	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.64	58.2	25 - 150	15.74997	15.74017	0.0098	+/-1.00	
M2PFTeDA	5.64	64.8	10 - 150	16.6205	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.64	65.4	25 - 150	4.095833	4.102791	-0.0070	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	5.40	60.6	25 - 150	13.83547	13.84247	-0.0070	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.64	65.0	25 - 150	8.039033	8.047383	-0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.64	53.2	10 - 150	15.18543	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.64	64.5	25 - 150	14.88588	14.88144	0.0044	+/-1.00	
d5-N-EtFOSAA	5.64	70.2	25 - 150	15.21338	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	5.35	86.5	25 - 150	12.88695	12.89954	-0.0126	+/-1.00	
M2-8:2 FTS	5.40	105	25 - 150	14.55037	14.55598	-0.0056	+/-1.00	
M9PFNA	5.64	73.4	25 - 150	13.82	13.83261	-0.0126	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB28_5.5-7.5 (19J0144-06)			Lab File ID: QQQ1983.d		Analyzed: 10/04/19 23:25			
M3PFBS	4.72	65.8	25 - 150	8.751667	8.753059	-0.0014	+/-1.00	
M5PFHxA	5.08	69.2	25 - 150	10.31962	10.33216	-0.0125	+/-1.00	
M4PFHpA	5.08	87.6	25 - 150	11.82683	11.84216	-0.0153	+/-1.00	
M3PFHxS	4.81	67.0	25 - 150	11.94888	11.967	-0.0181	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.08	70.2	25 - 150	12.93925	12.95704	-0.0178	+/-1.00	
M6PFDA	5.08	64.5	25 - 150	14.55968	14.56527	-0.0056	+/-1.00	
M7PFUdA	5.08	63.4	25 - 150	15.18962	15.19518	-0.0056	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.08	60.2	25 - 150	15.7416	15.74017	0.0014	+/-1.00	
M2PFTeDA	5.08	62.7	10 - 150	16.62053	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.08	69.8	25 - 150	4.0875	4.102791	-0.0153	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.86	65.6	25 - 150	13.82708	13.84247	-0.0154	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.08	67.7	25 - 150	8.039033	8.047383	-0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.08	56.4	10 - 150	15.18547	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.08	67.3	25 - 150	14.87703	14.88144	-0.0044	+/-1.00	
d5-N-EtFOSAA	5.08	73.2	25 - 150	15.21342	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.82	80.0	25 - 150	12.88697	12.89954	-0.0126	+/-1.00	
M2-8:2 FTS	4.87	103	25 - 150	14.55038	14.55598	-0.0056	+/-1.00	
M9PFNA	5.08	76.9	25 - 150	13.82002	13.83261	-0.0126	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0727 Instrument: LCQQQ

Calibration: YI90019

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0727-CCV3)			Lab File ID: QQQ1984.d		Analyzed: 10/04/19 23:52			
M3PFBS	4.64	103	70 - 130	8.743317	8.753059	-0.0097	+/-1.00	
M5PFHxA	5.00	100	70 - 130	10.31963	10.33216	-0.0125	+/-1.00	
M4PFHpA	5.00	117	70 - 130	11.8352	11.84216	-0.0070	+/-1.00	
M3PFHxS	4.73	103	70 - 130	11.95725	11.967	-0.0098	+/-1.00	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	94.5	70 - 130	12.94762	12.95704	-0.0094	+/-1.00	
M6PFDA	5.00	106	70 - 130	14.57688	14.56527	0.0116	+/-1.00	
M7PFUdA	5.00	85.8	70 - 130	15.20642	15.19518	0.0112	+/-1.00	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	96.3	70 - 130	15.7416	15.74017	0.0014	+/-1.00	
M2PFTeDA	5.00	108	70 - 130	16.62052	16.61074	0.0098	+/-1.00	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	104	70 - 130	4.0875	4.102791	-0.0153	+/-1.00	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	104	70 - 130	13.84388	13.84247	0.0014	+/-1.00	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	101	70 - 130	8.039033	8.047383	-0.0084	+/-1.00	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	103	70 - 130	15.18545	15.16863	0.0168	+/-1.00	
d3-N-MeFOSAA	5.00	104	70 - 130	14.8859	14.88144	0.0045	+/-1.00	
d5-N-EtFOSAA	5.00	99.2	70 - 130	15.2134	15.20638	0.0070	+/-1.00	
M2-6:2 FTS	4.74	101	70 - 130	12.88695	12.89954	-0.0126	+/-1.00	
M2-8:2 FTS	4.79	104	70 - 130	14.5588	14.55598	0.0028	+/-1.00	
M9PFNA	5.00	97.3	70 - 130	13.83683	13.83261	0.0042	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90227	Laboratory ID:	BJ90227-BS1
Preparation:	SPE PFAS Extraction-Soil-EPA 537m	Initial/Final:	2.0408 g / 2 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. #	QC LIMITS REC.
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	4.70	5.13	109	50 - 130
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	4.66	5.20	112	50 - 130
N-EtFOSAA	4.90	5.42	111	50 - 130
N-MeFOSAA	4.90	5.20	106	50 - 130
Perfluoro-1-decanesulfonic acid (PFDS)	4.73	4.95	105	50 - 130
Perfluoro-1-heptanesulfonic acid (PFHpS)	4.88	5.70	117	50 - 130
Perfluoro-1-octanesulfonamide (FOSA)	4.90	5.18	106	50 - 130
Perfluorobutanesulfonic acid (PFBS)	4.34	5.47	126	50 - 130
Perfluorodecanoic acid (PFDA)	4.90	5.04	103	50 - 130
Perfluorododecanoic acid (PFDoA)	4.90	5.45	111	50 - 130
Perfluoroheptanoic acid (PFHpA)	4.90	4.78	97.6	50 - 130
Perfluorohexanesulfonic acid (PFHxS)	3.63	4.25	117	50 - 130
Perfluorohexanoic acid (PFHxA)	4.90	5.42	111	50 - 130
Perfluoro-n-butanoic acid (PFBA)	4.90	5.60	114	50 - 130
Perfluorononanoic acid (PFNA)	4.70	5.42	115	50 - 130
Perfluorooctanesulfonic acid (PFOS)	3.58	3.93	110	50 - 130
Perfluorooctanoic acid (PFOA)	4.90	5.60	114	50 - 130
Perfluoropentanoic acid (PFPeA)	4.90	5.45	111	50 - 130
Perfluorotetradecanoic acid (PFTA)	4.90	5.03	103	50 - 130
Perfluorotridecanoic acid (PFTrDA)	4.90	5.60	114	50 - 130
Perfluoroundecanoic acid (PFUnA)	4.90	5.02	102	50 - 130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90227 Batch Matrix: Soil Preparation: SPE PFAS Extraction-Soil-EPA 537m

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_8-9	19J0144-02	QQQ1981.d	10/03/19 13:31	
SB27_6-8	19J0144-04	QQQ1982.d	10/03/19 13:31	
SB28_5.5-7.5	19J0144-06	QQQ1983.d	10/03/19 13:31	
Blank	BJ90227-BLK1	QQQ1971.d	10/03/19 13:31	
LCS	BJ90227-BS1	QQQ1972.d	10/03/19 13:31	

FORM I

METHOD BLANK DATA SHEET

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90227-BLK1	File ID:	QQQ1971.d
Prepared:	10/03/19 13:31	Preparation:	SPE PFAS Extraction-Soil-EPA	Initial/Final:	2.0481 g / 2 mL
Analyzed:	10/04/19 18:02	Instrument:	ECQQQ		
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.732	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.732	U
2991-50-6	N-EtFOSAA	0.732	U
2355-31-9	N-MeFOSAA	0.732	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	0.732	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	0.732	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	0.732	U
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.732	U
335-76-2	Perfluorodecanoic acid (PFDA)	0.732	U
307-55-1	Perfluorododecanoic acid (PFDoA)	0.732	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.732	U
3871-99-6	Perfluorohexanesulfonic acid (PFHxS)	0.732	U
307-24-4	Perfluorohexanoic acid (PFHxA)	0.732	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	0.732	U
375-95-1	Perfluorononanoic acid (PFNA)	0.732	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.732	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.732	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.732	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	0.732	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	0.732	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.732	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
d3-N-MeFOSAA	4.88	3.18	65.1	25 - 150	
d5-N-EtFOSAA	4.88	3.33	68.2	25 - 150	
M2-6:2 FTS	4.63	3.75	80.9	25 - 150	
M2-8:2 FTS	4.68	4.42	94.6	25 - 150	
M2PFTeDA	4.88	3.24	66.3	10 - 150	
M3PFBS	4.54	3.13	69.0	25 - 150	
M3PFHxS	4.62	3.20	69.3	25 - 150	
M4PFHpA	4.88	3.85	78.9	25 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90227-BLK1	File ID:	QQQ1971.d
Prepared:	10/03/19 13:31	Preparation:	SPE PFAS Extraction-Soil-EPA	Initial/Final:	2.0481 g / 2 mL
Analyzed:	10/04/19 18:02	Instrument:	LCQQQ		
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
M5PFHxA	4.88	3.38	69.2	25 - 150	
M6PFDA	4.88	3.77	77.1	25 - 150	
M7PFUdA	4.88	3.06	62.8	25 - 150	
M9PFNA	4.88	3.99	81.7	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.88	2.80	57.4	10 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.67	3.14	67.1	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.88	3.10	63.4	25 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.88	3.45	70.6	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.88	3.37	69.1	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.88	3.69	75.6	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
MPFOA	251123.4	12.95832	234864.3	12.94018	

FORM V **ANALYSIS BATCH (SEQUENCE) SUMMARY**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9I2721	Instrument:	LCQQQ
		Calibration:	YI90019

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	Y9I2721-CAL1	QQQ1887.d	09/26/19 13:37
Cal Standard	Y9I2721-CAL2	QQQ1888.d	09/26/19 14:04
Cal Standard	Y9I2721-CAL3	QQQ1889.d	09/26/19 14:31
Cal Standard	Y9I2721-CAL4	QQQ1890.d	09/26/19 14:58
Cal Standard	Y9I2721-CAL5	QQQ1891.d	09/26/19 15:25
Cal Standard	Y9I2721-CAL6	QQQ1892.d	09/26/19 15:52
Cal Standard	Y9I2721-CAL7	QQQ1893.d	09/26/19 16:19
Secondary Cal Check	Y9I2721-SCV1	QQQ1894.d	09/26/19 16:46
Calibration Check	Y9I2721-CCV1	QQQ1895.d	09/26/19 17:12

FORM V **ANALYSIS BATCH (SEQUENCE) SUMMARY**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0727	Instrument:	LCQQQ
		Calibration:	YI90019

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	Y9J0727-CCV1	QQQ1966.d	10/04/19 15:38
Blank	BJ90227-BLK1	QQQ1971.d	10/04/19 18:02
LCS	BJ90227-BS1	QQQ1972.d	10/04/19 18:29
Calibration Check	Y9J0727-CCV2	QQQ1977.d	10/04/19 20:43
SB19_8-9	19J0144-02	QQQ1981.d	10/04/19 22:31
SB27_6-8	19J0144-04	QQQ1982.d	10/04/19 22:58
SB28_5.5-7.5	19J0144-06	QQQ1983.d	10/04/19 23:25
Calibration Check	Y9J0727-CCV3	QQQ1984.d	10/04/19 23:52

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9I2721	Instrument:	LCQQQ
		Calibration:	YI90019

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Cal Standard (Y9I2721-CAL1)			Lab File ID: QQQ1887.d			Analyzed: 09/26/19 13:37			
MPFOA	263803.5	12.94017	230449.9	12.97508	114	50 - 200	-0.0349	+/-0.33	
Cal Standard (Y9I2721-CAL2)			Lab File ID: QQQ1888.d			Analyzed: 09/26/19 14:04			
MPFOA	244354.3	12.94853	230449.9	12.97508	106	50 - 200	-0.0266	+/-0.33	
Cal Standard (Y9I2721-CAL3)			Lab File ID: QQQ1889.d			Analyzed: 09/26/19 14:31			
MPFOA	229096.6	12.94853	230449.9	12.97508	99	50 - 200	-0.0266	+/-0.33	
Cal Standard (Y9I2721-CAL4)			Lab File ID: QQQ1890.d			Analyzed: 09/26/19 14:58			
MPFOA	215132.5	12.95832	230449.9	12.97508	93	50 - 200	-0.0168	+/-0.33	
Cal Standard (Y9I2721-CAL5)			Lab File ID: QQQ1891.d			Analyzed: 09/26/19 15:25			
MPFOA	230449.9	12.97508	230449.9	12.97508	100	50 - 200	0.0000	+/-0.33	
Cal Standard (Y9I2721-CAL6)			Lab File ID: QQQ1892.d			Analyzed: 09/26/19 15:52			
MPFOA	219464.4	12.95832	230449.9	12.97508	95	50 - 200	-0.0168	+/-0.33	
Cal Standard (Y9I2721-CAL7)			Lab File ID: QQQ1893.d			Analyzed: 09/26/19 16:19			
MPFOA	206564.5	12.95832	230449.9	12.97508	90	50 - 200	-0.0168	+/-0.33	
Secondary Cal Check (Y9I2721-SCV1)			Lab File ID: QQQ1894.d			Analyzed: 09/26/19 16:46			
MPFOA	218685.6	12.95832	230449.9	12.97508	95	50 - 200	-0.0168	+/-0.33	
Calibration Check (Y9I2721-CCV1)			Lab File ID: QQQ1895.d			Analyzed: 09/26/19 17:12			
MPFOA	231831.6	12.9667	230449.9	12.97508	101	50 - 200	-0.0084	+/-0.33	

FORM VIII **INTERNAL STANDARD AREA AND RT SUMMARY**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0727	Instrument:	LCQQQ
		Calibration:	YI90019

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0727-CCV1)			Lab File ID: QQQ1966.d			Analyzed: 10/04/19 15:38			
MPFOA	234864.3	12.94018	230449.9	12.97508	102	50 - 200	-0.0349	+/-0.33	
Blank (BJ90227-BLK1)			Lab File ID: QQQ1971.d			Analyzed: 10/04/19 18:02			
MPFOA	251123.4	12.95832	234864.3	12.94018	107	50 - 200	0.0181	+/-0.33	
LCS (BJ90227-BS1)			Lab File ID: QQQ1972.d			Analyzed: 10/04/19 18:29			
MPFOA	262370.2	12.94853	234864.3	12.94018	112	50 - 200	0.0084	+/-0.33	
Calibration Check (Y9J0727-CCV2)			Lab File ID: QQQ1977.d			Analyzed: 10/04/19 20:43			
MPFOA	305810.7	12.94855	230449.9	12.97508	133	50 - 200	-0.0265	+/-0.33	
SB19_8-9 (19J0144-02)			Lab File ID: QQQ1981.d			Analyzed: 10/04/19 22:31			
MPFOA	274456.4	12.94857	305810.7	12.94855	90	50 - 200	0.0000	+/-0.33	
SB27_6-8 (19J0144-04)			Lab File ID: QQQ1982.d			Analyzed: 10/04/19 22:58			
MPFOA	289177.6	12.94017	305810.7	12.94855	95	50 - 200	-0.0084	+/-0.33	
SB28_5.5-7.5 (19J0144-06)			Lab File ID: QQQ1983.d			Analyzed: 10/04/19 23:25			
MPFOA	297843.6	12.94018	305810.7	12.94855	97	50 - 200	-0.0084	+/-0.33	
Calibration Check (Y9J0727-CCV3)			Lab File ID: QQQ1984.d			Analyzed: 10/04/19 23:52			
MPFOA	291787.7	12.94855	230449.9	12.97508	127	50 - 200	-0.0265	+/-0.33	

HOLDING TIME SUMMARY

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/03/19 13:31	1.03	14.00	10/04/19 22:31	1.38	28.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/03/19 13:31	1.12	14.00	10/04/19 22:58	1.39	28.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/03/19 13:31	1.06	14.00	10/04/19 23:25	1.41	28.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 537m

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** LCQQQ

Analyte	LOD	LOQ	Units
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.750	0.750	ug/kg
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.750	0.750	ug/kg
N-EtFOSAA	0.750	0.750	ug/kg
N-MeFOSAA	0.750	0.750	ug/kg
Perfluoro-1-decanesulfonic acid (PFDS)	0.750	0.750	ug/kg
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.750	0.750	ug/kg
Perfluoro-1-octanesulfonamide (FOSA)	0.750	0.750	ug/kg
Perfluorobutanesulfonic acid (PFBS)	0.750	0.750	ug/kg
Perfluorodecanoic acid (PFDA)	0.750	0.750	ug/kg
Perfluorododecanoic acid (PFDoA)	0.750	0.750	ug/kg
Perfluoroheptanoic acid (PFHpA)	0.750	0.750	ug/kg
Perfluorohexanesulfonic acid (PFHxS)	0.750	0.750	ug/kg
Perfluorohexanoic acid (PFHxA)	0.750	0.750	ug/kg
Perfluoro-n-butanoic acid (PFBA)	0.750	0.750	ug/kg
Perfluorononanoic acid (PFNA)	0.750	0.750	ug/kg
Perfluorooctanesulfonic acid (PFOS)	0.750	0.750	ug/kg
Perfluorooctanoic acid (PFOA)	0.750	0.750	ug/kg
Perfluoropentanoic acid (PFPeA)	0.750	0.750	ug/kg
Perfluorotetradecanoic acid (PFTA)	0.750	0.750	ug/kg
Perfluorotridecanoic acid (PFTrDA)	0.750	0.750	ug/kg
Perfluoroundecanoic acid (PFUnA)	0.750	0.750	ug/kg

FORM I **ORGANIC ANALYSIS DATA SHEET**

EPA 537m

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: QQQ1981.d

Sampled: 10/02/19 12:50 Prepared: 10/03/19 13:31 Analyzed: 10/04/19 22:31

Solids: 86.53 Preparation: SPE PFAS Extraction-Soil-E Initial/Final: 2.2181 g / 2 mL

Batch: BJ90227 Sequence: Y9J0727 Calibration: YI90019 Instrument: LCQQQ

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	0.782	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.782	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	0.782	U
3871-99-6	Perfluorohexanesulfonic acid (PFHxS)	1	0.782	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	0.782	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	0.782	U
375-95-1	Perfluorononanoic acid (PFNA)	1	0.782	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	0.782	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	0.782	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	0.782	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	0.782	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	0.782	U
2355-31-9	N-MeFOSAA	1	0.782	U
2991-50-6	N-EtFOSAA	1	0.782	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	0.782	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	0.782	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	0.782	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	0.782	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	0.782	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	0.782	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	0.782	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
M3PFBS	4.84	3.14	64.9	25 - 150	
M5PFHxA	5.21	3.38	64.9	25 - 150	
M4PFHpA	5.21	4.13	79.2	25 - 150	
M3PFHxS	4.93	3.31	67.2	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.21	3.75	72.0	25 - 150	
M6PFDA	5.21	4.09	78.6	25 - 150	
M7PFUdA	5.21	3.26	62.5	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.21	3.12	59.9	25 - 150	
M2PFTeDA	5.21	3.35	64.3	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.21	3.48	66.9	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.99	3.28	65.8	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.21	3.44	65.9	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.21	3.01	57.8	10 - 150	
d3-N-MeFOSAA	5.21	3.36	64.5	25 - 150	
d5-N-EtFOSAA	5.21	3.65	70.0	25 - 150	
M2-6:2 FTS	4.94	4.03	81.6	25 - 150	
M2-8:2 FTS	4.99	4.94	99.0	25 - 150	
M9PFNA	5.21	3.86	74.2	25 - 150	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 537m

SB19_8-9

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-02	File ID:	QQQ1981.d
Sampled:	10/02/19 12:50	Prepared:	10/03/19 13:31	Analyzed:	10/04/19 22:31
Solids:	86.53	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.2181 g / 2 mL
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019
Instrument:	LCQQQ				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
MPFOA	274456.4	12.94857	305810.7	12.94855	

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Data File	QQQ1981.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 10:31:19 PM
Sample Name	19J0144-02	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

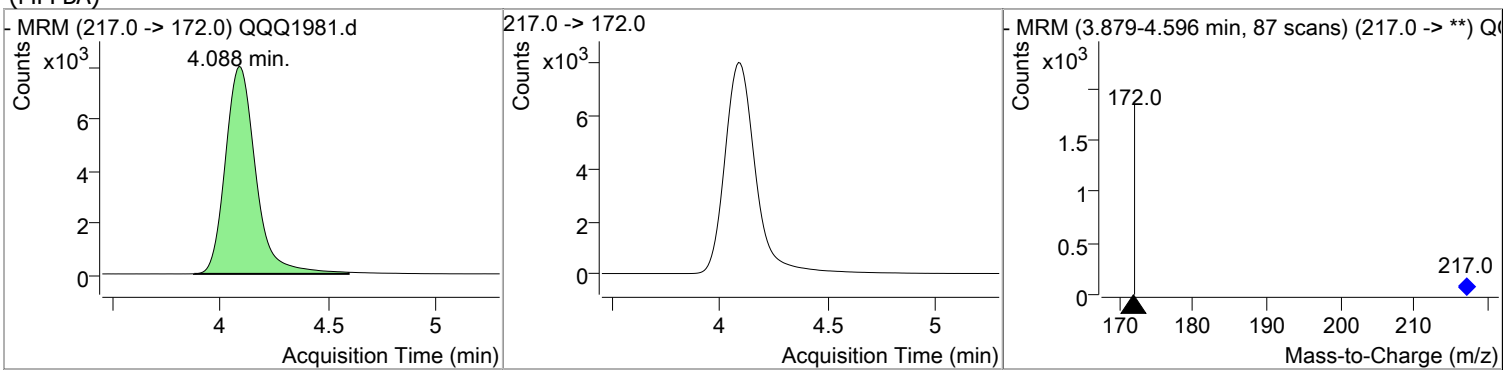
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.949	417.0 -> 372.0	274456	10.0000	ng/ml	-0.085
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.088	217.0 -> 172.0	78388	3.3441	ng/ml	-0.100
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.44%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	115662	3.2973	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.97%		
M3PFBS	8.743	302.0 -> 79.9	30159	3.0146	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 30.15%		
M2-4-2FTS	10.183	329.0 -> 309.0	43254	3.1428	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.43%		
M5PFHxA	10.320	318.0 -> 273.0	114585	3.2453	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.45%		
M4PFHpA	11.835	367.0 -> 322.0	30381	3.9608	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 39.61%		
M3PFHxS	11.957	402.0 -> 80.0	22245	3.1788	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.79%		
M2-6-2FTS	12.895	429.0 -> 409.0	31420	3.8707	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.71%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	68908	3.6017	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 36.02%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	72853	3.7087	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 37.09%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	16969	3.1484	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.48%		
M2-8-2FTS	14.559	529.0 -> 509.0	31601	4.7406	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.41%		
M6PFDA	14.568	519.0 -> 473.9	61396	3.9281	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 39.28%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	30921	3.2258	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.26%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	23527	2.8891	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.89%		
M7PFUdA	15.206	570.0 -> 525.0	55606	3.1271	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.27%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	28449	3.4982	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.98%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	54792	2.9970	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 29.97%		
M2PFTeDA	16.629	715.0 -> 670.0	47973	3.2141	ng/ml	-0.008
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.14%		
Target Compounds						QValue

Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.092	213.0 -> 168.9	1243	0.0601	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	510	0.0166	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	403	0.0447	ng/ml		98
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	21	0.0019	ng/ml	#	29
Perfluorohexanoic acid (PFHxA)	10.305	313.0 -> 268.9	322	0.0106	ng/ml	#	96
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	5	0.0007	ng/ml		30
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	154	0.0069	ng/ml		94
Perfluorohexanesulfonic acid (PFHxS)	11.942	398.9 -> 79.9	22	0.0033	ng/ml	#	75
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	248	0.0302	ng/ml	#	90
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	698	0.0411	ng/ml	#	78
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	9	0.0017	ng/ml	#	1
Perfluorononanoic acid (PFNA)	13.829	463.0 -> 418.8	79	0.0055	ng/ml		99
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	128	0.0218	ng/ml	#	56
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	73	0.0167	ng/ml		87
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	58	0.0000	ng/ml	#	41
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	209	0.0151	ng/ml		91
N-MeFOSAA	14.895	570.0 -> 418.9	56	0.0056	ng/ml		85
Perfluoro-1-octanesulfonamide (FOSA)	15.203	497.9 -> 78.0	18	0.0022	ng/ml	#	88
Perfluoro-1-decanesulfonate (L-PFDS)	15.188	598.9 -> 98.9	9	0.0021	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.123	563.0 -> 519.0	15	0.0009	ng/ml	#	83
N-EtFOSAA	15.239	584.0 -> 418.8	48	0.0060	ng/ml	#	72
Perfluorododecanoic acid (PFDoA)	15.599	613.0 -> 568.8	17	0.0013	ng/ml		95
Perfluorotridecanoic acid (PFTrDA)	16.111	663.0 -> 618.8	9	0.0007	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	84	0.0060	ng/ml		97

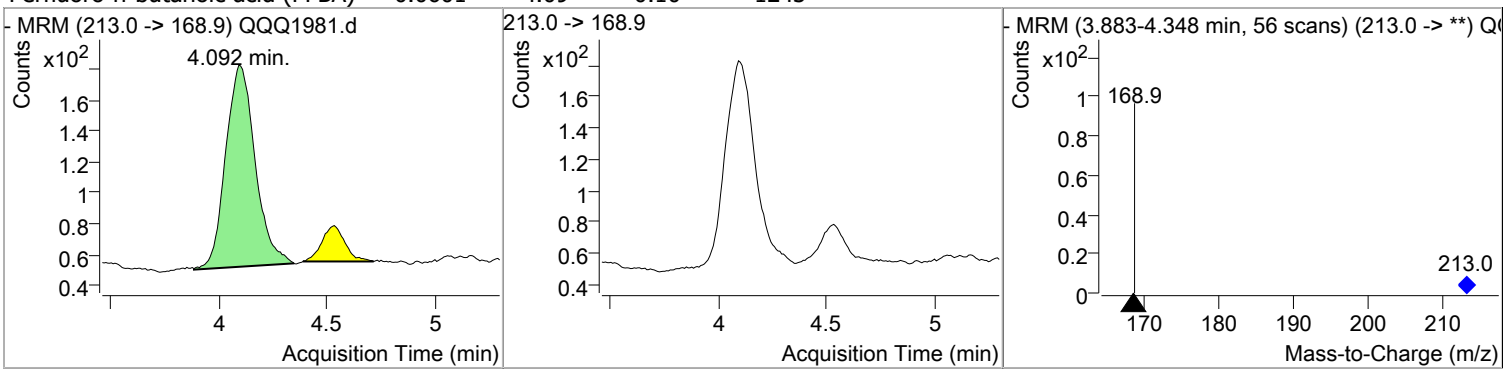
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

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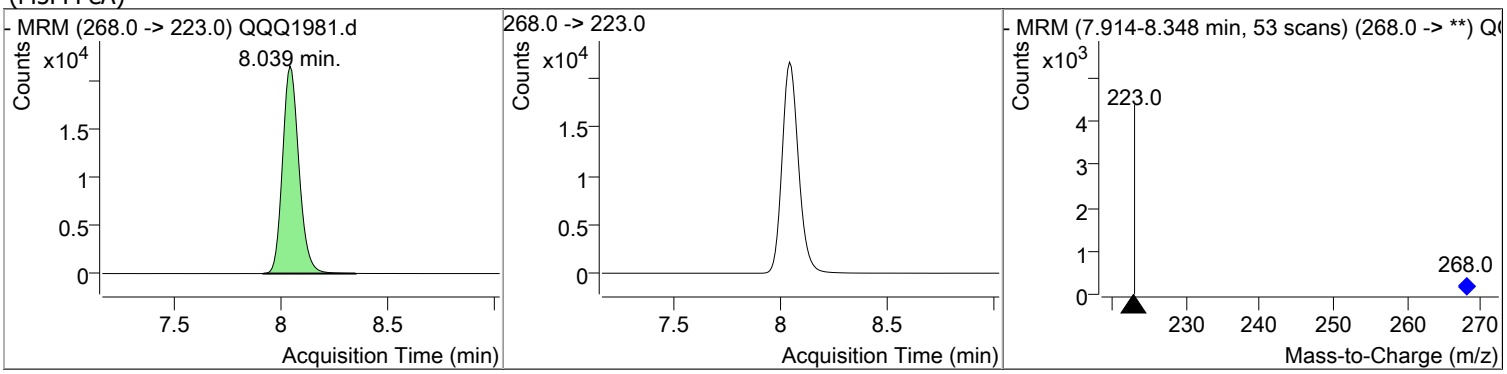
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	3.3441	4.09	-0.10	78388				



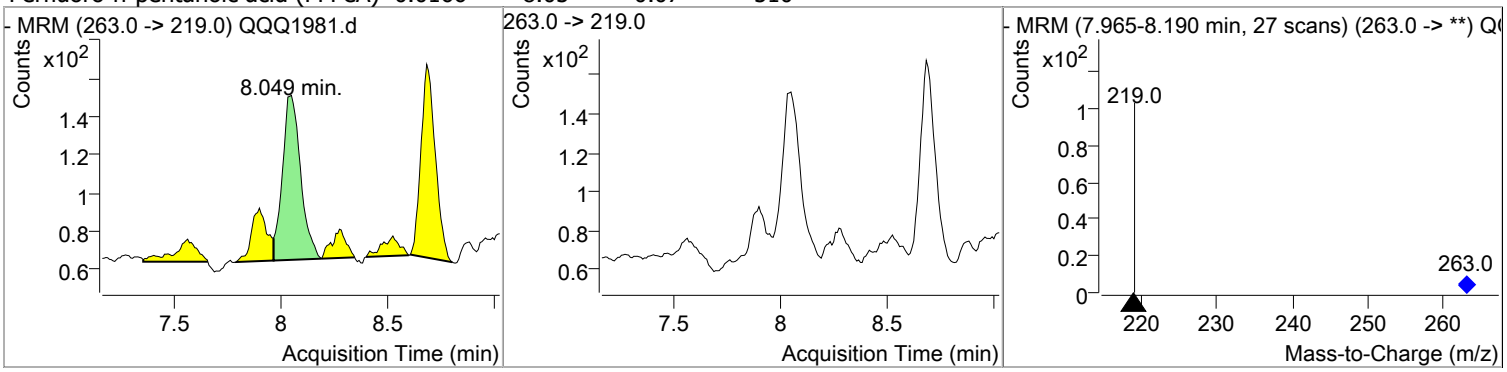
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0601	4.09	-0.10	1243				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.2973	8.04	-0.08	115662				

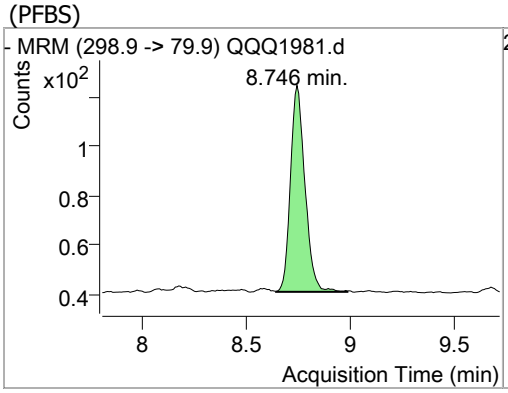


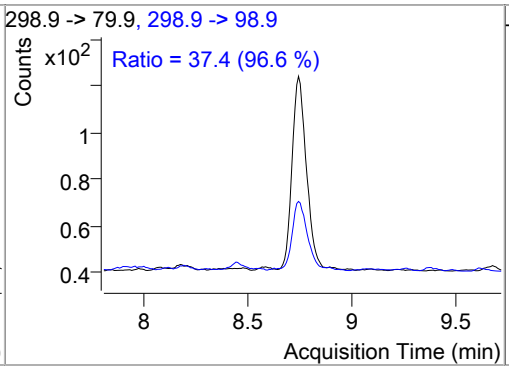
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0166	8.05	-0.07	510				

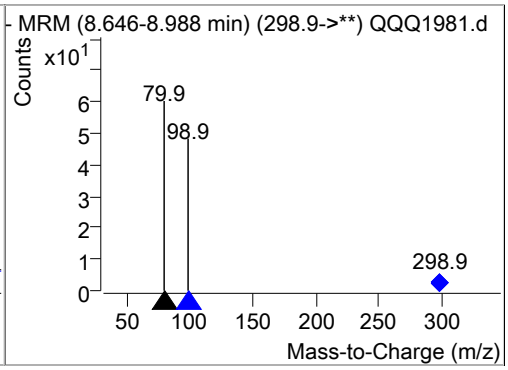


Quantitation Results Report (Not Reviewed)

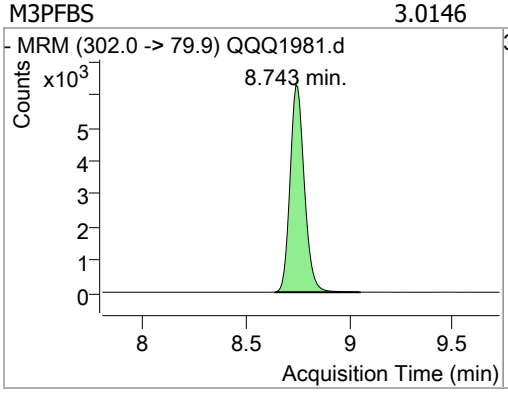
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0447	8.75	-0.07	403	298.9 -> 98.9	37.4	31.0	46.5

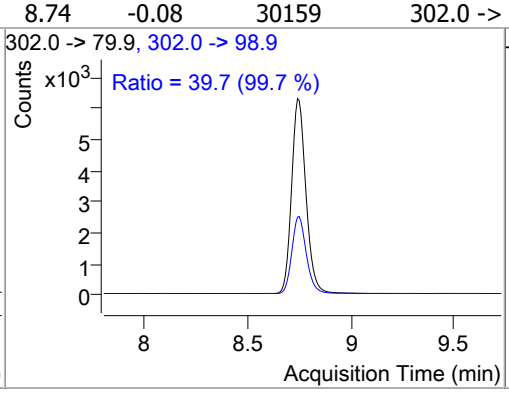


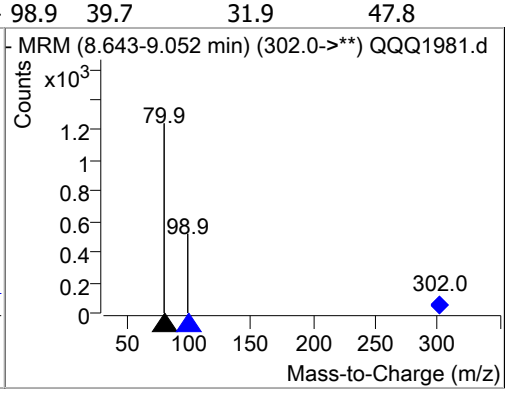




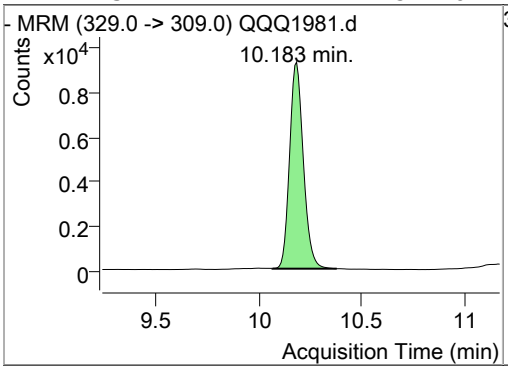
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.0146	8.74	-0.08	30159	302.0 -> 98.9	39.7	31.9	47.8

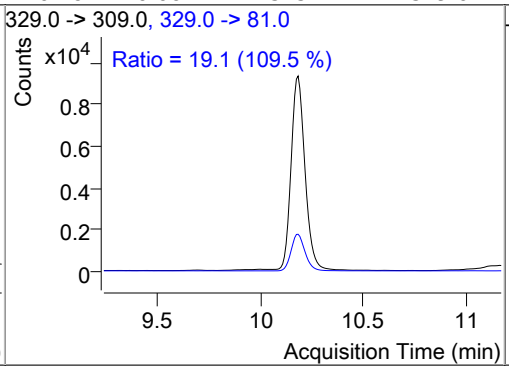


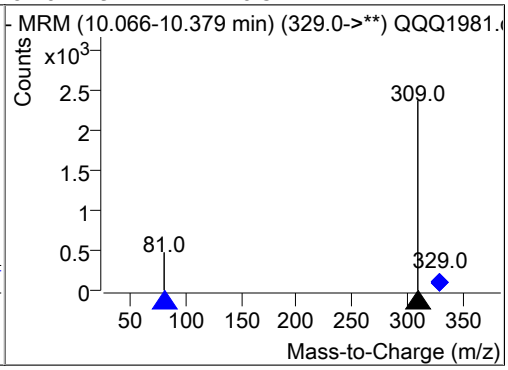




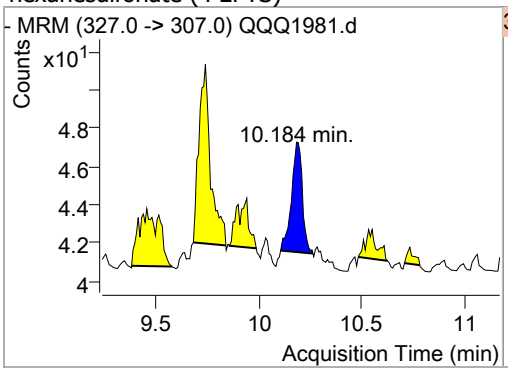
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	3.1428	10.18	-0.08	43254	329.0 -> 81.0	19.1	10.5	24.4

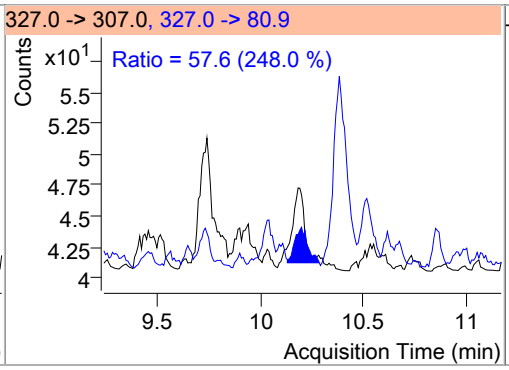


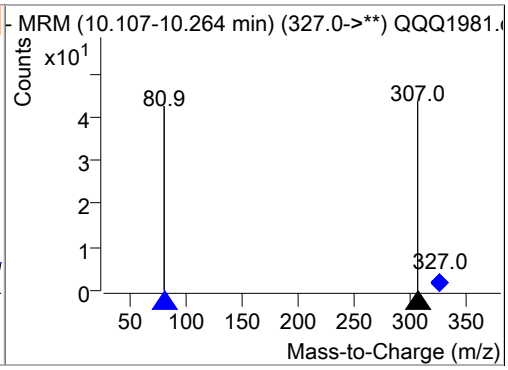




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0019	10.18	-0.08	21	327.0 -> 80.9	57.6	13.9	32.5

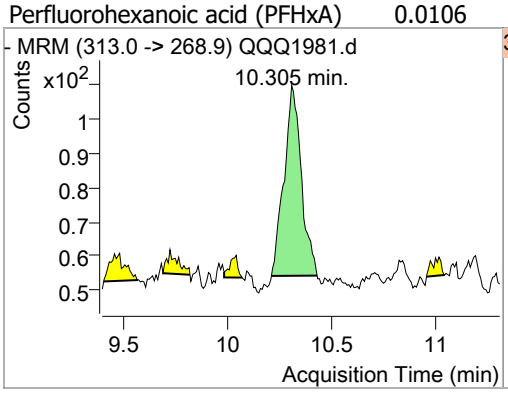


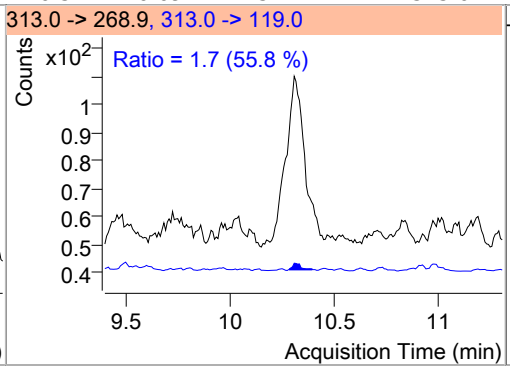


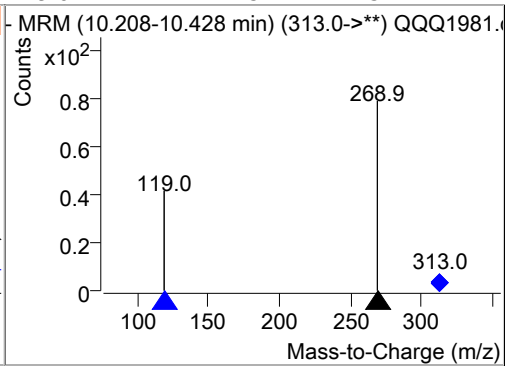


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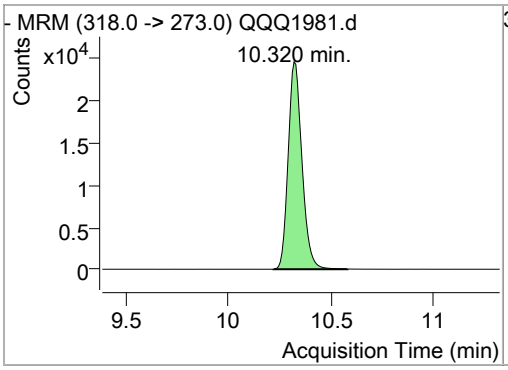
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0106	10.31	-0.09	322	313.0 -> 119.0	1.7	2.5	3.7

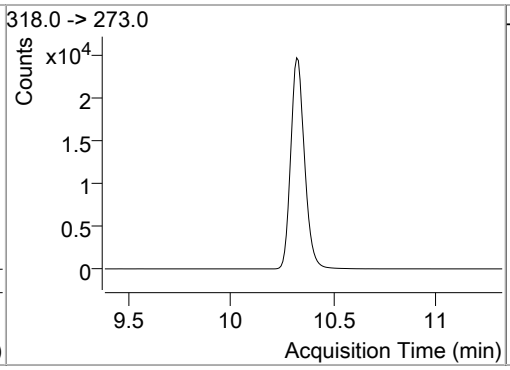


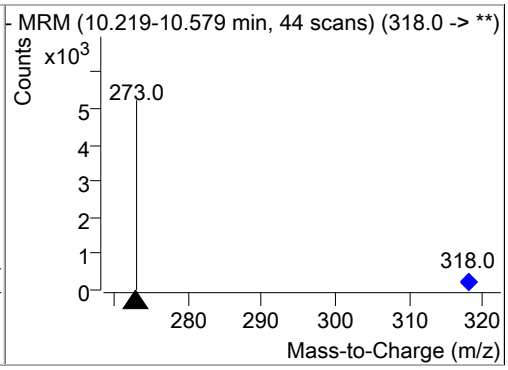




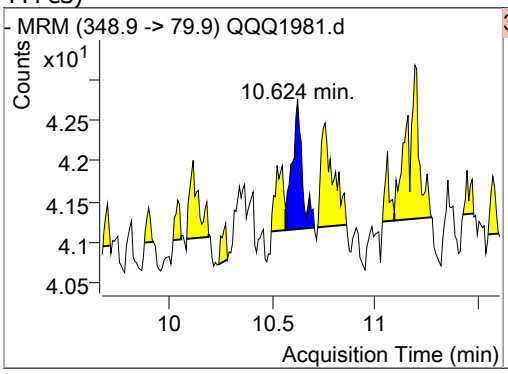
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.2453	10.32	-0.08	114585				

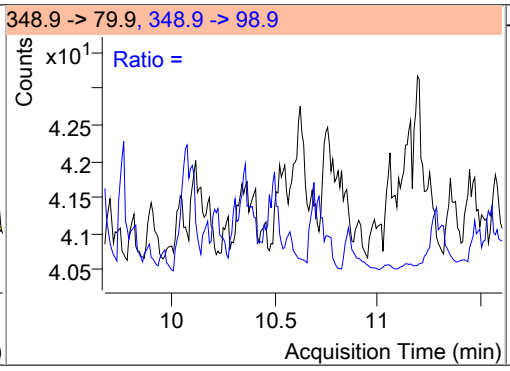


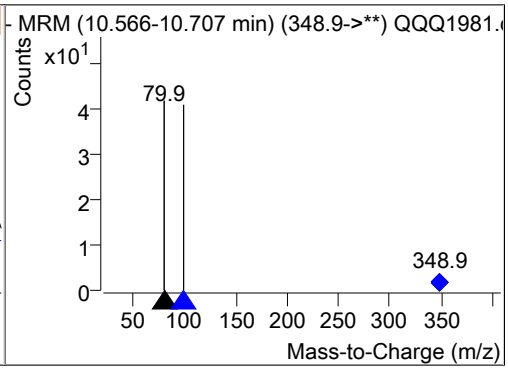




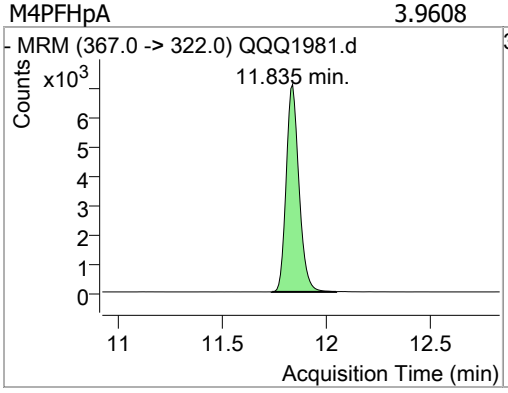
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0007	10.62	-0.08	5	348.9 -> 98.9		37.3	56.0

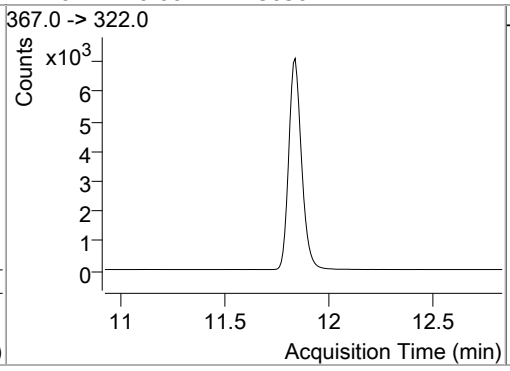


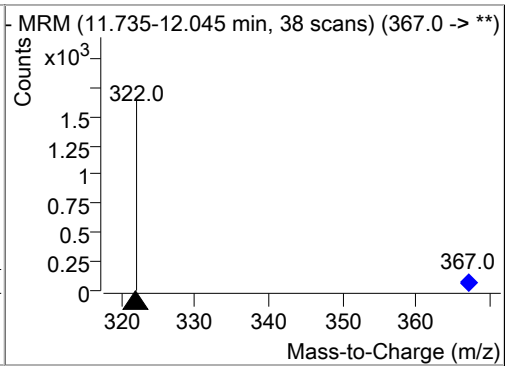




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	3.9608	11.84	-0.08	30381				

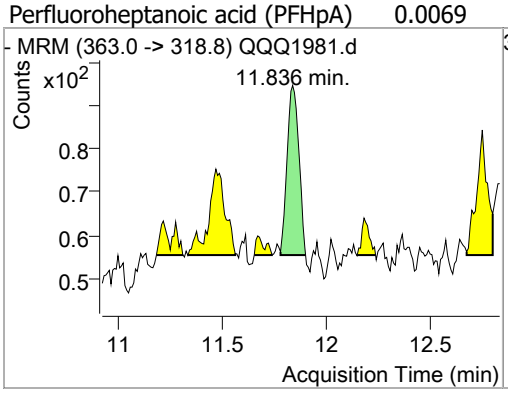


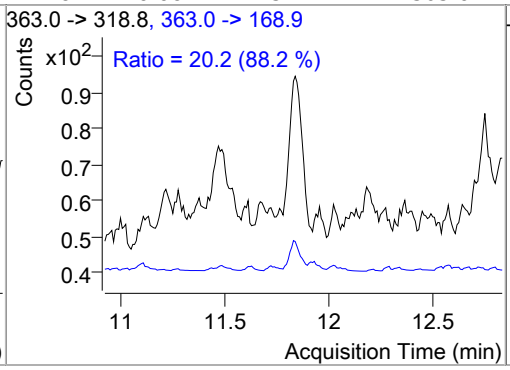


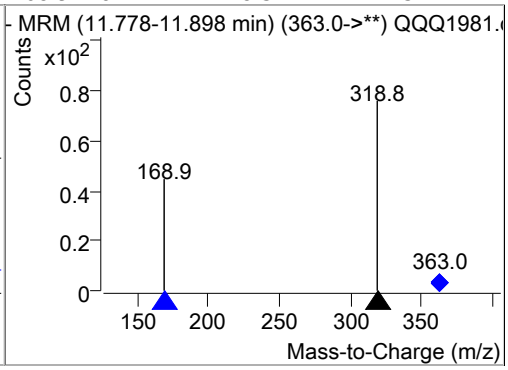


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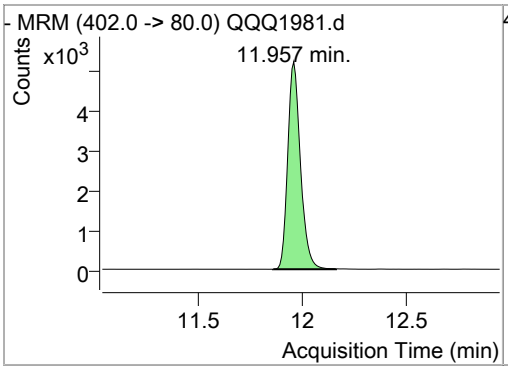
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0069	11.84	-0.08	154	363.0 -> 168.9	20.2	18.3	27.5

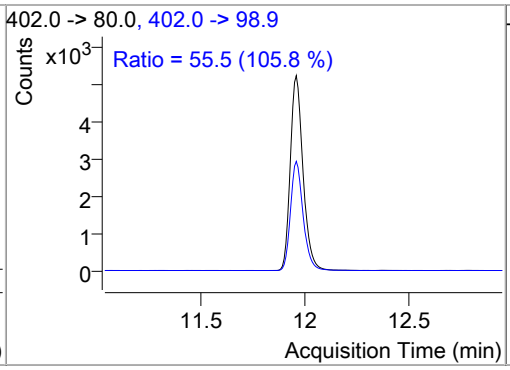


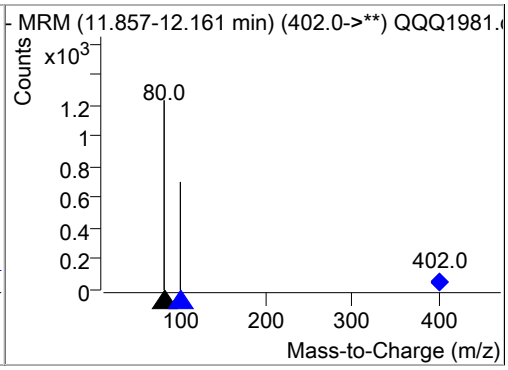




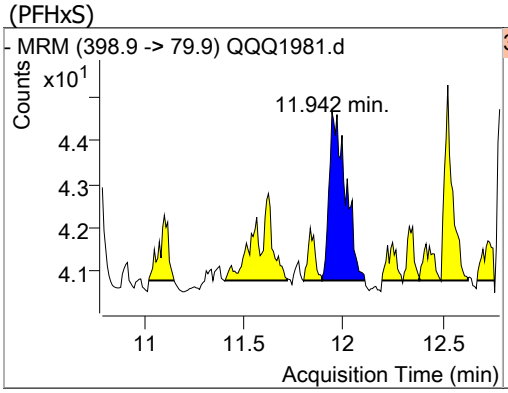
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.1788	11.96	-0.09	22245	402.0 -> 98.9	55.5	42.0	62.9

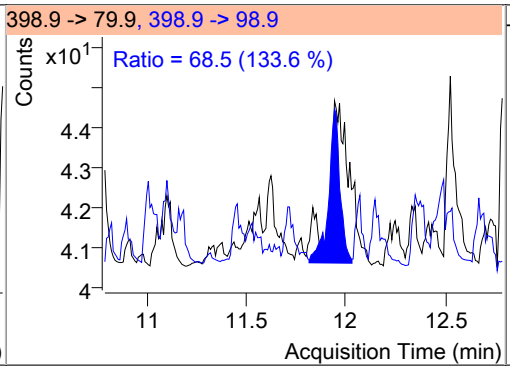


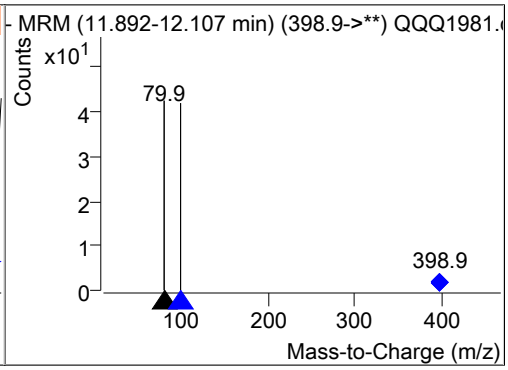




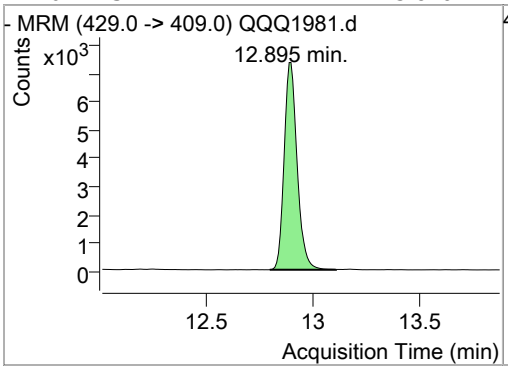
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0033	11.94	-0.10	22	398.9 -> 98.9	68.5	41.0	61.5

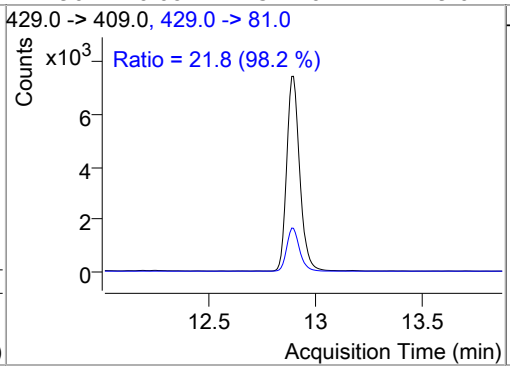


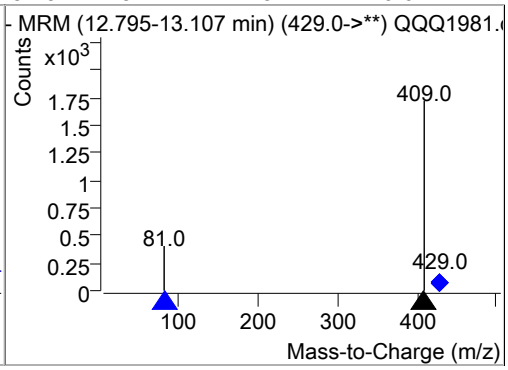




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	3.8707	12.90	-0.08	31420	429.0 -> 81.0	21.8	17.8	26.6

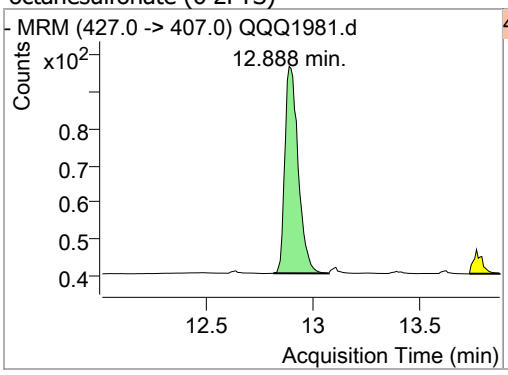


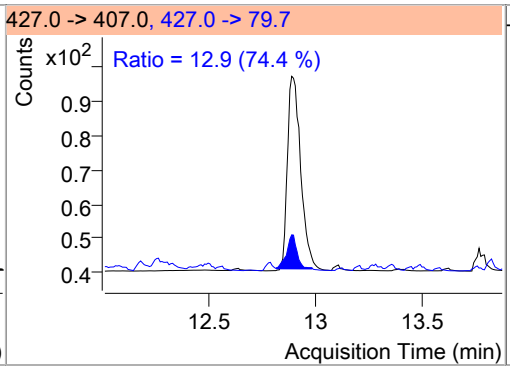


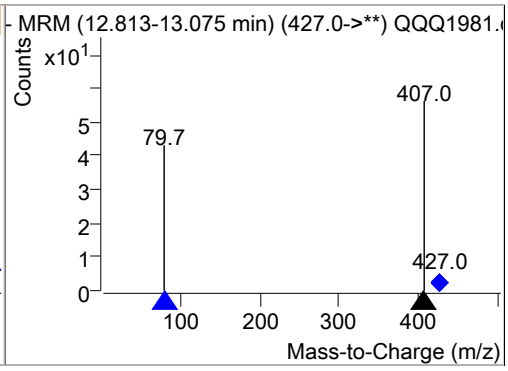


Quantitation Results Report (Not Reviewed)

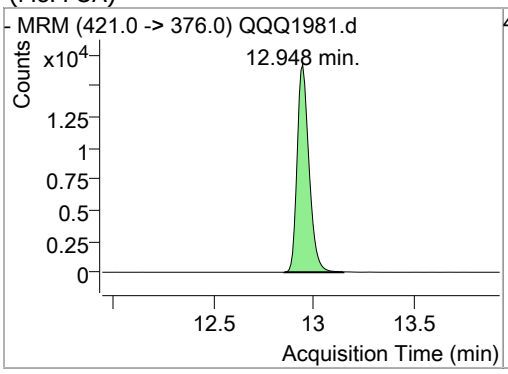
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0302	12.89	-0.09	248	427.0 -> 79.7	12.9	13.9	20.8

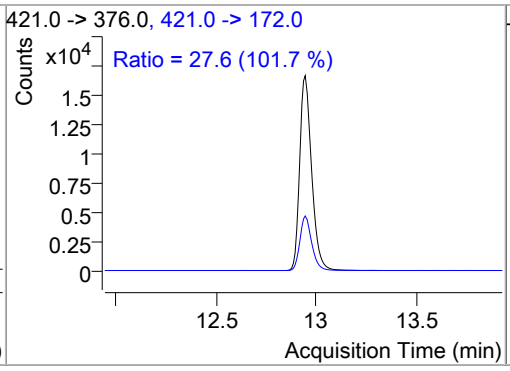


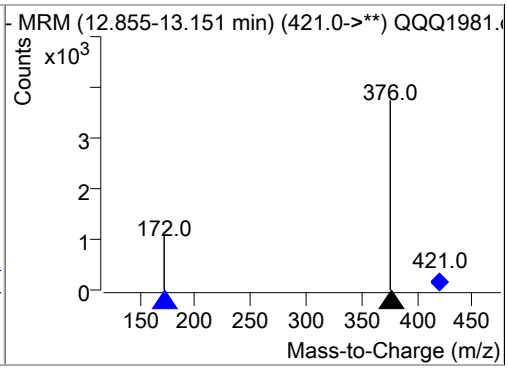




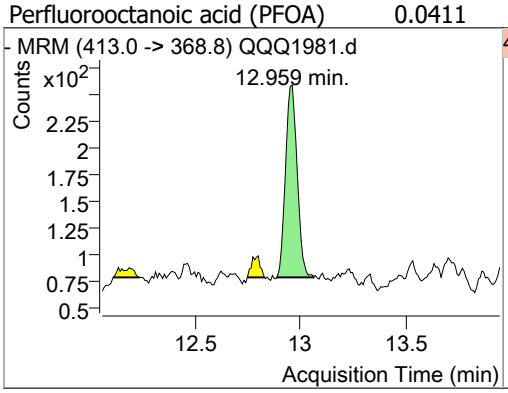
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	3.6017	12.95	-0.08	68908	421.0 -> 172.0	27.6	21.7	32.6

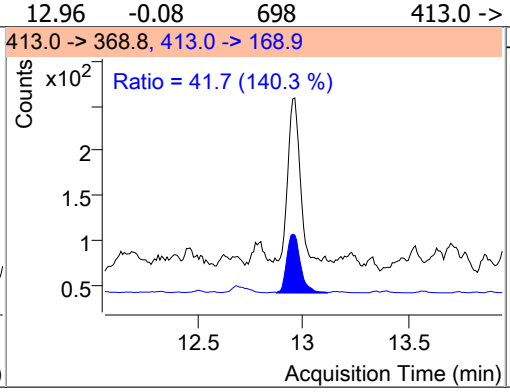


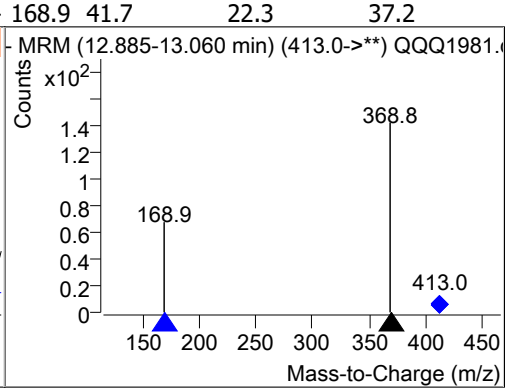




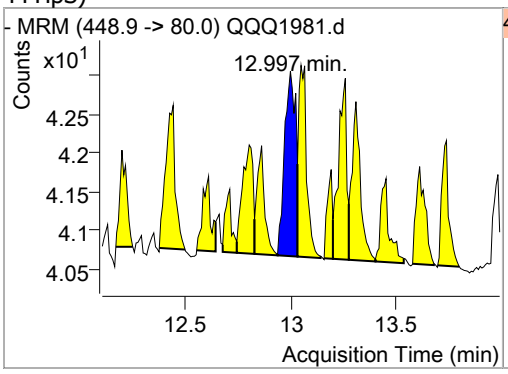
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0411	12.96	-0.08	698	413.0 -> 168.9	41.7	22.3	37.2

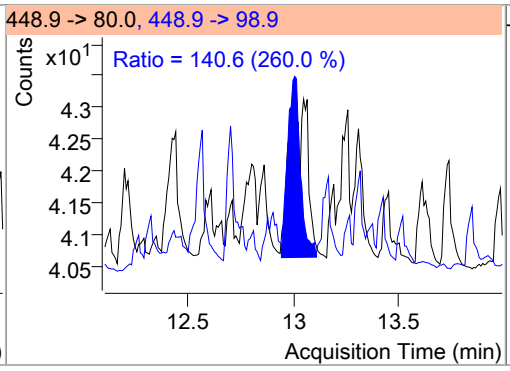


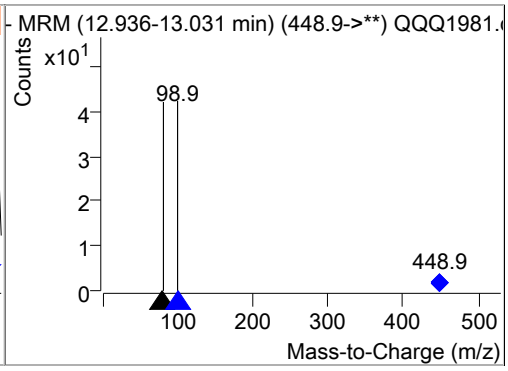




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0017	13.00	-0.08	9	448.9 -> 98.9	140.6	43.3	64.9

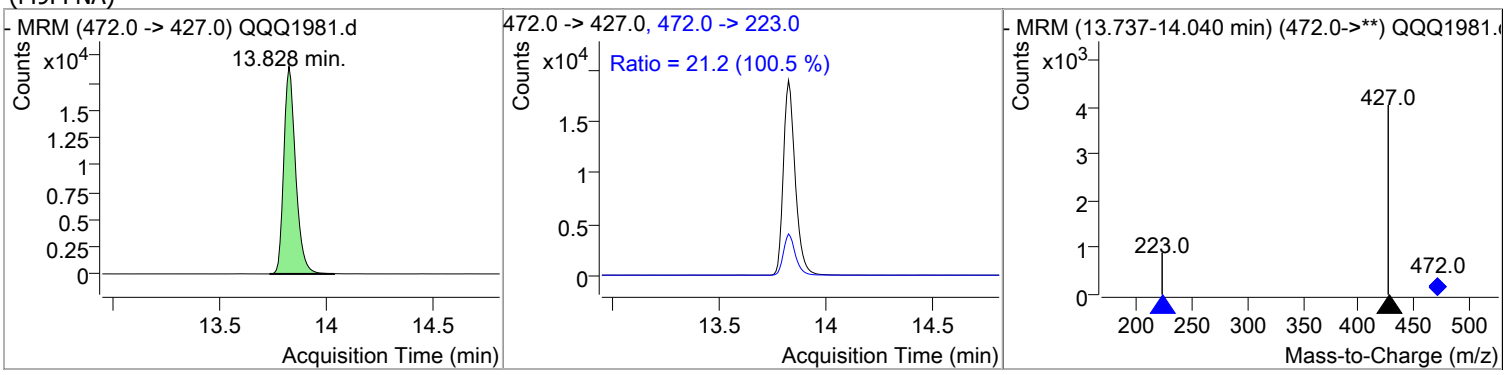




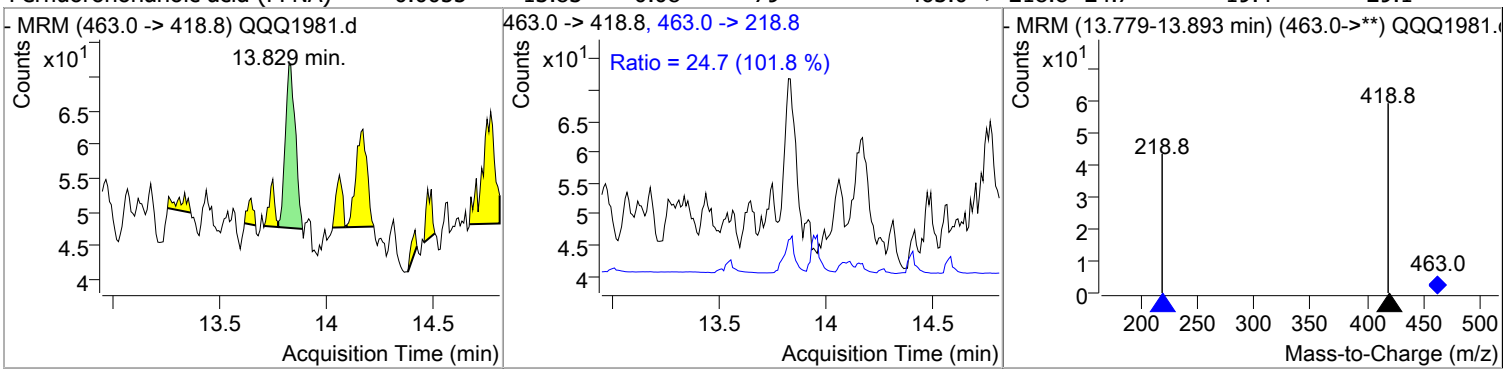


Quantitation Results Report (Not Reviewed)

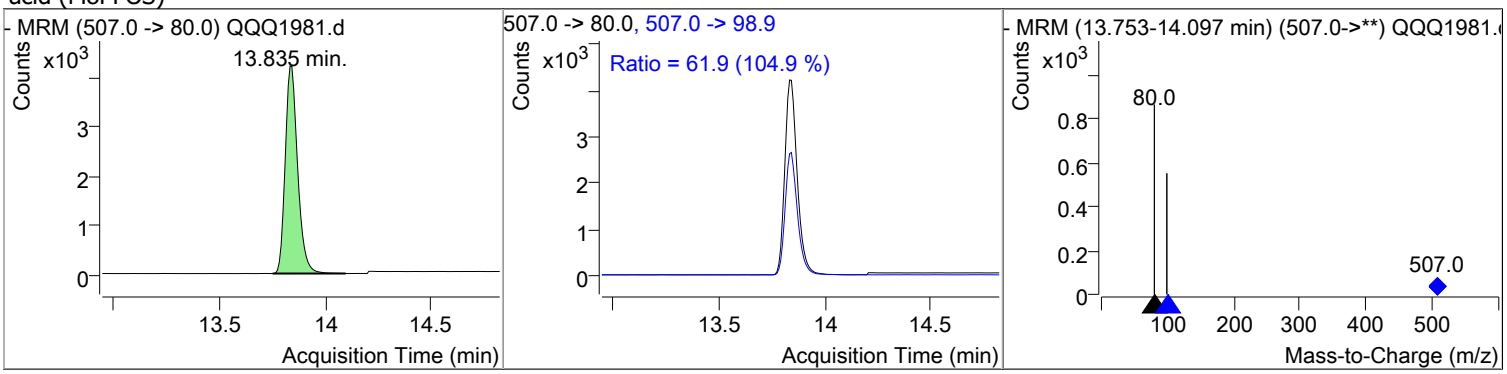
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	3.7087	13.83	-0.08	72853	472.0 -> 223.0	21.2	16.9	25.4



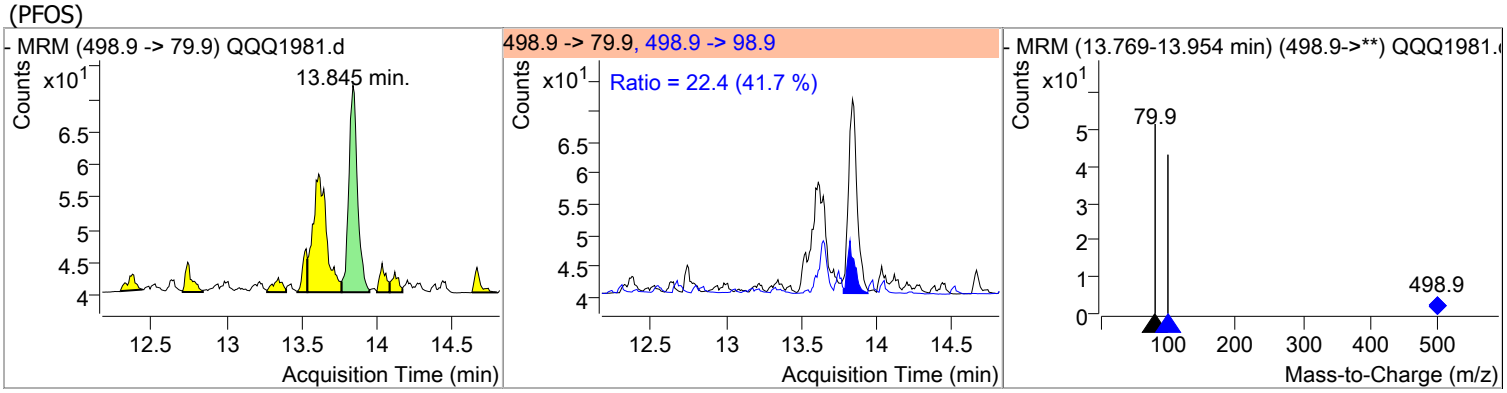
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0055	13.83	-0.08	79	463.0 -> 218.8	24.7	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.1484	13.84	-0.08	16969	507.0 -> 98.9	61.9	47.2	70.8

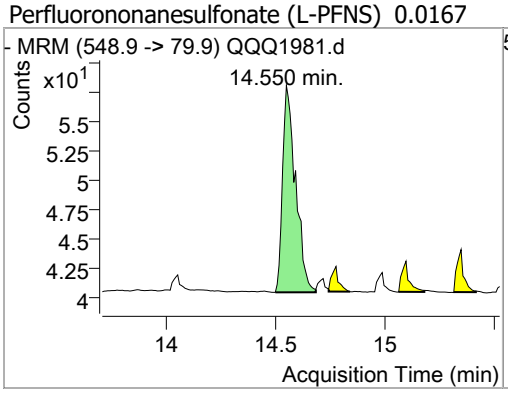


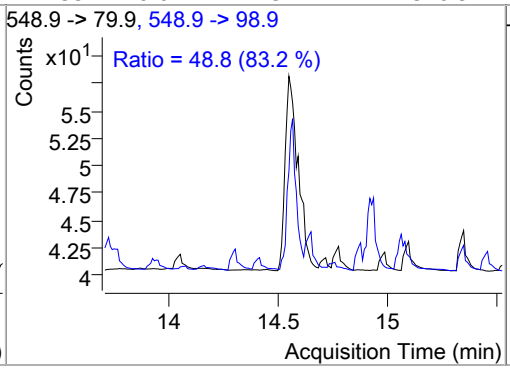
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0218	13.84	-0.07	128	498.9 -> 98.9	22.4	43.1	64.6

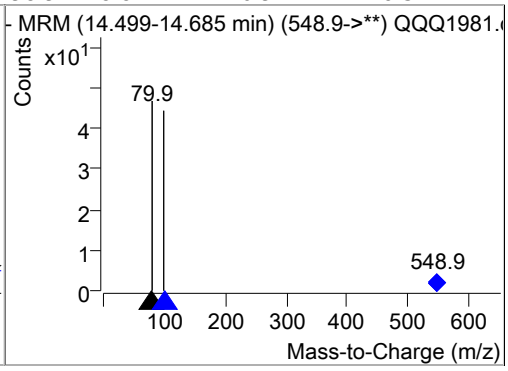


Quantitation Results Report (Not Reviewed)

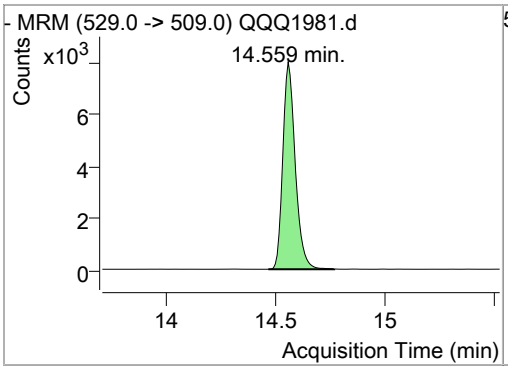
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0167	14.55	-0.07	73	548.9 -> 98.9	48.8	46.9	70.3

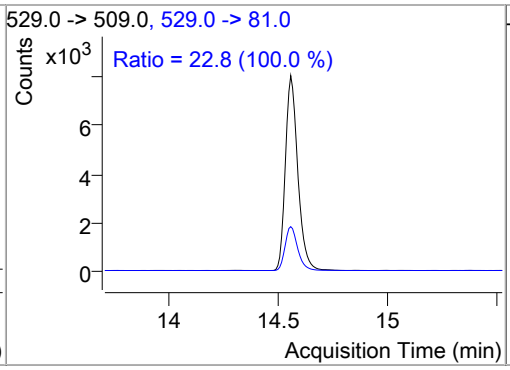


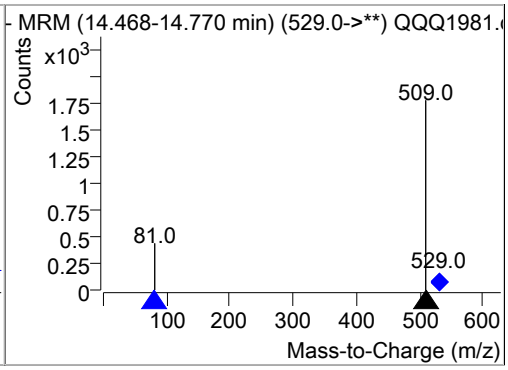




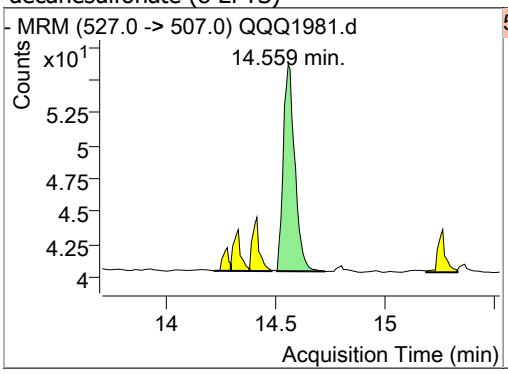
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.7406	14.56	-0.06	31601	529.0 -> 81.0	22.8	18.3	27.4

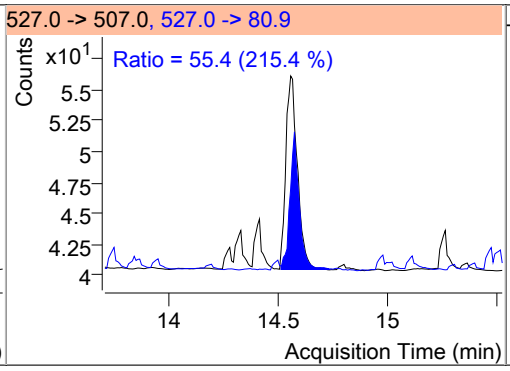


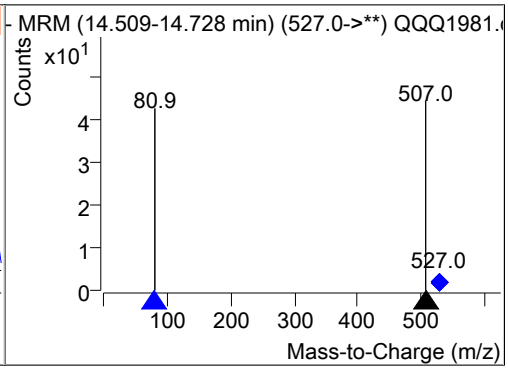




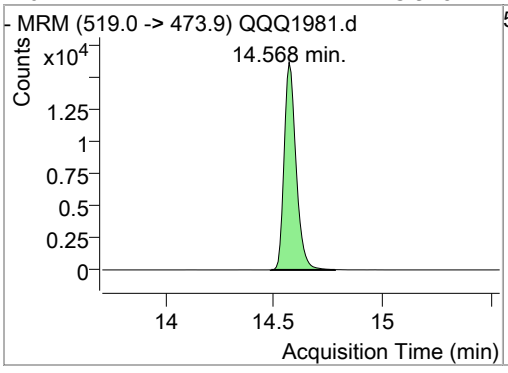
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0000	14.56	-0.06	58	527.0 -> 80.9	55.4	20.6	30.9

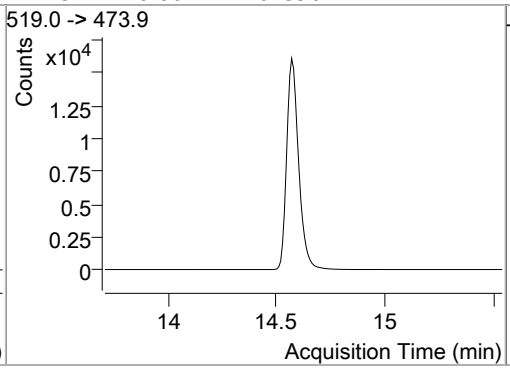


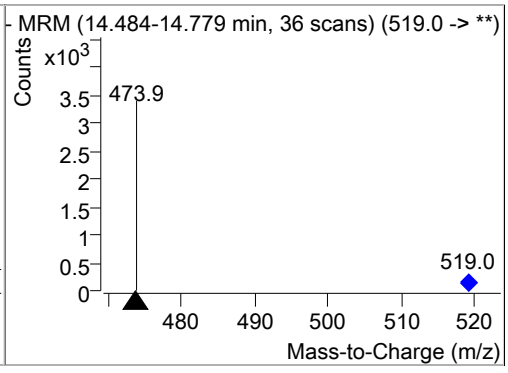




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	3.9281	14.57	-0.06	61396				

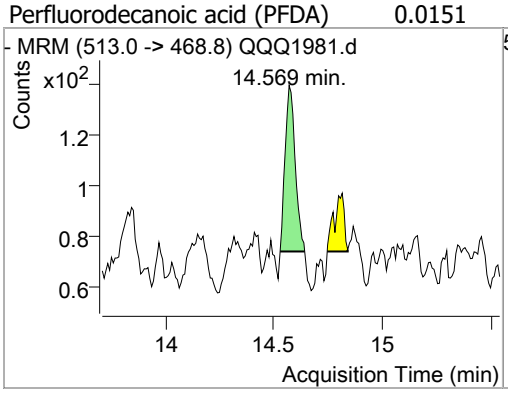


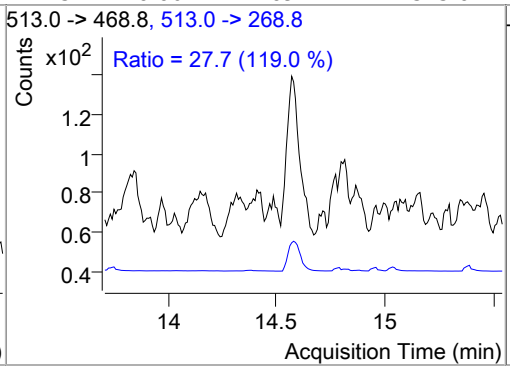


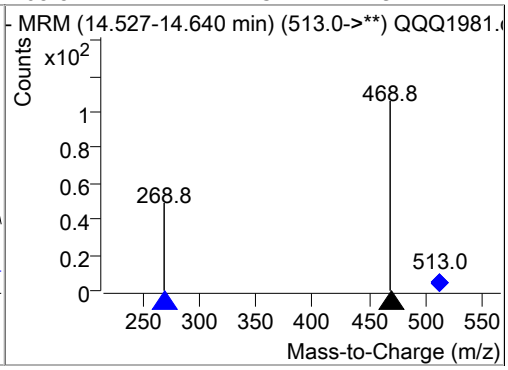


Quantitation Results Report (Not Reviewed)

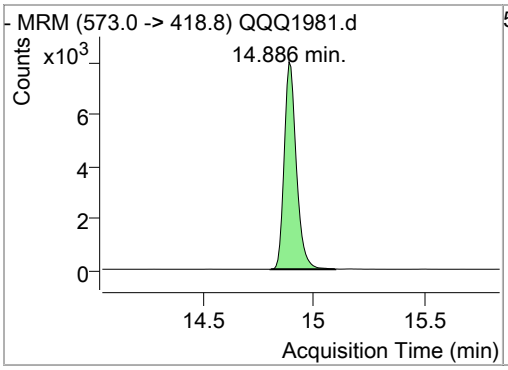
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0151	14.57	-0.06	209	513.0 -> 268.8	27.7	17.5	29.1

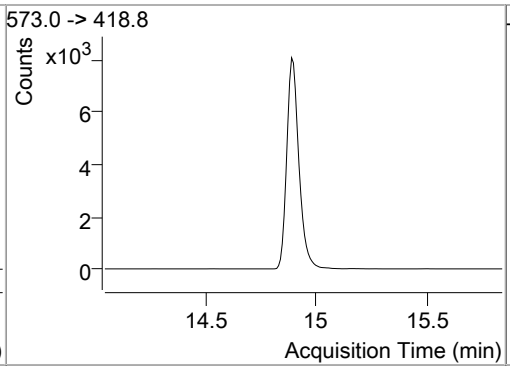


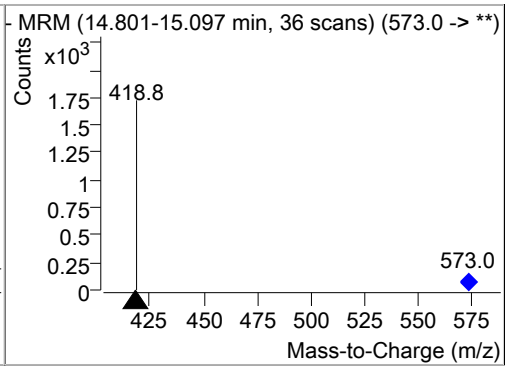




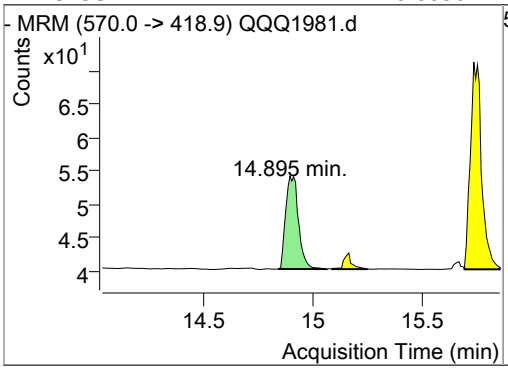
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.2258	14.89	-0.05	30921				

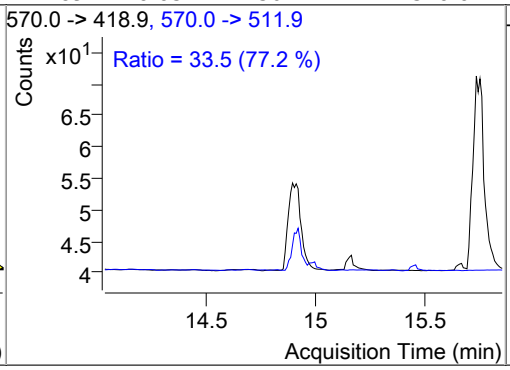


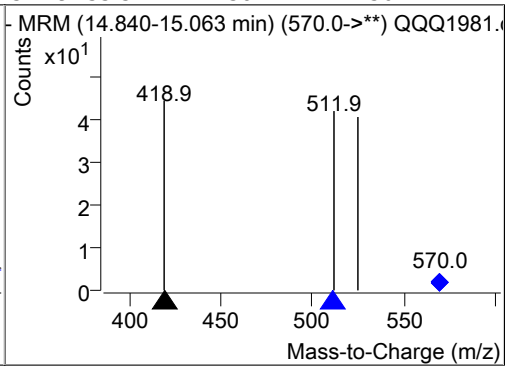




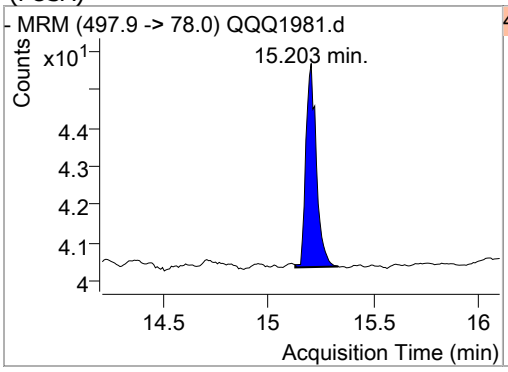
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0056	14.89	-0.05	56	570.0 -> 511.9	33.5	30.4	56.4

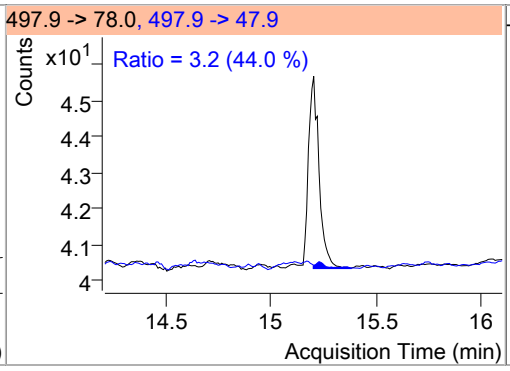


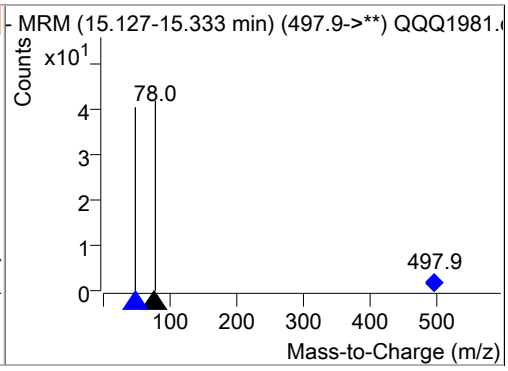




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0022	15.20	0.02	18	497.9 -> 47.9	3.2	5.9	8.8

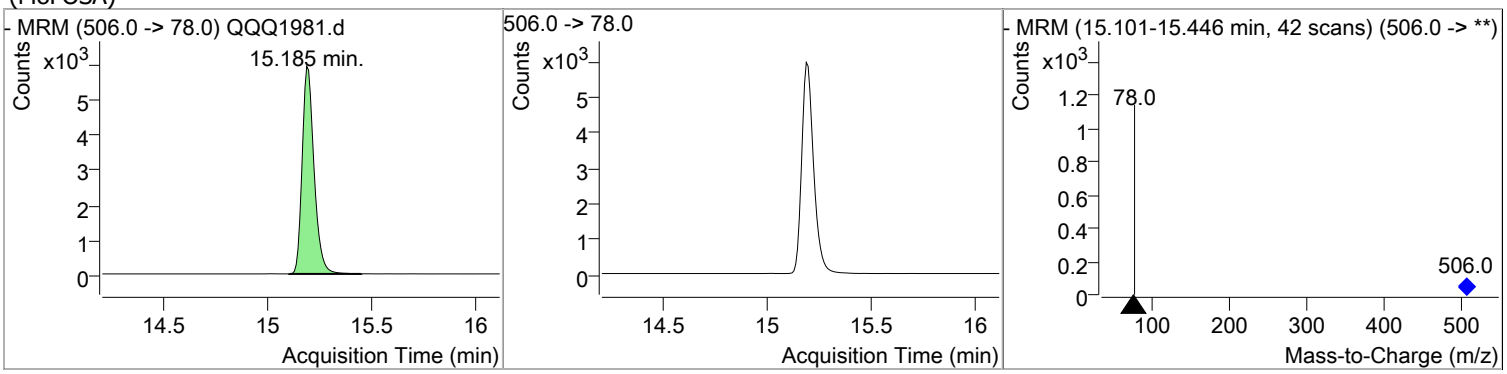




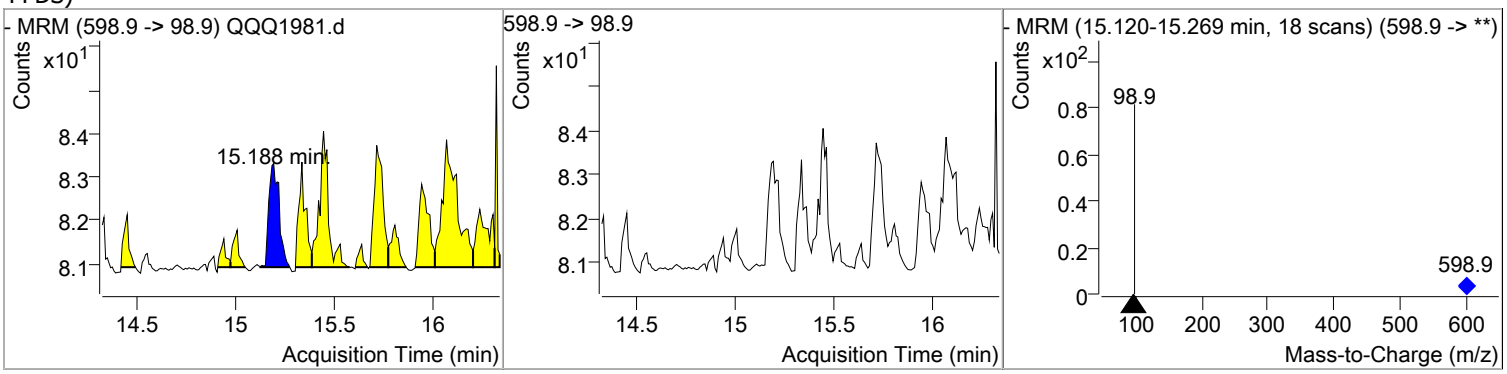


Quantitation Results Report (Not Reviewed)

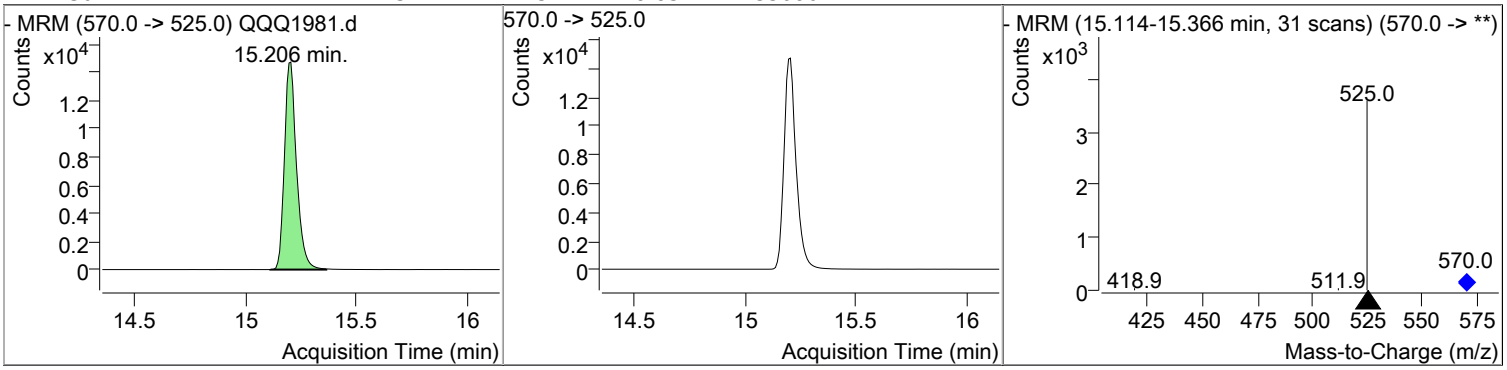
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.8891	15.19	-0.01	23527				



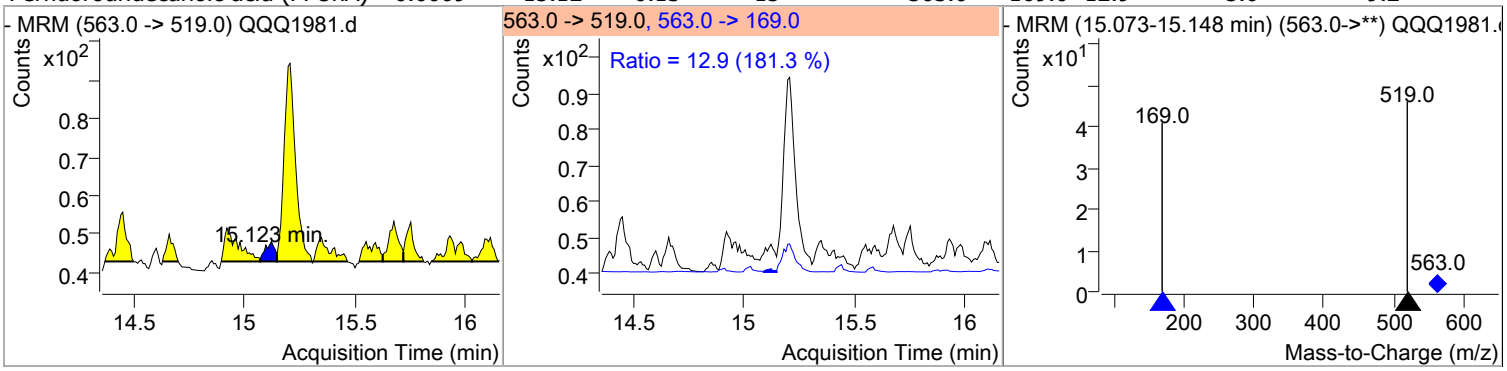
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0021	15.19	-0.03	9				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	3.1271	15.21	-0.03	55606				

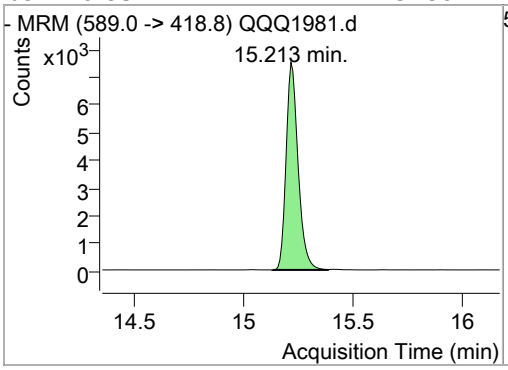


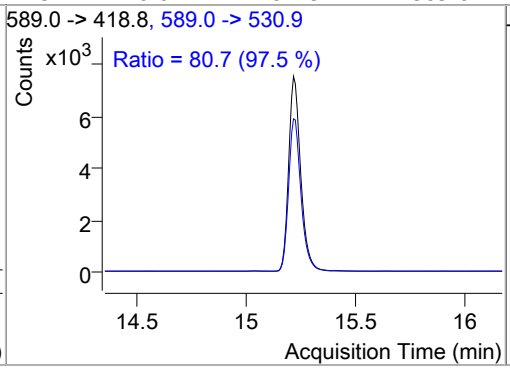
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0009	15.12	-0.13	15	563.0 -> 169.0	12.9	5.0	9.2

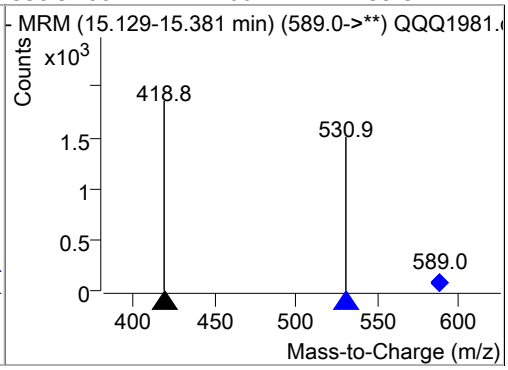


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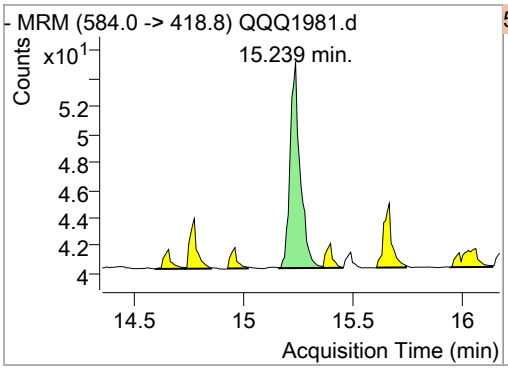
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.4982	15.21	-0.04	28449	589.0 -> 530.9	80.7	66.2	99.3

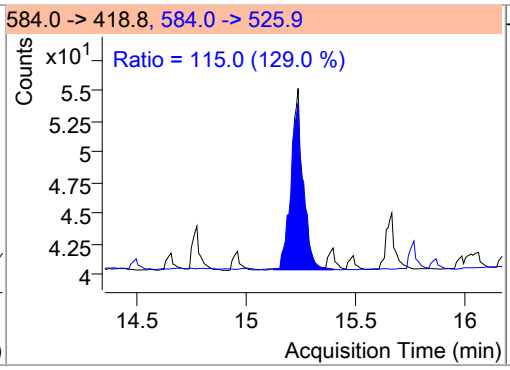


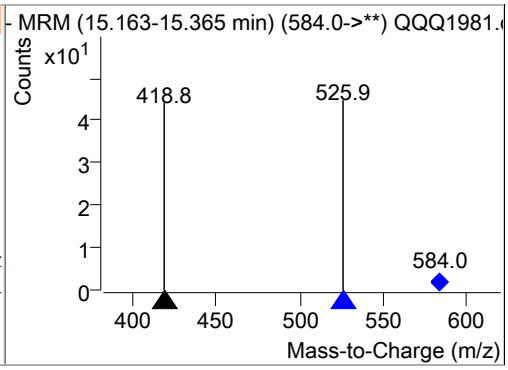




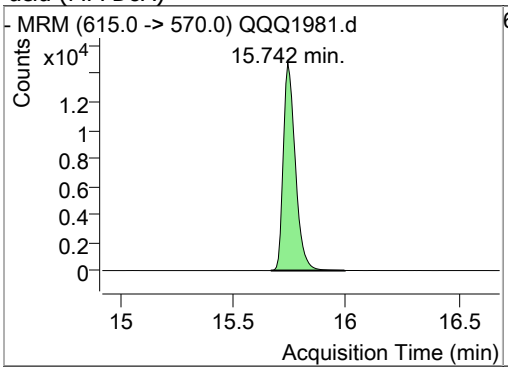
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0060	15.24	-0.03	48	584.0 -> 525.9	115.0	71.3	107.0

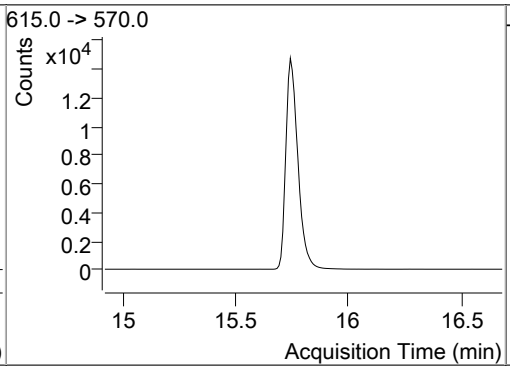


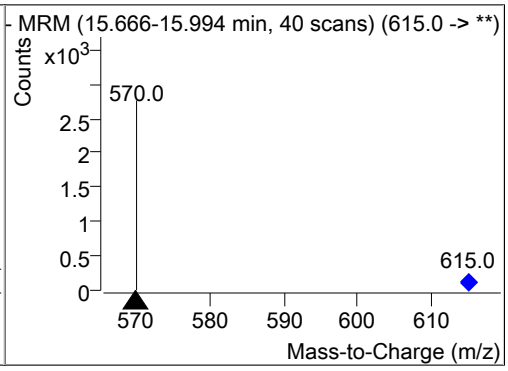




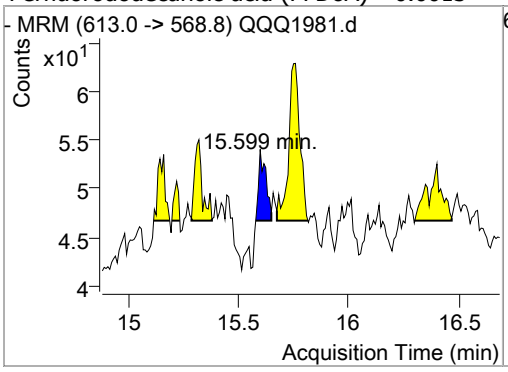
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	2.9970	15.74	-0.03	54792				

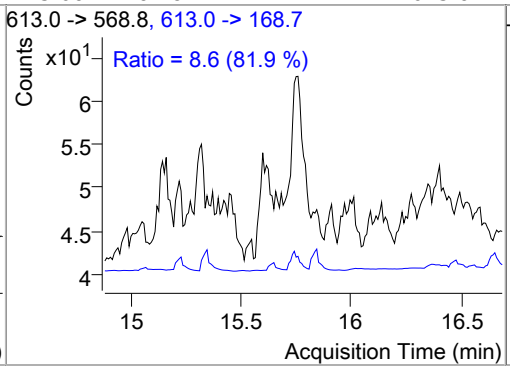


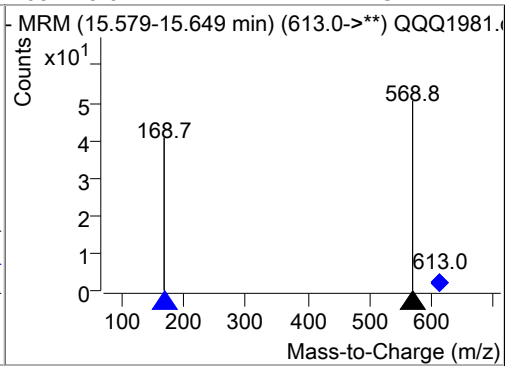




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0013	15.60	-0.18	17	613.0 -> 168.7	8.6	7.4	13.7

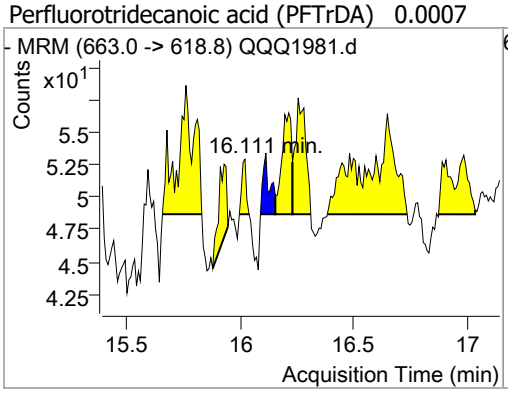


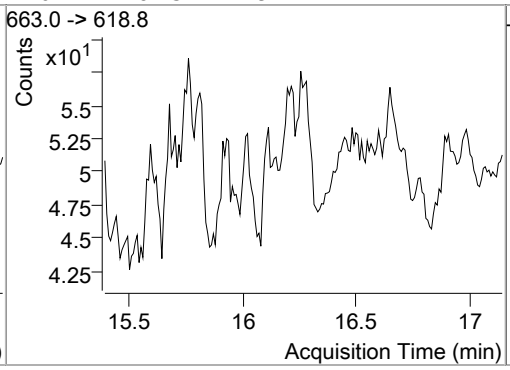


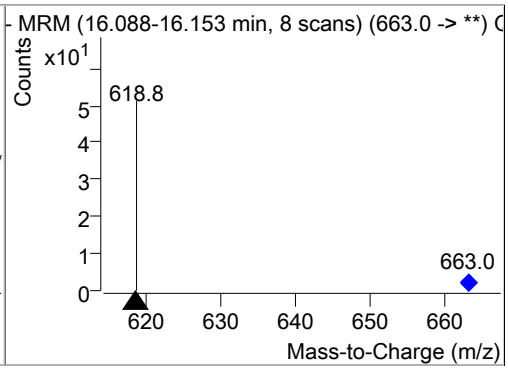


Quantitation Results Report (Not Reviewed)

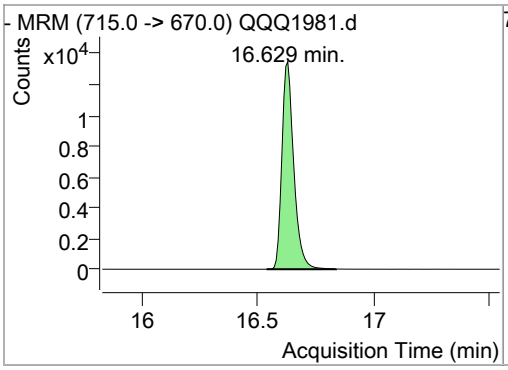
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0007	16.11	-0.13	9				

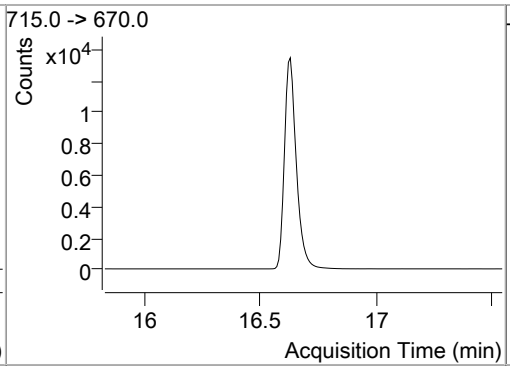


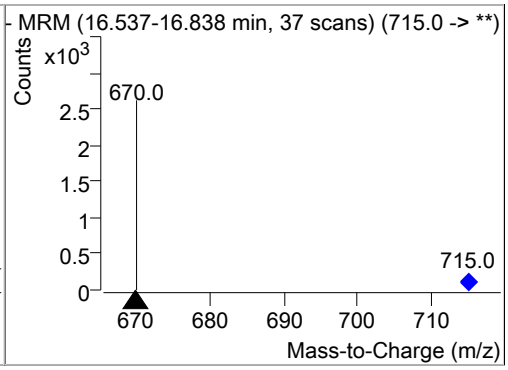




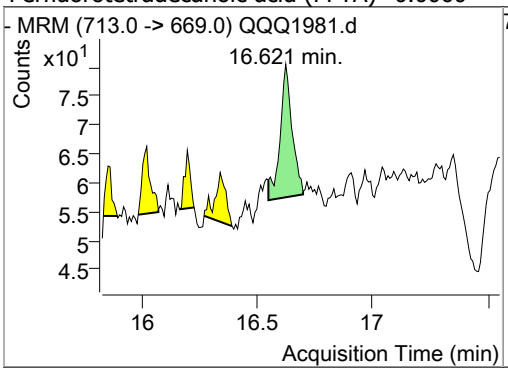
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	3.2141	16.63	-0.01	47973				

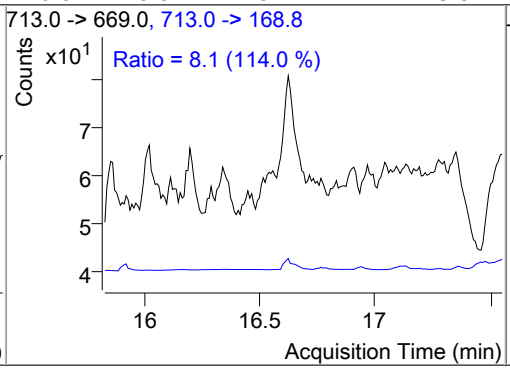


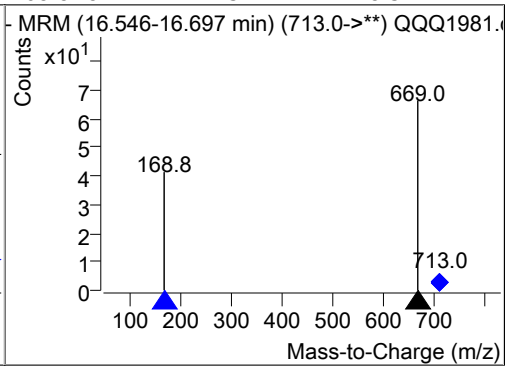




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0060	16.62	-0.02	84	713.0 -> 168.8	8.1	5.7	8.5







FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 537m

SB27_6-8

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-04	File ID:	QQQ1982.d
Sampled:	10/02/19 10:35	Prepared:	10/03/19 13:31	Analyzed:	10/04/19 22:58
Solids:	83.69	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.1187 g / 2 mL
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019
Instrument:	LCQQQ				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	0.846	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.846	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	0.846	U
3871-99-6	Perfluorohexanesulfonic acid (PFHxS)	1	0.846	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	0.846	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	0.846	U
375-95-1	Perfluorononanoic acid (PFNA)	1	0.846	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	0.846	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	0.846	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	0.846	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	0.846	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	0.846	U
2355-31-9	N-MeFOSAA	1	0.846	U
2991-50-6	N-EtFOSAA	1	0.846	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	0.846	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	0.846	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	0.846	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	0.846	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	0.846	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	0.846	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	0.846	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
M3PFBS	5.24	3.32	63.4	25 - 150	
M5PFHxA	5.64	3.71	65.8	25 - 150	
M4PFHpA	5.64	4.34	76.9	25 - 150	
M3PFHxS	5.34	3.47	65.0	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.64	4.08	72.3	25 - 150	
M6PFDA	5.64	3.93	69.7	25 - 150	
M7PFUdA	5.64	3.41	60.5	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.64	3.28	58.2	25 - 150	
M2PFTeDA	5.64	3.65	64.8	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.64	3.69	65.4	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	5.40	3.27	60.6	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.64	3.67	65.0	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.64	3.00	53.2	10 - 150	
d3-N-MeFOSAA	5.64	3.64	64.5	25 - 150	
d5-N-EtFOSAA	5.64	3.96	70.2	25 - 150	
M2-6:2 FTS	5.35	4.63	86.5	25 - 150	
M2-8:2 FTS	5.40	5.67	105	25 - 150	
M9PFNA	5.64	4.14	73.4	25 - 150	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 537m

SB27_6-8

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-04	File ID:	QQQ1982.d
Sampled:	10/02/19 10:35	Prepared:	10/03/19 13:31	Analyzed:	10/04/19 22:58
Solids:	83.69	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.1187 g / 2 mL
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019
Instrument:	LCQQQ				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
MPFOA	289177.6	12.94017	305810.7	12.94855	

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

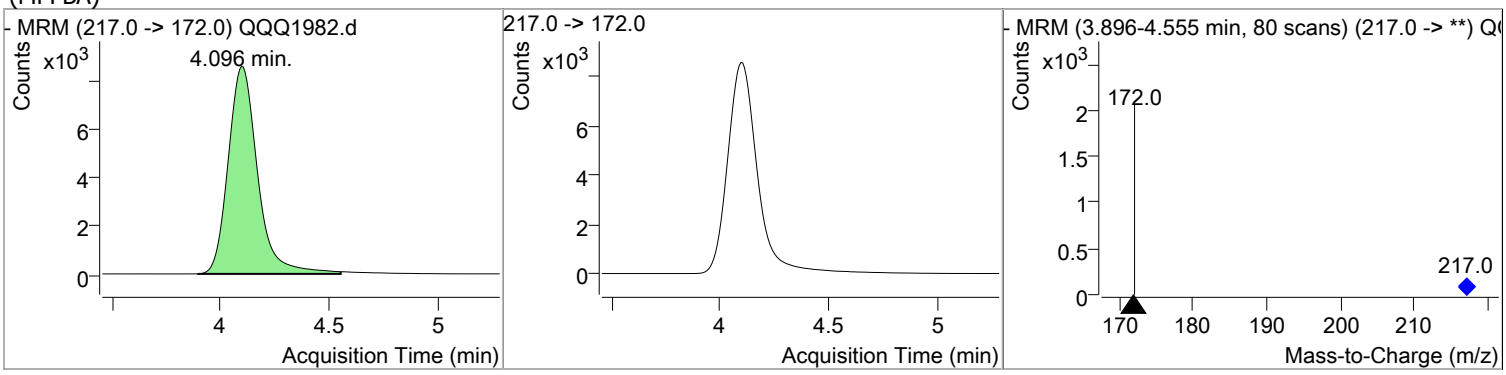
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Sample Name	19J0144-04	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.940	417.0 -> 372.0	289178	10.0000	ng/ml	-0.094
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.096	217.0 -> 172.0	80760	3.2699	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.70%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	120113	3.2499	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.50%		
M3PFBS	8.743	302.0 -> 79.9	31061	2.9468	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 29.47%		
M2-4-2FTS	10.174	329.0 -> 309.0	48452	3.3413	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.41%		
M5PFHxA	10.320	318.0 -> 273.0	122482	3.2924	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.92%		
M4PFHpA	11.827	367.0 -> 322.0	31077	3.8452	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.45%		
M3PFHxS	11.949	402.0 -> 80.0	22657	3.0728	ng/ml	-0.094
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 30.73%		
M2-6-2FTS	12.887	429.0 -> 409.0	35087	4.1024	ng/ml	-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 41.02%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.939	421.0 -> 376.0	72840	3.6134	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 36.13%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.820	472.0 -> 427.0	75933	3.6687	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 36.69%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	16474	2.9009	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 29.01%		
M2-8-2FTS	14.550	529.0 -> 509.0	35037	5.0273	ng/ml	-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.27%		
M6PFDA	14.560	519.0 -> 473.9	57390	3.4849	ng/ml	-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.85%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	32565	3.2243	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.24%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	22815	2.6590	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 26.59%		
M7PFUdA	15.198	570.0 -> 525.0	56719	3.0273	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 30.27%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	30066	3.5089	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 35.09%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.750	615.0 -> 570.0	56015	2.9079	ng/ml	-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 29.08%		
M2PFTeDA	16.621	715.0 -> 670.0	50920	3.2378	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.38%		
Target Compounds						QValue

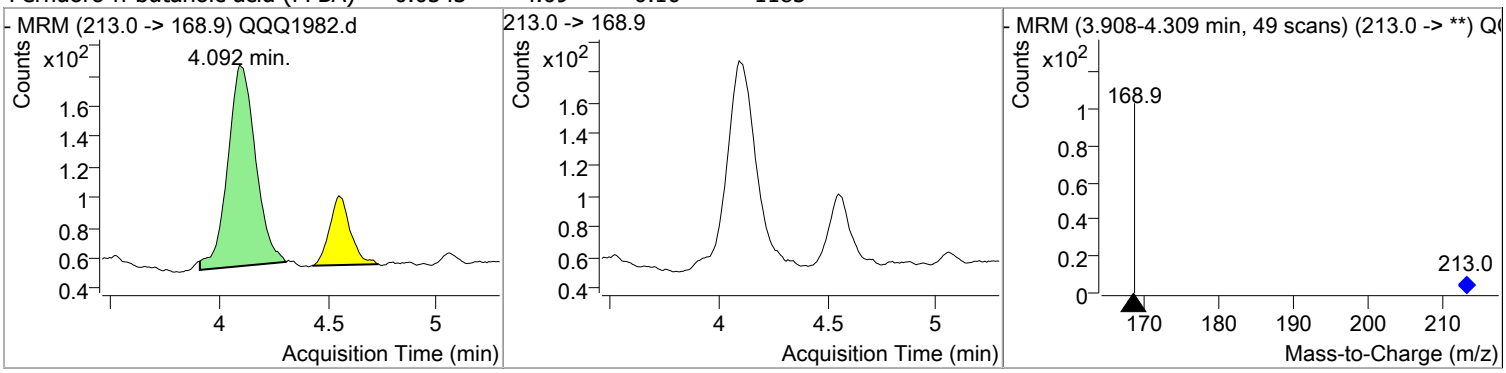
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.092	213.0 -> 168.9	1183	0.0543	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.065	263.0 -> 219.0	609	0.0188	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	311	0.0327	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	19	0.0016	ng/ml	#	1
Perfluorohexanoic acid (PFHxA)	10.314	313.0 -> 268.9	164	0.0051	ng/ml	#	97
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.641	348.9 -> 79.9	7	0.0008	ng/ml	#	62
Perfluoroheptanoic acid (PFHpA)	11.828	363.0 -> 318.8	99	0.0042	ng/ml		99
Perfluorohexanesulfonic acid (PFHxS)	11.942	398.9 -> 79.9	13	0.0019	ng/ml		92
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	207	0.0239	ng/ml	#	76
Perfluorooctanoic acid (PFOA)	12.941	413.0 -> 368.8	497	0.0278	ng/ml		91
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.014	448.9 -> 80.0	4	0.0007	ng/ml		96
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	87	0.0057	ng/ml		99
Perfluorooctanesulfonic acid (PFOS)	13.811	498.9 -> 79.9	10	0.0017	ng/ml		87
Perfluorononanesulfonate (L-PFNS)	14.558	548.9 -> 79.9	6	0.0013	ng/ml	#	1
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.593	527.0 -> 507.0	24	0.0000	ng/ml	#	33
Perfluorodecanoic acid (PFDA)	14.578	513.0 -> 468.8	95	0.0065	ng/ml		96
N-MeFOSAA	14.911	570.0 -> 418.9	29	0.0027	ng/ml	#	1
Perfluoro-1-octanesulfonamide (FOSA)	15.195	497.9 -> 78.0	35	0.0039	ng/ml	#	72
Perfluoro-1-decanesulfonate (L-PFDS)	15.070	598.9 -> 98.9	2	0.0004	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.157	563.0 -> 519.0	13	0.0007	ng/ml	#	1
N-EtFOSAA	15.231	584.0 -> 418.8	30	0.0036	ng/ml	#	39
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	27	0.0020	ng/ml		95
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	71	0.0051	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.630	713.0 -> 669.0	127	0.0087	ng/ml		99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

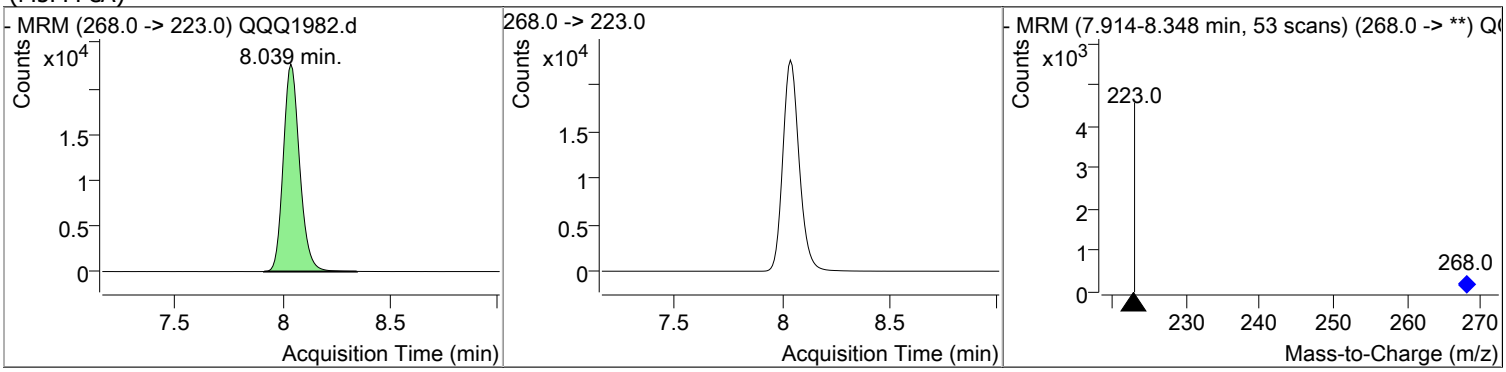
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	3.2699	4.10	-0.09	80760				



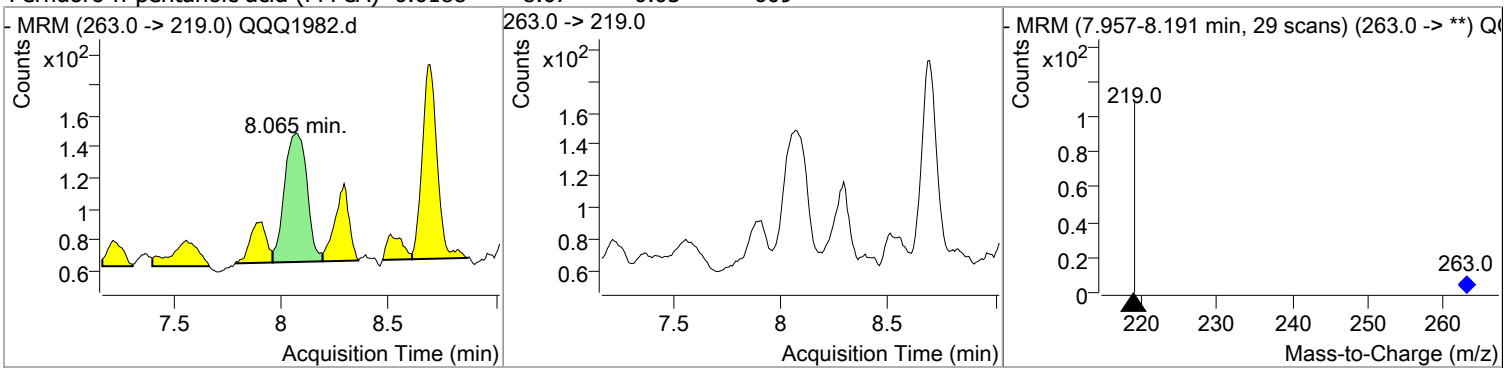
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0543	4.09	-0.10	1183				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.2499	8.04	-0.08	120113				

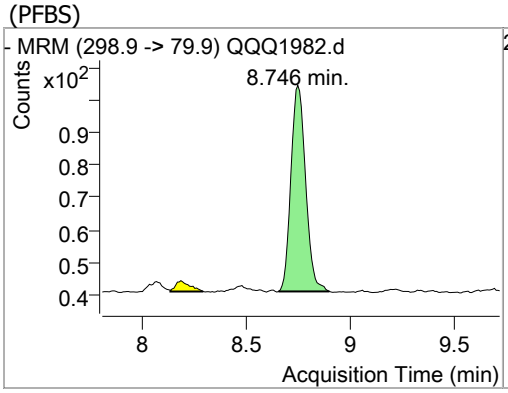


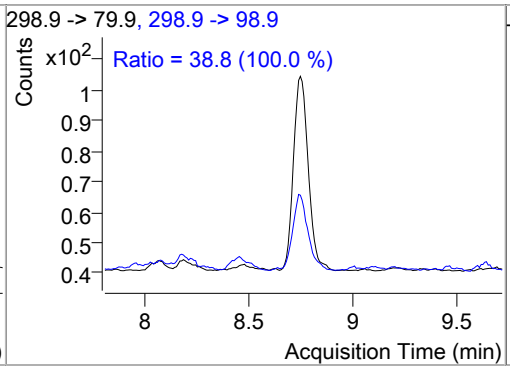
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0188	8.07	-0.05	609				

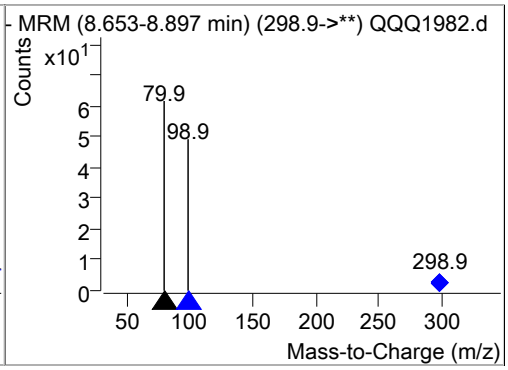


Quantitation Results Report (Not Reviewed)

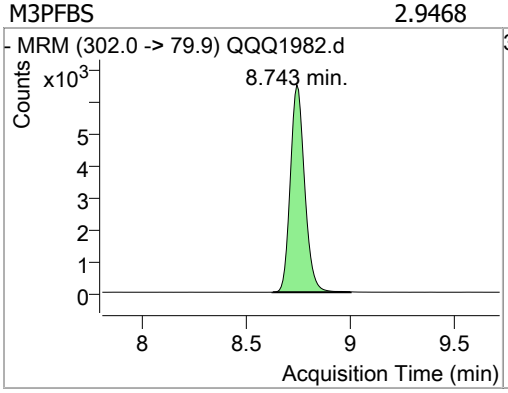
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0327	8.75	-0.07	311	298.9 -> 98.9	38.8	31.0	46.5

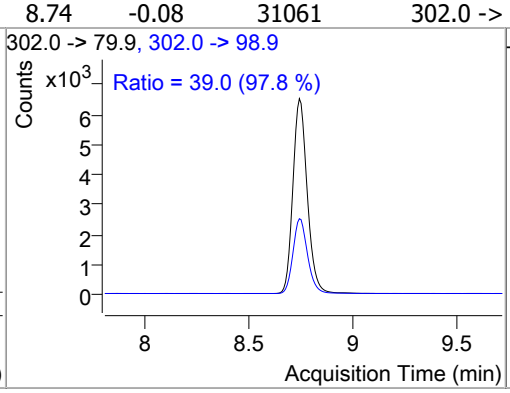


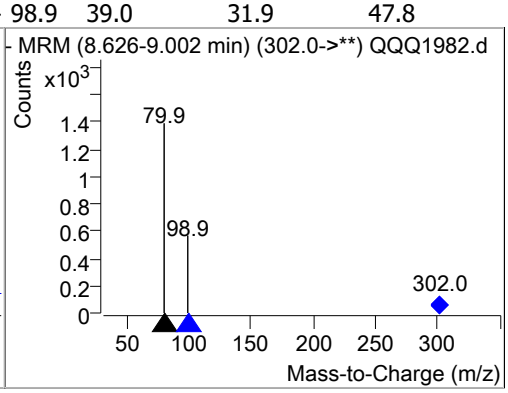




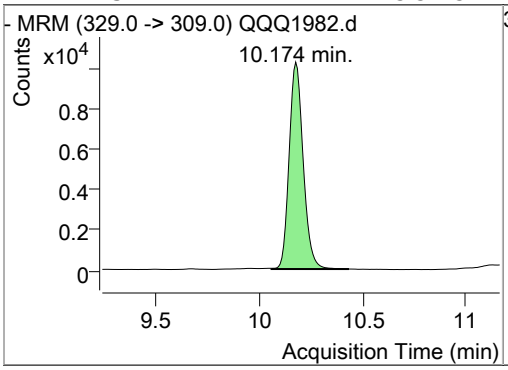
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.9468	8.74	-0.08	31061	302.0 -> 98.9	39.0	31.9	47.8

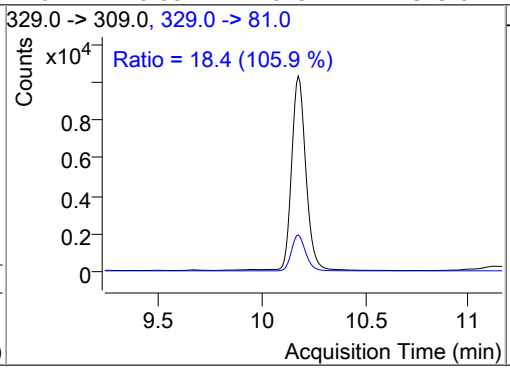


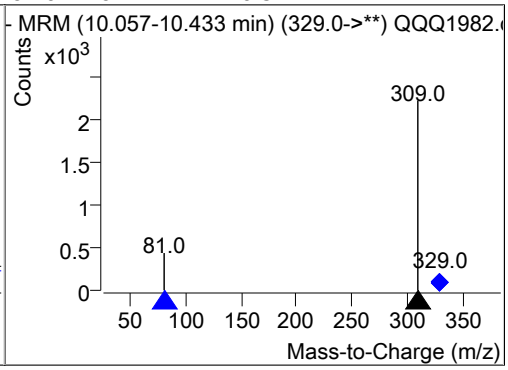




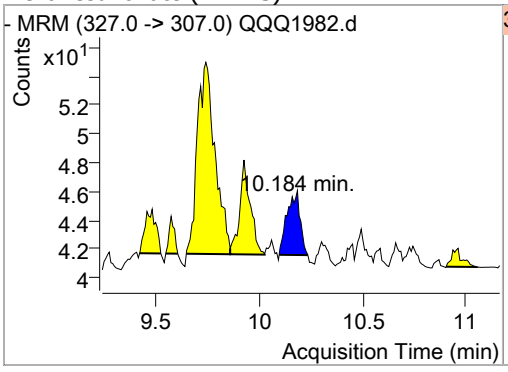
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	3.3413	10.17	-0.08	48452	329.0 -> 81.0	18.4	10.5	24.4

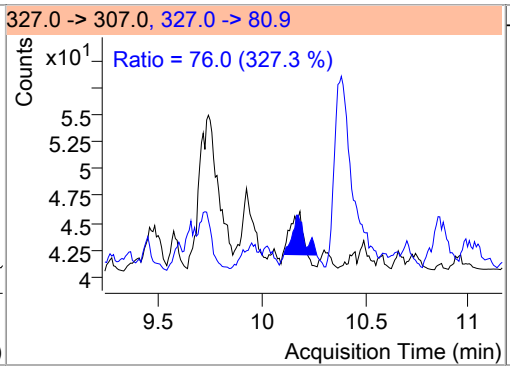


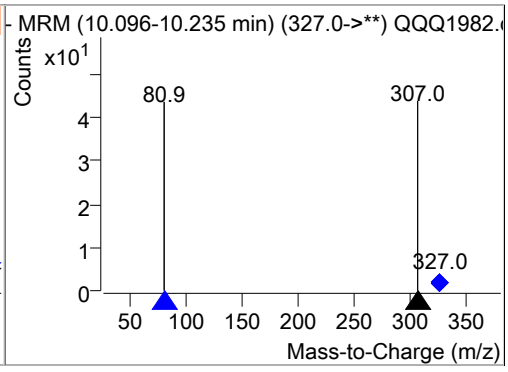




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0016	10.18	-0.08	19	327.0 -> 80.9	76.0	13.9	32.5

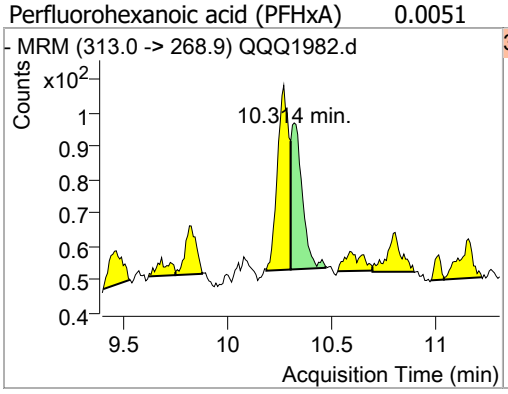


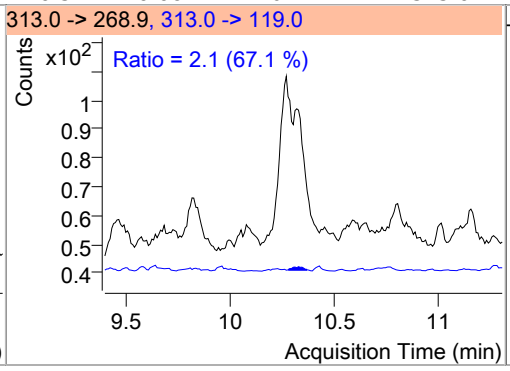


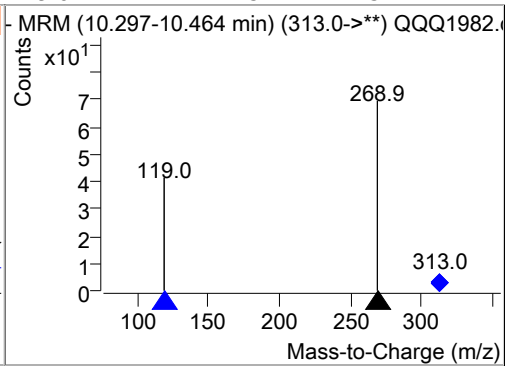


Quantitation Results Report (Not Reviewed)

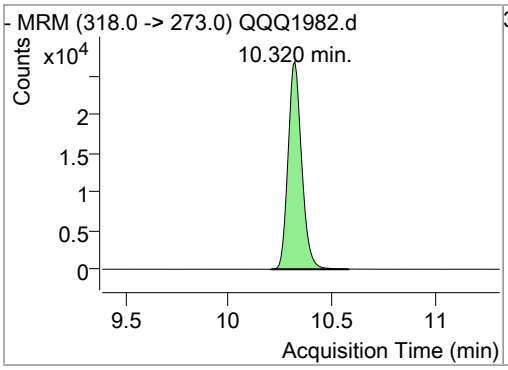
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0051	10.31	-0.08	164	313.0 -> 119.0	2.1	2.5	3.7

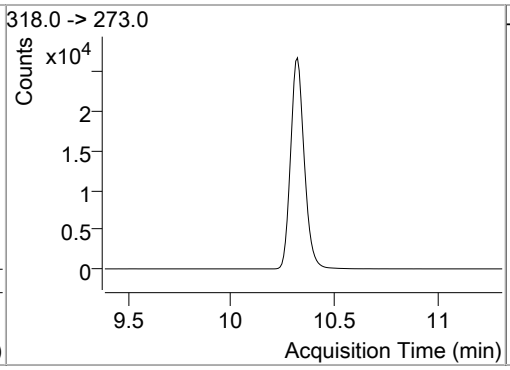


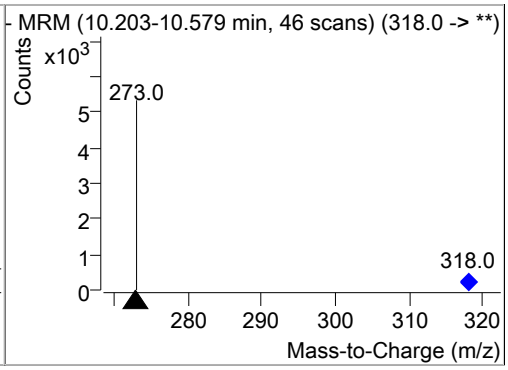




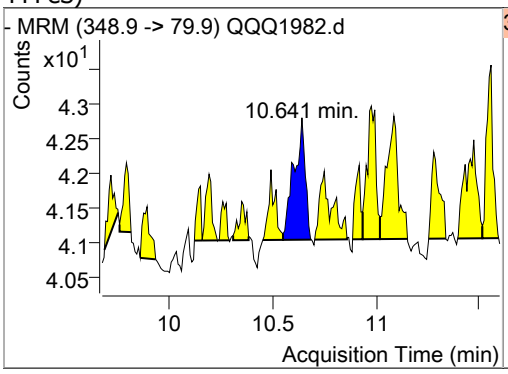
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.2924	10.32	-0.08	122482				

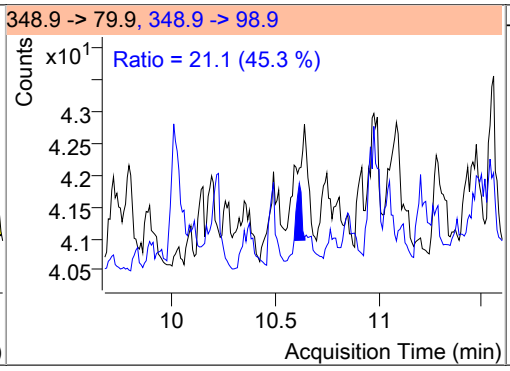


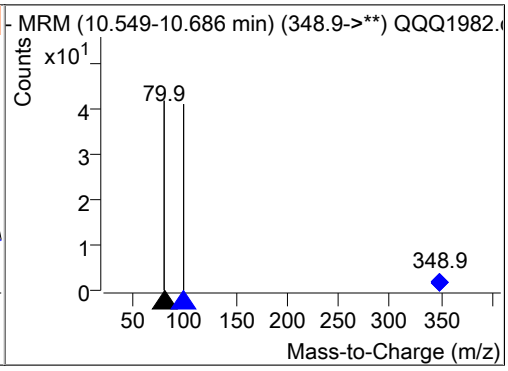




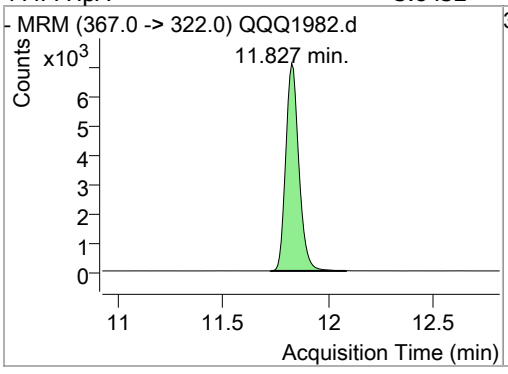
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0008	10.64	-0.06	7	348.9 -> 98.9	21.1	37.3	56.0

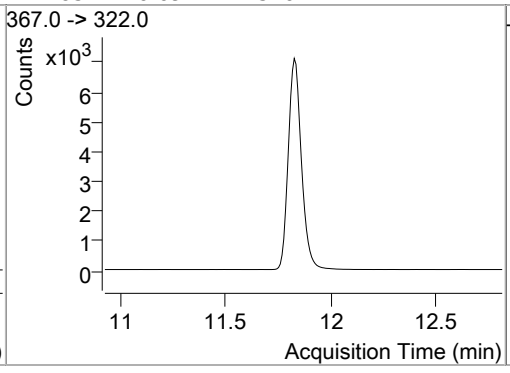


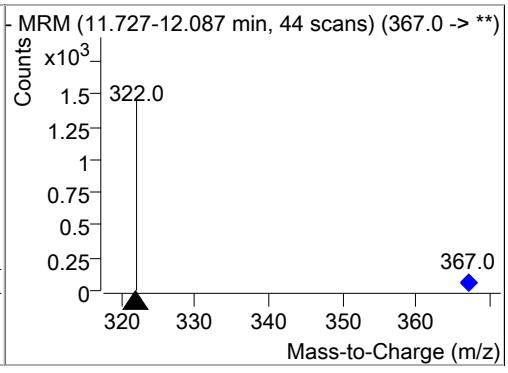




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	3.8452	11.83	-0.09	31077				

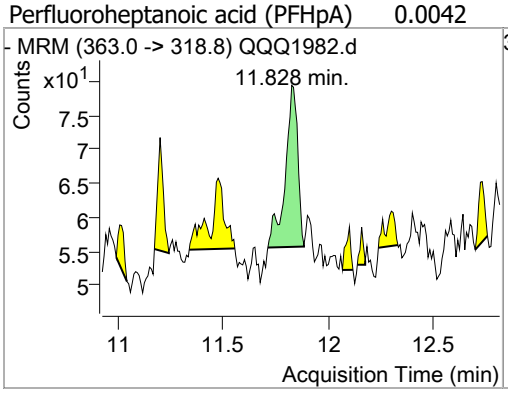


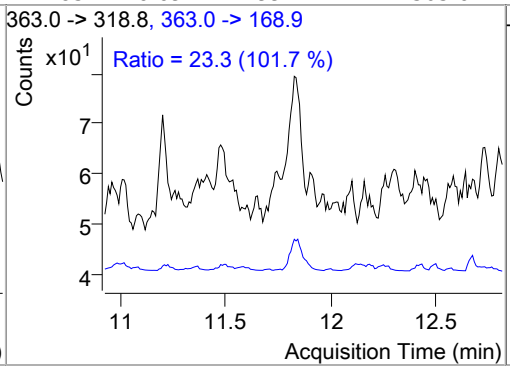


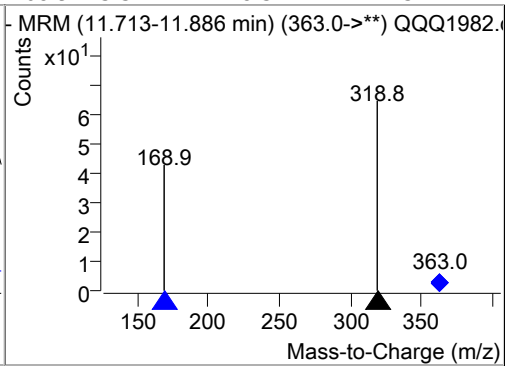


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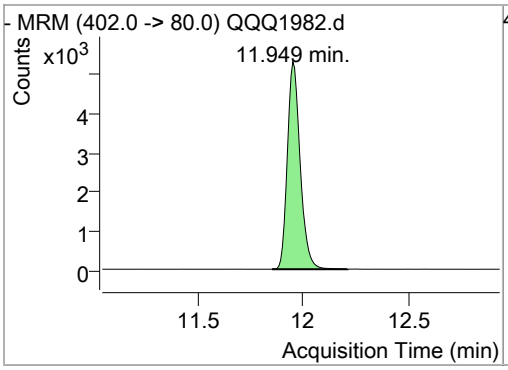
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0042	11.83	-0.09	99	363.0 -> 168.9	23.3	18.3	27.5

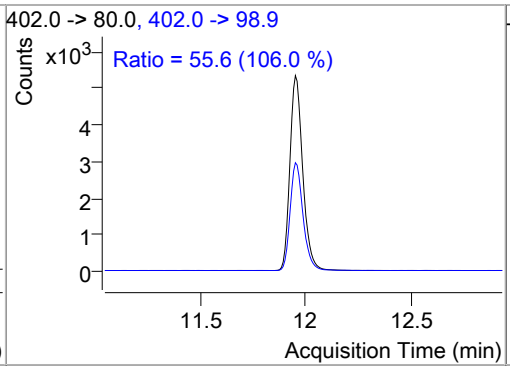


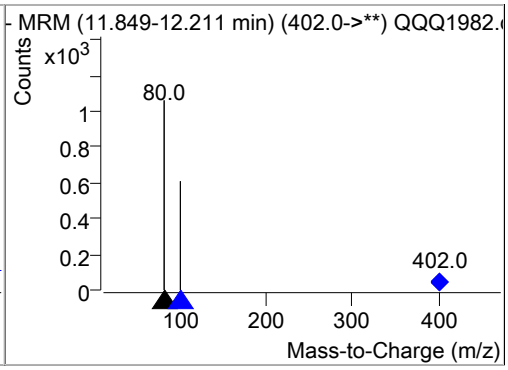




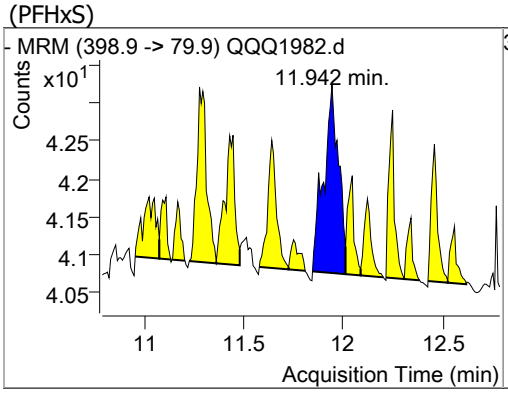
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.0728	11.95	-0.09	22657	402.0 -> 98.9	55.6	42.0	62.9

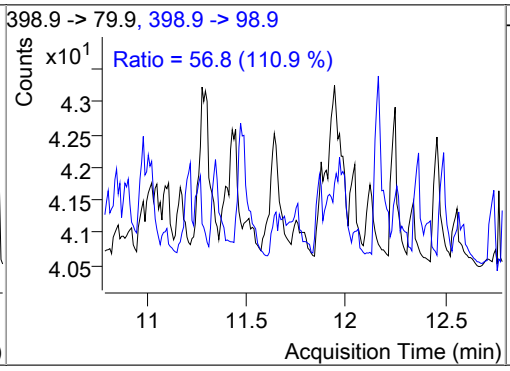


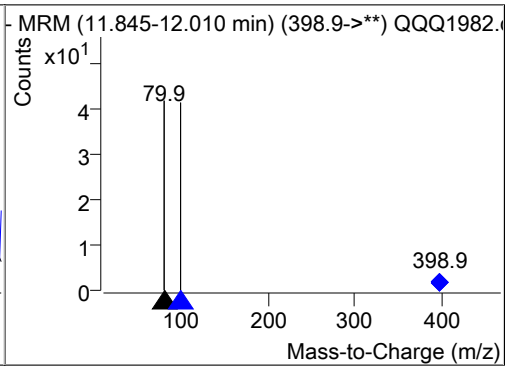




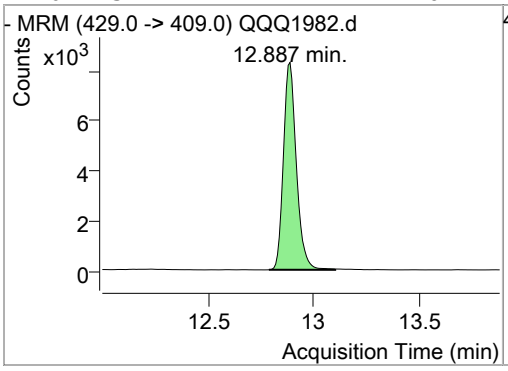
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0019	11.94	-0.10	13	398.9 -> 98.9	56.8	41.0	61.5

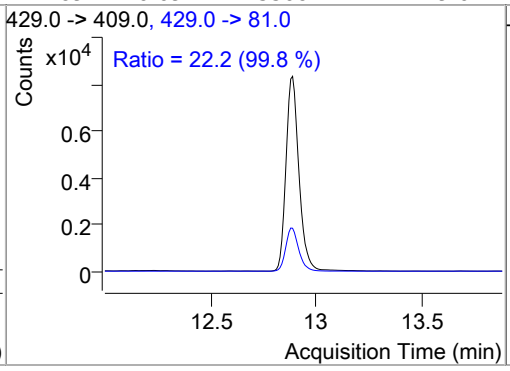


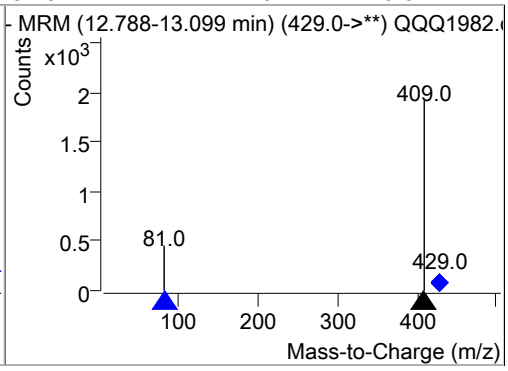




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.1024	12.89	-0.09	35087	429.0 -> 81.0	22.2	17.8	26.6

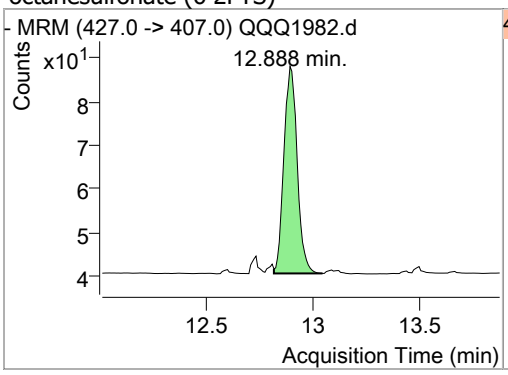


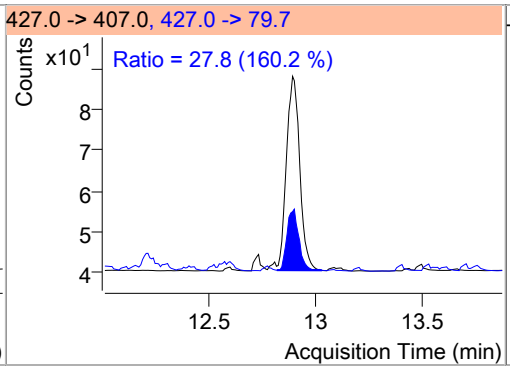


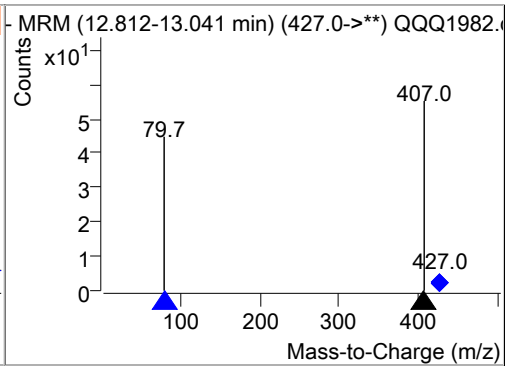


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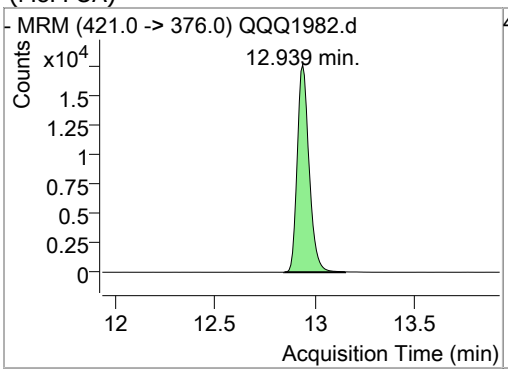
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0239	12.89	-0.09	207	427.0 -> 79.7	27.8	13.9	20.8

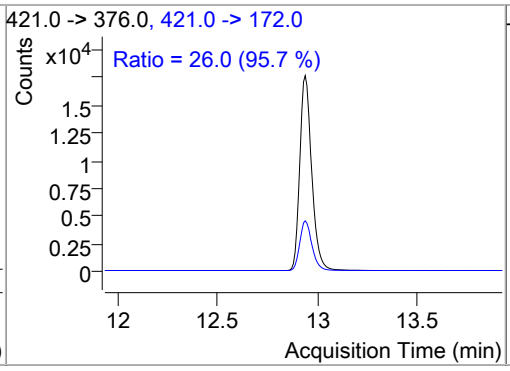


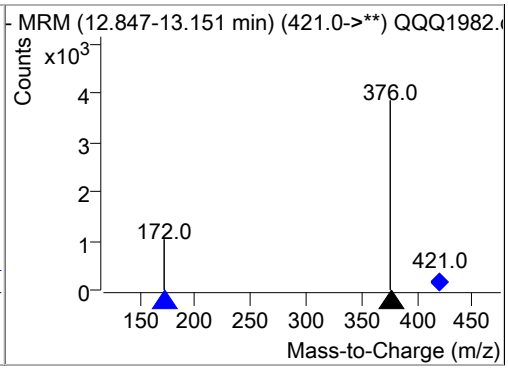




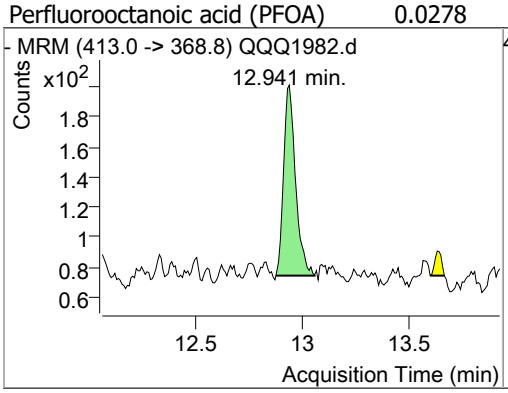
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	3.6134	12.94	-0.09	72840	421.0 -> 172.0	26.0	21.7	32.6

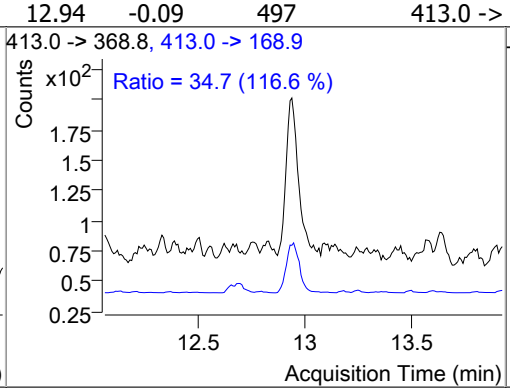


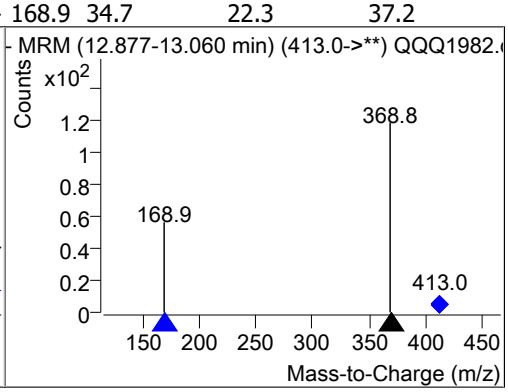




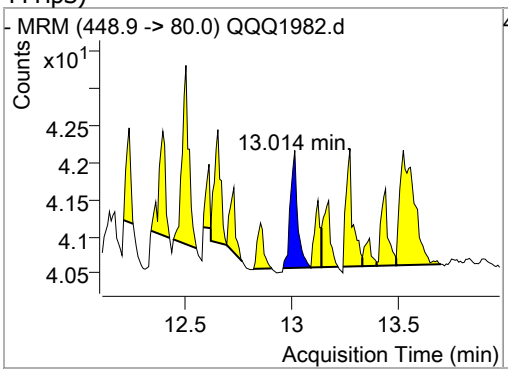
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0278	12.94	-0.09	497	413.0 -> 168.9	34.7	22.3	37.2

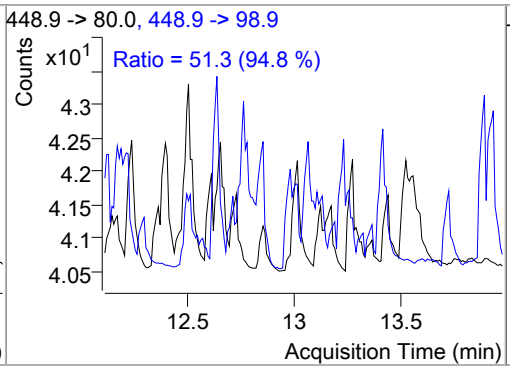


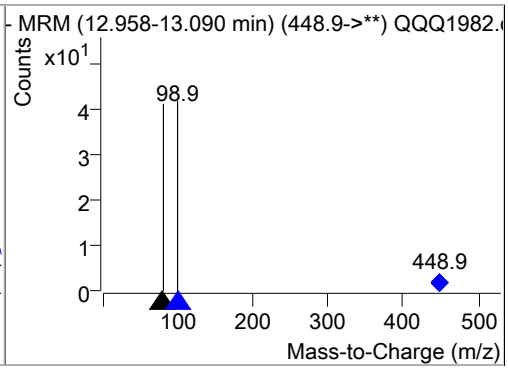




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0007	13.01	-0.07	4	448.9 -> 98.9	51.3	43.3	64.9

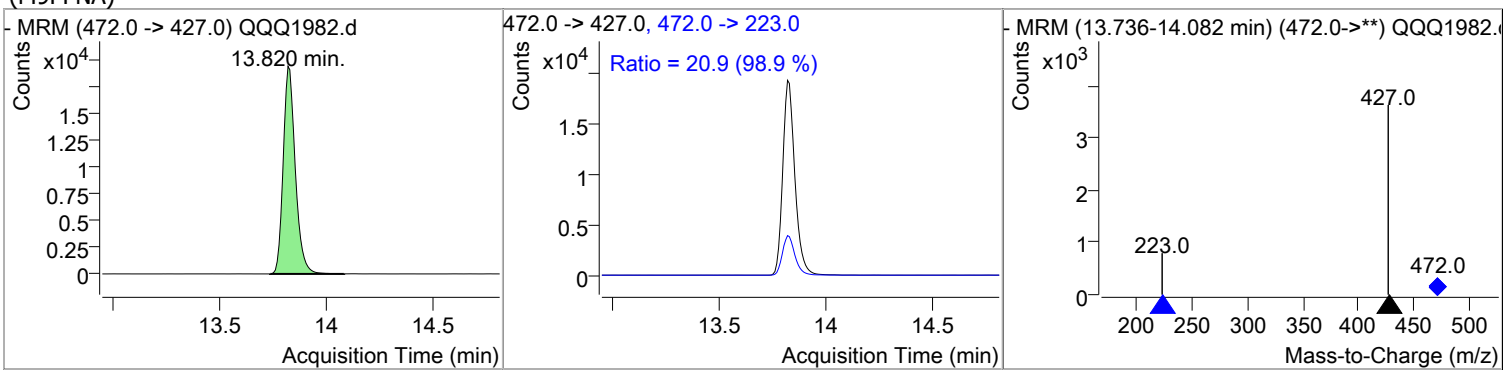




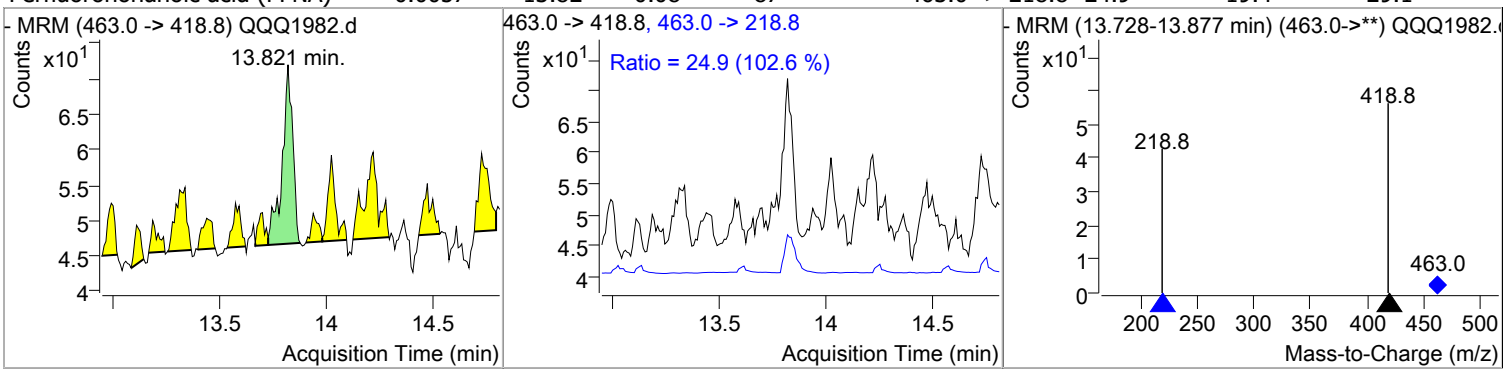


Quantitation Results Report (Not Reviewed)

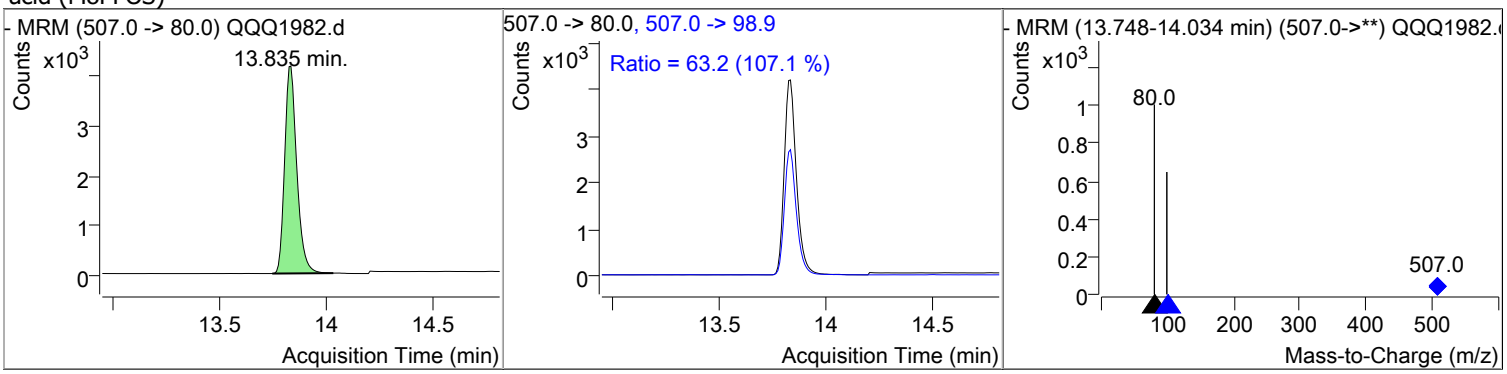
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	3.6687	13.82	-0.08	75933	472.0 -> 223.0	20.9	16.9	25.4



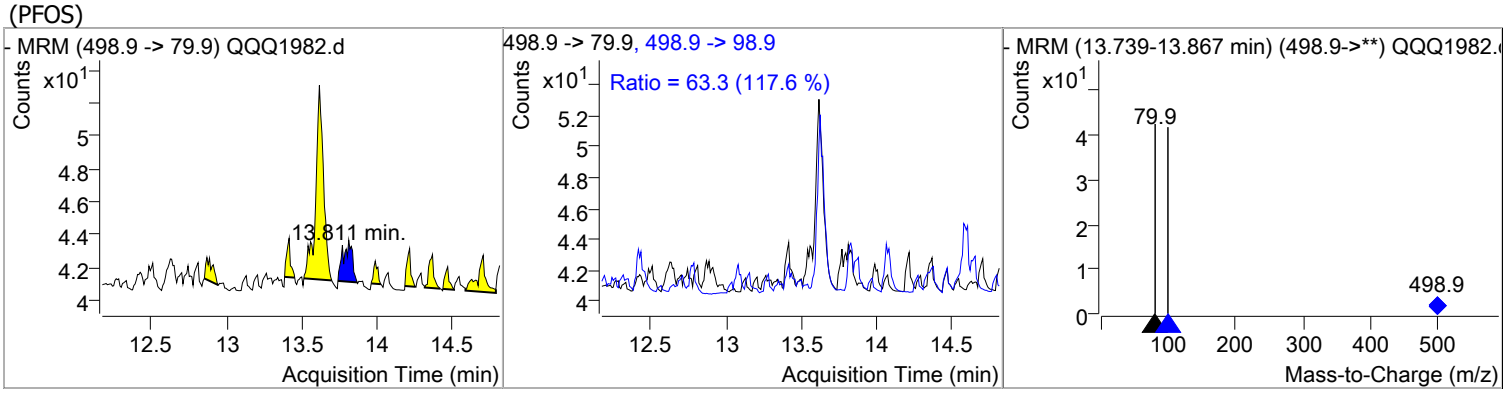
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0057	13.82	-0.08	87	463.0 -> 218.8	24.9	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.9009	13.84	-0.08	16474	507.0 -> 98.9	63.2	47.2	70.8

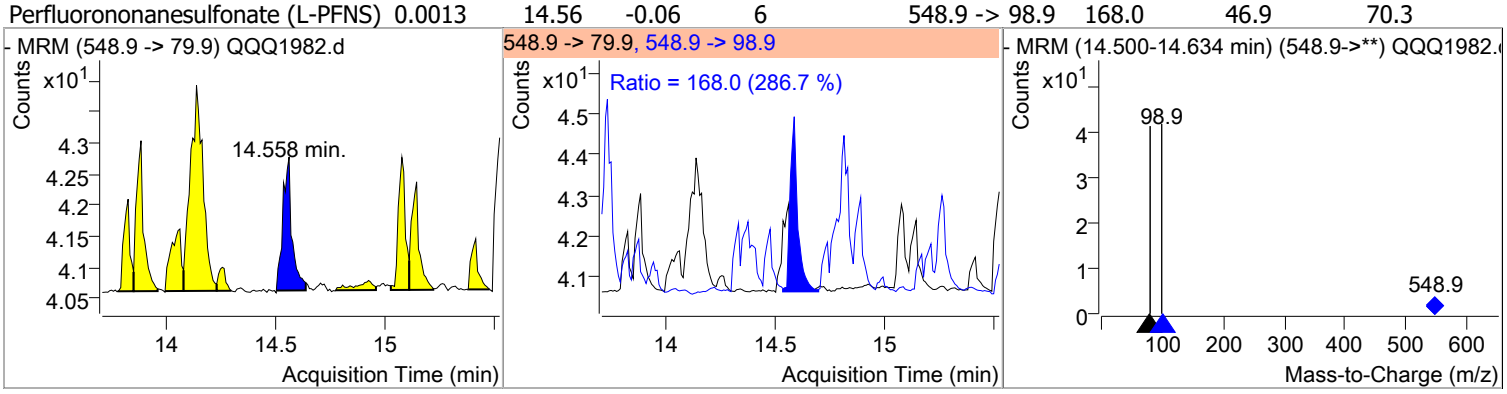


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0017	13.81	-0.10	10	498.9 -> 98.9	63.3	43.1	64.6

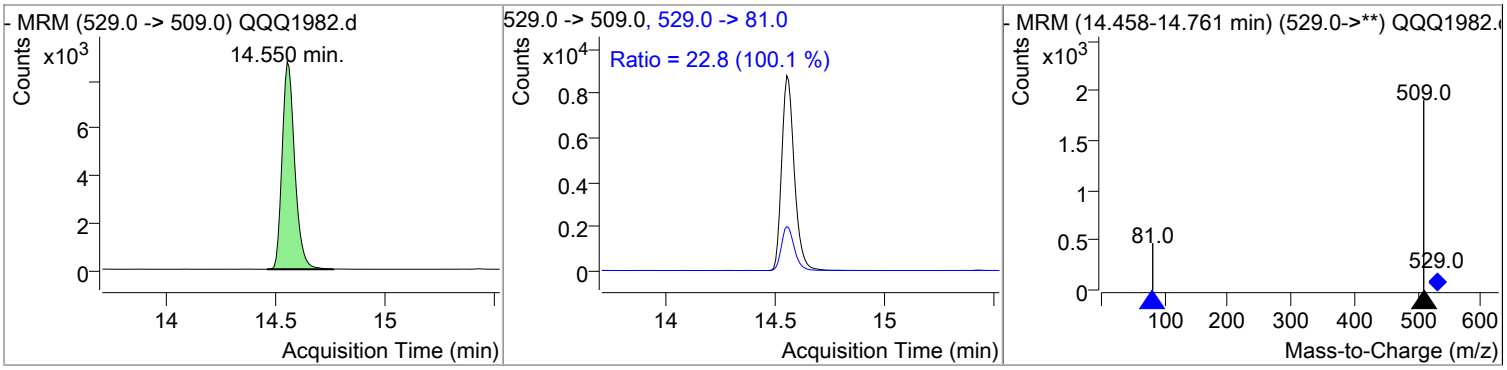


Quantitation Results Report (Not Reviewed)

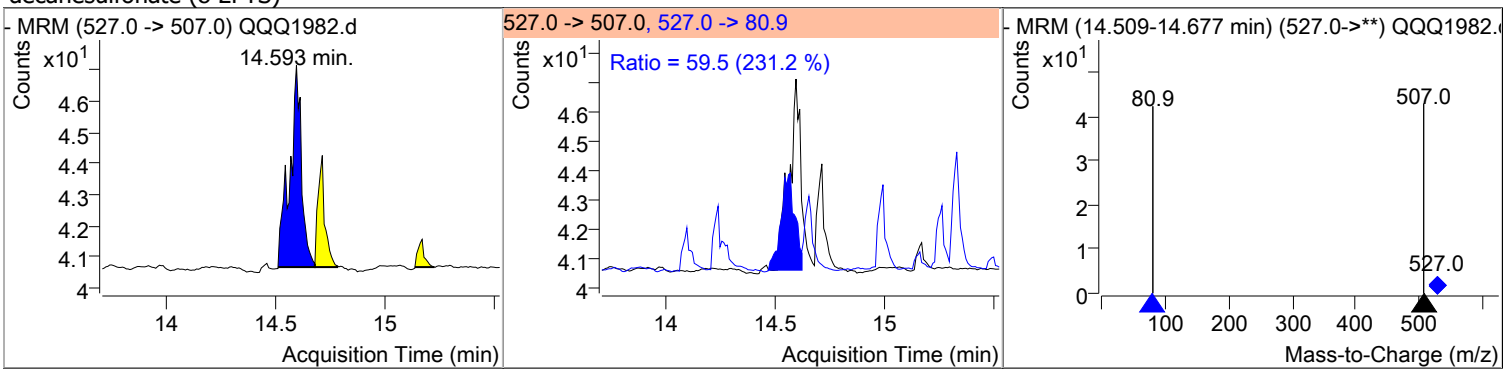
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0013	14.56	-0.06	6	548.9 -> 98.9	168.0	46.9	70.3



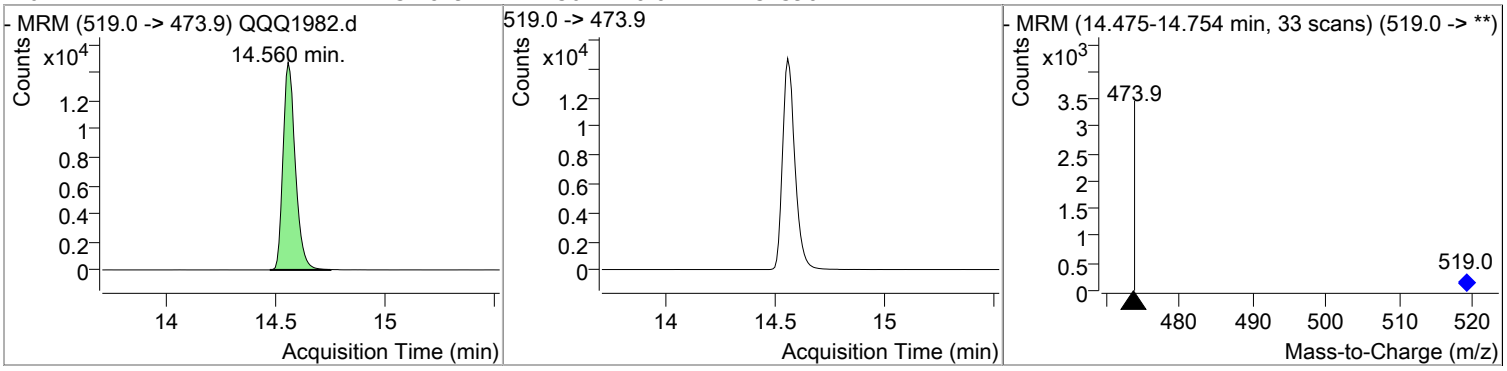
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.0273	14.55	-0.07	35037	529.0 -> 81.0	22.8	18.3	27.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0000	14.59	-0.03	24	527.0 -> 80.9	59.5	20.6	30.9

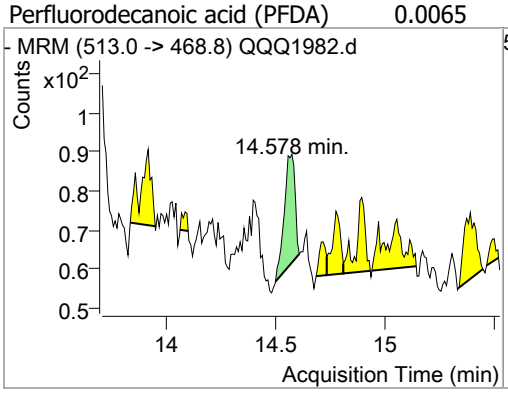


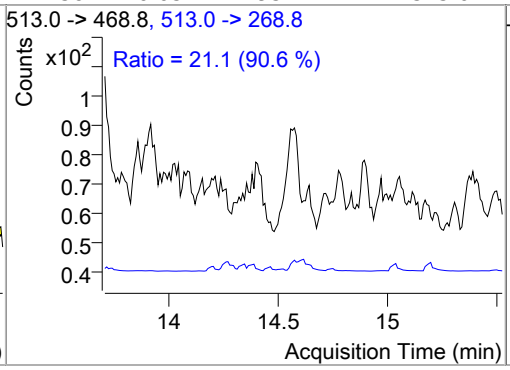
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	3.4849	14.56	-0.07	57390				

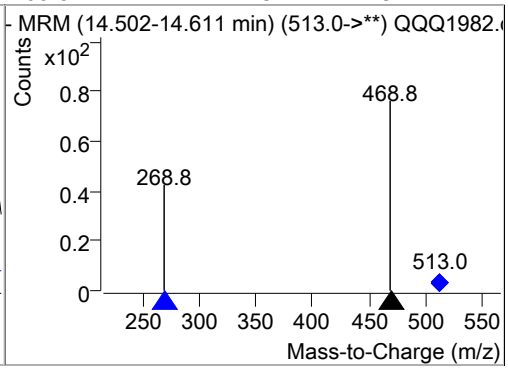


Quantitation Results Report (Not Reviewed)

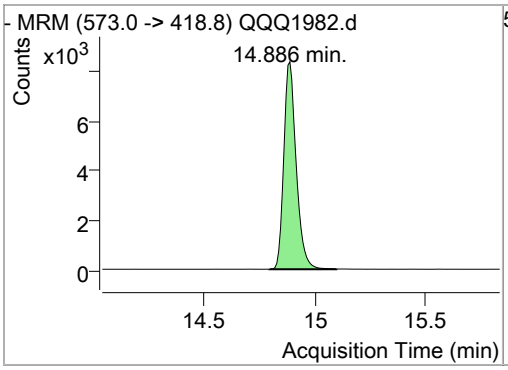
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0065	14.58	-0.05	95	513.0 -> 268.8	21.1	17.5	29.1

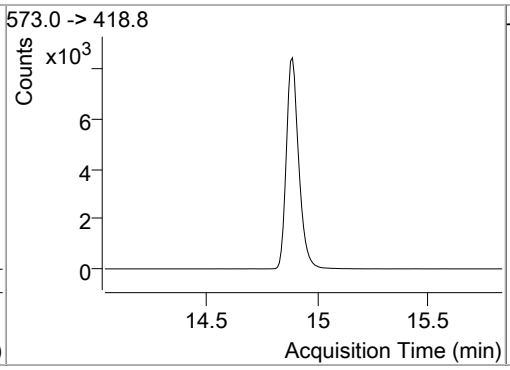


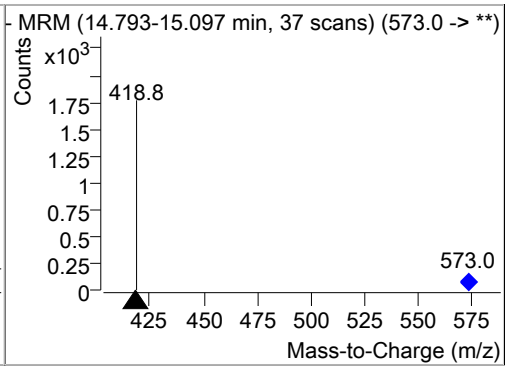




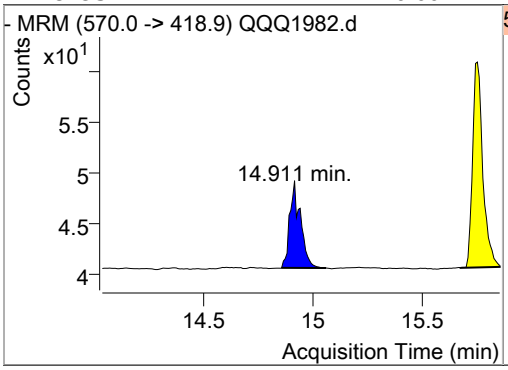
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.2243	14.89	-0.05	32565				

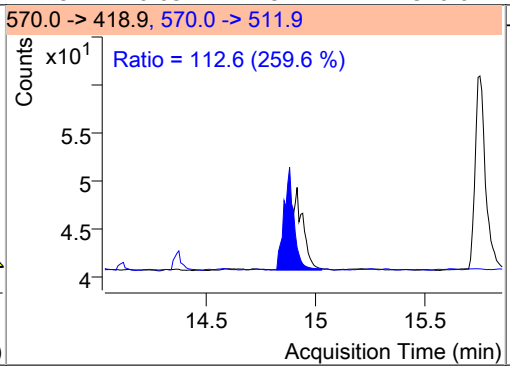


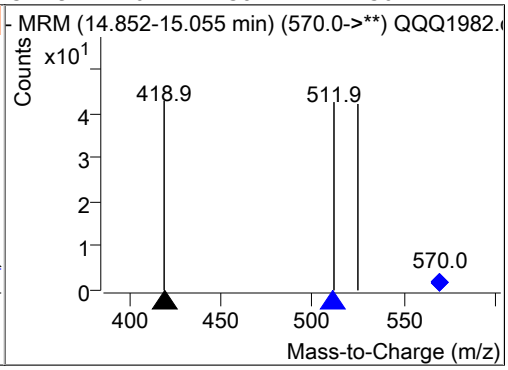




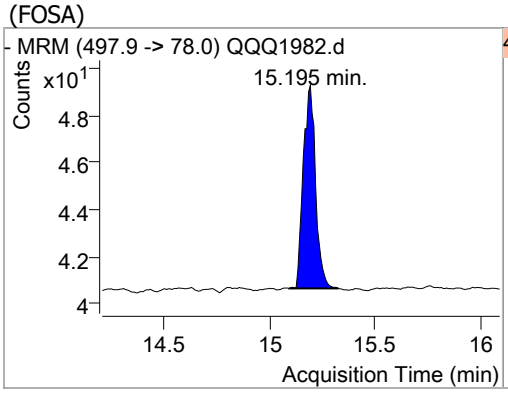
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0027	14.91	-0.03	29	570.0 -> 511.9	112.6	30.4	56.4

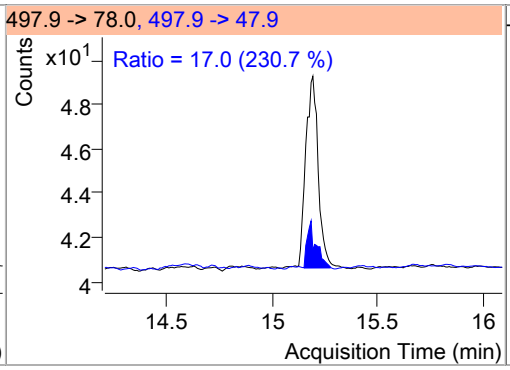


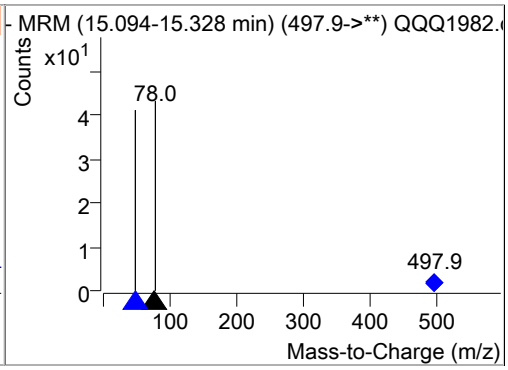




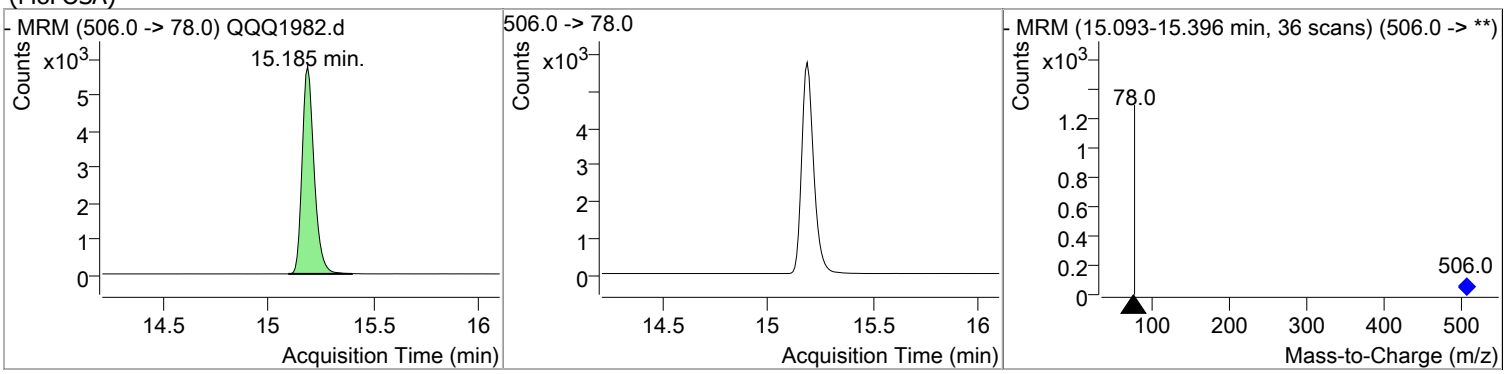
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0039	15.19	0.01	35	497.9 -> 47.9	17.0	5.9	8.8



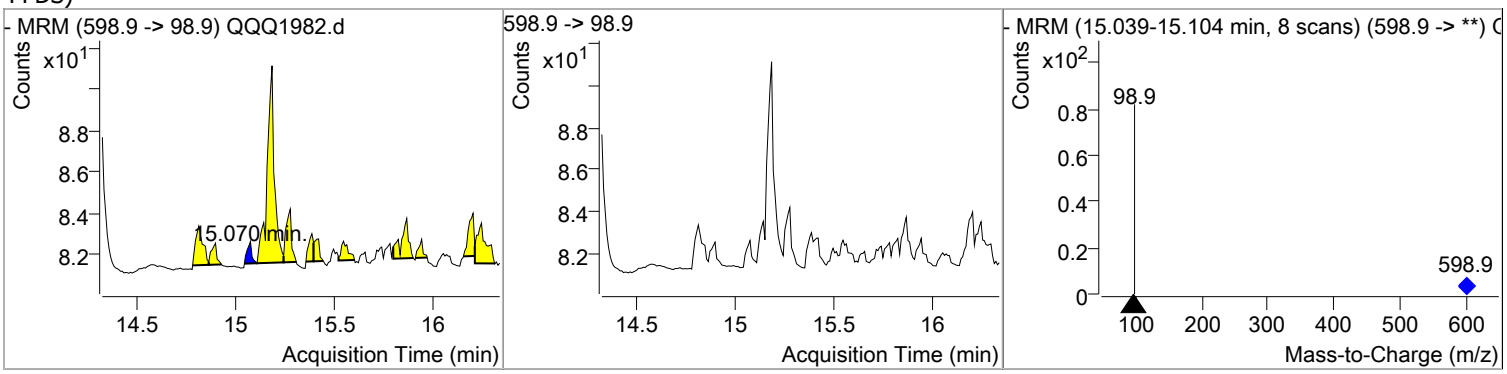




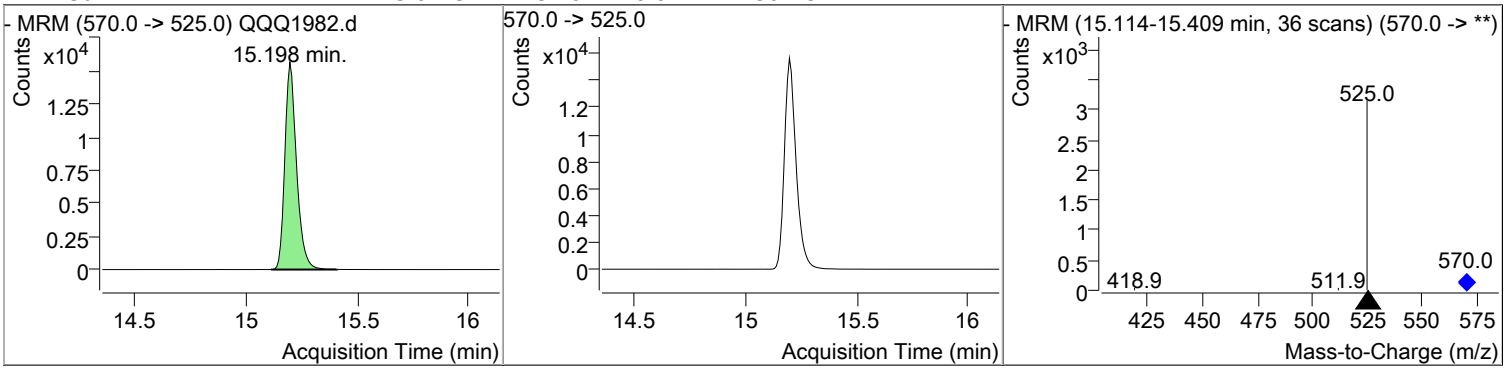
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.6590	15.19	-0.01	22815				



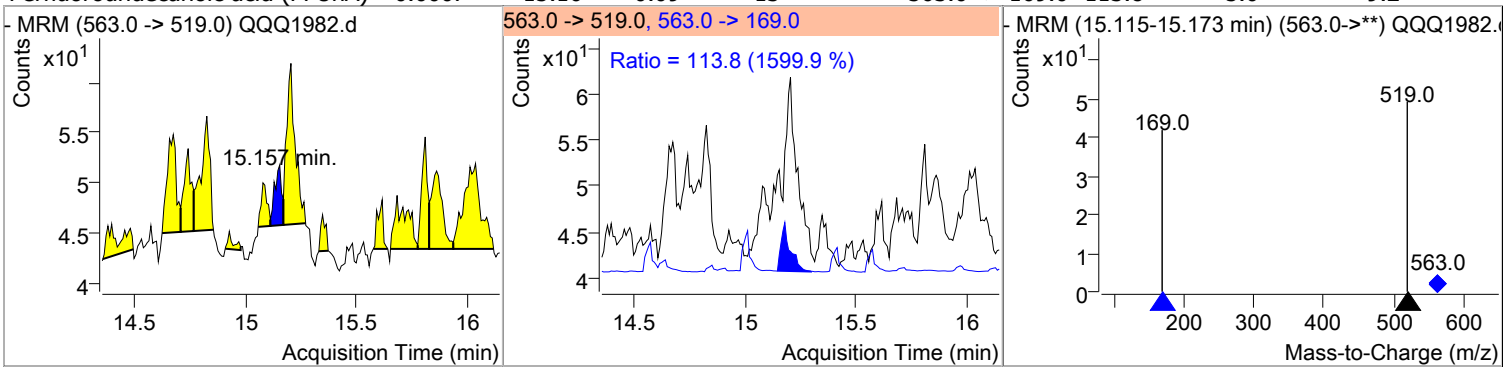
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0004	15.07	-0.14	2				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	3.0273	15.20	-0.04	56719				

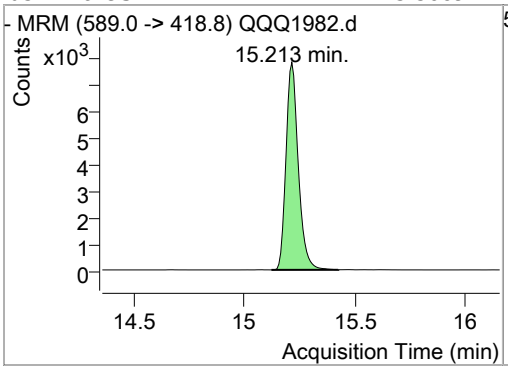


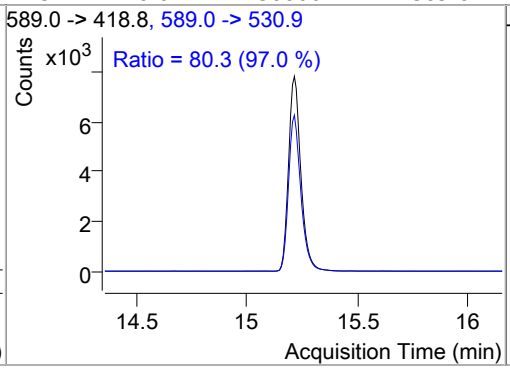
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0007	15.16	-0.09	13	563.0 -> 169.0	113.8	5.0	9.2

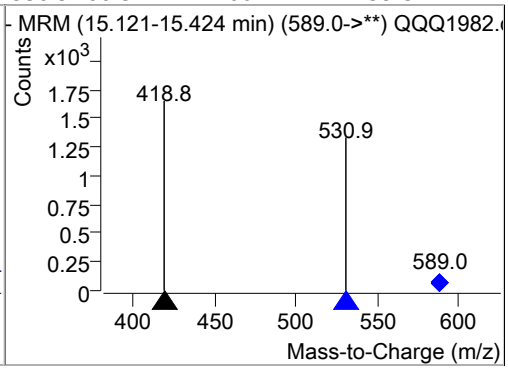


Quantitation Results Report (Not Reviewed)

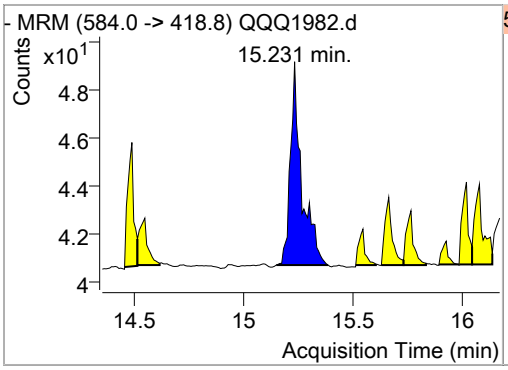
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.5089	15.21	-0.04	30066	589.0 -> 530.9	80.3	66.2	99.3

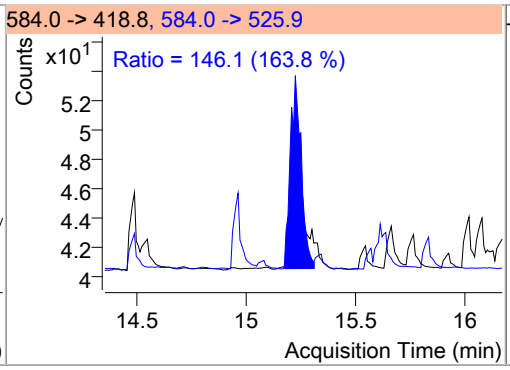


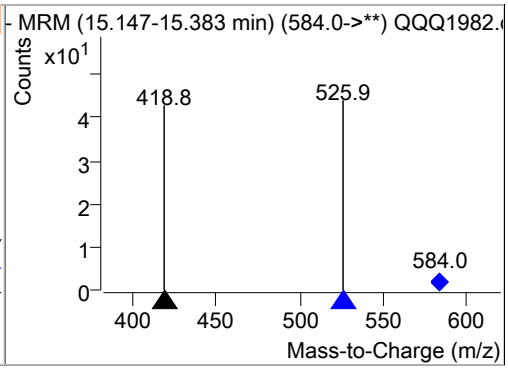




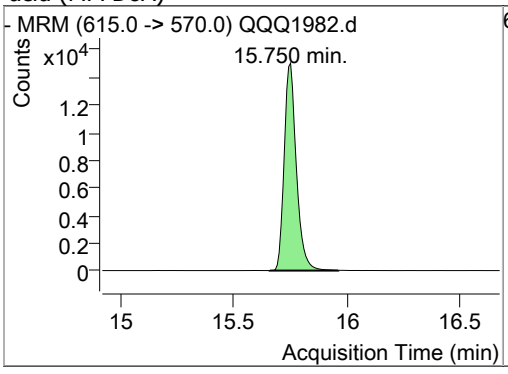
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0036	15.23	-0.03	30	584.0 -> 525.9	146.1	71.3	107.0

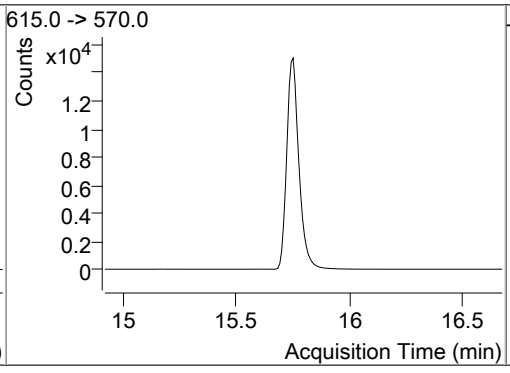


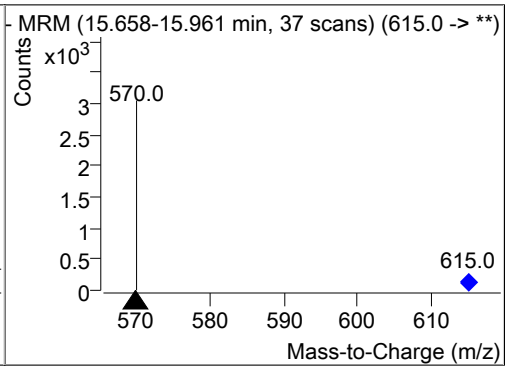




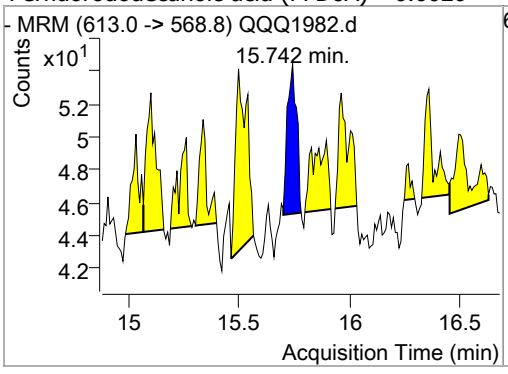
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	2.9079	15.75	-0.03	56015				

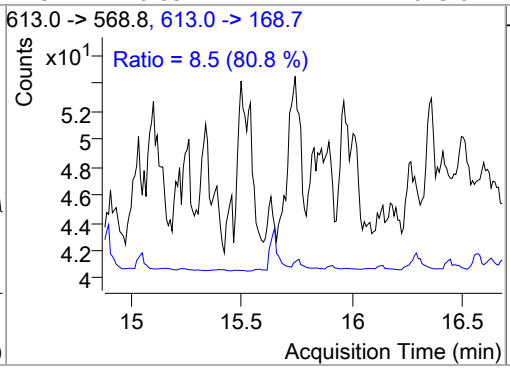


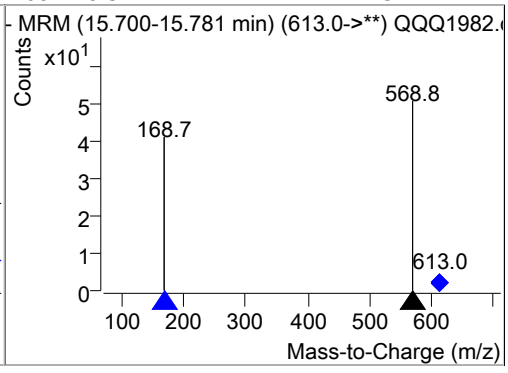




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0020	15.74	-0.03	27	613.0 -> 168.7	8.5	7.4	13.7

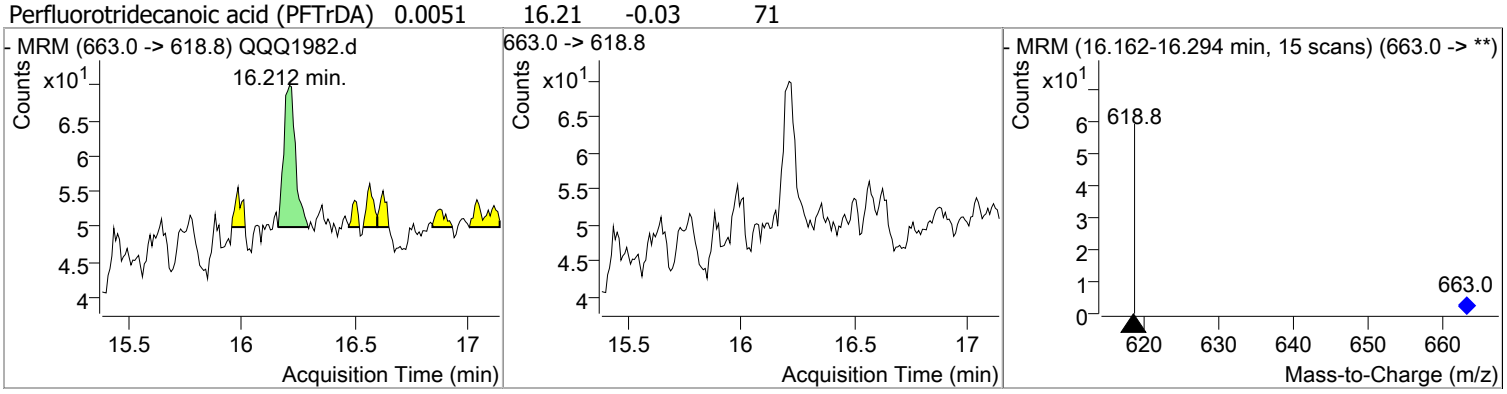




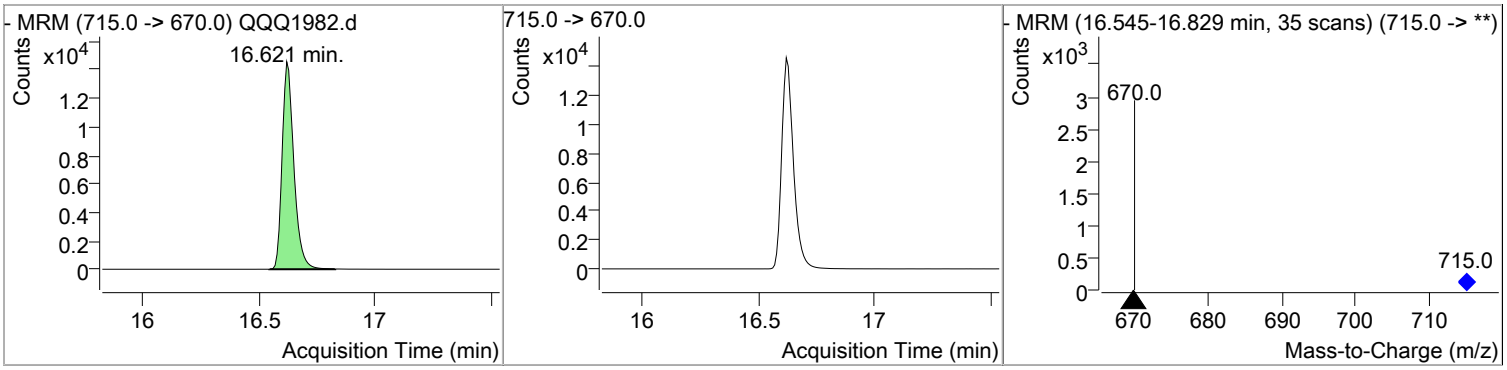


Quantitation Results Report (Not Reviewed)

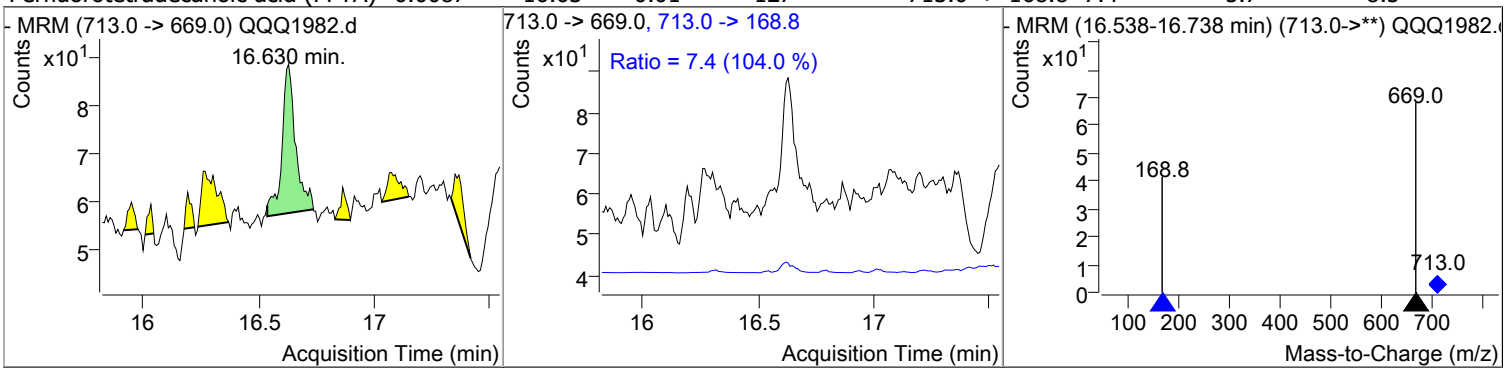
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0051	16.21	-0.03	71				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	3.2378	16.62	-0.02	50920				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0087	16.63	-0.01	127	713.0 -> 168.8	7.4	5.7	8.5



FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 537m

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: QQQ1983.d

Sampled: 10/02/19 12:05 Prepared: 10/03/19 13:31 Analyzed: 10/04/19 23:25

Solids: 91.18 Preparation: SPE PFAS Extraction-Soil-E Initial/Final: 2.1587 g / 2 mL

Batch: BJ90227 Sequence: Y9J0727 Calibration: YI90019 Instrument: LCQQQ

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	1	0.762	U
307-24-4	Perfluorohexanoic acid (PFHxA)	1	0.762	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	1	0.762	U
3871-99-6	Perfluorohexanesulfonic acid (PFHxS)	1	0.762	U
335-67-1	Perfluorooctanoic acid (PFOA)	1	0.762	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1	0.762	U
375-95-1	Perfluorononanoic acid (PFNA)	1	0.762	U
335-76-2	Perfluorodecanoic acid (PFDA)	1	0.762	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	1	0.762	U
307-55-1	Perfluorododecanoic acid (PFDoA)	1	0.762	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	1	0.762	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	1	0.762	U
2355-31-9	N-MeFOSAA	1	0.762	U
2991-50-6	N-EtFOSAA	1	0.762	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	1	0.762	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	1	0.762	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	1	0.762	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	1	0.762	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	1	0.762	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	1	0.762	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	1	0.762	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
M3PFBS	4.72	3.11	65.8	25 - 150	
M5PFHxA	5.08	3.52	69.2	25 - 150	
M4PFHpA	5.08	4.45	87.6	25 - 150	
M3PFHxS	4.81	3.22	67.0	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.08	3.57	70.2	25 - 150	
M6PFDA	5.08	3.28	64.5	25 - 150	
M7PFUdA	5.08	3.22	63.4	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.08	3.06	60.2	25 - 150	
M2PFTeDA	5.08	3.18	62.7	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.08	3.54	69.8	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.86	3.19	65.6	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.08	3.44	67.7	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.08	2.87	56.4	10 - 150	
d3-N-MeFOSAA	5.08	3.42	67.3	25 - 150	
d5-N-EtFOSAA	5.08	3.72	73.2	25 - 150	
M2-6:2 FTS	4.82	3.86	80.0	25 - 150	
M2-8:2 FTS	4.87	5.00	103	25 - 150	
M9PFNA	5.08	3.91	76.9	25 - 150	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 537m

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	QQQ1983.d
Sampled:	10/02/19 12:05	Prepared:	10/03/19 13:31	Analyzed:	10/04/19 23:25
Solids:	91.18	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.1587 g / 2 mL
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019
Instrument:	LCQQQ				

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
MPFOA	297843.6	12.94018	305810.7	12.94855	

* Values outside of QC limits

Data File	QQQ1983.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 11:25:16 PM
Sample Name	19J0144-06	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

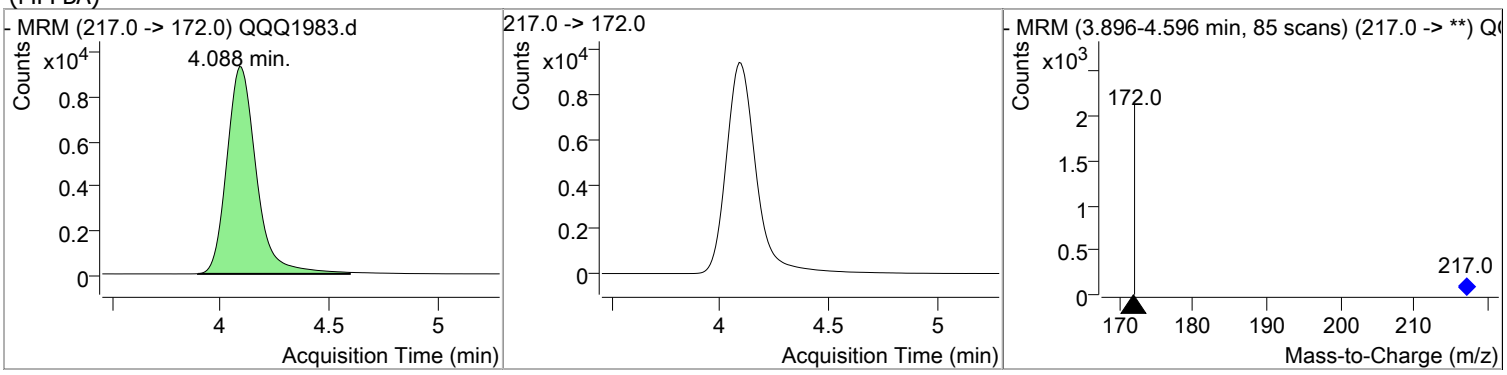
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.940	417.0 -> 372.0	297844	10.0000	ng/ml	-0.094
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.088	217.0 -> 172.0	88723	3.4878	ng/ml	-0.100
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.88%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	128788	3.3832	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.83%		
M3PFBS	8.752	302.0 -> 79.9	33176	3.0559	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 30.56%		
M2-4-2FTS	10.174	329.0 -> 309.0	46316	3.1010	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.01%		
M5PFHxA	10.320	318.0 -> 273.0	132558	3.4596	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.60%		
M4PFHpA	11.827	367.0 -> 322.0	36471	4.3814	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 43.81%		
M3PFHxS	11.949	402.0 -> 80.0	24081	3.1709	ng/ml	-0.094
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.71%		
M2-6-2FTS	12.887	429.0 -> 409.0	33433	3.7953	ng/ml	-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 37.95%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.939	421.0 -> 376.0	72913	3.5117	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 35.12%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.820	472.0 -> 427.0	81928	3.8432	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.43%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.827	507.0 -> 80.0	18367	3.1402	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.40%		
M2-8-2FTS	14.550	529.0 -> 509.0	35447	4.9247	ng/ml	-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.25%		
M6PFDA	14.560	519.0 -> 473.9	54669	3.2231	ng/ml	-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.23%		
d3-N-MeFOSAA	14.877	573.0 -> 418.8	35025	3.3669	ng/ml	-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.67%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	24939	2.8220	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.22%		
M7PFUdA	15.190	570.0 -> 525.0	61215	3.1722	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.72%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	32297	3.6596	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 36.60%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	59698	3.0089	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 30.09%		
M2PFTeDA	16.621	715.0 -> 670.0	50770	3.1344	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.34%		

Target Compounds QValue

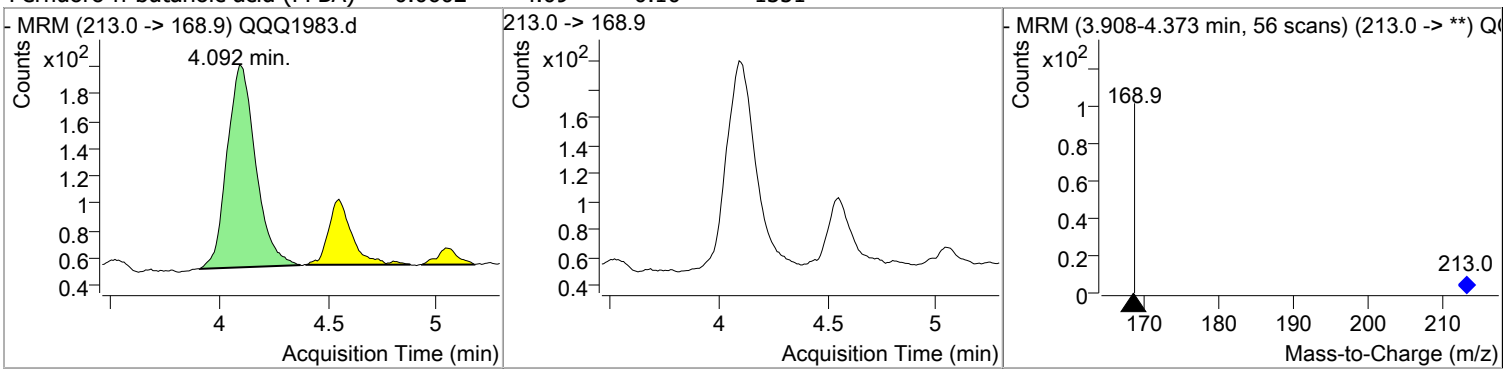
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.092	213.0 -> 168.9	1351	0.0602	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.065	263.0 -> 219.0	923	0.0276	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.738	298.9 -> 79.9	233	0.0239	ng/ml		97
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.143	327.0 -> 307.0	9	0.0007	ng/ml		52
Perfluorohexanoic acid (PFHxA)	10.255	313.0 -> 268.9	1156	0.0350	ng/ml	#	92
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.633	348.9 -> 79.9	10	0.0012	ng/ml	#	1
Perfluoroheptanoic acid (PFHpA)	11.828	363.0 -> 318.8	176	0.0072	ng/ml	#	84
Perfluorohexanesulfonic acid (PFHxS)	11.942	398.9 -> 79.9	21	0.0030	ng/ml		96
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	269	0.0301	ng/ml		100
Perfluorooctanoic acid (PFOA)	12.941	413.0 -> 368.8	501	0.0272	ng/ml	#	74
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.039	448.9 -> 80.0	6	0.0012	ng/ml	#	8
Perfluorononanoic acid (PFNA)	13.829	463.0 -> 418.8	27	0.0017	ng/ml	#	1
Perfluorooctanesulfonic acid (PFOS)	13.828	498.9 -> 79.9	22	0.0034	ng/ml	#	84
Perfluorononanesulfonate (L-PFNS)	14.558	548.9 -> 79.9	3	0.0007	ng/ml	#	1
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.542	527.0 -> 507.0	33	0.0000	ng/ml		91
Perfluorodecanoic acid (PFDA)	14.560	513.0 -> 468.8	74	0.0050	ng/ml		97
N-MeFOSAA	14.886	570.0 -> 418.9	31	0.0028	ng/ml	#	66
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	6	0.0007	ng/ml		79
Perfluoro-1-decanesulfonate (L-PFDS)	15.053	598.9 -> 98.9	4	0.0010	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.190	563.0 -> 519.0	28	0.0015	ng/ml	#	24
N-EtFOSAA	15.222	584.0 -> 418.8	28	0.0032	ng/ml	#	70
Perfluorododecanoic acid (PFDoA)	15.734	613.0 -> 568.8	65	0.0047	ng/ml	#	81
Perfluorotridecanoic acid (PFTrDA)	16.221	663.0 -> 618.8	27	0.0019	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.513	713.0 -> 669.0	15	0.0010	ng/ml		79

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

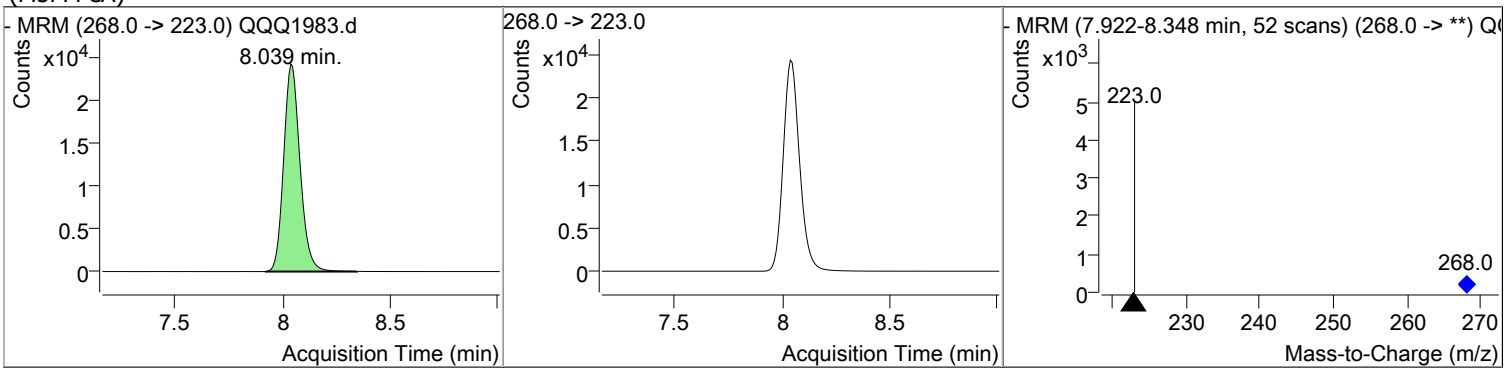
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	3.4878	4.09	-0.10	88723				



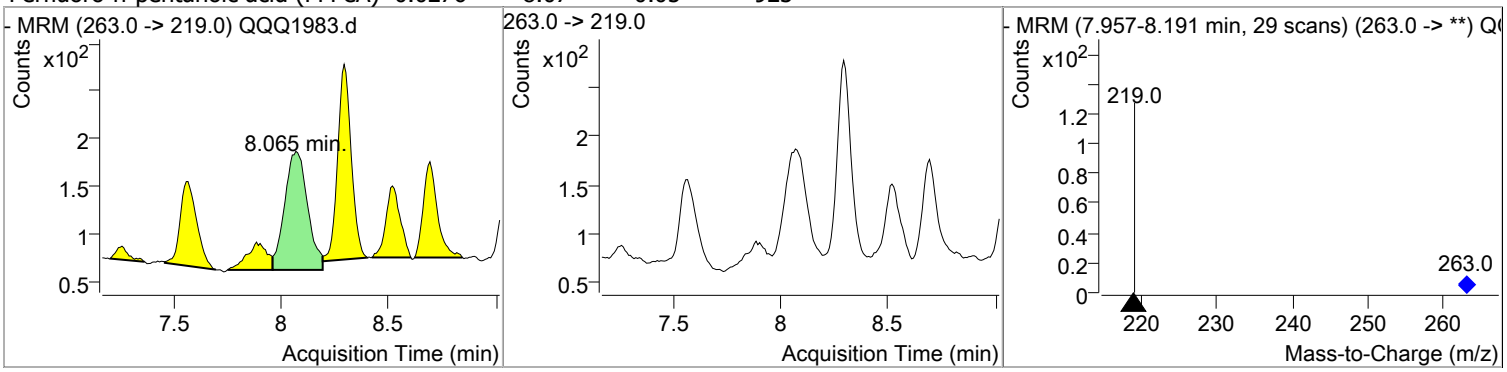
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0602	4.09	-0.10	1351				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.3832	8.04	-0.08	128788				

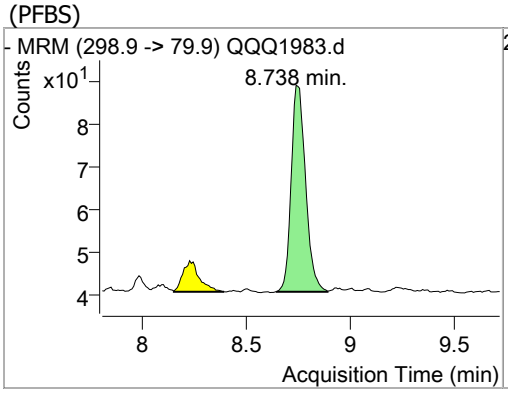


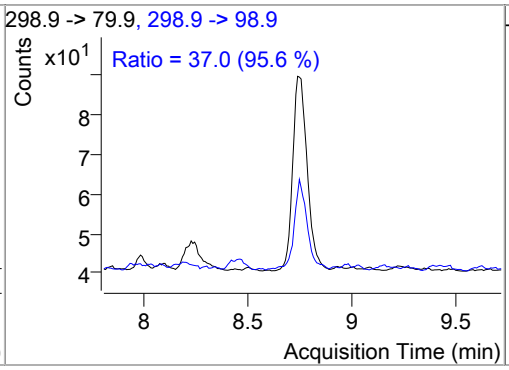
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0276	8.07	-0.05	923				

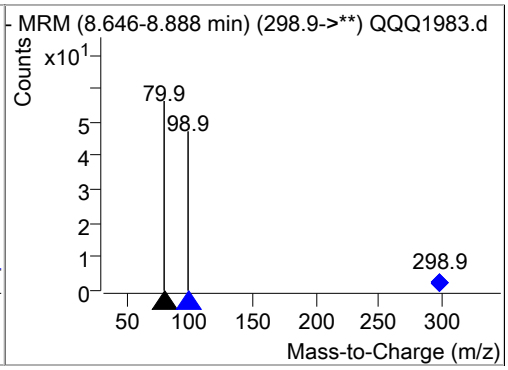


Quantitation Results Report (Not Reviewed)

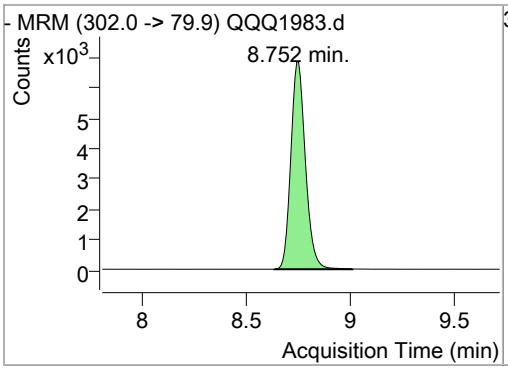
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.0239	8.74	-0.08	233	298.9 -> 98.9	37.0	31.0	46.5

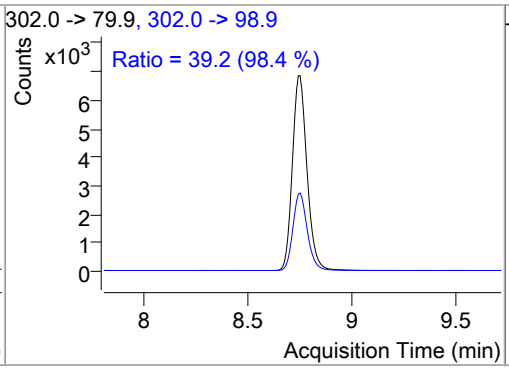


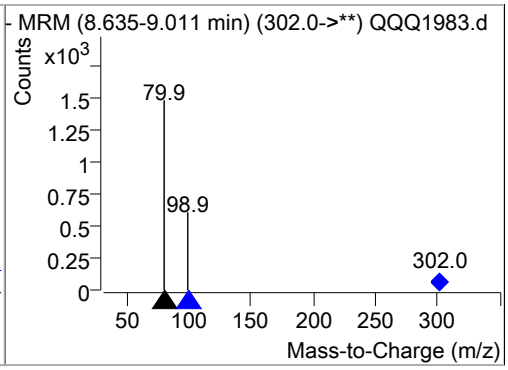




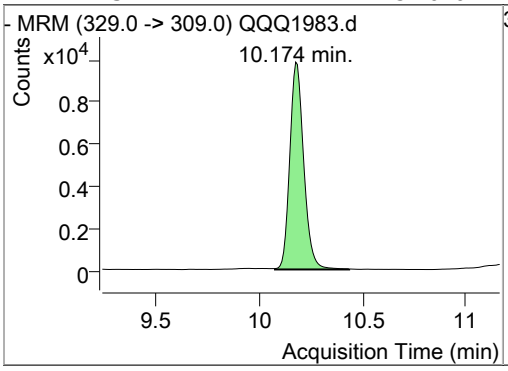
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.0559	8.75	-0.07	33176	302.0 -> 98.9	39.2	31.9	47.8

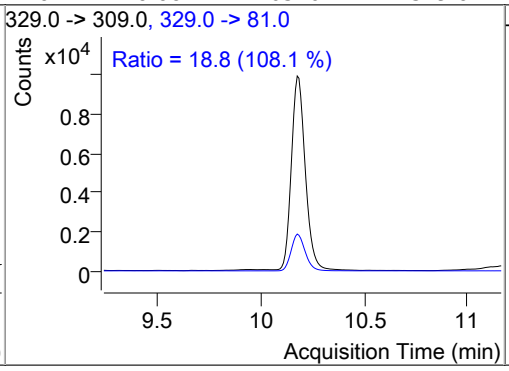


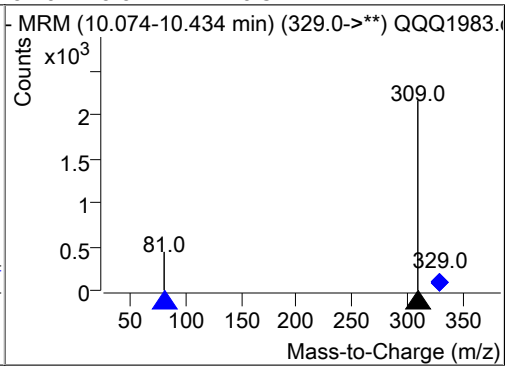




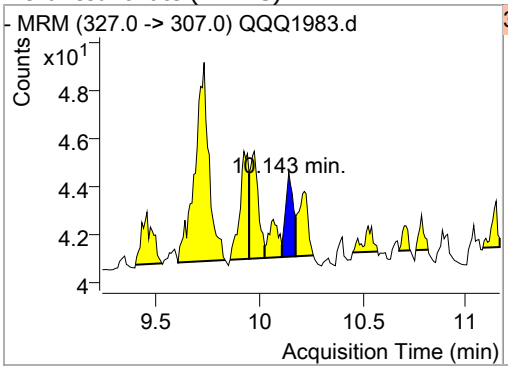
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	3.1010	10.17	-0.08	46316	329.0 -> 81.0	18.8	10.5	24.4

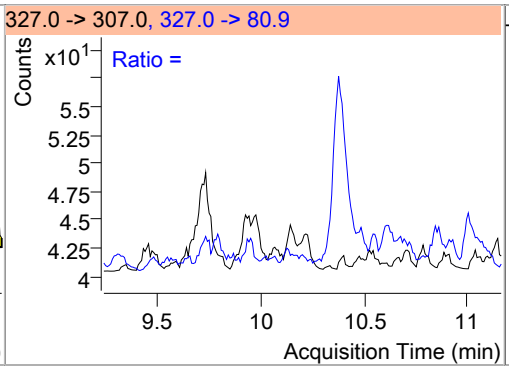


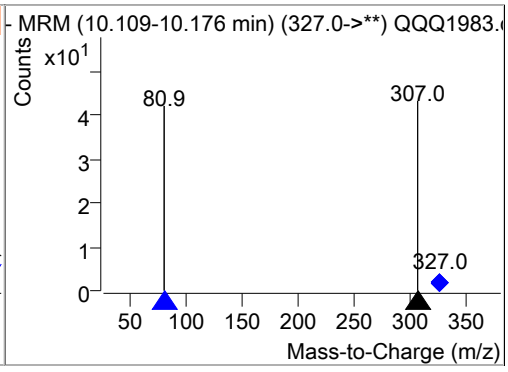




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0007	10.14	-0.12	9	327.0 -> 80.9		13.9	32.5

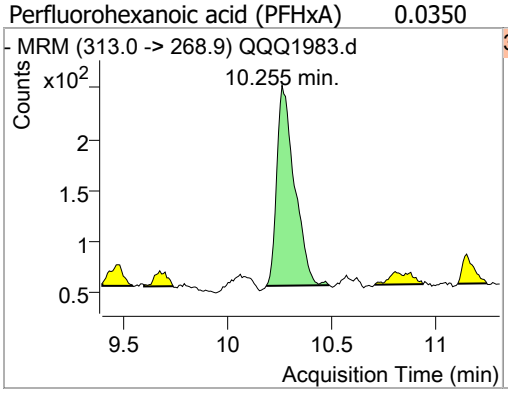


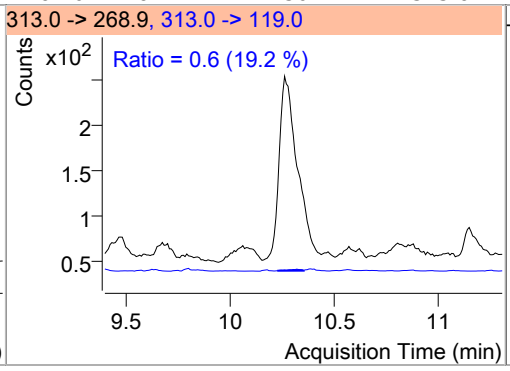


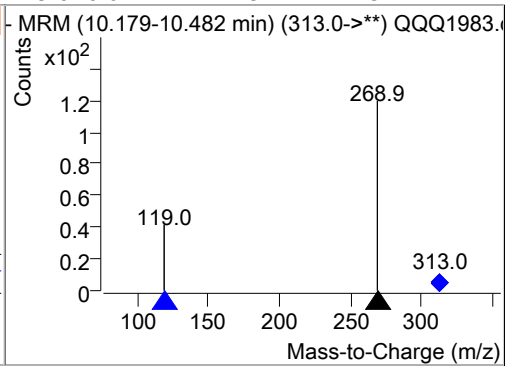


Quantitation Results Report (Not Reviewed)

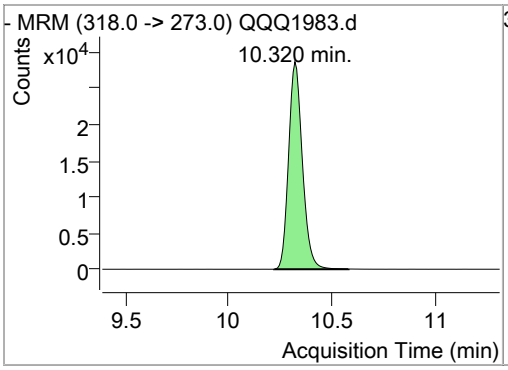
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0350	10.26	-0.14	1156	313.0 -> 119.0	0.6	2.5	3.7

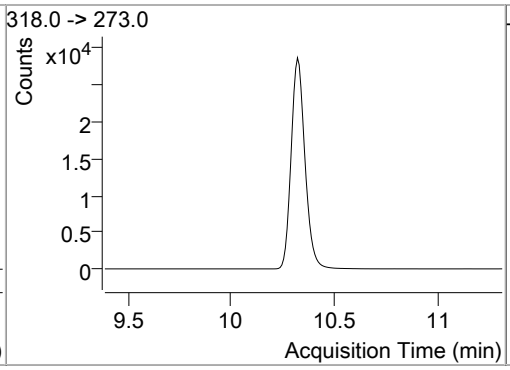


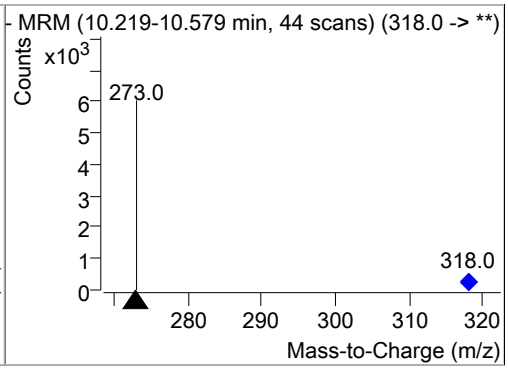




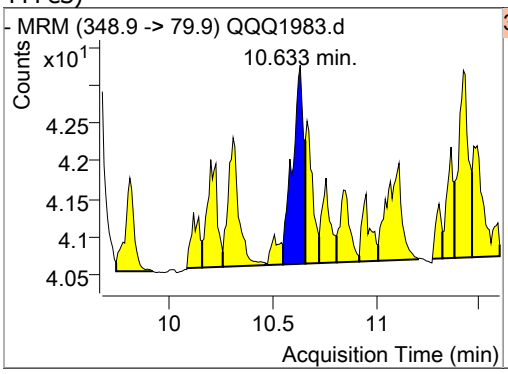
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.4596	10.32	-0.08	132558				

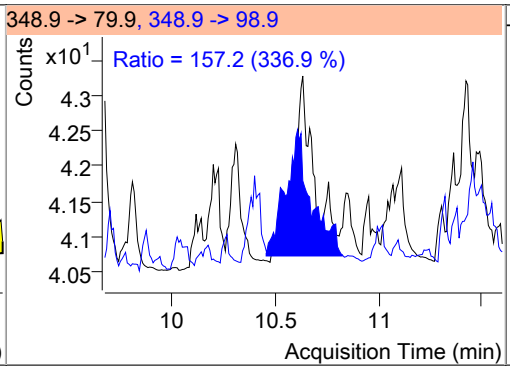


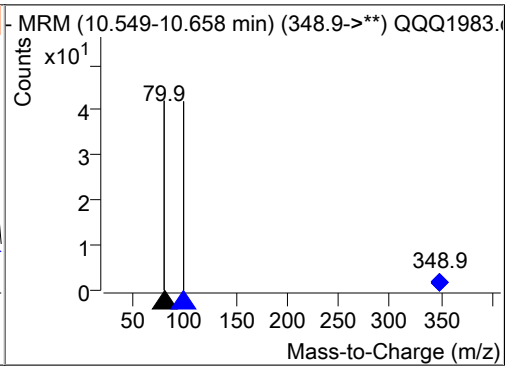




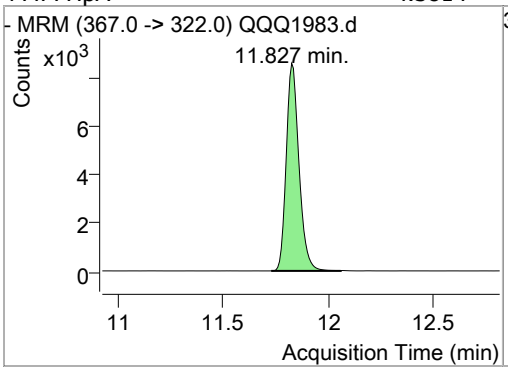
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0012	10.63	-0.07	10	348.9 -> 98.9	157.2	37.3	56.0

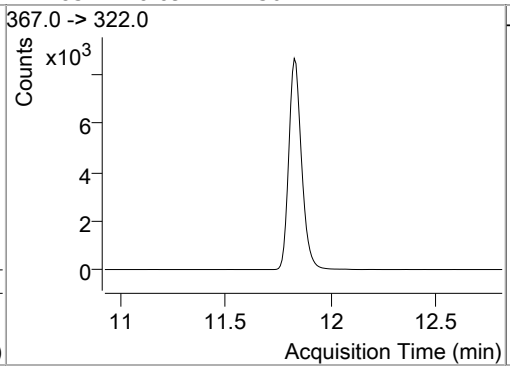


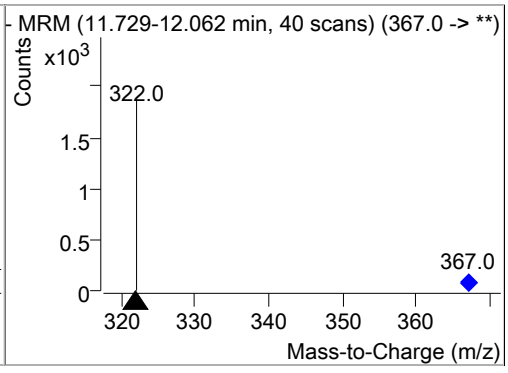




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	4.3814	11.83	-0.09	36471				

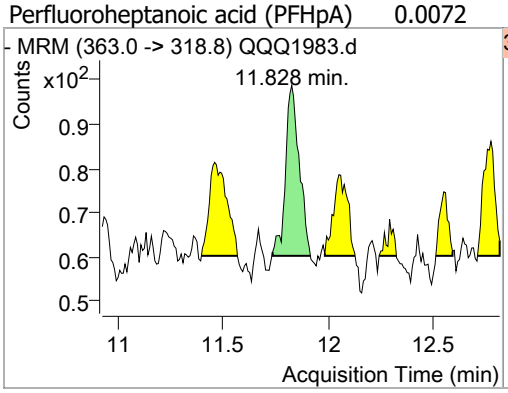


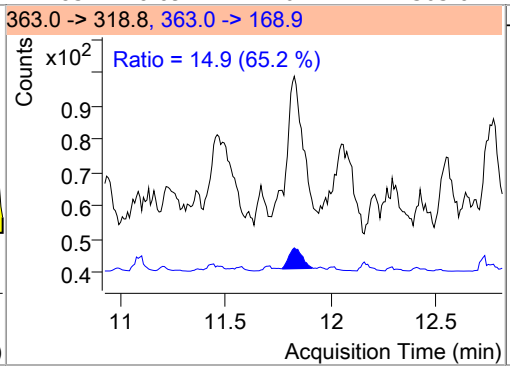


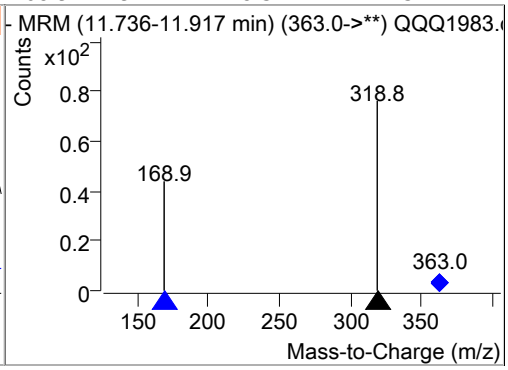


Quantitation Results Report (Not Reviewed)

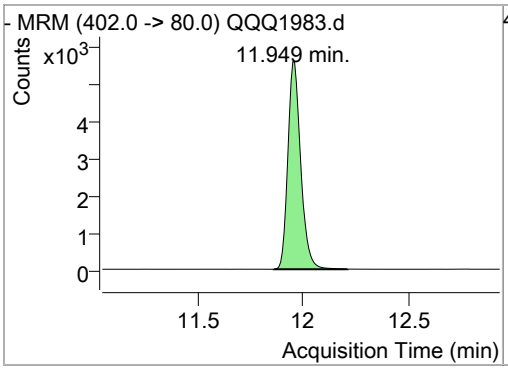
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0072	11.83	-0.09	176	363.0 -> 168.9	14.9	18.3	27.5

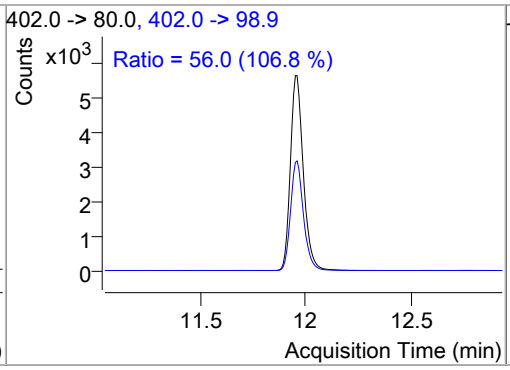


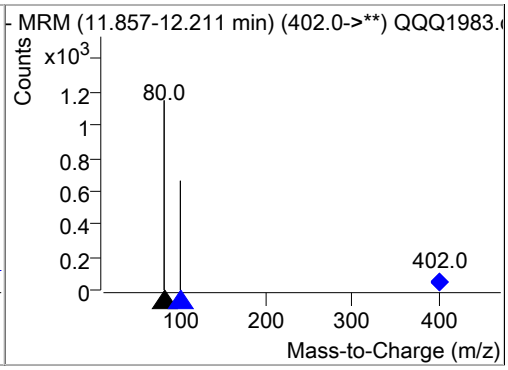




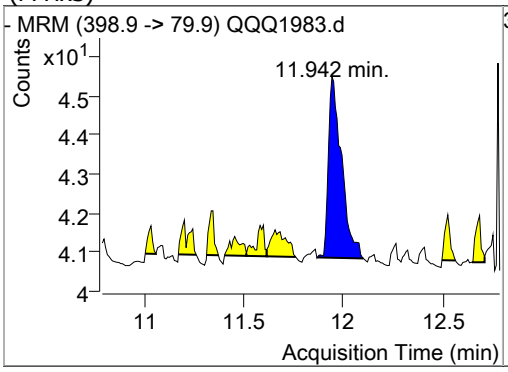
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.1709	11.95	-0.09	24081	402.0 -> 98.9	56.0	42.0	62.9

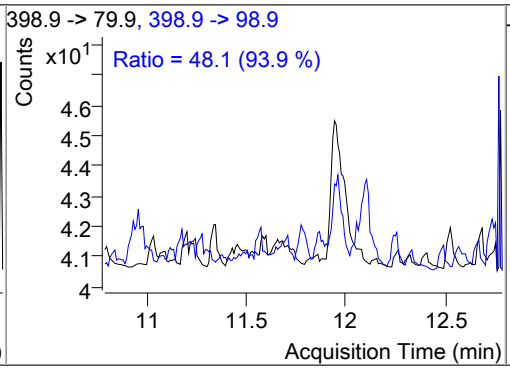


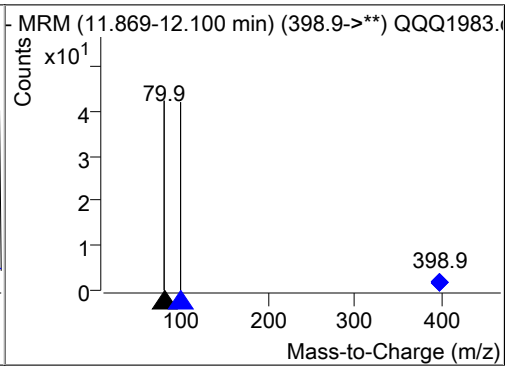




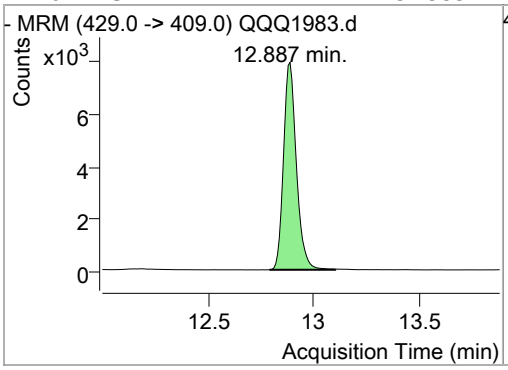
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0030	11.94	-0.10	21	398.9 -> 98.9	48.1	41.0	61.5

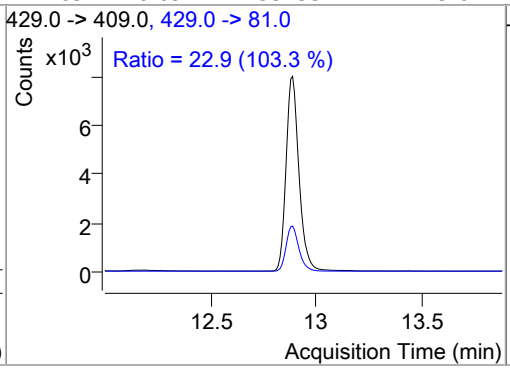


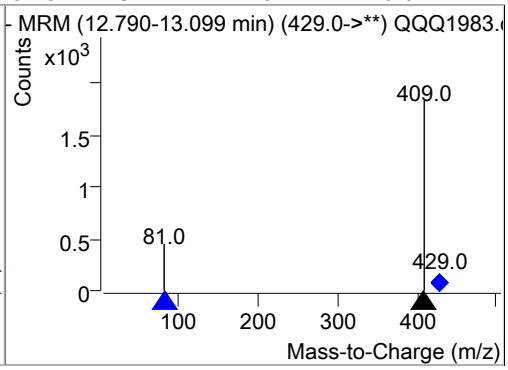




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	3.7953	12.89	-0.09	33433	429.0 -> 81.0	22.9	17.8	26.6

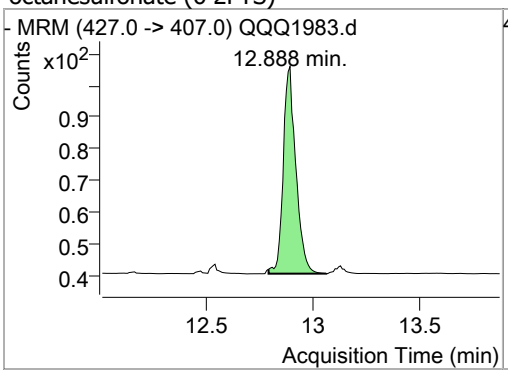


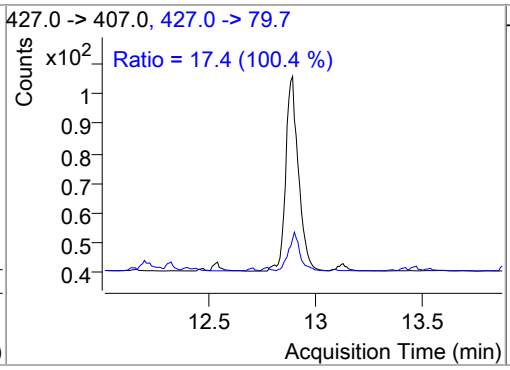


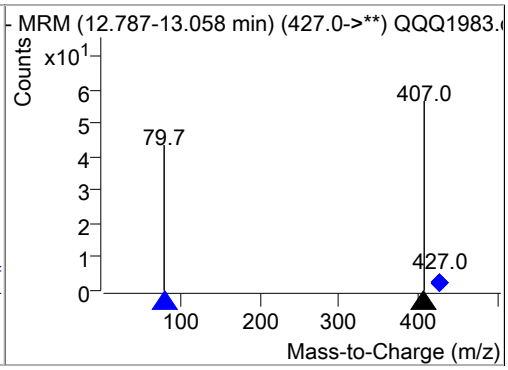


Quantitation Results Report (Not Reviewed)

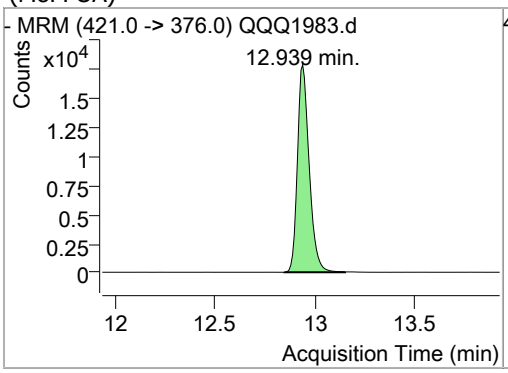
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0301	12.89	-0.09	269	427.0 -> 79.7	17.4	13.9	20.8

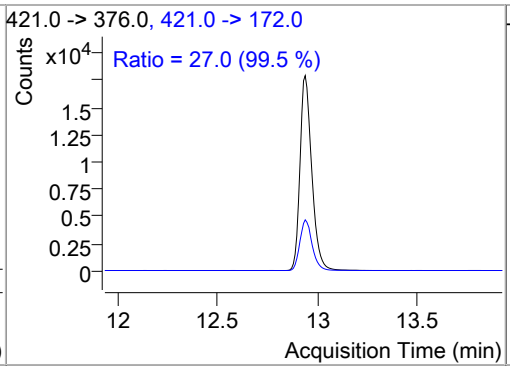


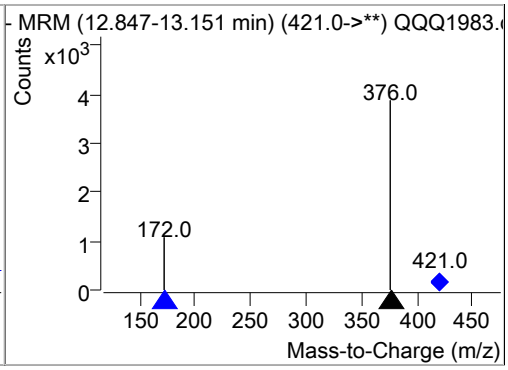




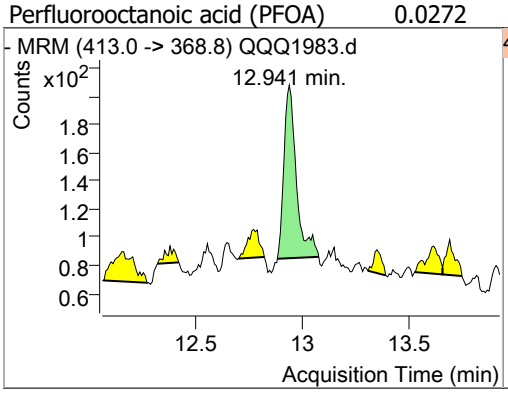
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	3.5117	12.94	-0.09	72913	421.0 -> 172.0	27.0	21.7	32.6

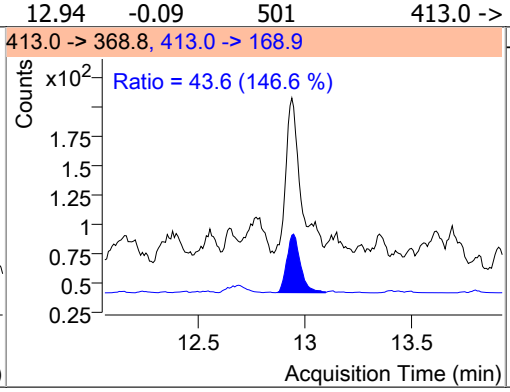


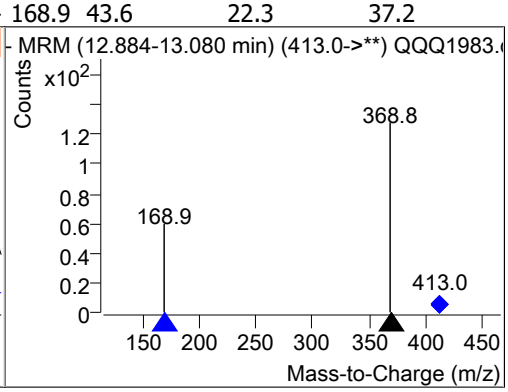




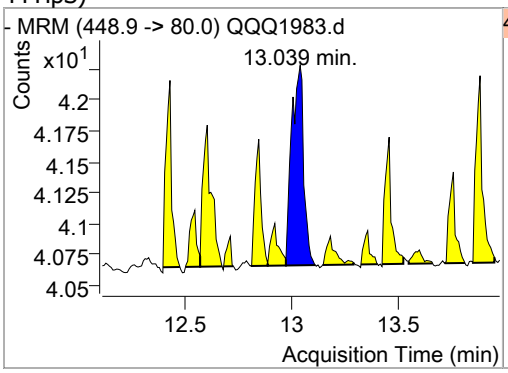
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0272	12.94	-0.09	501	413.0 -> 168.9	43.6	22.3	37.2

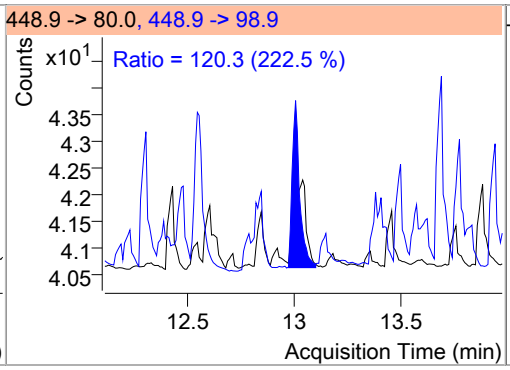


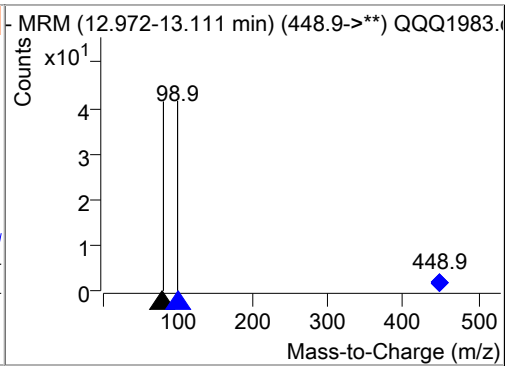




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0012	13.04	-0.04	6	448.9 -> 98.9	120.3	43.3	64.9

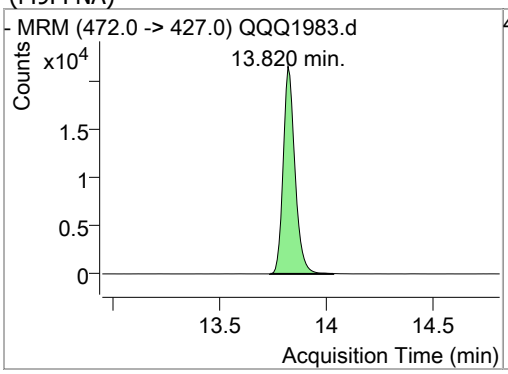


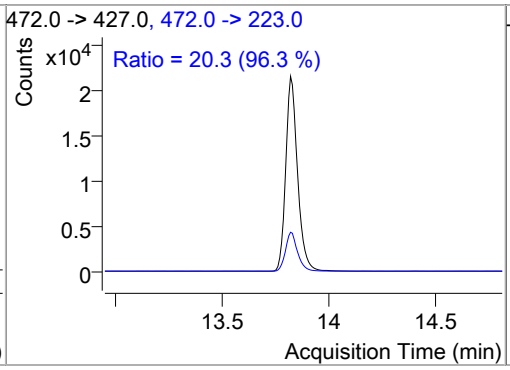


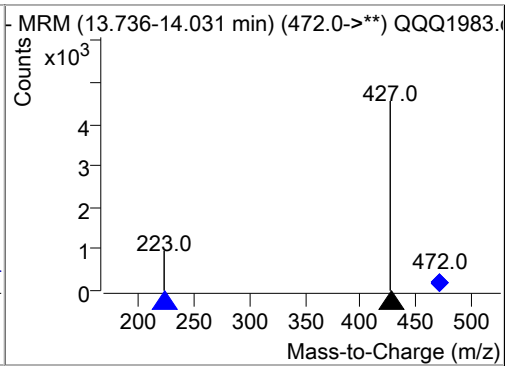


Quantitation Results Report (Not Reviewed)

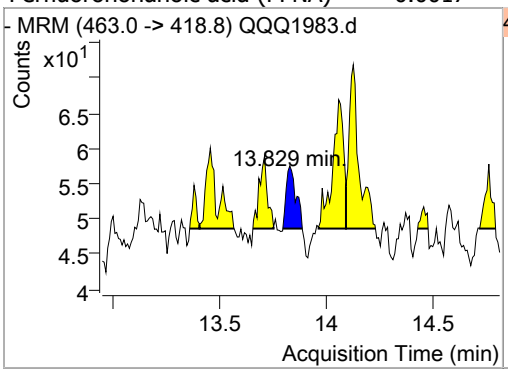
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	3.8432	13.82	-0.08	81928	472.0 -> 223.0	20.3	16.9	25.4

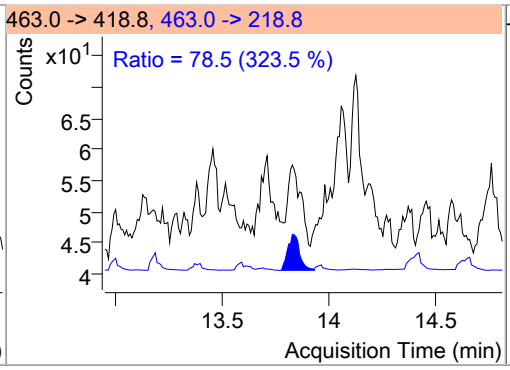


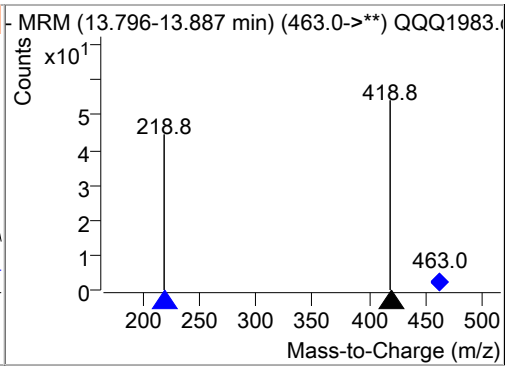




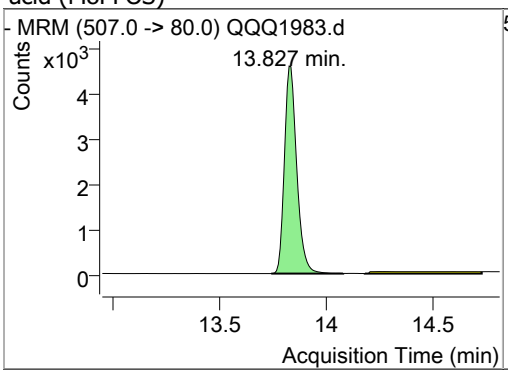
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0017	13.83	-0.08	27	463.0 -> 218.8	78.5	19.4	29.1

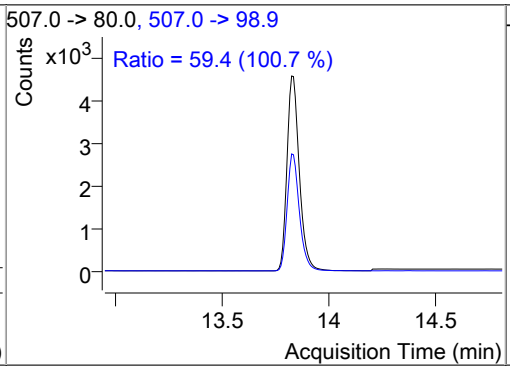


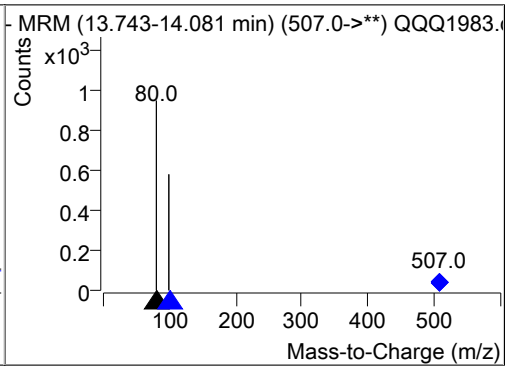




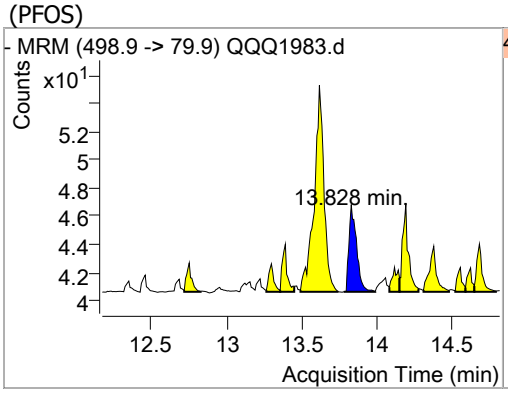
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.1402	13.83	-0.08	18367	507.0 -> 98.9	59.4	47.2	70.8

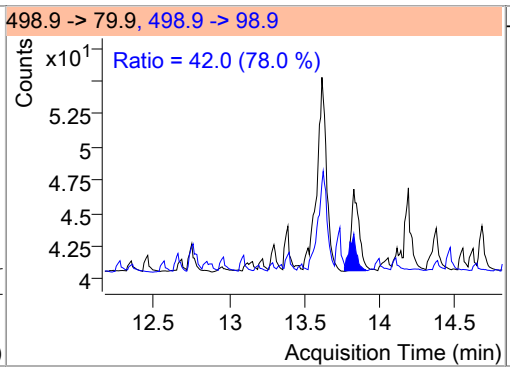


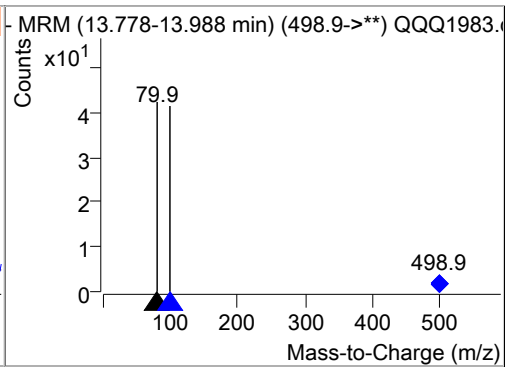




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0034	13.83	-0.08	22	498.9 -> 98.9	42.0	43.1	64.6

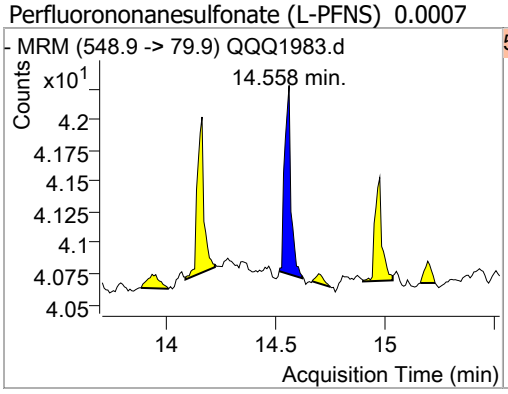


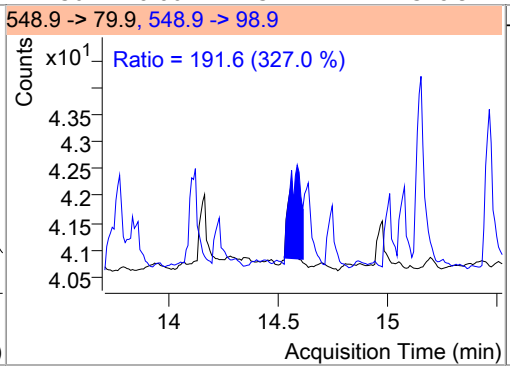


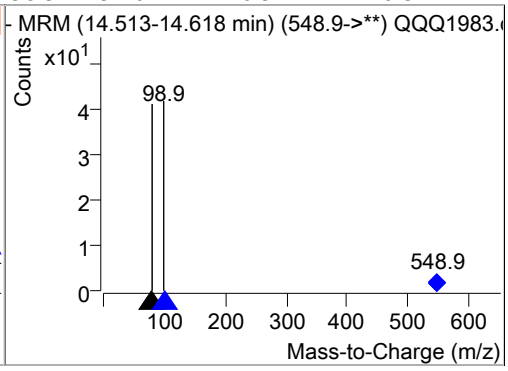


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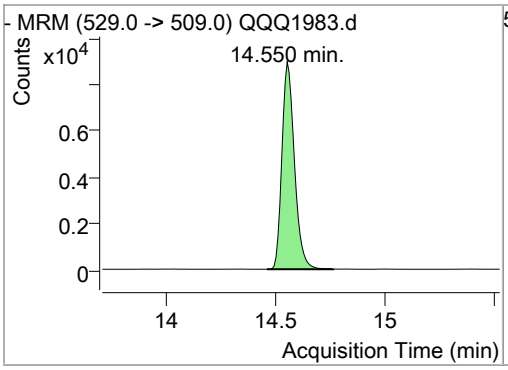
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0007	14.56	-0.06	3	548.9 -> 98.9	191.6	46.9	70.3

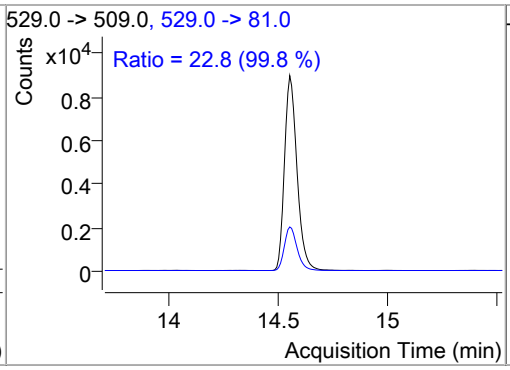


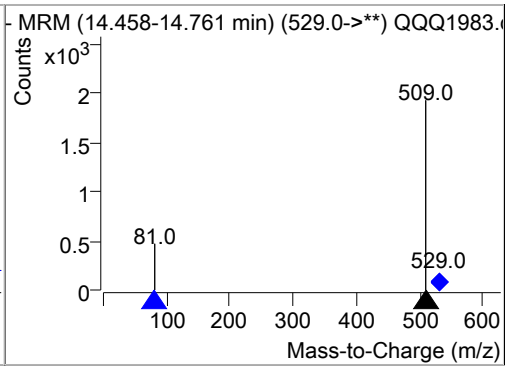




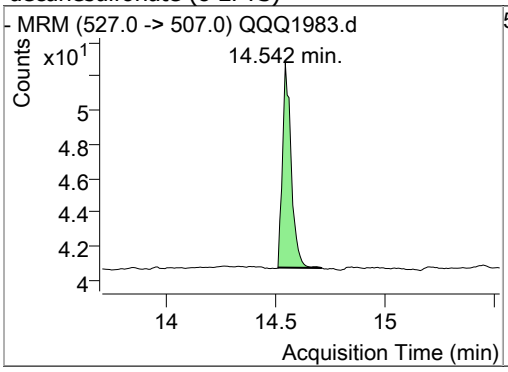
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.9247	14.55	-0.07	35447	529.0 -> 81.0	22.8	18.3	27.4

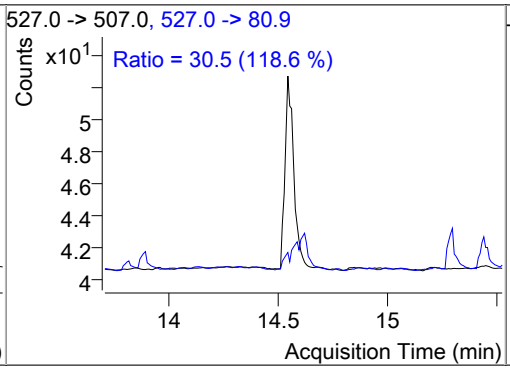


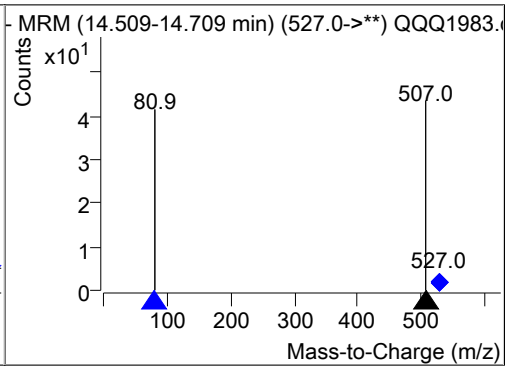




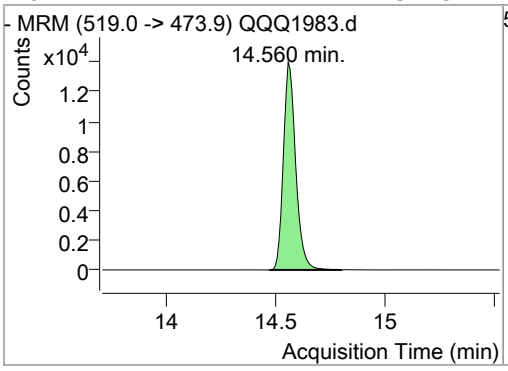
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0000	14.54	-0.08	33	527.0 -> 80.9	30.5	20.6	30.9

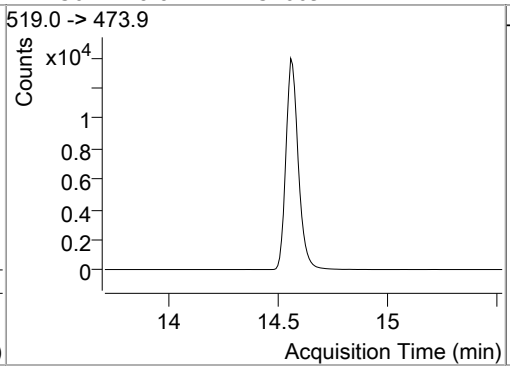


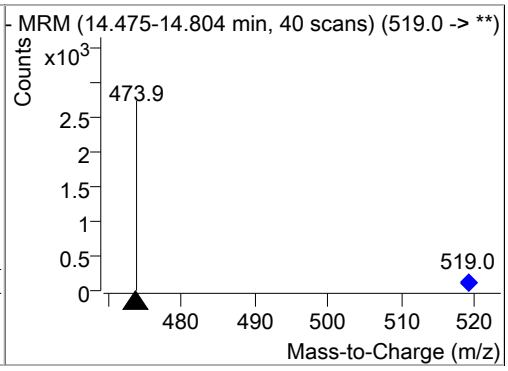




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	3.2231	14.56	-0.07	54669				

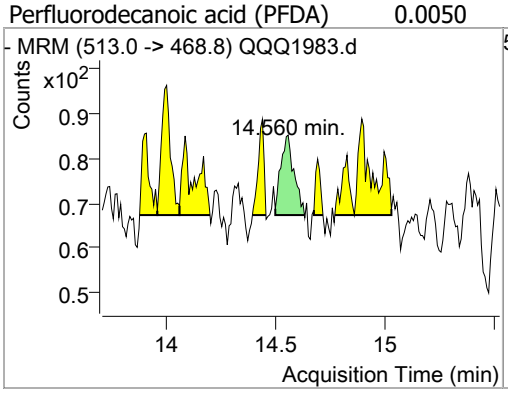


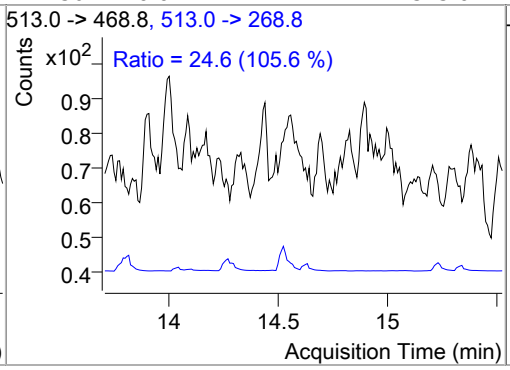


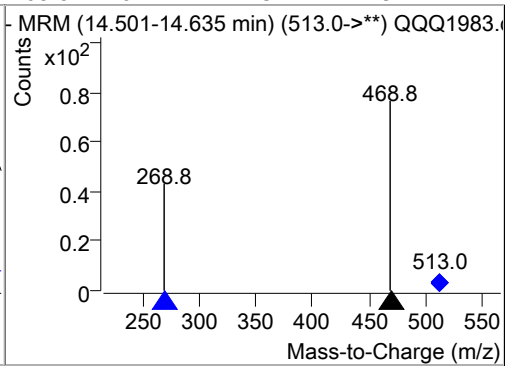


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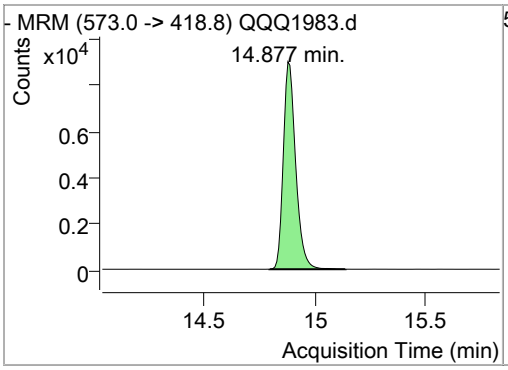
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0050	14.56	-0.07	74	513.0 -> 268.8	24.6	17.5	29.1

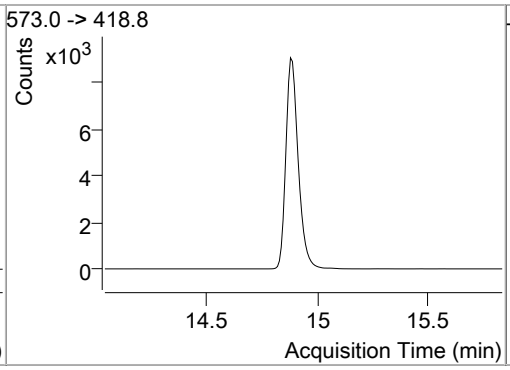


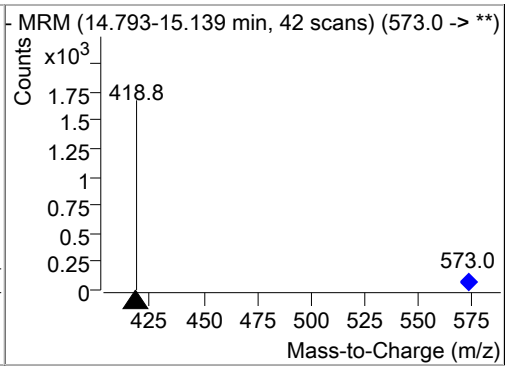




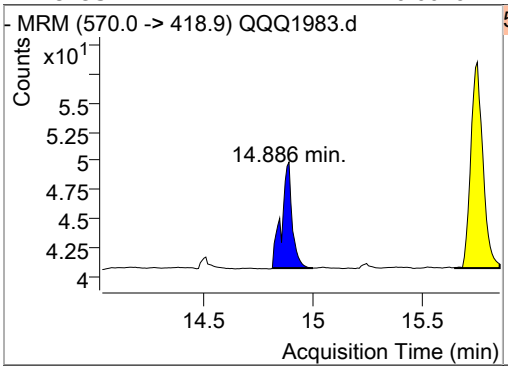
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.3669	14.88	-0.06	35025				

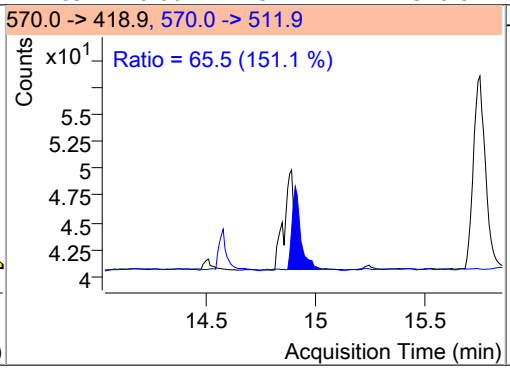


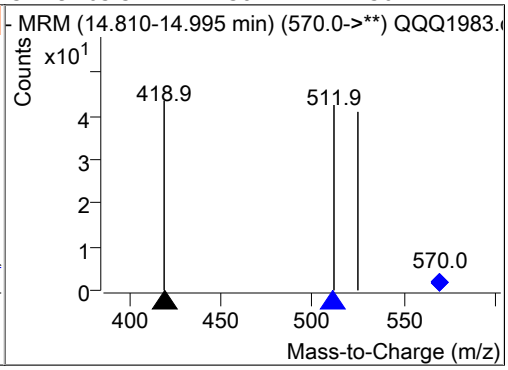




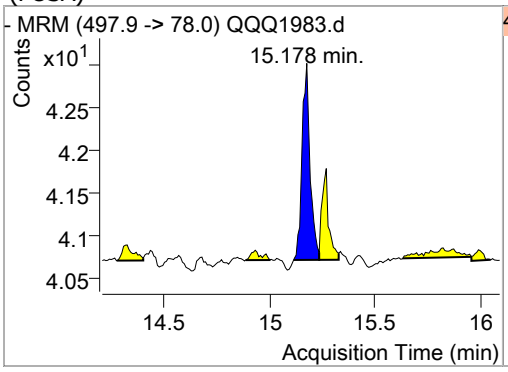
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0028	14.89	-0.06	31	570.0 -> 511.9	65.5	30.4	56.4

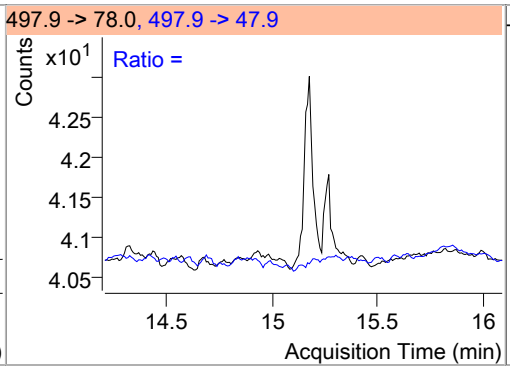


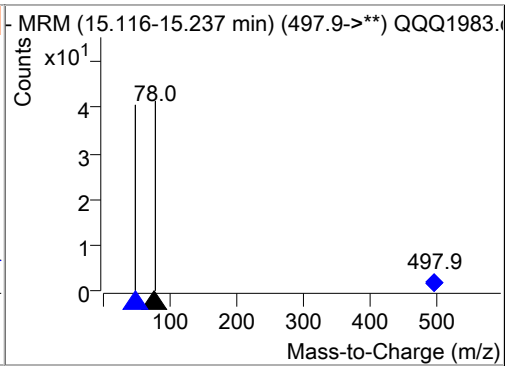




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0007	15.18	-0.01	6	497.9 -> 47.9		5.9	8.8

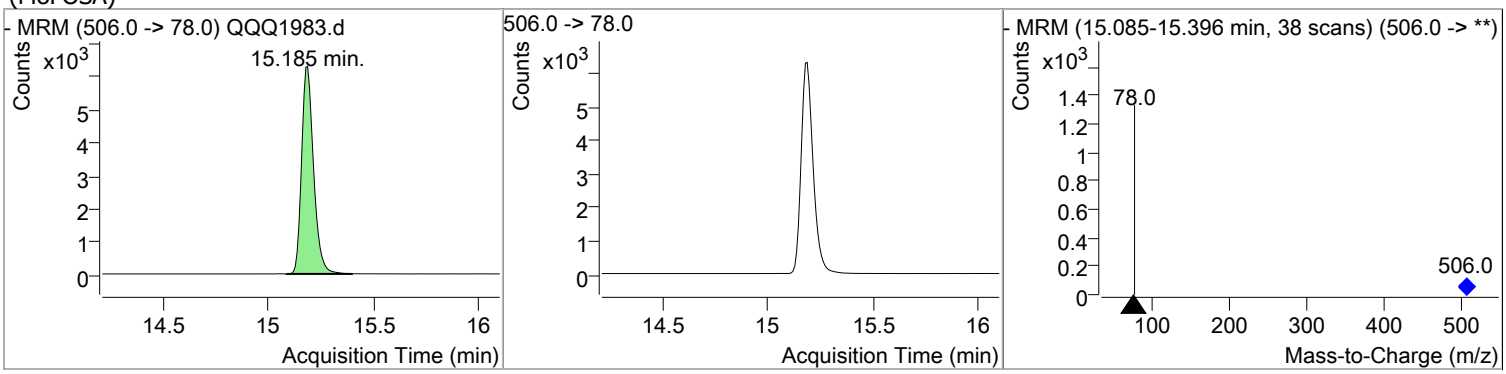




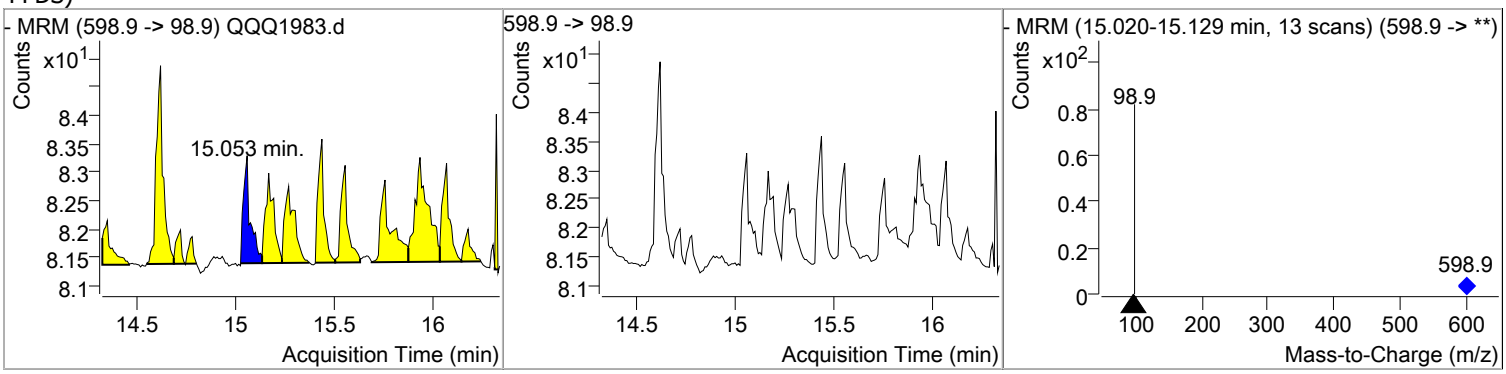


Quantitation Results Report (Not Reviewed)

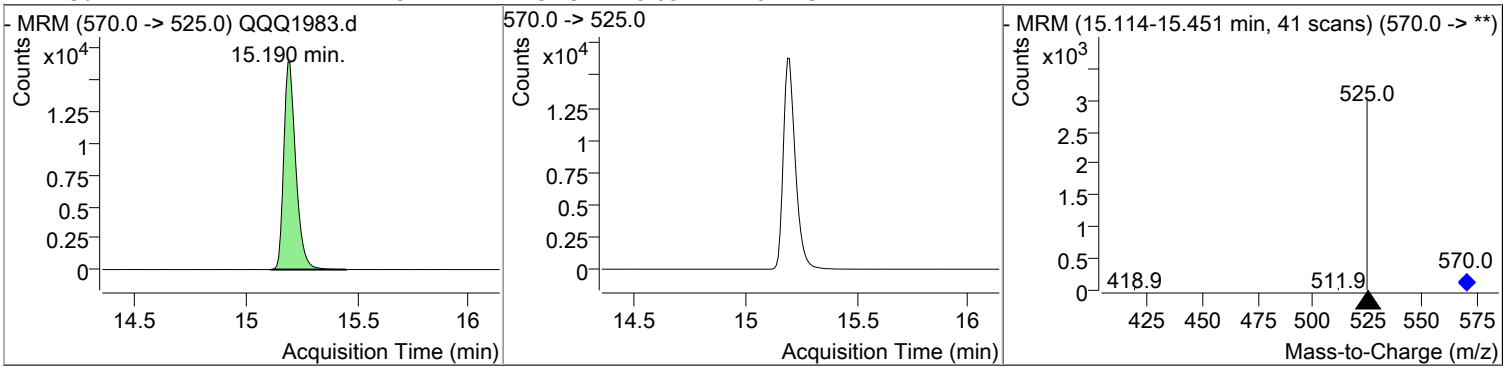
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.8220	15.19	-0.01	24939				



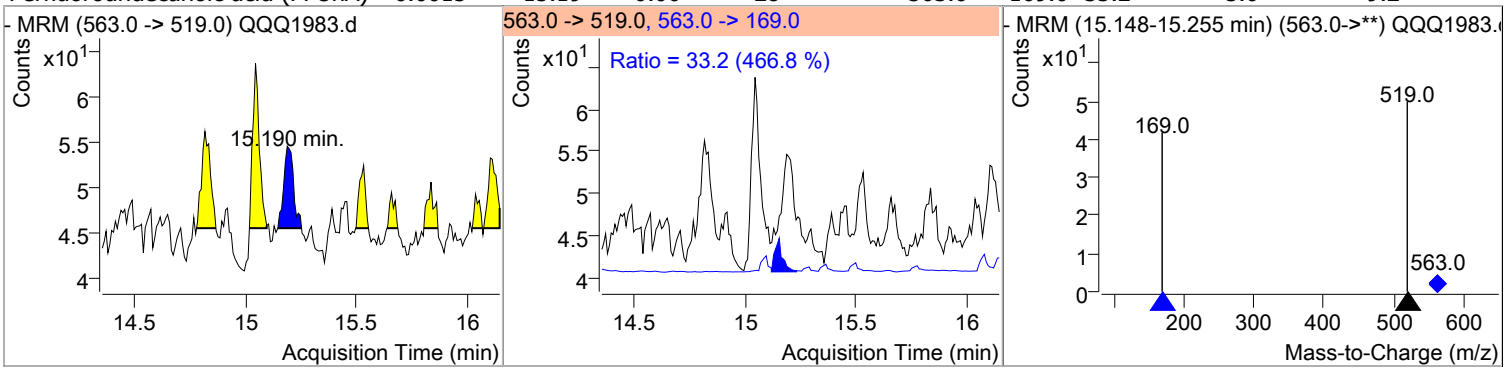
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0010	15.05	-0.16	4				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	3.1722	15.19	-0.05	61215				

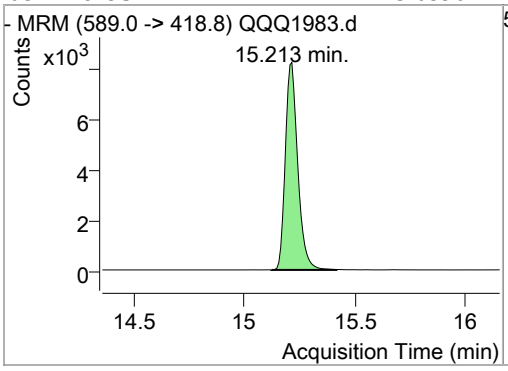


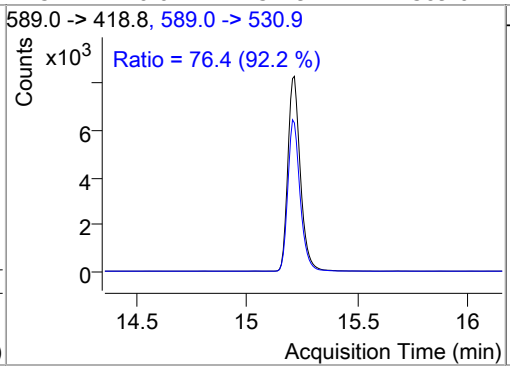
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0015	15.19	-0.06	28	563.0 -> 169.0	33.2	5.0	9.2

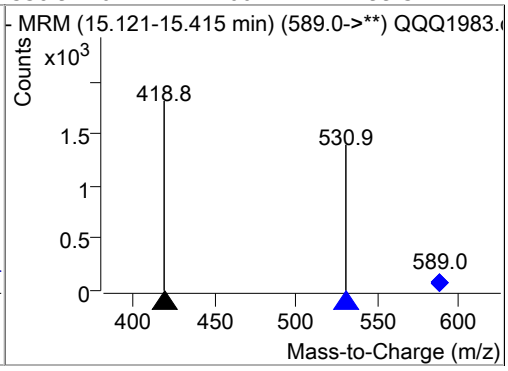


Quantitation Results Report (Not Reviewed)

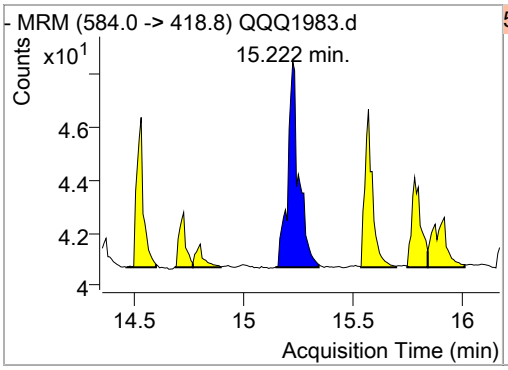
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.6596	15.21	-0.04	32297	589.0 -> 530.9	76.4	66.2	99.3

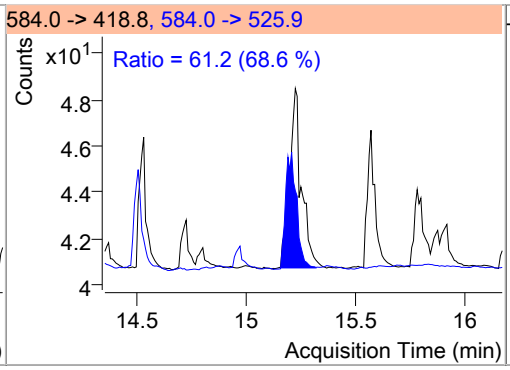


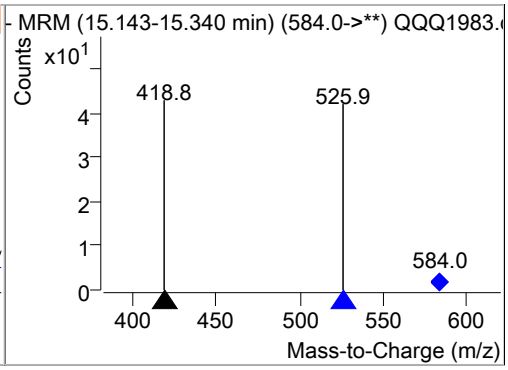




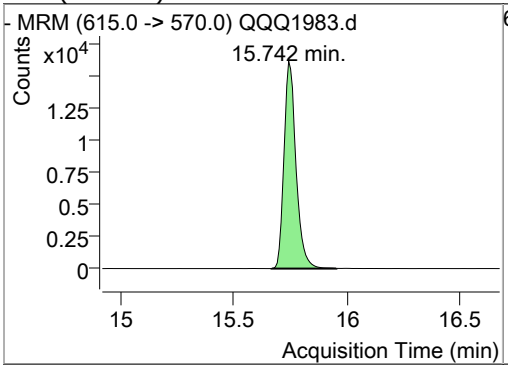
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0032	15.22	-0.04	28	584.0 -> 525.9	61.2	71.3	107.0

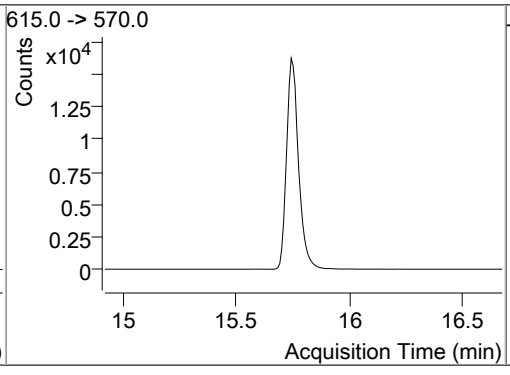


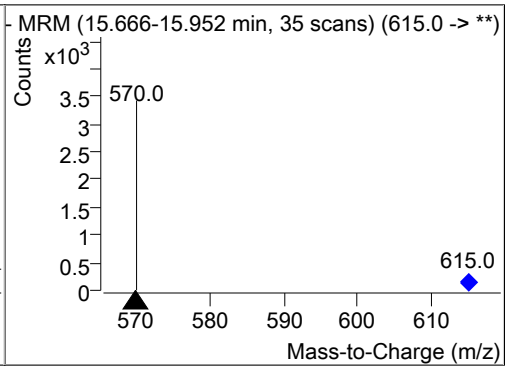




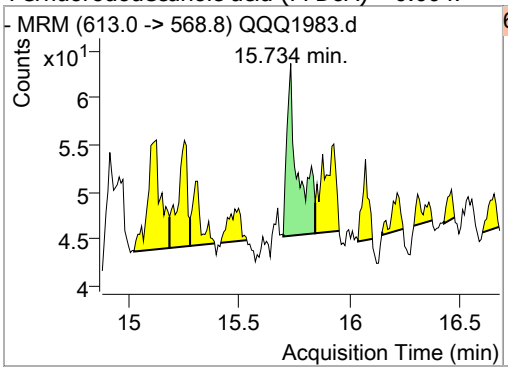
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	3.0089	15.74	-0.03	59698				

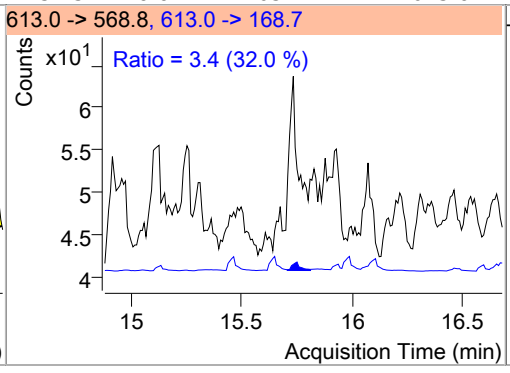


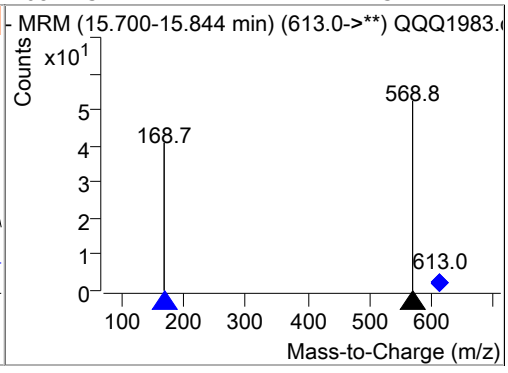




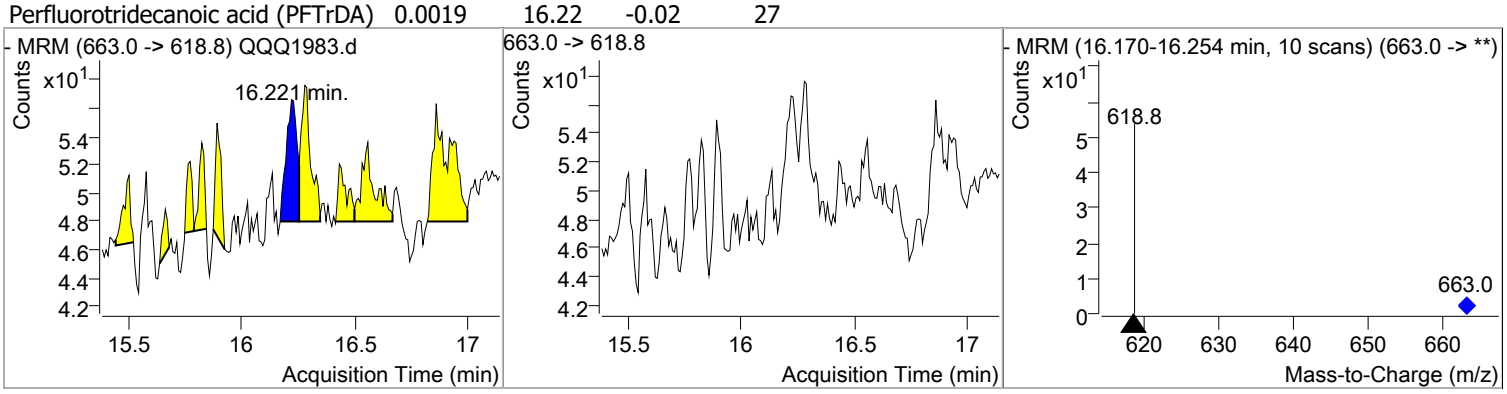
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0047	15.73	-0.04	65	613.0 -> 168.7	3.4	7.4	13.7



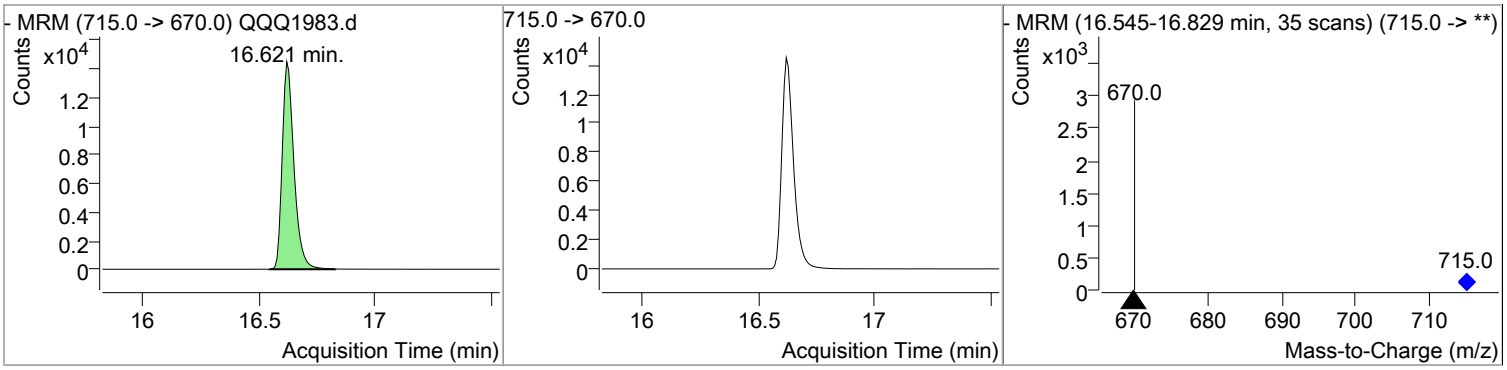




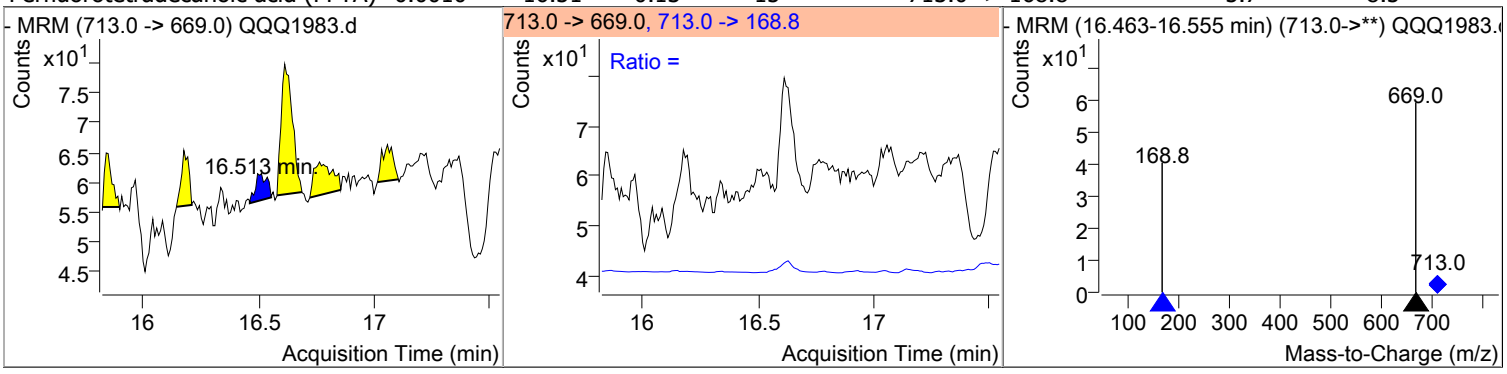
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0019	16.22	-0.02	27				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	3.1344	16.62	-0.02	50770				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0010	16.51	-0.13	15	713.0 -> 168.8		5.7	8.5



FORM VI

INITIAL CALIBRATION DATA

EPA 537m

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YI90019
Instrument: LCQQQ
Calibration Date: 09/27/19 12:03

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1H,1H,2H,2H-Perfluorodecan esulfonic acid (8:2 FTS)	0.24	0.328802	0.48	0.2956185	0.96	0.2833182	2.4	0.2618375	4.8	0.2152009	9.6	0.1915891
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	0.238	0.3584446	0.475	0.3172637	0.95	0.3155249	2.38	0.3098399	4.75	0.2777511	9.5	0.2695886
d3-N-MeFOSAA	0.25	~~0.3440324~~	0.5	0.3298872	1	0.3382764	2.5	0.3554868	5	0.342176	10	0.362995
d5-N-EtFOSAA	0.25	~~0.3035913~~	0.5	0.2950258	1	0.2982697	2.5	0.3184389	5	0.2880057	10	0.2881313
M2-6:2 FTS	0.237	~~0.3350394~~	0.474	0.2963301	0.949	0.29653	2.37	0.318593	4.74	0.2879743	9.49	0.2760556
M2-8:2 FTS	0.24	~~0.3865334~~	0.479	0.3202822	0.958	0.3134766	2.4	0.3121474	4.79	0.2442053	9.58	0.2137923
M2PFTeDA	0.25	~~0.6331999~~	0.5	0.5322931	1	0.5342454	2.5	0.5550799	5	0.4869829	10	0.527799
M3PFBS	0.232	~~0.3594764~~	0.464	0.3593131	0.929	0.3693231	2.32	0.3839059	4.64	0.3608828	9.29	0.3627557
M3PFHxS	0.236	~~0.2582135~~	0.473	0.2443431	0.946	0.265796	2.36	0.2715305	4.73	0.2479327	9.46	0.2531523
M4PFHpA	0.25	~~0.2904444~~	0.5	0.2727766	1	0.2782843	2.5	0.2924486	5	0.2731596	10	0.2784558
M5PFHxA	0.25	~~1.279809~~	0.5	1.229527	1	1.266898	2.5	1.348504	5	1.264421	10	1.300874
M6PFDA	0.25	~~0.6334732~~	0.5	0.5314754	1	0.6250303	2.5	0.6197691	5	0.5341833	10	0.5196866
M7PFUdA	0.25	~~0.7747644~~	0.5	0.6432758	1	0.6467019	2.5	0.7129788	5	0.6014173	10	0.6120824
M9PFNA	0.25	~~0.8100689~~	0.5	0.6871738	1	0.6985468	2.5	0.7812863	5	0.7146596	10	0.7140042
N-EtFOSAA	0.25	0.3201155	0.5	0.2777721	1	0.2873108	2.5	0.3035114	5	0.2862072	10	0.2882279
N-MeFOSAA	0.25	0.3763042	0.5	0.3533783	1	0.3626913	2.5	0.3775212	5	0.3510572	10	0.3772355
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	0.25	~~0.299595~~	0.5	0.3063846	1	0.2935884	2.5	0.3097875	5	0.2871464	10	0.2906161
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.239	~~0.2085764~~	0.478	0.1920586	0.957	0.2024431	2.39	0.2070473	4.78	0.1920883	9.57	0.1922667
Perfluoro-1-decanesulfonic acid (PFDS)	0.241	0.1621775	0.482	0.1422565	0.965	0.1486999	2.41	0.152838	4.82	0.1423353	9.65	0.1466632
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.249	0.1797381	0.498	0.1705671	0.995	0.1793309	2.49	0.1893913	4.98	0.1773266	9.95	0.1816879
Perfluoro-1-octanesulfonamide (FOSA)	0.25	0.3260265	0.5	0.312479	1	0.3047283	2.5	0.3205076	5	0.2961978	10	0.3029186
Perfluorobutanesulfonic acid (PFBS)	0.221	0.3372406	0.442	0.3235357	0.885	0.3256484	2.21	0.3447897	4.42	0.3227292	8.85	0.3244795
Perfluorodecanoic acid (PFDA)	0.25	0.6232853	0.5	0.5156578	1	0.4839487	2.5	0.5477229	5	0.4999288	10	0.4412806
Perfluorododecanoic acid (PFDoA)	0.25	0.4940627	0.5	0.3971921	1	0.4675892	2.5	0.5149994	5	0.4465718	10	0.4814038
Perfluoroheptanoic acid (PFHpA)	0.25	0.850465	0.5	0.7729675	1	0.8026758	2.5	0.8894078	5	0.8074375	10	0.8086541
Perfluorohexanesulfonic acid (PFHxS)	0.185	0.2547943	0.37	0.2417508	0.74	0.237792	1.85	0.2555195	3.7	0.2349812	7.4	0.2422978

FORM VI

INITIAL CALIBRATION DATA

EPA 537m

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YI90019
Instrument: LCQQQ
Calibration Date: 09/27/19 12:03

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Perfluorohexanoic acid (PFHxA)	0.25	1.107693	0.5	1.045879	1	1.118152	2.5	1.153343	5	1.092802	10	1.10498
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.25	~~0.6457673~~	0.5	0.6220644	1	0.6518613	2.5	0.76026	5	0.6709267	10	0.6756485
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.25	~~0.8470317~~	0.5	0.8034495	1	0.8194159	2.5	0.8704126	5	0.8278185	10	0.8746831
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	0.25	~~1.282349~~	0.5	1.197807	1	1.231837	2.5	1.321307	5	1.24737	10	1.309879
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	0.25	~~0.6950106~~	0.5	0.6974556	1	0.7159605	2.5	0.7054079	5	0.6355446	10	0.7210404
Perfluoro-n-butanoic acid (PFBA)	0.25	0.7462421	0.5	0.6988553	1	0.7272308	2.5	0.767606	5	0.7294139	10	0.7734557
Perfluorononanoic acid (PFNA)	0.24	0.5648996	0.48	0.5029071	0.96	0.5514068	2.4	0.612588	4.8	0.4970623	9.6	0.4803427
Perfluorooctanesulfonic acid (PFOS)	0.182	0.2414464	0.365	0.2308619	0.73	0.195629	1.82	0.227038	3.65	0.2060874	7.3	0.2033988
Perfluorooctanoic acid (PFOA)	0.25	0.7079921	0.5	0.5966716	1	0.6059784	2.5	0.6204625	5	0.5759375	10	0.6149084
Perfluoropentanoic acid (PFPeA)	0.25	1.112974	0.5	1.066935	1	1.069642	2.5	1.161719	5	1.098757	10	1.15326
Perfluorotetradecanoic acid (PFTA)	0.25	0.5797036	0.5	0.481899	1	0.5032685	2.5	0.498995	5	0.4853369	10	0.495833
Perfluorotridecanoic acid (PFTrDA)	0.25	0.4636283	0.5	0.4375875	1	0.4683064	2.5	0.5236347	5	0.4546355	10	0.5142447
Perfluoroundecanoic acid (PFUnA)	0.25	0.6369518	0.5	0.678889	1	0.5466773	2.5	0.6148374	5	0.6360264	10	0.5673444

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YI90019 Instrument: LCQQQ

Calibration Date: 09/27/19 12:03

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1H,1H,2H,2H-Perfluorodecan esulfonic acid (8:2 FTS)	19.2	0.1614536										
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2 FTS)	19	0.2468337										
d3-N-MeFOSAA	20	0.3719865										
d5-N-EtFOSAA	20	0.2826998										
M2-6:2 FTS	19	0.258652										
M2-8:2 FTS	19.2	0.1815667										
M2PFTeDA	20	0.5372516										
M3PFBS	18.6	0.3543125										
M3PFHxS	18.9	0.2463176										
M4PFHpA	20	0.2707629										
M5PFHxA	20	1.31511										
M6PFDA	20	0.5227948										
M7PFUdA	20	0.5441092										
M9PFNA	20	0.6044289										
N-EtFOSAA	20	0.2859148										
N-MeFOSAA	20	0.3872539										
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	20	0.2898451										
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	19.1	0.1799663										
Perfluoro-1-decanesulfonic acid (PFDS)	19.3	0.1452909										
Perfluoro-1-heptanesulfonic acid (PFHpS)	19.9	0.1829224										
Perfluoro-1-octanesulfonamide (FOSA)	20	0.300867										
Perfluorobutanesulfonic acid (PFBS)	17.7	0.3201563										
Perfluorodecanoic acid (PFDA)	20	0.4047665										
Perfluorododecanoic acid (PFDoA)	20	0.4129335										
Perfluoroheptanoic acid (PFHpA)	20	0.7920388										
Perfluorohexanesulfonic acid (PFHxS)	14.8	0.2341313										

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YI90019 Instrument: LCQQQ

Calibration Date: 09/27/19 12:03

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Perfluorohexanoic acid (PFHxA)	20	1.146114										
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	20	0.6364134										
Perfluoro-n-[13C4]butanoic acid (MPFBA)	20	0.9356928										
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	20	1.35591										
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	20	0.7092683										
Perfluoro-n-butanoic acid (PFBA)	20	0.8284037										
Perfluorononanoic acid (PFNA)	19.2	0.4718192										
Perfluorooctanesulfonic acid (PFOS)	14.6	0.1903041										
Perfluorooctanoic acid (PFOA)	20	0.6082819										
Perfluoropentanoic acid (PFPeA)	20	1.190933										
Perfluorotetradecanoic acid (PFTA)	20	0.4839401										
Perfluorotridecanoic acid (PFTrDA)	20	0.5179121										
Perfluoroundecanoic acid (PFUnA)	20	0.5287649										

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 537m

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YI90019 Instrument: LCQQQ

Calibration Date: 09/27/19 12:03

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.24826	24.3816	14.5532	0.0553057		0.9991455	0.99	
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.2993209	12.42208	12.89863	0.0905623			20	
d3-N-MeFOSAA	0.3501347	4.579381	14.88144	0.0276174			20	
d5-N-EtFOSAA	0.2950952	4.306277	15.20638	5.343514E-02			20	
M2-6:2 FTS	0.2890225	7.049752	12.89954	9.015079E-02			20	
M2-8:2 FTS	0.2642451	22.47883	14.55598	3.067341E-02		0.9981474	0.99	
M2PFTeDA	0.528942	4.272391	16.61074	3.937769E-02			20	
M3PFBS	0.3650822	2.858773	8.753059	3.620158E-02			20	
M3PFHxS	0.2548454	4.411534	11.967	8.027851E-02			20	
M4PFHpA	0.277648	2.84234	11.84216	5.180413E-02			20	
M5PFHxA	1.287556	3.291561	10.33216	7.005696E-02			20	
M6PFDA	0.5588232	8.869185	14.56527	0.0307575			20	
M7PFUdA	0.6267609	8.96696	15.19518	2.840477E-02			20	
M9PFNA	0.7000166	8.161188	13.83261	0.0357722			20	
N-EtFOSAA	0.2927228	4.888427	15.21635	6.028315E-02			20	
N-MeFOSAA	0.3693488	3.718733	14.88718	0.0518299			20	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	0.296228	3.197916	15.16863	4.923513E-02			20	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.1943117	4.873072	13.84247	4.737198E-02			20	
Perfluoro-1-decanesulfonic acid (PFDS)	0.1486088	4.730395	15.15993	4.127261E-02			20	
Perfluoro-1-heptanesulfonic acid (PFHpS)	0.1801378	3.173584	13.00437	8.592489E-02			20	
Perfluoro-1-octanesulfonamide (FOSA)	0.3091035	3.543025	15.16702	6.176889E-02			20	
Perfluorobutanesulfonic acid (PFBS)	0.3283685	2.761859	8.753257	6.247122E-02			20	
Perfluorodecanoic acid (PFDA)	0.5023701	14.18235	14.56271	5.563028E-02			20	
Perfluorododecanoic acid (PFDoA)	0.4592504	9.339168	15.73714	5.369127E-02			20	
Perfluoroheptanoic acid (PFHpA)	0.8176638	4.811834	11.84081	7.079654E-02			20	
Perfluorohexanesulfonic acid (PFHxS)	0.2430381	3.633772	11.96727	8.175424E-02			20	
Perfluorohexanoic acid (PFHxA)	1.109852	3.22504	10.32907	7.388806E-02			20	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.6695291	7.296659	15.74017	4.213453E-02			20	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.8552454	5.679846	4.102791	8.511486E-02			20	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Calibration:	YI90019	Instrument:	LCQQQ
		Calibration Date:	09/27/19 12:03

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	1.277352	4.756768	8.047383	1.989431E-02			20	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	0.6974462	4.504254	12.95704	7.447065E-02			20	
Perfluoro-n-butanoic acid (PFBA)	0.7530296	5.559285	4.110736	9.878929E-02			20	
Perfluorononanoic acid (PFNA)	0.5258608	9.834423	13.82894	0.0705501			20	
Perfluorooctanesulfonic acid (PFOS)	0.2135379	9.12909	13.84108	5.885102E-02			20	
Perfluorooctanoic acid (PFOA)	0.6186046	6.786501	12.95575	8.566188E-02			20	
Perfluoropentanoic acid (PFPeA)	1.122031	4.258998	8.048783	1.004696E-02			20	
Perfluorotetradecanoic acid (PFTA)	0.5041394	6.805312	16.60949	2.919754E-02			20	
Perfluorotridecanoic acid (PFTrDA)	0.4828499	7.225972	16.20504	2.895657E-02			20	
Perfluoroundecanoic acid (PFUnA)	0.6013559	9.127889	15.19278	4.388077E-02			20	

Data File	QQQ1887.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 1:37:33 PM
Sample Name	SEQ-CAL1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	0.25 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

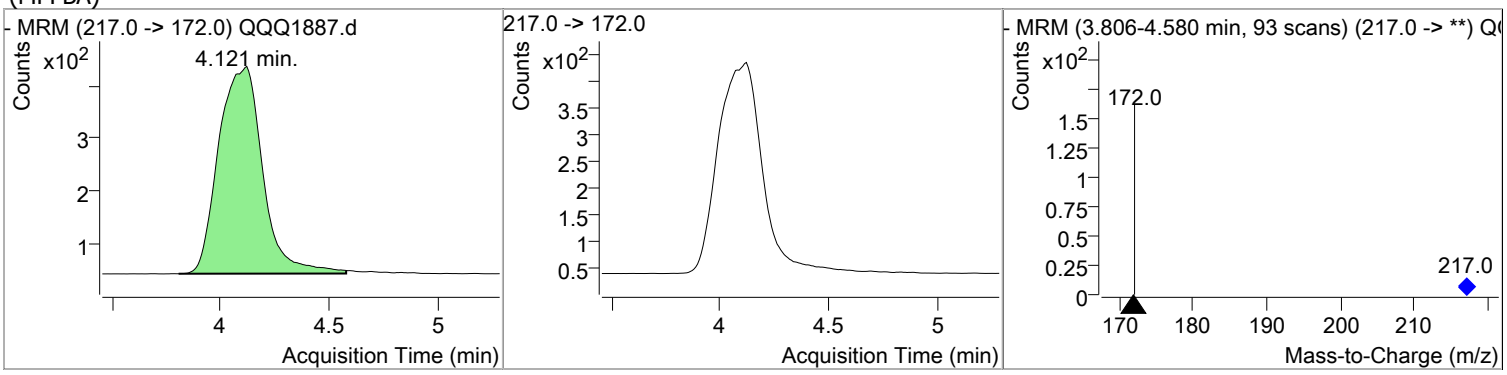
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
MPFOA	12.940	417.0 -> 372.0	263804	10.0000	ng/ml		-0.094
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.121	217.0 -> 172.0	5586	0.2479	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.48%		*	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	8457	0.2508	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.51%		*	
M3PFBS	8.743	302.0 -> 79.9	2200	0.2288	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.29%		*	
M2-4-2FTS	10.174	329.0 -> 309.0	3842	0.2905	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.90%		*	
M5PFHxA	10.320	318.0 -> 273.0	8440	0.2487	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.49%		*	
M4PFHpA	11.835	367.0 -> 322.0	1916	0.2598	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.60%		*	
M3PFHxS	11.957	402.0 -> 80.0	1608	0.2390	ng/ml		-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.39%		*	
M2-6-2FTS	12.887	429.0 -> 409.0	2095	0.2685	ng/ml		-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.68%		*	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.939	421.0 -> 376.0	4584	0.2493	ng/ml		-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.49%		*	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.820	472.0 -> 427.0	5342	0.2829	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.83%		*	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.827	507.0 -> 80.0	1315	0.2538	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.54%		*	
M2-8-2FTS	14.542	529.0 -> 509.0	2447	0.0792	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 0.79%		*	
M6PFDA	14.551	519.0 -> 473.9	4178	0.2781	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.78%		*	
d3-N-MeFOSAA	14.869	573.0 -> 418.8	2269	0.2463	ng/ml		-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.46%		*	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.160	506.0 -> 78.0	1976	0.2524	ng/ml		-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.52%		*	
M7PFUdA	15.181	570.0 -> 525.0	5110	0.2990	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.99%		*	
d5-N-EtFOSAA	15.197	589.0 -> 418.8	2002	0.2561	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.56%		*	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.733	615.0 -> 570.0	4259	0.2424	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.42%		*	
M2PFTeDA	16.604	715.0 -> 670.0	4176	0.2911	ng/ml		-0.033
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 2.91%		*	

Target Compounds QValue

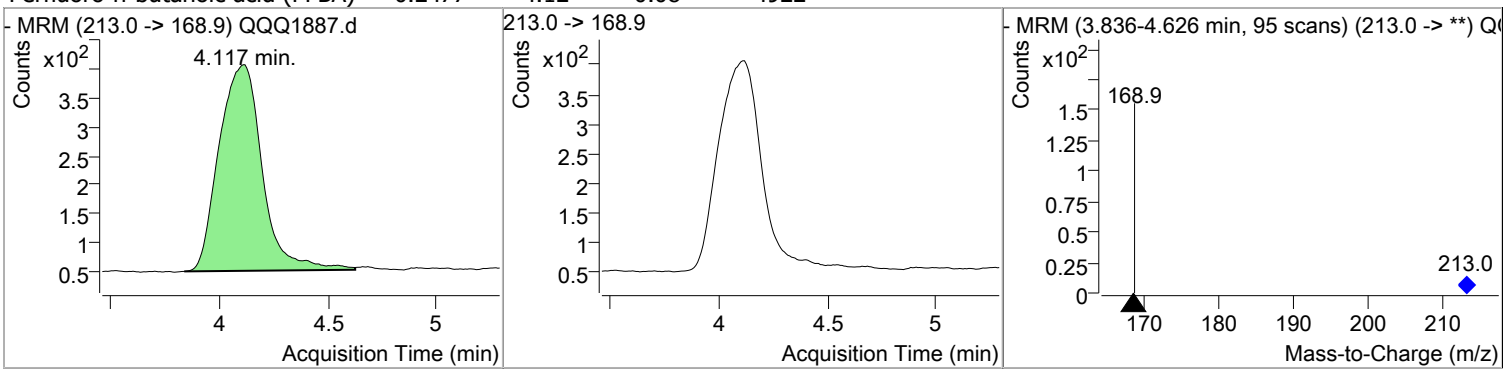
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.117	213.0 -> 168.9	4922	0.2477	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	7340	0.2480	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	1966	0.2269	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.176	327.0 -> 307.0	2845	0.2603	ng/ml		97
Perfluorohexanoic acid (PFHxA)	10.322	313.0 -> 268.9	7305	0.2495	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.616	348.9 -> 79.9	1823	0.2405	ng/ml		96
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	5609	0.2600	ng/ml		96
Perfluorohexanesulfonic acid (PFHxS)	11.959	398.9 -> 79.9	1243	0.1939	ng/ml		95
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	2251	0.2849	ng/ml		99
Perfluorooctanoic acid (PFOA)	12.941	413.0 -> 368.8	4669	0.2861	ng/ml		100
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.989	448.9 -> 80.0	1181	0.2486	ng/ml		96
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	3577	0.2578	ng/ml		93
Perfluorooctanesulfonic acid (PFOS)	13.828	498.9 -> 79.9	1159	0.2049	ng/ml		87
Perfluorononanesulfonate (L-PFNS)	14.533	548.9 -> 79.9	1069	0.2522	ng/ml		99
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.542	527.0 -> 507.0	2082	0.0966	ng/ml		94
Perfluorodecanoic acid (PFDA)	14.552	513.0 -> 468.8	4111	0.3102	ng/ml	#	85
N-MeFOSAA	14.877	570.0 -> 418.9	2482	0.2547	ng/ml		92
Perfluoro-1-octanesulfonamide (FOSA)	15.153	497.9 -> 78.0	2150	0.2637	ng/ml		98
Perfluoro-1-decanesulfonate (L-PFDS)	15.154	598.9 -> 98.9	1031	0.2629	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.182	563.0 -> 519.0	4201	0.2648	ng/ml		97
N-EtFOSAA	15.197	584.0 -> 418.8	2111	0.2734	ng/ml		88
Perfluorododecanoic acid (PFDoA)	15.725	613.0 -> 568.8	3258	0.2690	ng/ml		99
Perfluorotridecanoic acid (PFTrDA)	16.195	663.0 -> 618.8	3058	0.2400	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.605	713.0 -> 669.0	3823	0.2875	ng/ml		97

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

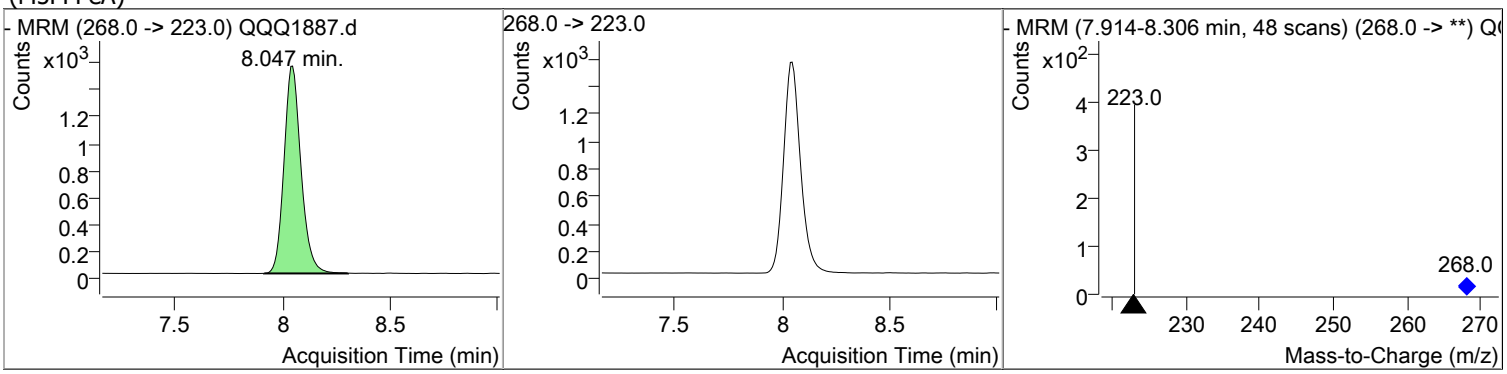
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.2479	4.12	-0.07	5586				



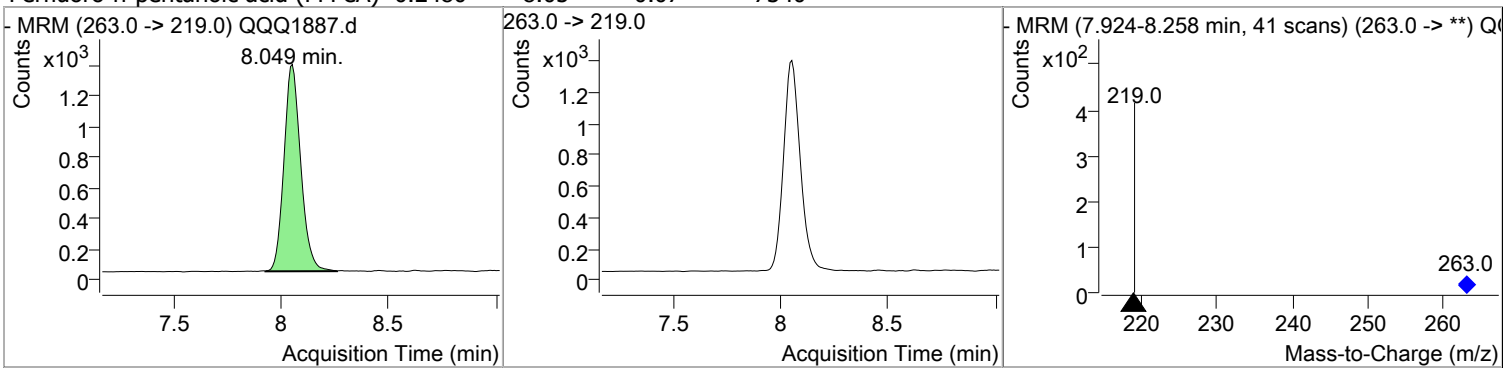
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.2477	4.12	-0.08	4922				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	0.2508	8.05	-0.07	8457				

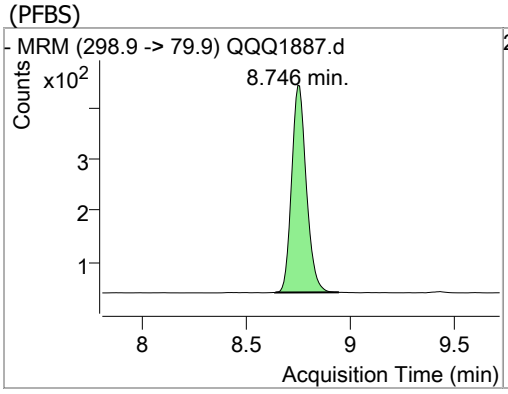


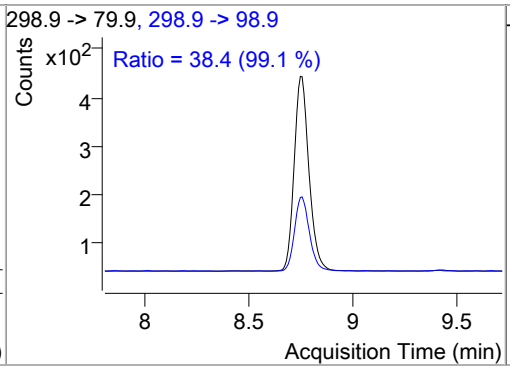
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.2480	8.05	-0.07	7340				

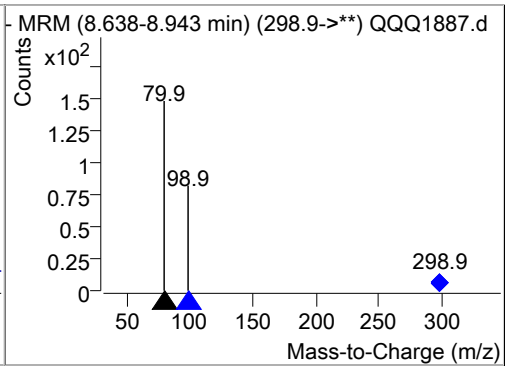


Quantitation Results Report (Not Reviewed)

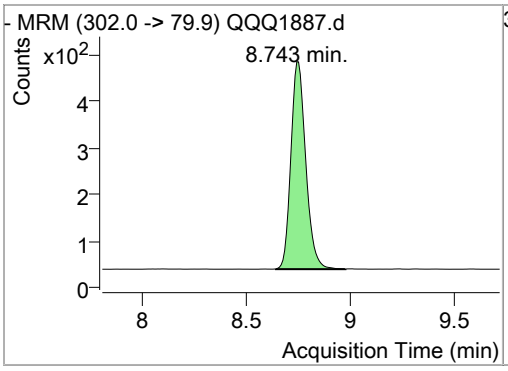
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.2269	8.75	-0.07	1966	298.9 -> 98.9	38.4	31.0	46.5

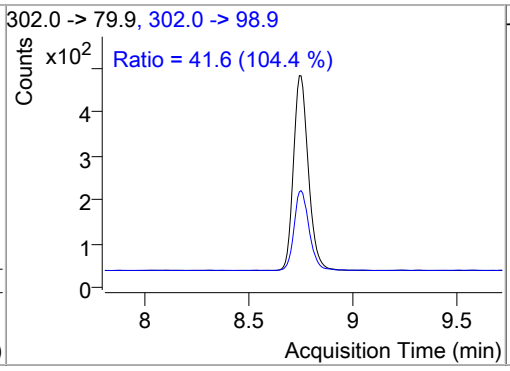


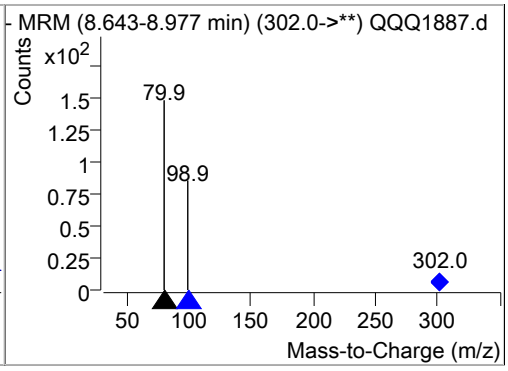




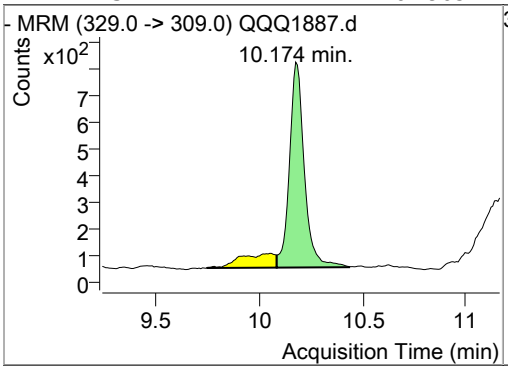
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	0.2288	8.74	-0.08	2200	302.0 -> 98.9	41.6	31.9	47.8

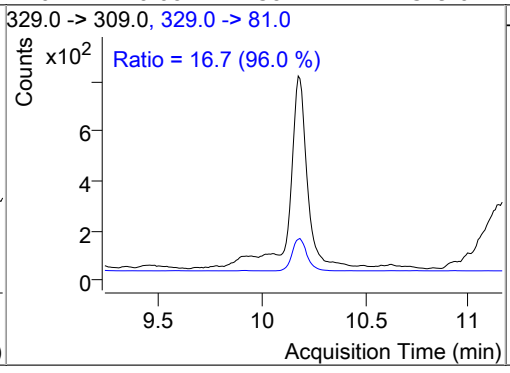


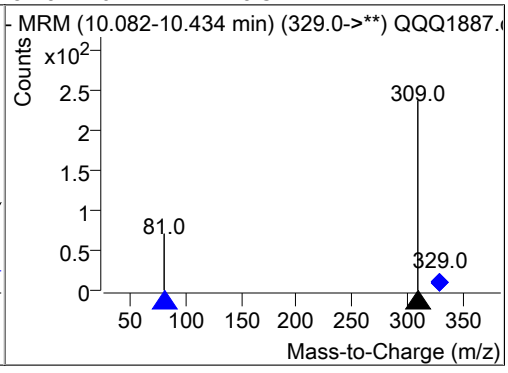




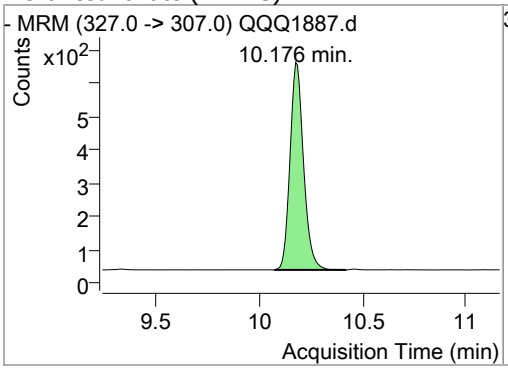
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	0.2905	10.17	-0.08	3842	329.0 -> 81.0	16.7	10.5	24.4

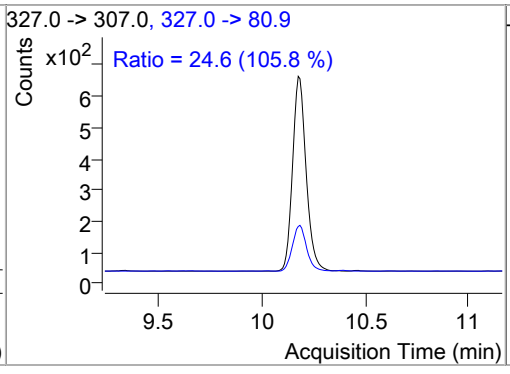


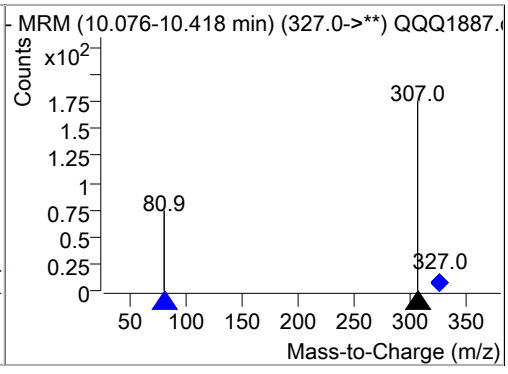




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.2603	10.18	-0.08	2845	327.0 -> 80.9	24.6	13.9	32.5

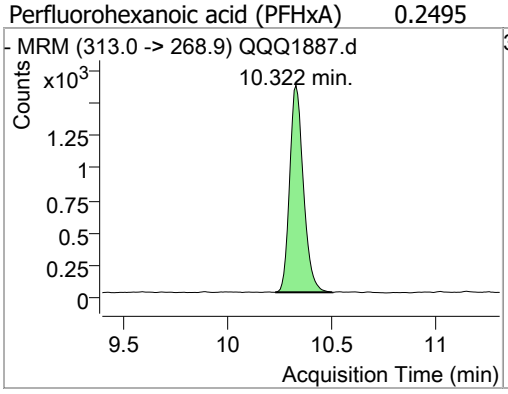


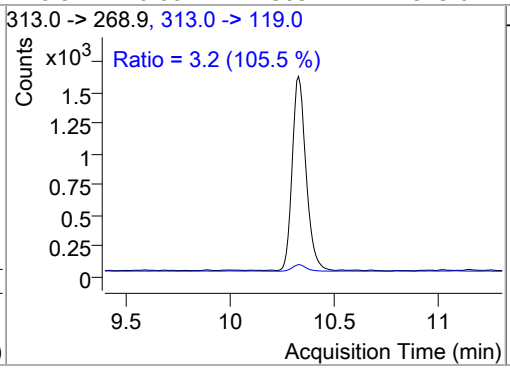


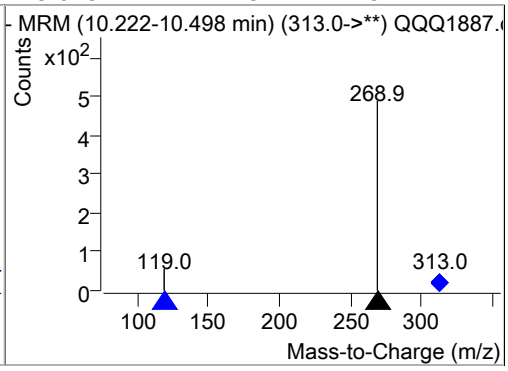


Quantitation Results Report (Not Reviewed)

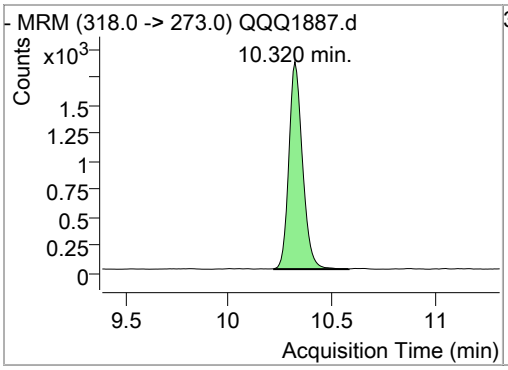
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.2495	10.32	-0.08	7305	313.0 -> 119.0	3.2	2.5	3.7

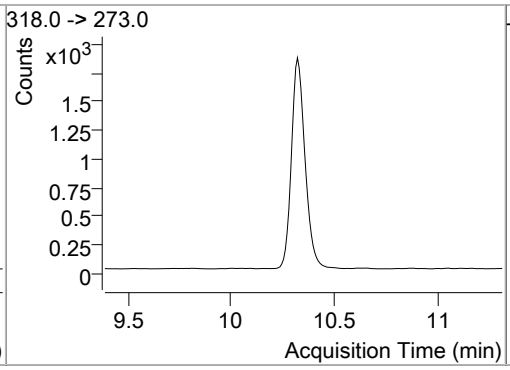


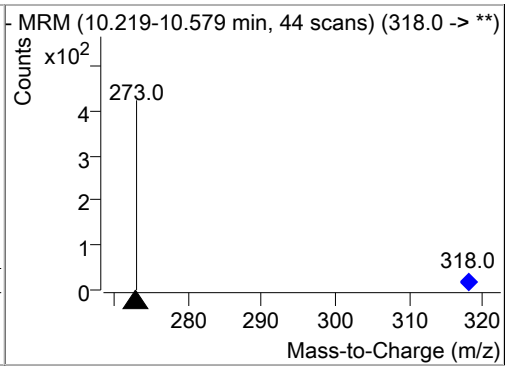




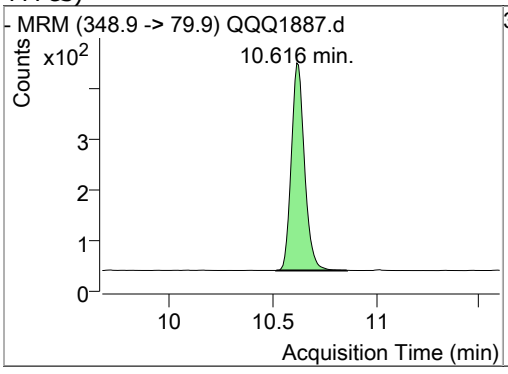
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	0.2487	10.32	-0.08	8440				

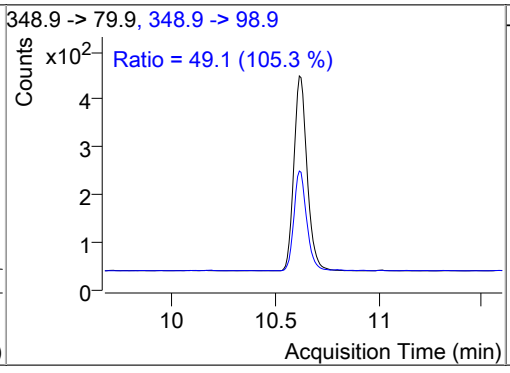


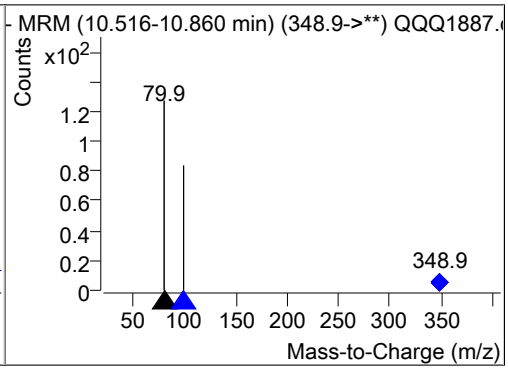




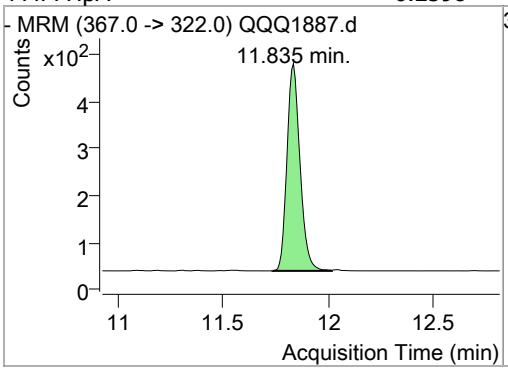
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.2405	10.62	-0.08	1823	348.9 -> 98.9	49.1	37.3	56.0

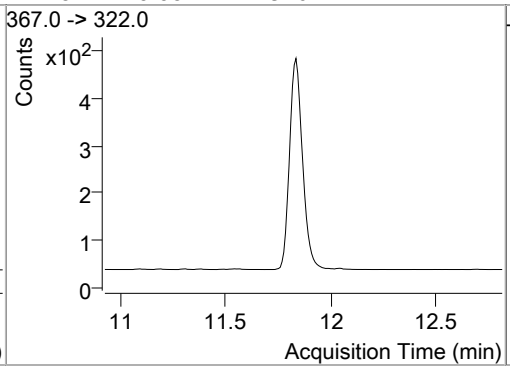


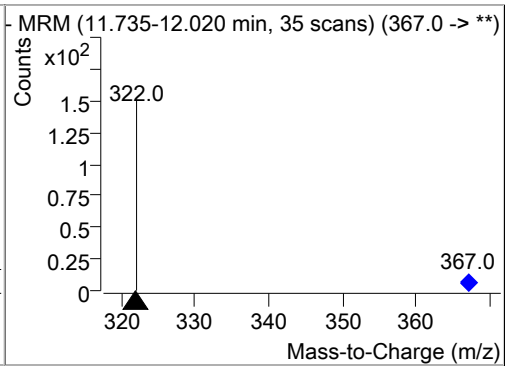




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	0.2598	11.84	-0.08	1916				

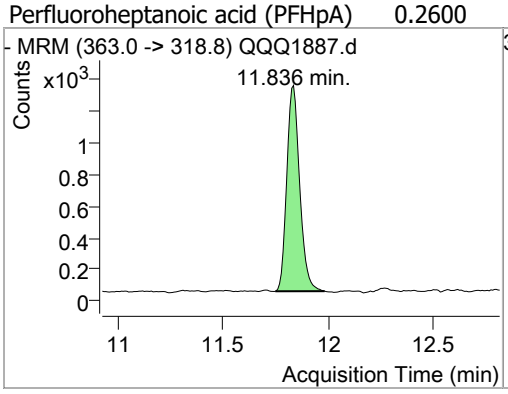


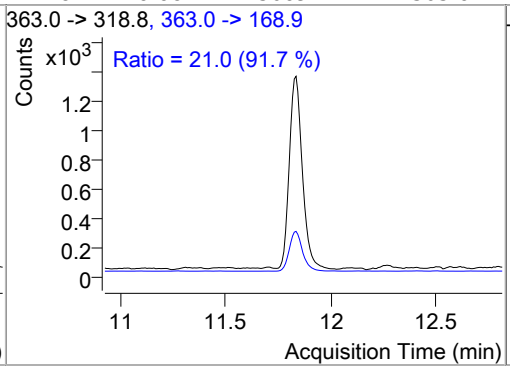


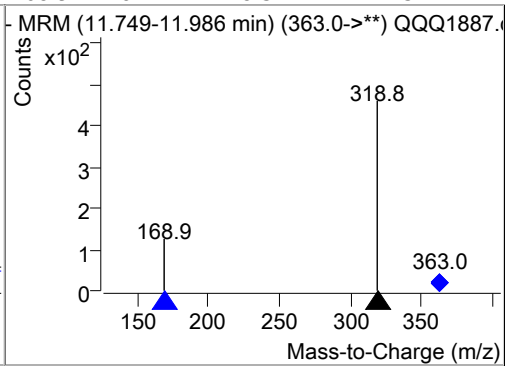


Quantitation Results Report (Not Reviewed)

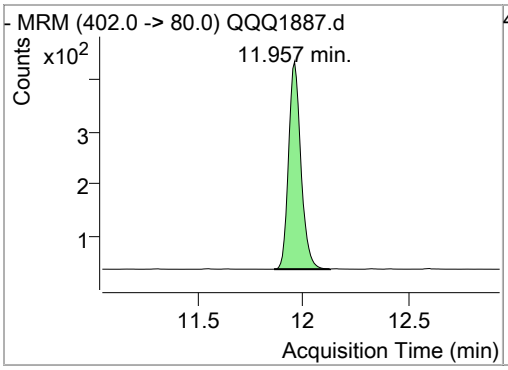
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.2600	11.84	-0.08	5609	363.0 -> 168.9	21.0	18.3	27.5

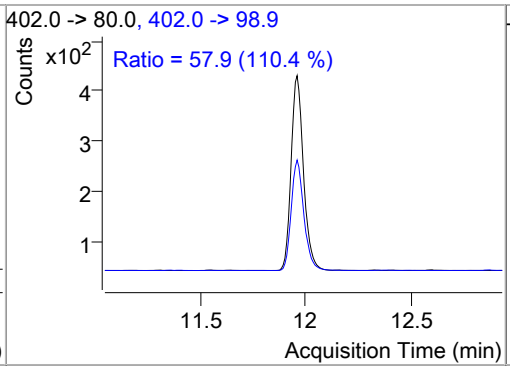


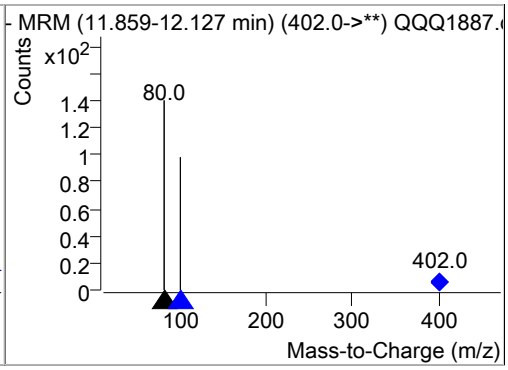




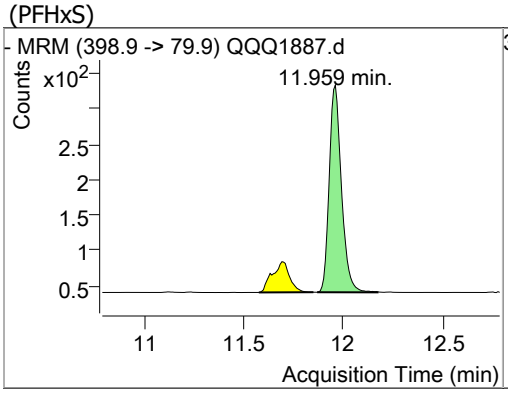
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	0.2390	11.96	-0.09	1608	402.0 -> 98.9	57.9	42.0	62.9

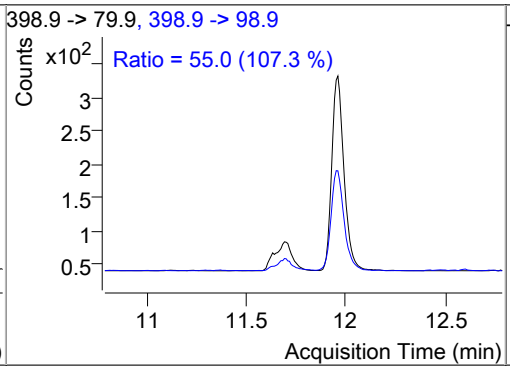


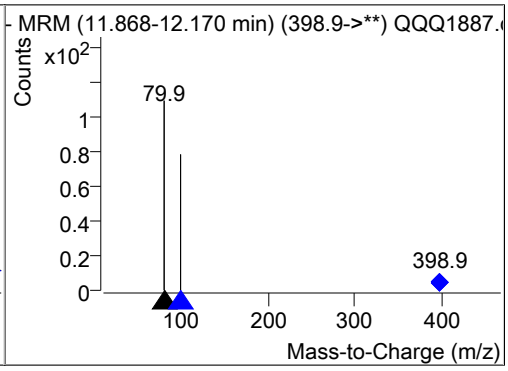




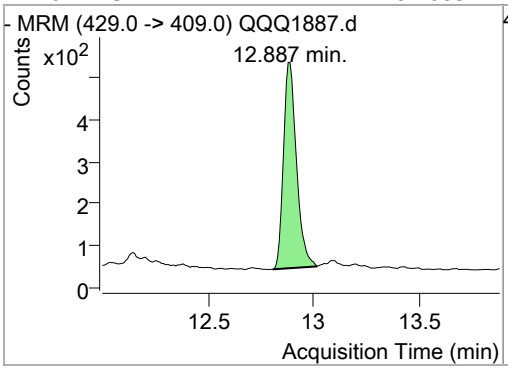
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.1939	11.96	-0.08	1243	398.9 -> 98.9	55.0	41.0	61.5

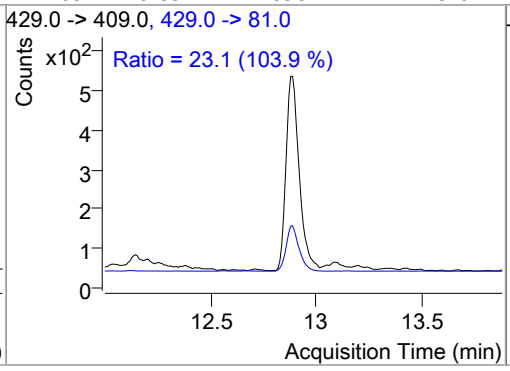


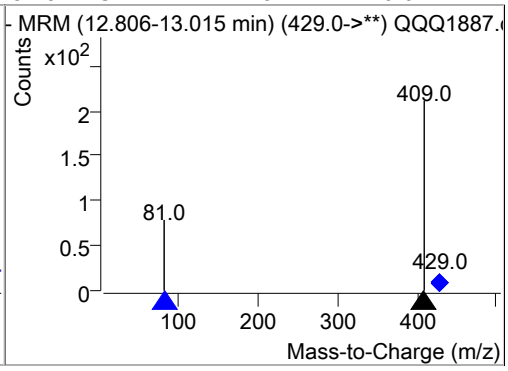




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	0.2685	12.89	-0.09	2095	429.0 -> 81.0	23.1	17.8	26.6

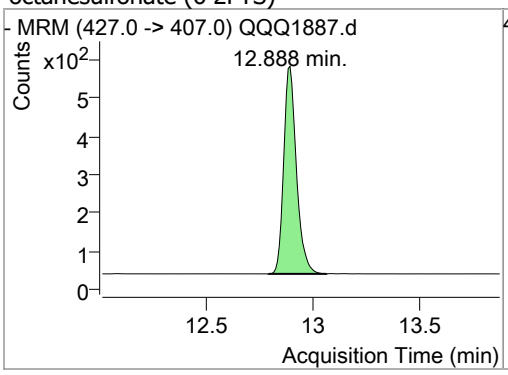


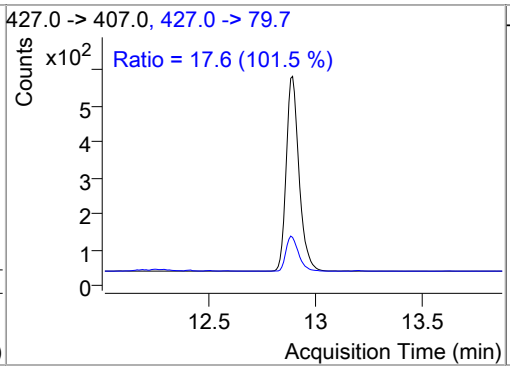


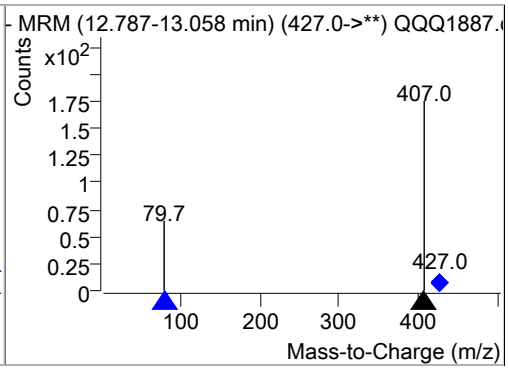


Quantitation Results Report (Not Reviewed)

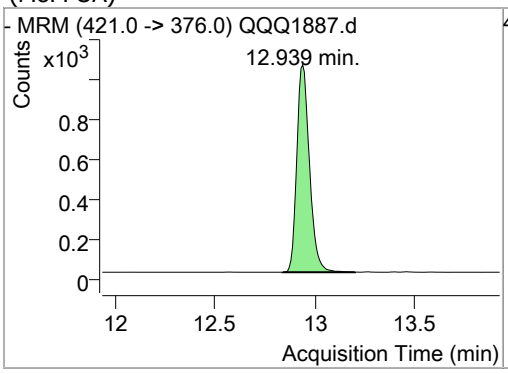
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.2849	12.89	-0.09	2251	427.0 -> 79.7	17.6	13.9	20.8

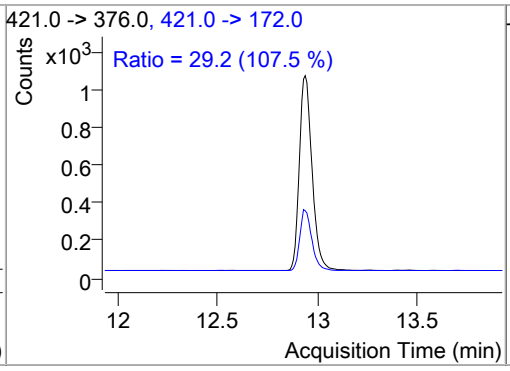


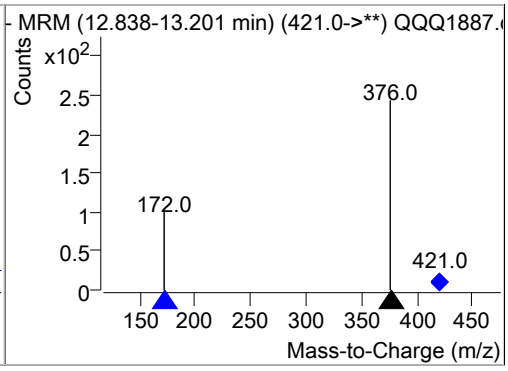




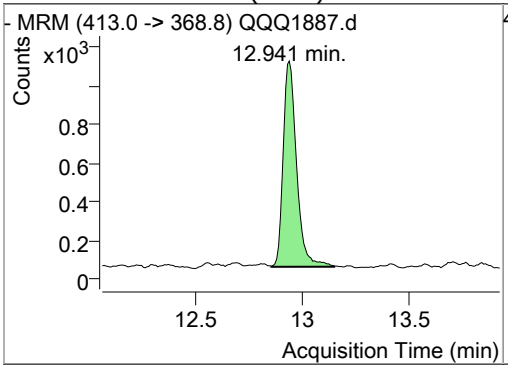
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	0.2493	12.94	-0.09	4584	421.0 -> 172.0	29.2	21.7	32.6

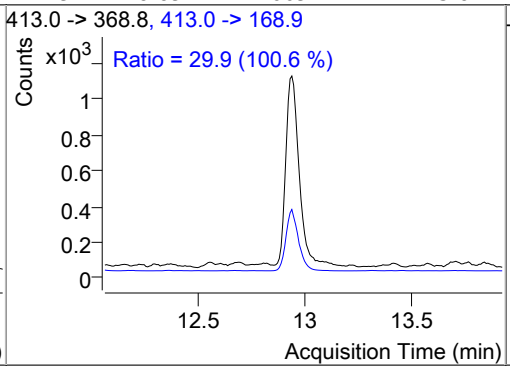


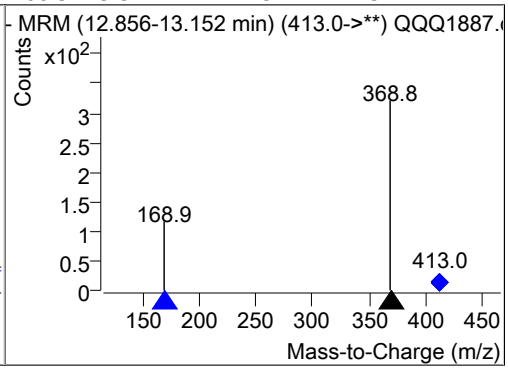




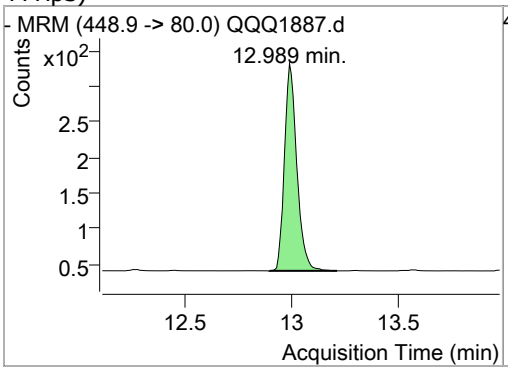
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.2861	12.94	-0.09	4669	413.0 -> 168.9	29.9	22.3	37.2

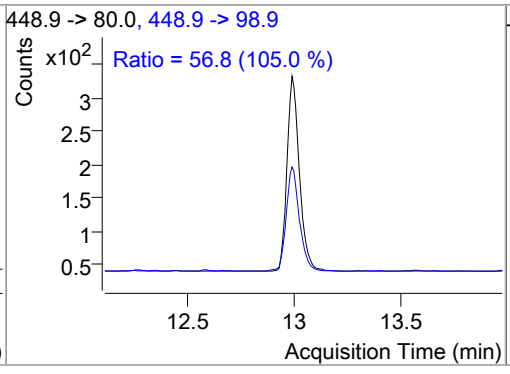


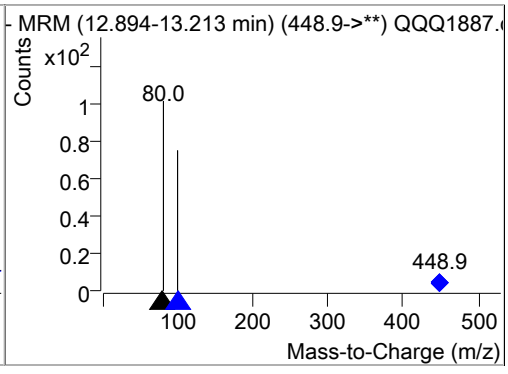




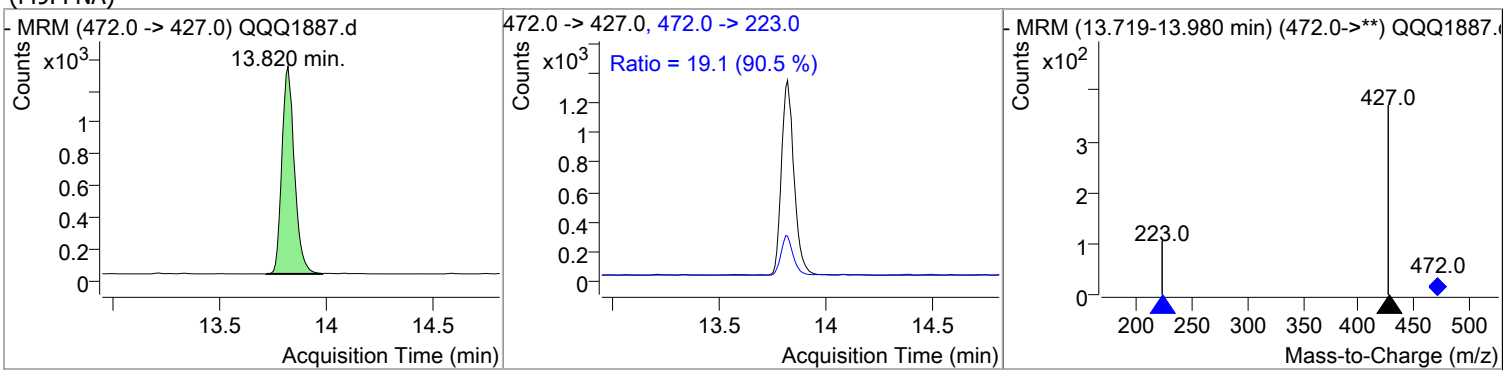
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.2486	12.99	-0.09	1181	448.9 -> 98.9	56.8	43.3	64.9



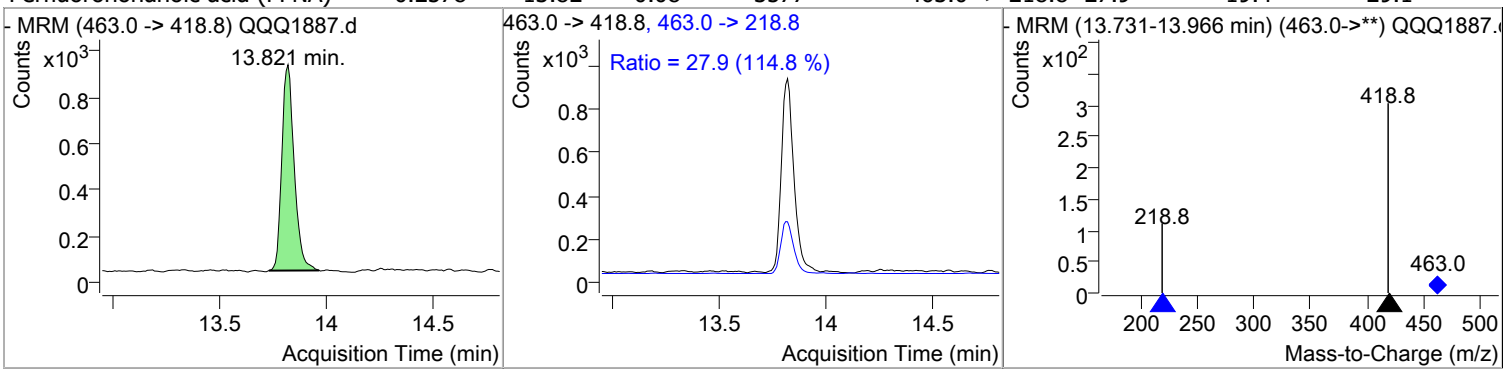




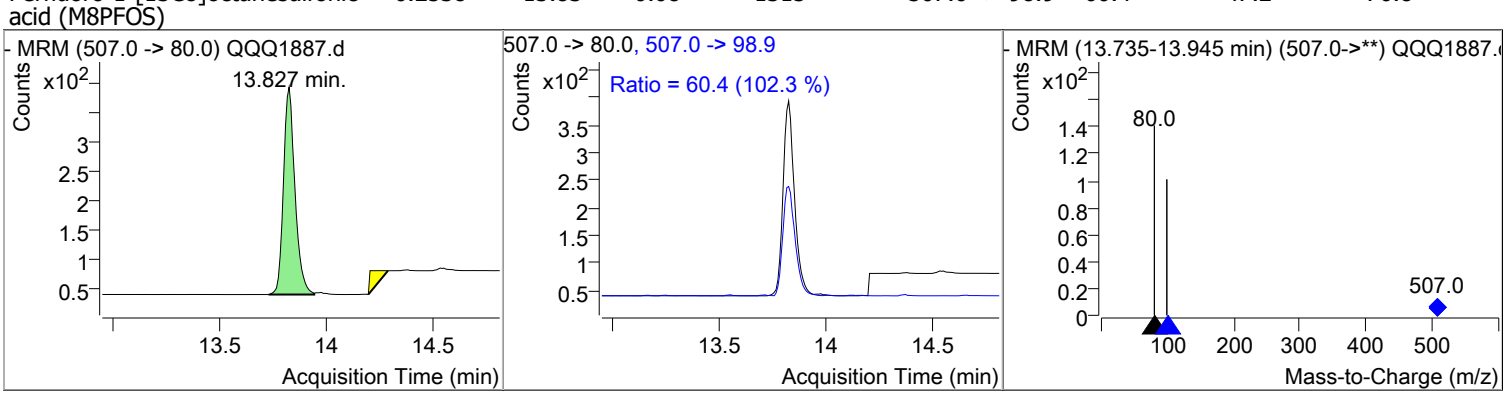
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.2829	13.82	-0.08	5342	472.0 -> 223.0	19.1	16.9	25.4



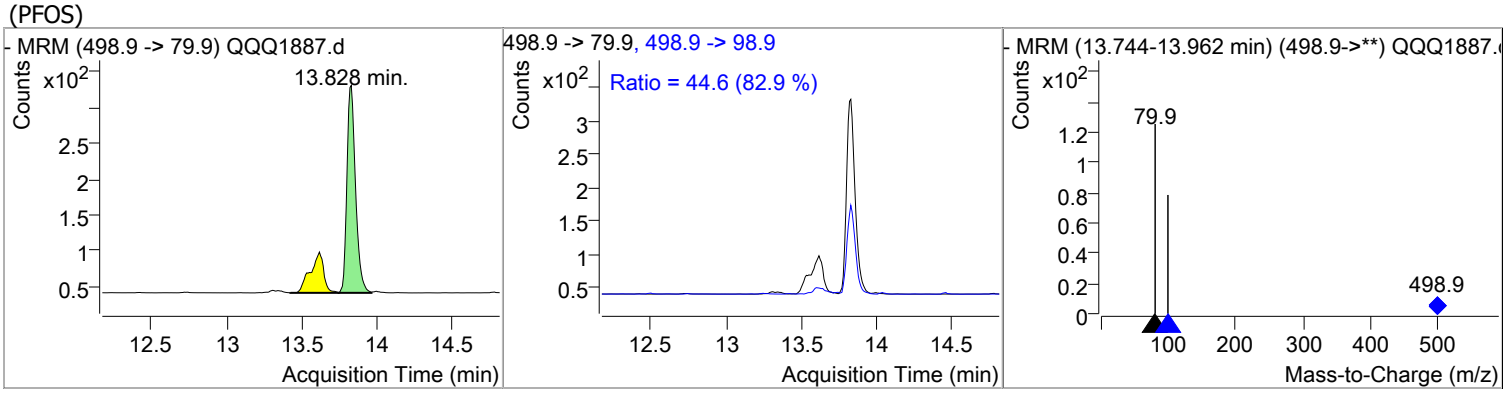
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.2578	13.82	-0.08	3577	463.0 -> 218.8	27.9	19.4	29.1



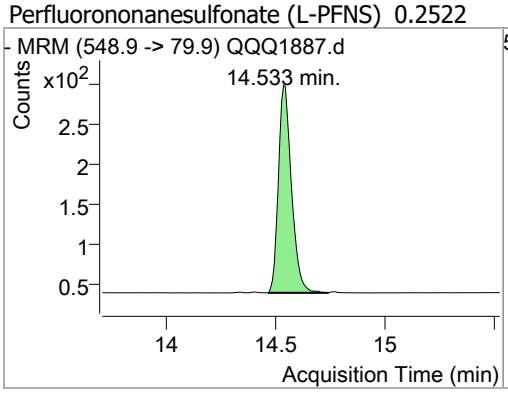
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.2538	13.83	-0.08	1315	507.0 -> 98.9	60.4	47.2	70.8

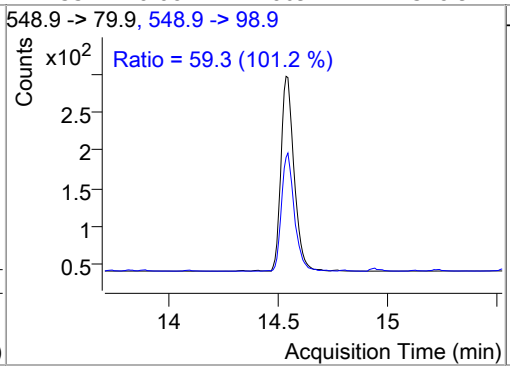


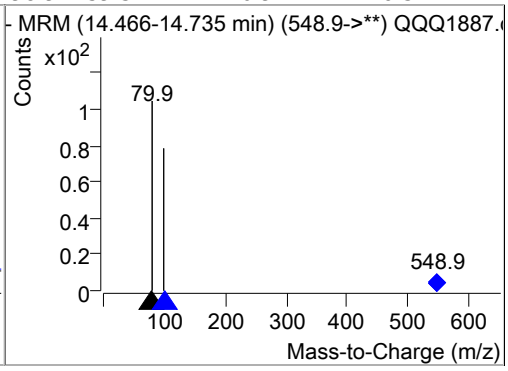
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.2049	13.83	-0.08	1159	498.9 -> 98.9	44.6	43.1	64.6



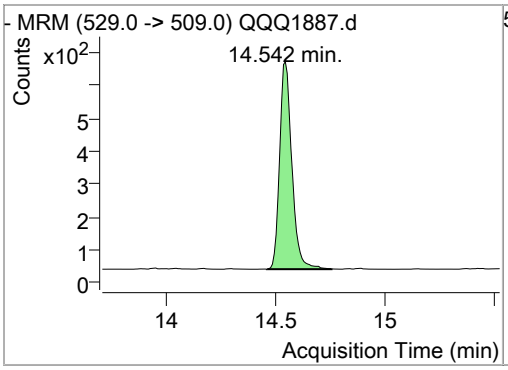
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.2522	14.53	-0.08	1069	548.9 -> 98.9	59.3	46.9	70.3

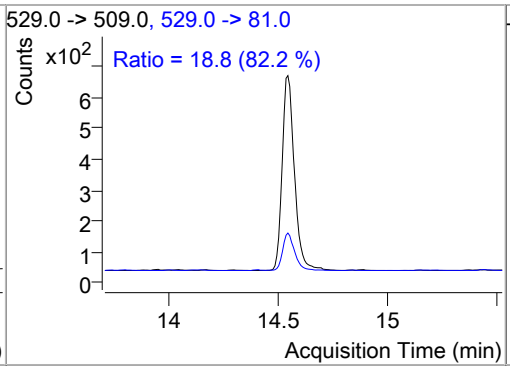


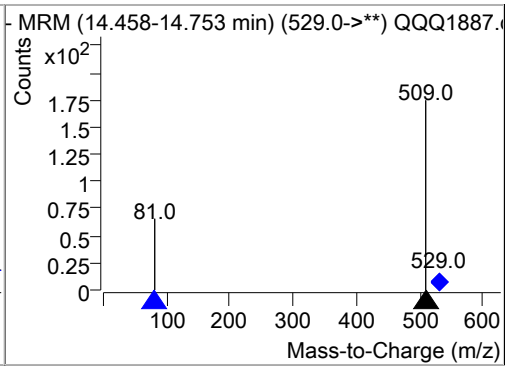




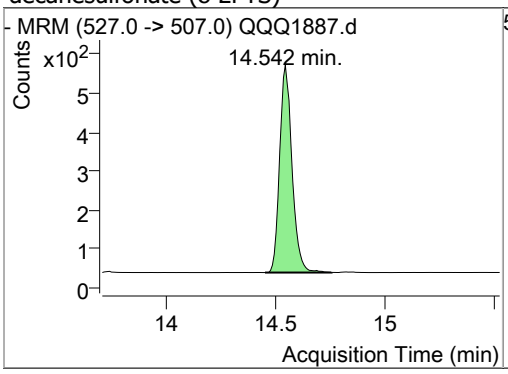
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	0.0792	14.54	-0.08	2447	529.0 -> 81.0	18.8	18.3	27.4

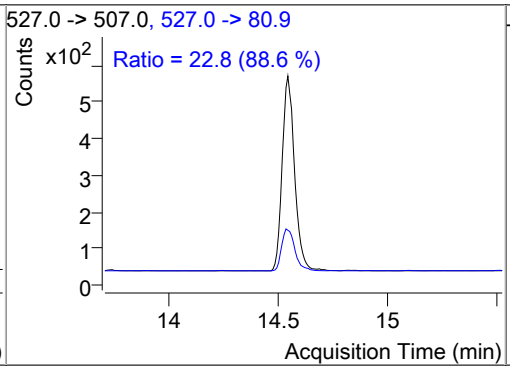


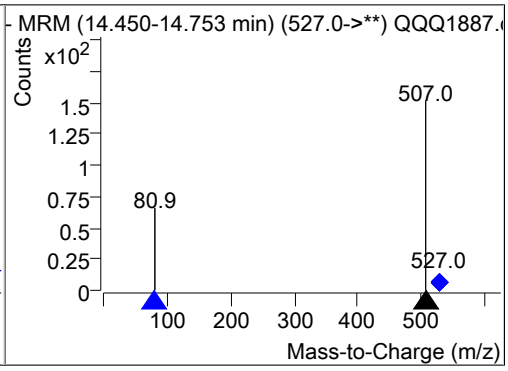




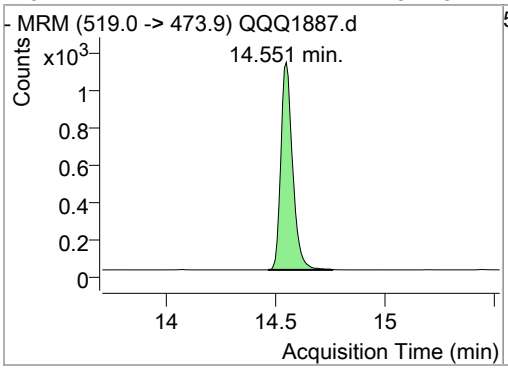
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0966	14.54	-0.08	2082	527.0 -> 80.9	22.8	20.6	30.9

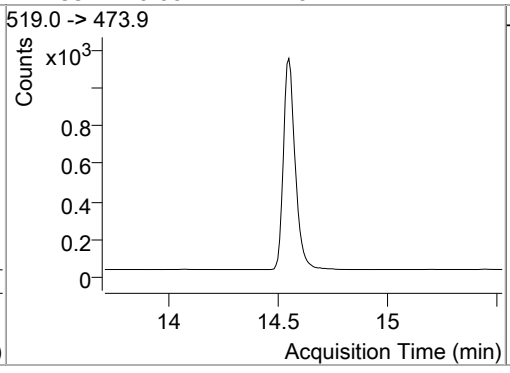


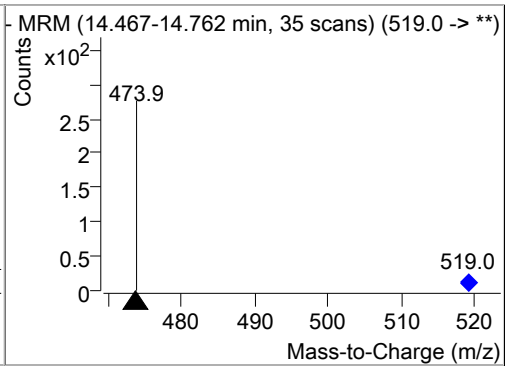




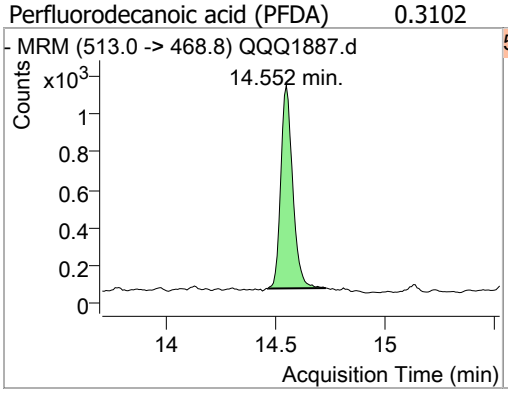
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.2781	14.55	-0.08	4178				

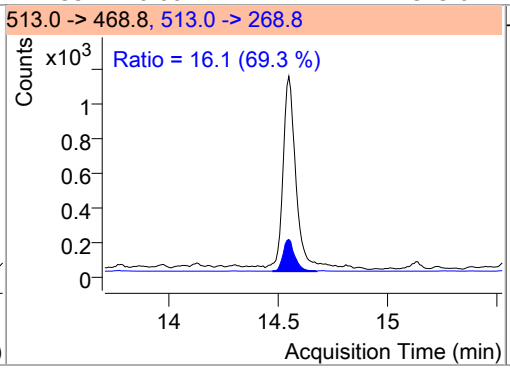


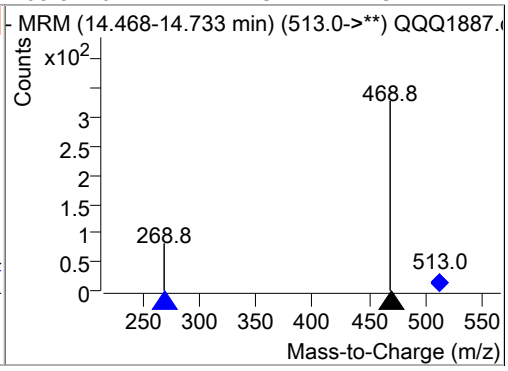




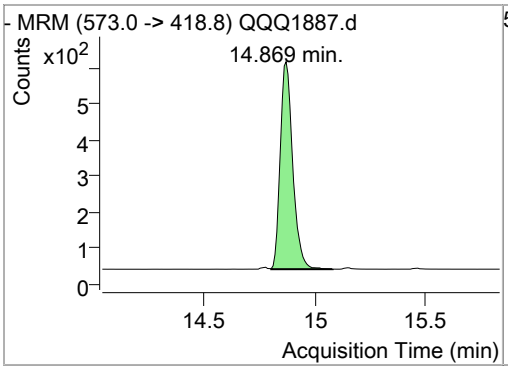
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.3102	14.55	-0.08	4111	513.0 -> 268.8	16.1	17.5	29.1

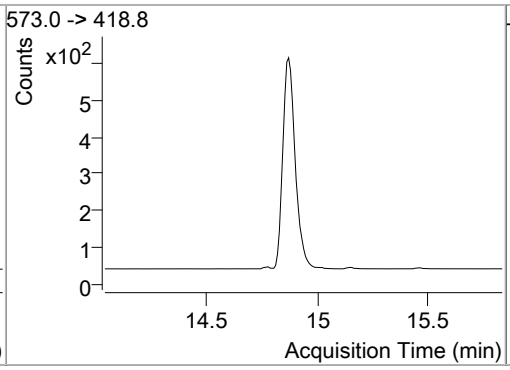


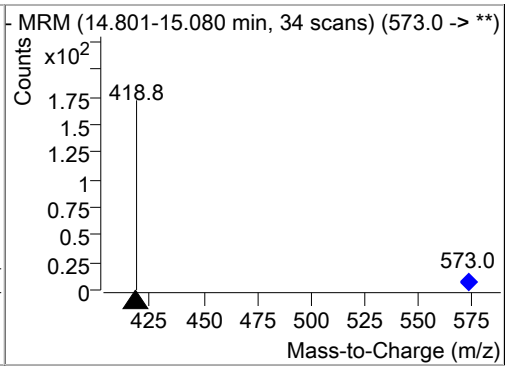




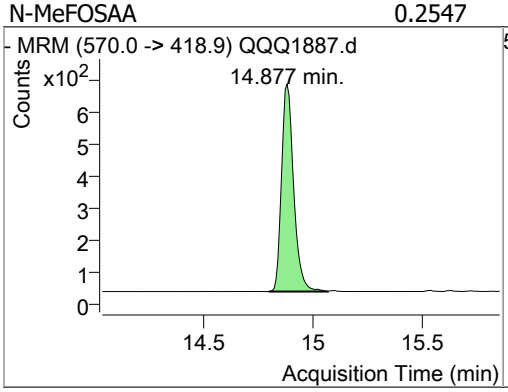
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	0.2463	14.87	-0.07	2269				

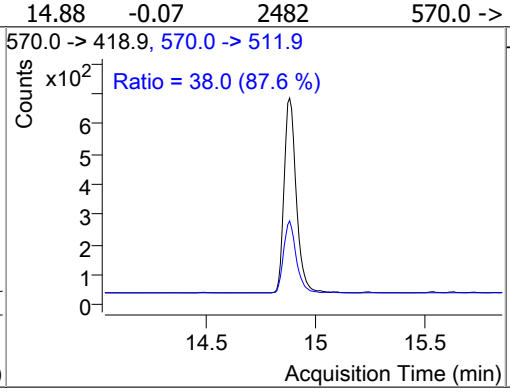


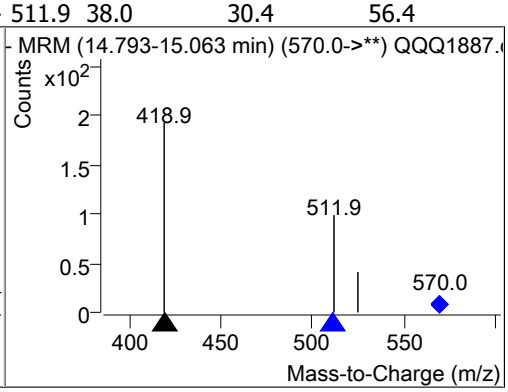




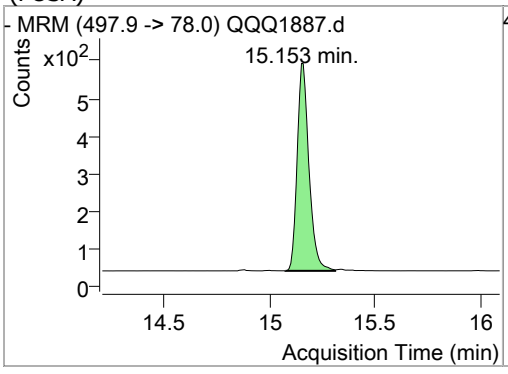
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.2547	14.88	-0.07	2482	570.0 -> 511.9	38.0	30.4	56.4

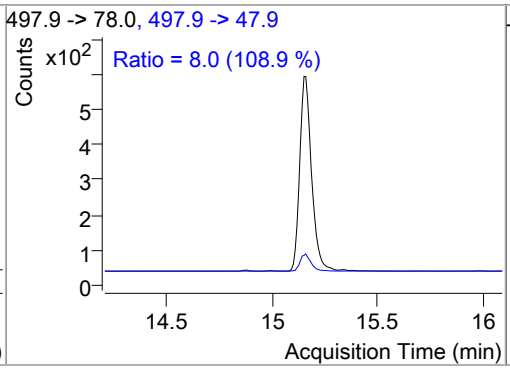


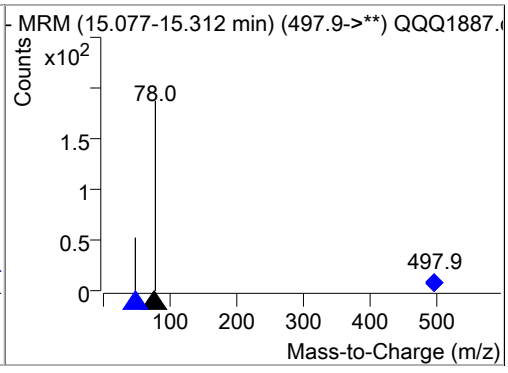




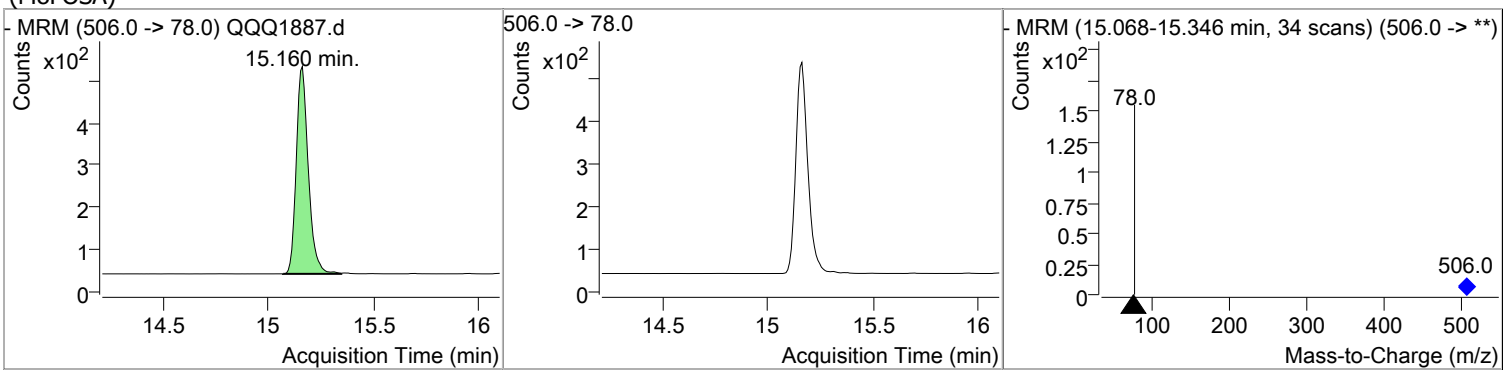
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.2637	15.15	-0.03	2150	497.9 -> 47.9	8.0	5.9	8.8



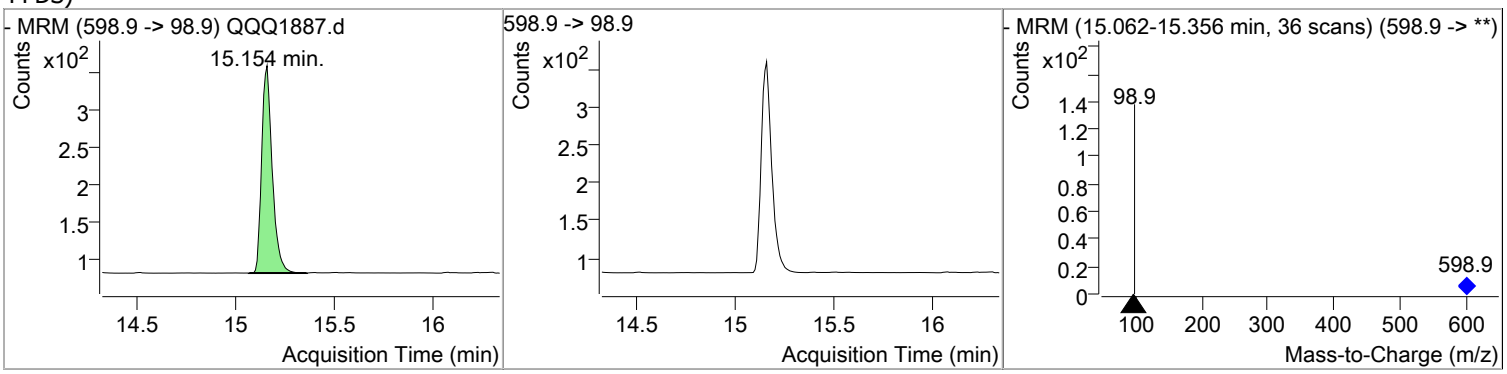




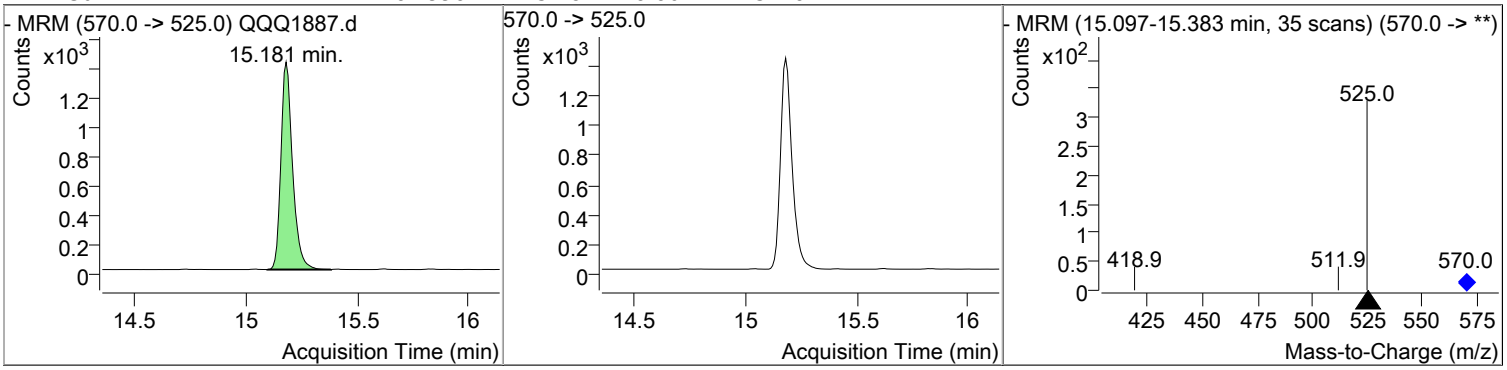
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	0.2524	15.16	-0.03	1976				



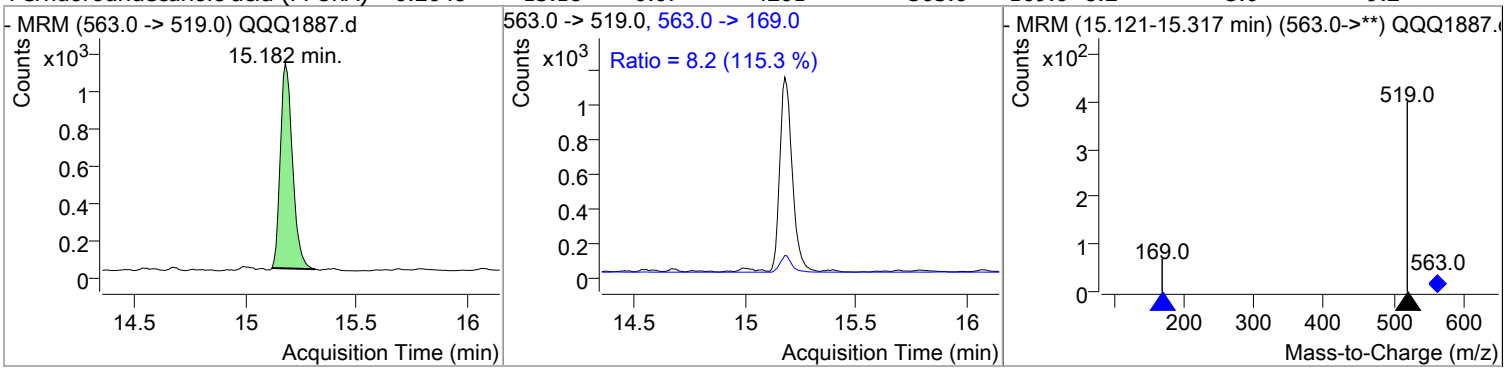
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.2629	15.15	-0.06	1031				



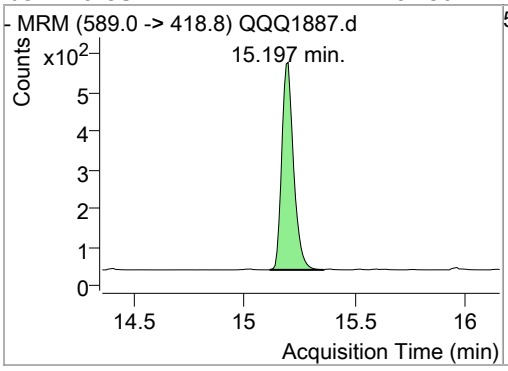
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.2990	15.18	-0.06	5110				

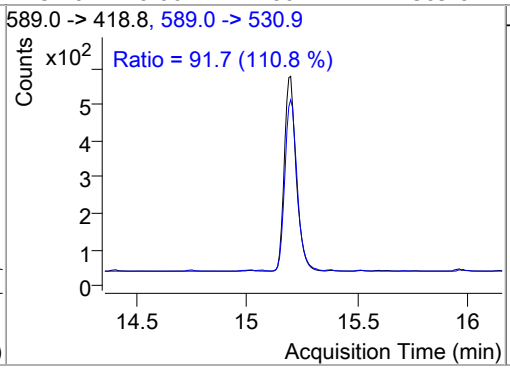


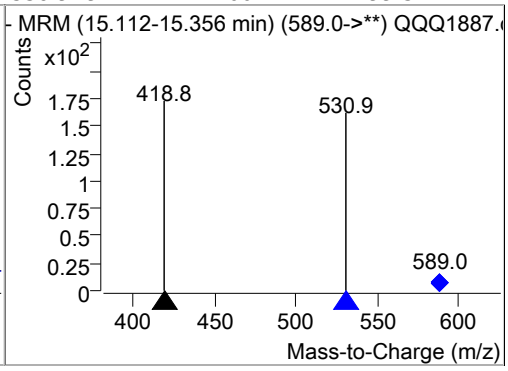
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.2648	15.18	-0.07	4201	563.0 -> 169.0	8.2	5.0	9.2



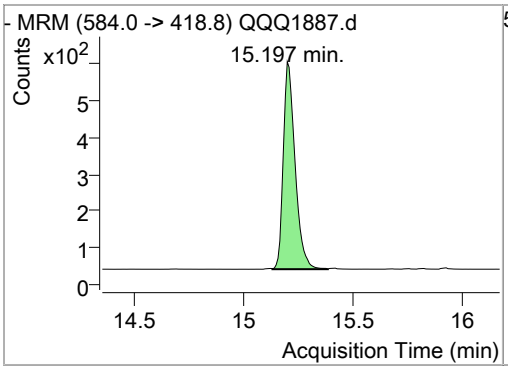
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	0.2561	15.20	-0.06	2002	589.0 -> 530.9	91.7	66.2	99.3

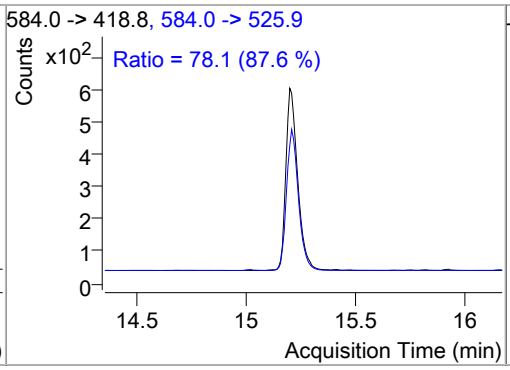


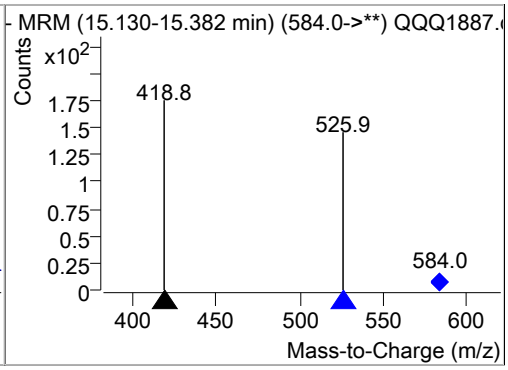




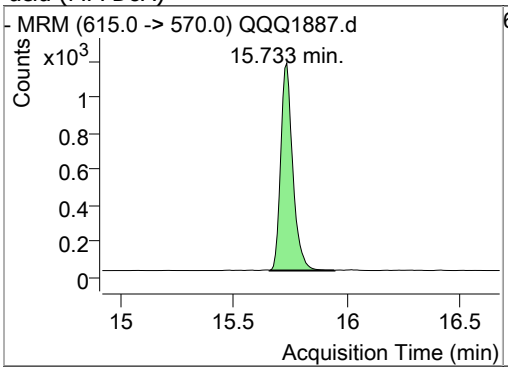
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.2734	15.20	-0.07	2111	584.0 -> 525.9	78.1	71.3	107.0

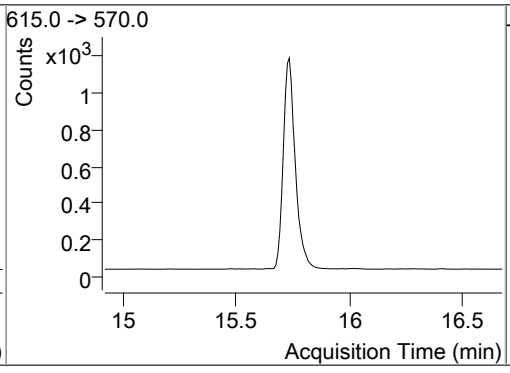


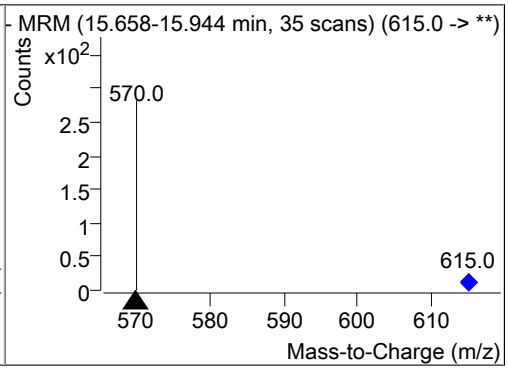




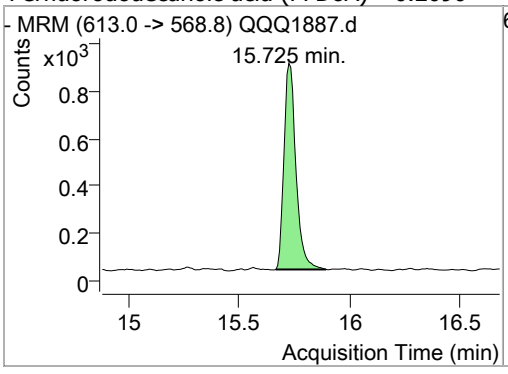
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.2424	15.73	-0.04	4259				

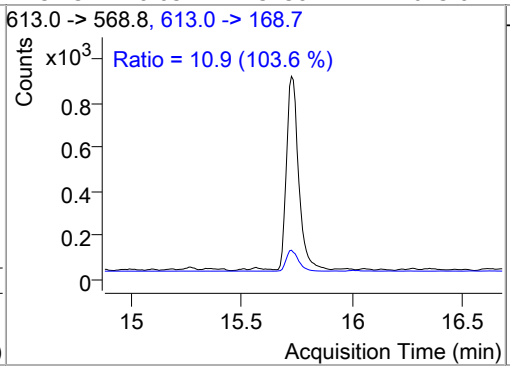


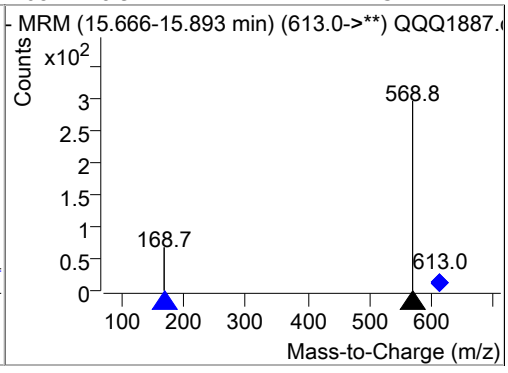




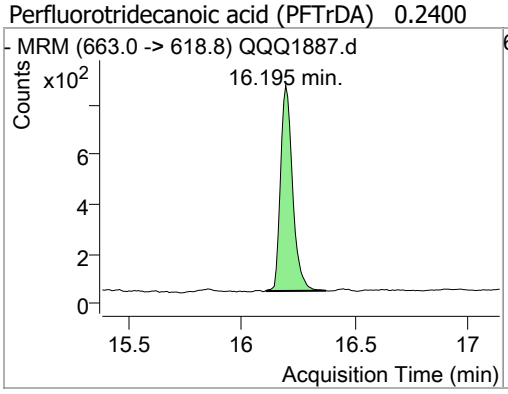
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.2690	15.73	-0.05	3258	613.0 -> 168.7	10.9	7.4	13.7

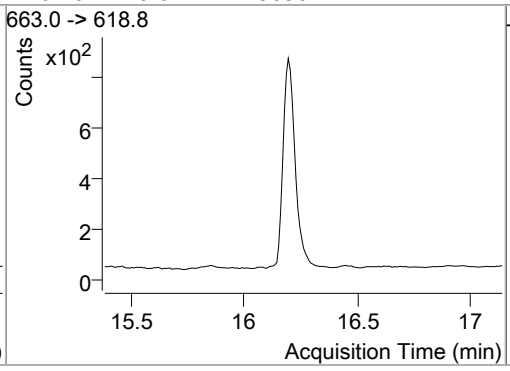


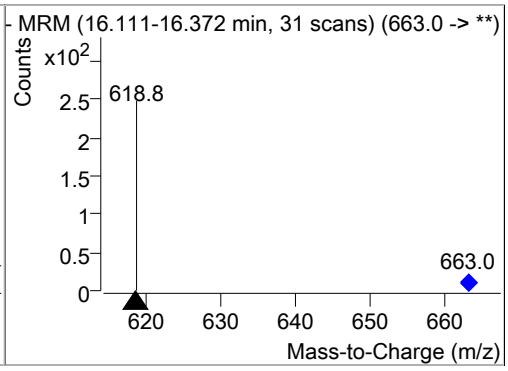




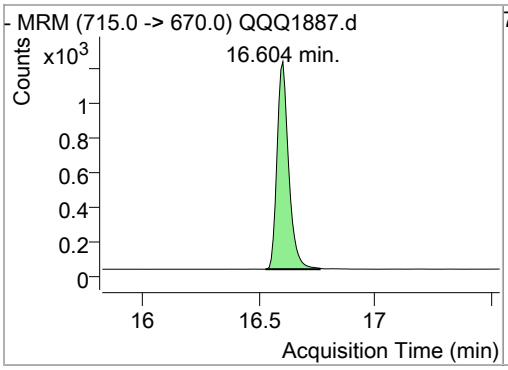
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.2400	16.20	-0.04	3058				

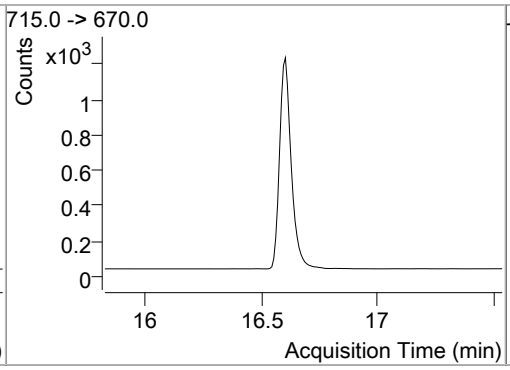


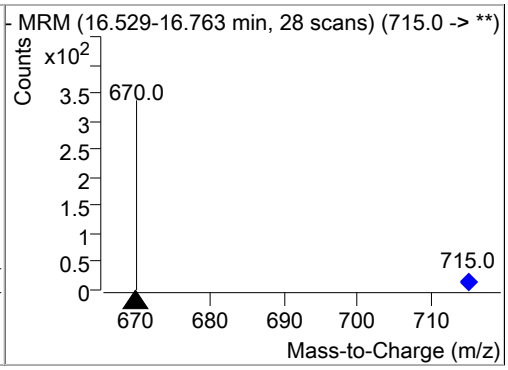




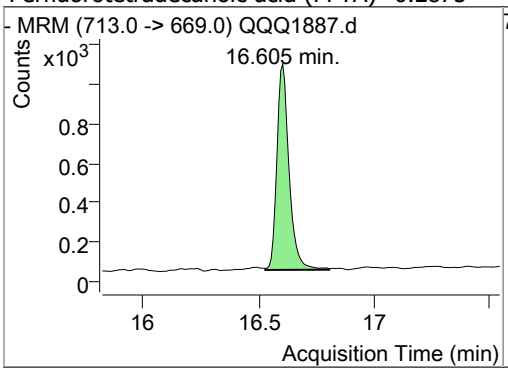
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.2911	16.60	-0.03	4176				

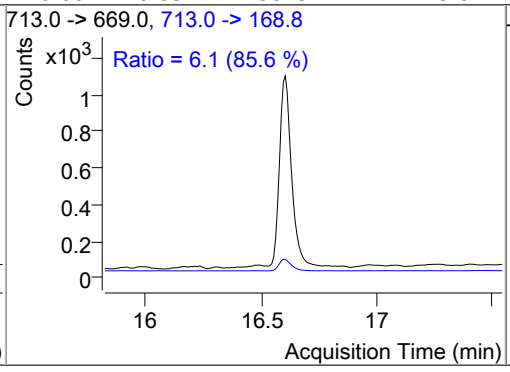


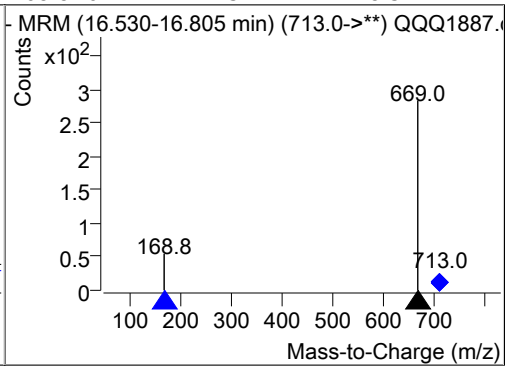




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.2875	16.60	-0.03	3823	713.0 -> 168.8	6.1	5.7	8.5







Quantitation Results Report (Not Reviewed)

Data File	QQQ1888.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 2:04:36 PM
Sample Name	SEQ-CAL2	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	0.50 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

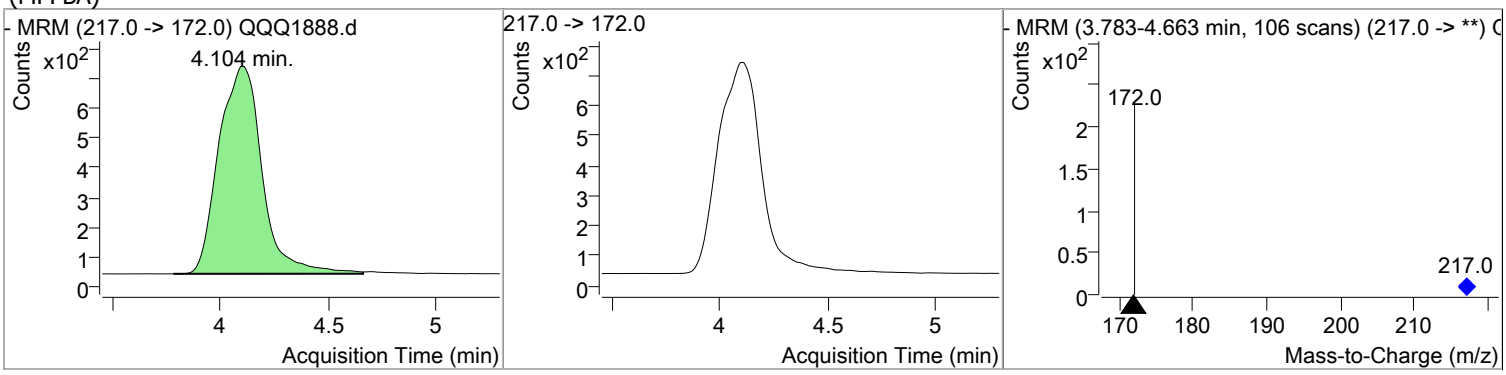
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
MPFOA	12.949	417.0 -> 372.0	244354	10.0000	ng/ml		-0.085
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	9816	0.4704	ng/ml		-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.70%		*	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	14634	0.4686	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.69%		*	
M3PFBS	8.752	302.0 -> 79.9	4074	0.4574	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.57%		*	
M2-4-2FTS	10.183	329.0 -> 309.0	6264	0.5112	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 5.11%		*	
M5PFHxA	10.328	318.0 -> 273.0	15022	0.4779	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.78%		*	
M4PFHpA	11.835	367.0 -> 322.0	3333	0.4880	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.88%		*	
M3PFHxS	11.957	402.0 -> 80.0	2824	0.4533	ng/ml		-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.53%		*	
M2-6-2FTS	12.895	429.0 -> 409.0	3432	0.4749	ng/ml		-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.75%		*	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	8521	0.5003	ng/ml		-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 5.00%		*	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	8396	0.4800	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.80%		*	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	2243	0.4675	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.67%		*	
M2-8-2FTS	14.550	529.0 -> 509.0	3749	0.3294	ng/ml		-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 3.29%		*	
M6PFDA	14.560	519.0 -> 473.9	6493	0.4666	ng/ml		-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.67%		*	
d3-N-MeFOSAA	14.877	573.0 -> 418.8	4030	0.4723	ng/ml		-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.72%		*	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.160	506.0 -> 78.0	3743	0.5163	ng/ml		-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 5.16%		*	
M7PFUdA	15.190	570.0 -> 525.0	7859	0.4964	ng/ml		-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.96%		*	
d5-N-EtFOSAA	15.197	589.0 -> 418.8	3605	0.4978	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.98%		*	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.733	615.0 -> 570.0	7600	0.4669	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.67%		*	
M2PFTeDA	16.604	715.0 -> 670.0	6503	0.4894	ng/ml		-0.033
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 4.89%		*	

Target Compounds **QValue**

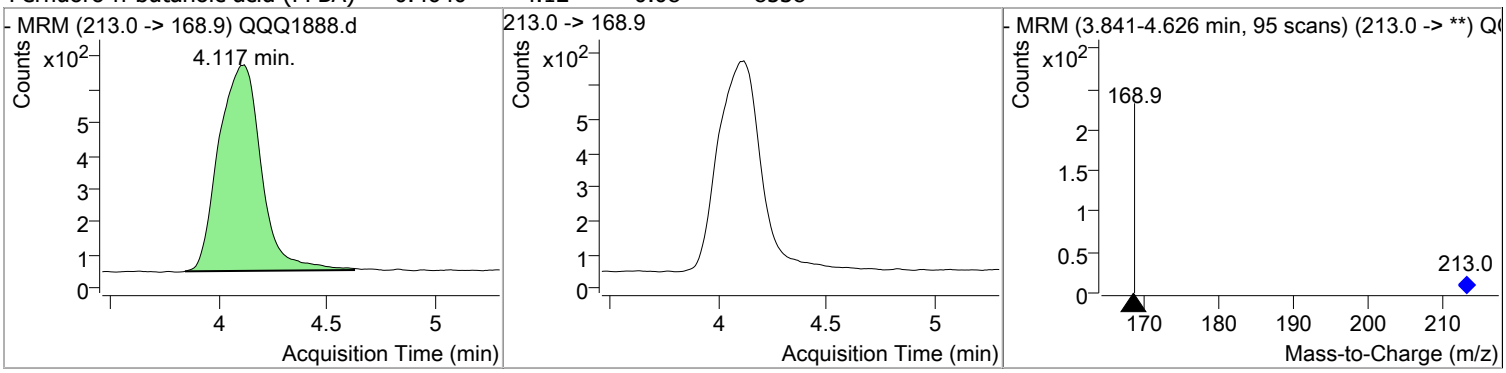
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.117	213.0 -> 168.9	8538	0.4640	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	13036	0.4754	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	3494	0.4353	ng/ml		99
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	5040	0.4977	ng/ml		99
Perfluorohexanoic acid (PFHxA)	10.322	313.0 -> 268.9	12778	0.4712	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	3118	0.4441	ng/ml		99
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	9444	0.4727	ng/ml		99
Perfluorohexanesulfonic acid (PFHxS)	11.959	398.9 -> 79.9	2186	0.3680	ng/ml		96
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.896	427.0 -> 407.0	3682	0.5033	ng/ml		99
Perfluorooctanoic acid (PFOA)	12.949	413.0 -> 368.8	7290	0.4823	ng/ml		96
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	2076	0.4717	ng/ml		100
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	5899	0.4590	ng/ml	#	90
Perfluorooctanesulfonic acid (PFOS)	13.836	498.9 -> 79.9	2059	0.3930	ng/ml		88
Perfluorononanesulfonate (L-PFNS)	14.542	548.9 -> 79.9	1828	0.4655	ng/ml		95
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.542	527.0 -> 507.0	3467	0.3872	ng/ml		97
Perfluorodecanoic acid (PFDA)	14.552	513.0 -> 468.8	6300	0.5132	ng/ml		88
N-MeFOSAA	14.877	570.0 -> 418.9	4317	0.4784	ng/ml		87
Perfluoro-1-octanesulfonamide (FOSA)	15.161	497.9 -> 78.0	3818	0.5055	ng/ml		99
Perfluoro-1-decanesulfonate (L-PFDS)	15.154	598.9 -> 98.9	1675	0.4612	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.190	563.0 -> 519.0	8294	0.5645	ng/ml		95
N-EtFOSAA	15.214	584.0 -> 418.8	3394	0.4745	ng/ml		99
Perfluorododecanoic acid (PFDoA)	15.734	613.0 -> 568.8	4853	0.4324	ng/ml		99
Perfluorotridecanoic acid (PFTrDA)	16.204	663.0 -> 618.8	5346	0.4531	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.605	713.0 -> 669.0	5888	0.4779	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

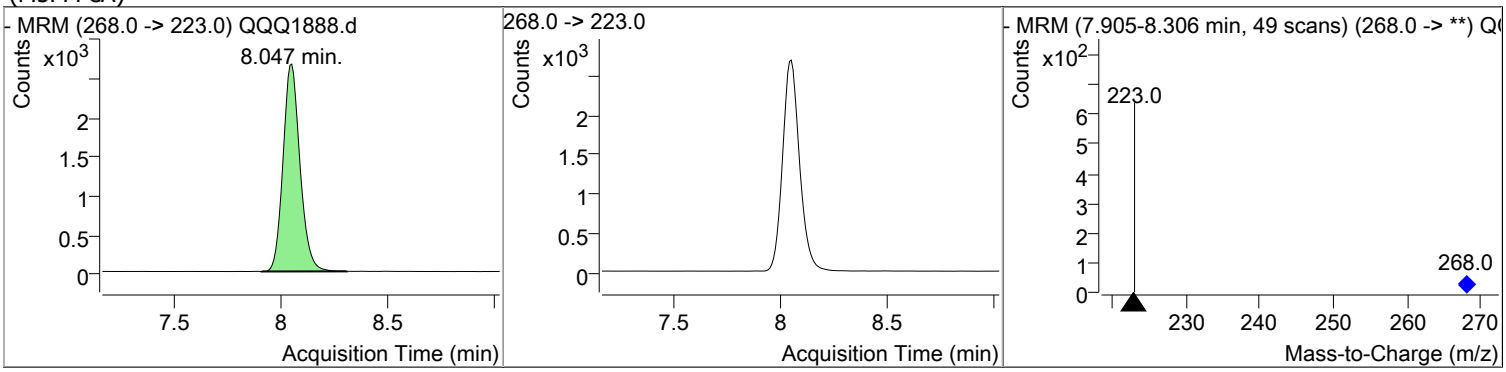
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.4704	4.10	-0.08	9816				



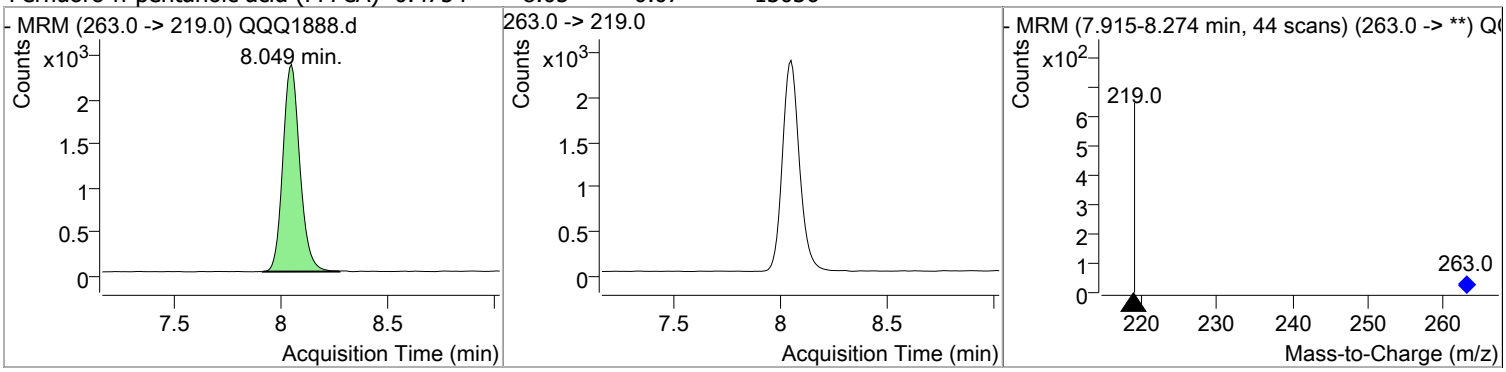
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.4640	4.12	-0.08	8538				



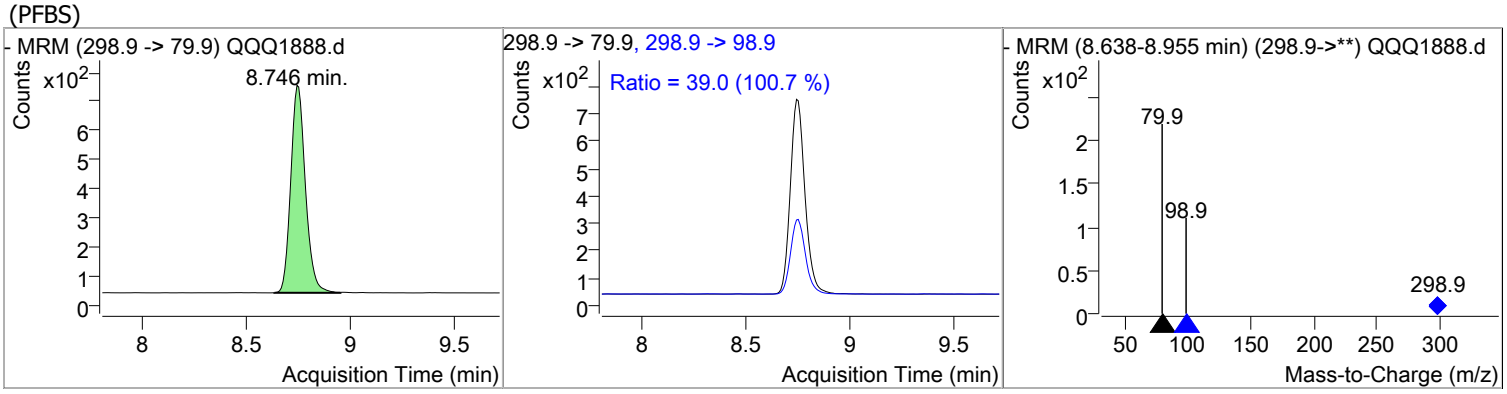
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	0.4686	8.05	-0.07	14634				



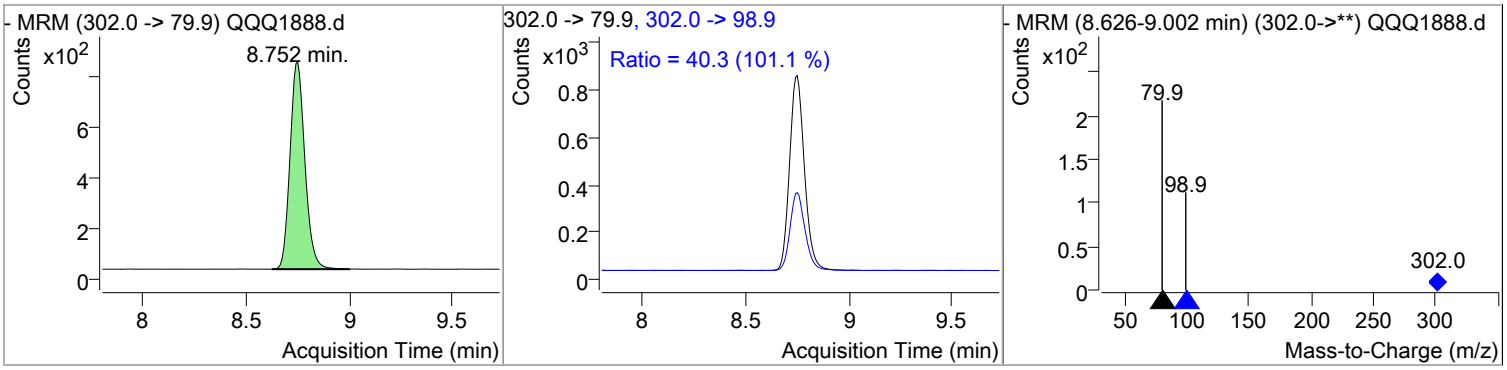
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.4754	8.05	-0.07	13036				



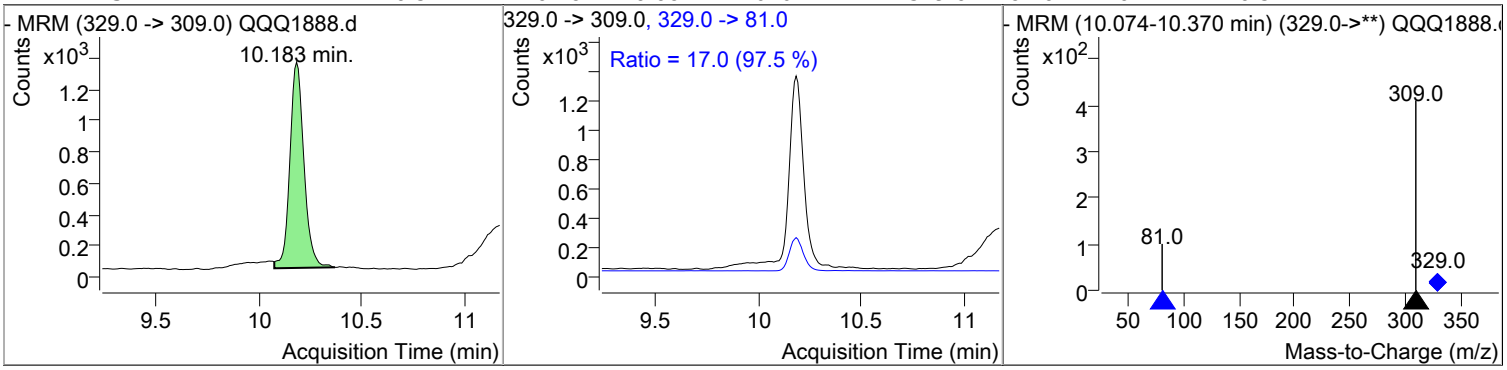
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.4353	8.75	-0.07	3494	298.9 -> 98.9	39.0	31.0	46.5



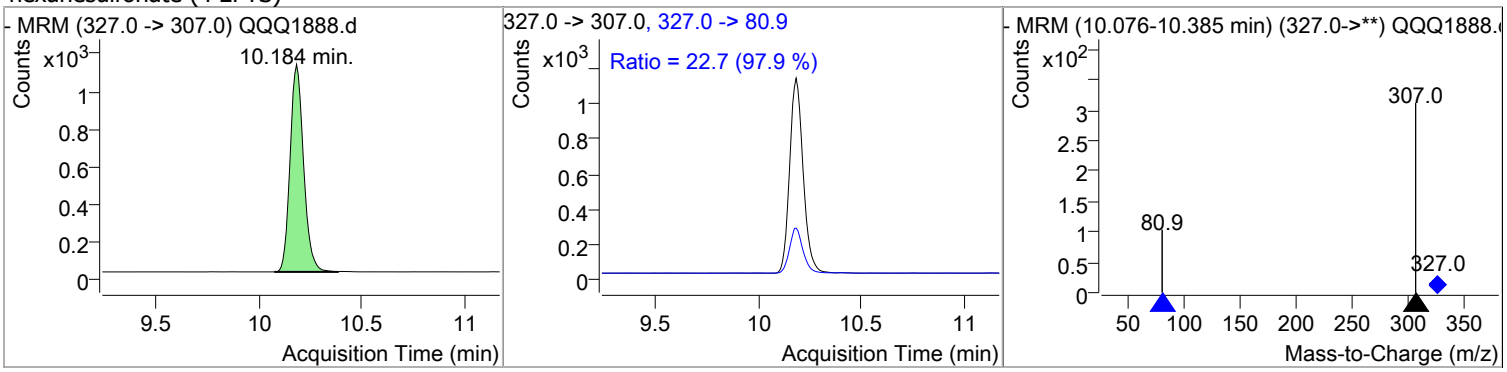
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	0.4574	8.75	-0.07	4074	302.0 -> 98.9	40.3	31.9	47.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	0.5112	10.18	-0.08	6264	329.0 -> 81.0	17.0	10.5	24.4

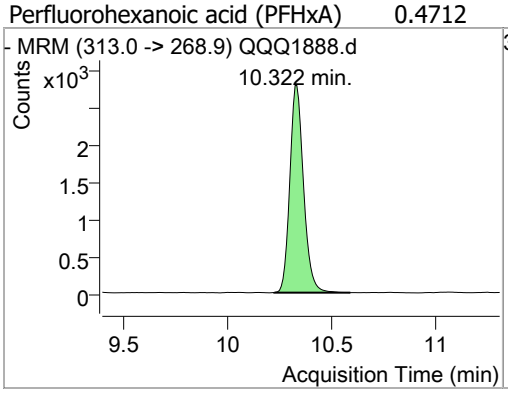


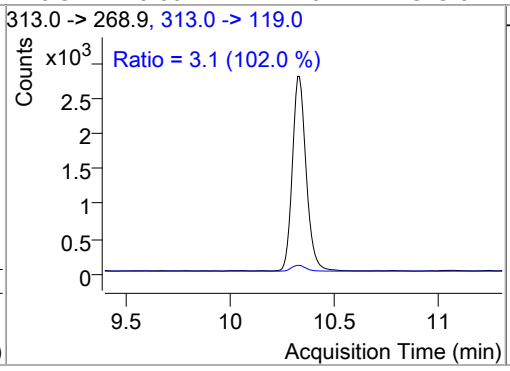
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.4977	10.18	-0.08	5040	327.0 -> 80.9	22.7	13.9	32.5

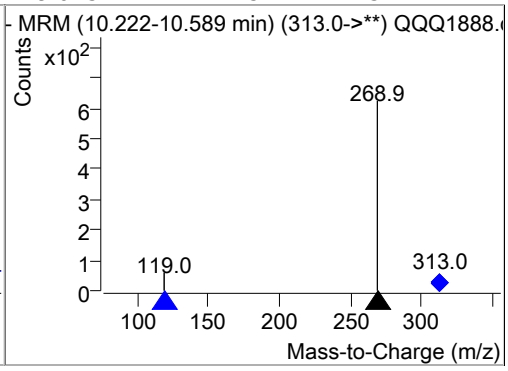


Quantitation Results Report (Not Reviewed)

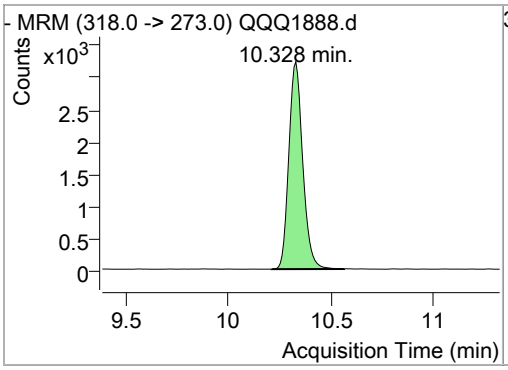
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.4712	10.32	-0.08	12778	313.0 -> 119.0	3.1	2.5	3.7

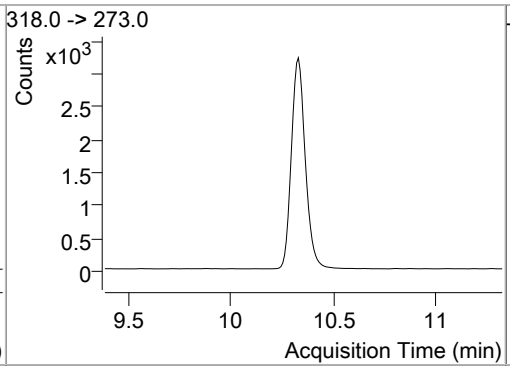


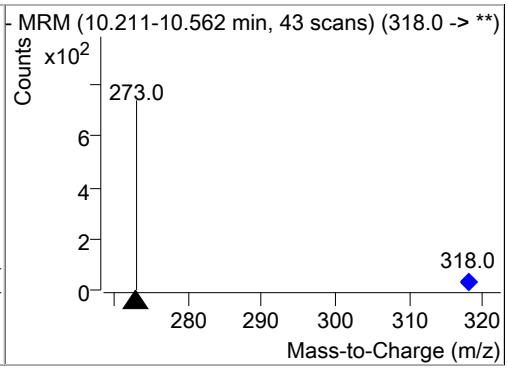




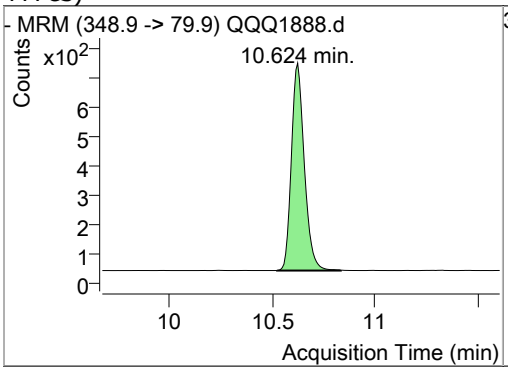
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	0.4779	10.33	-0.08	15022				

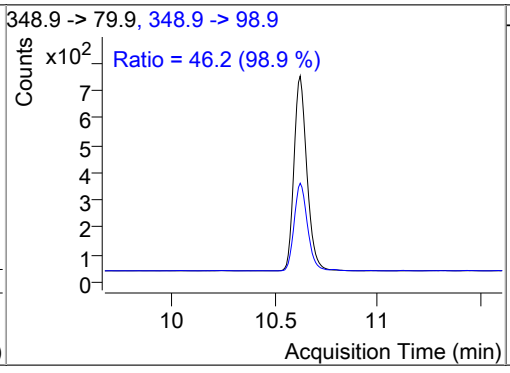


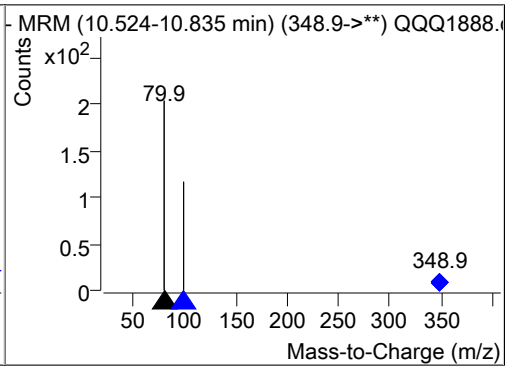




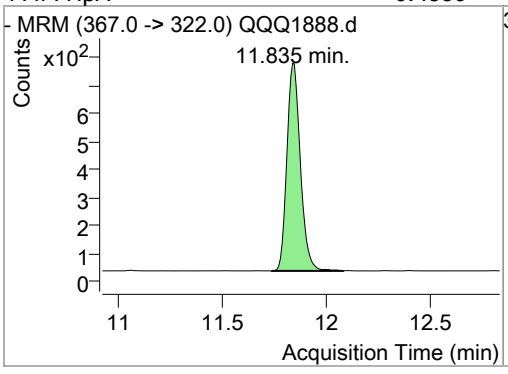
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.4441	10.62	-0.08	3118	348.9 -> 98.9	46.2	37.3	56.0

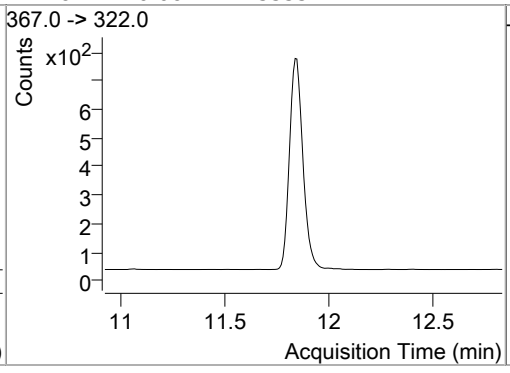


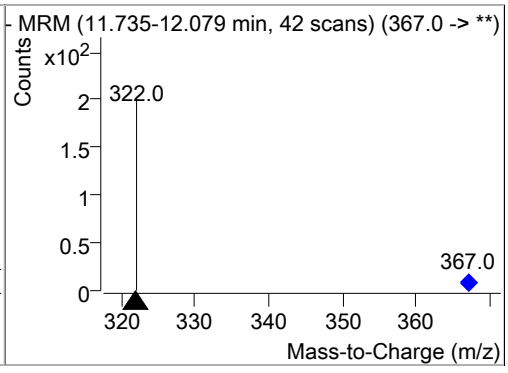




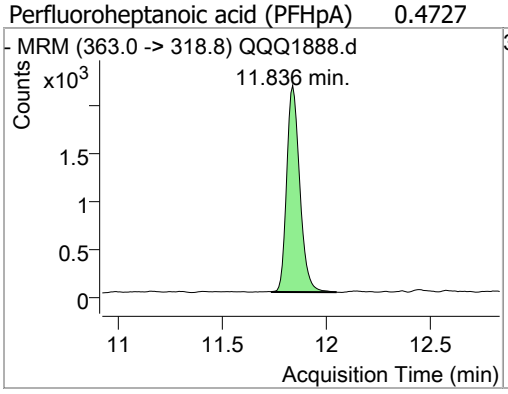
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	0.4880	11.84	-0.08	3333				

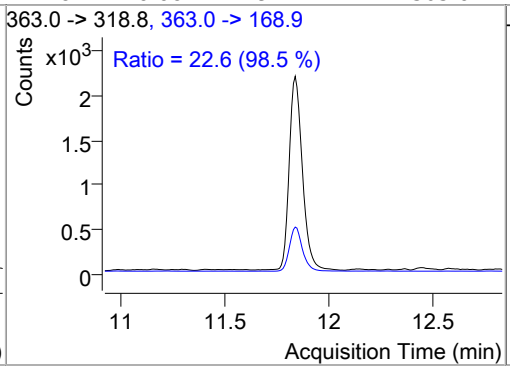


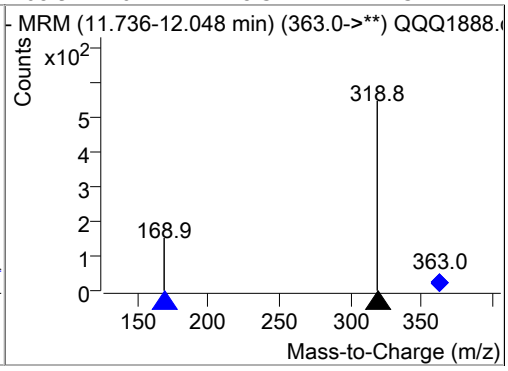




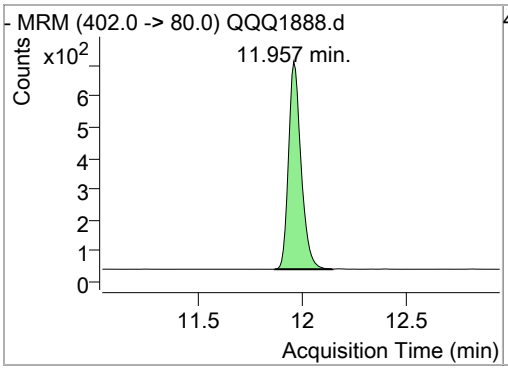
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.4727	11.84	-0.08	9444	363.0 -> 168.9	22.6	18.3	27.5

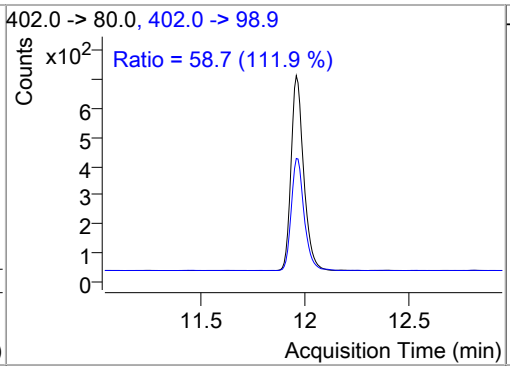


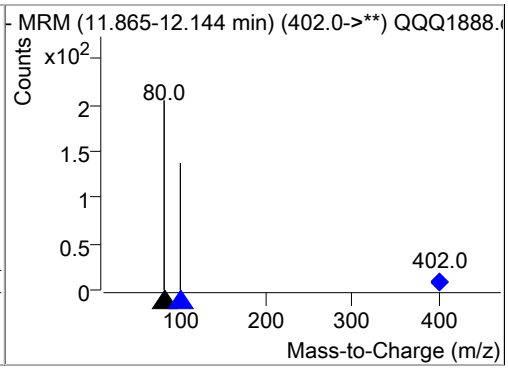




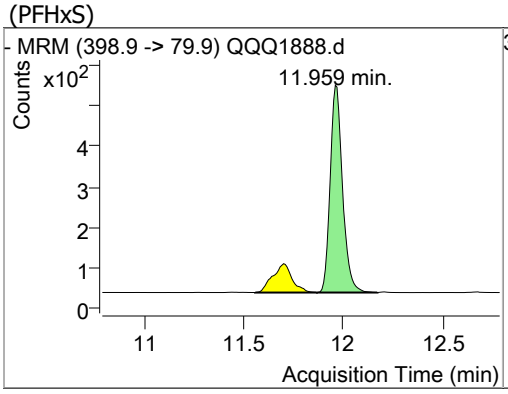
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	0.4533	11.96	-0.09	2824	402.0 -> 98.9	58.7	42.0	62.9

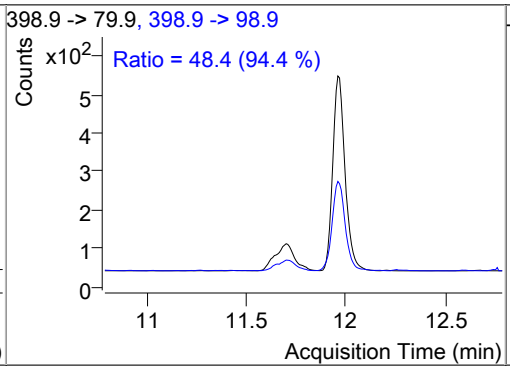


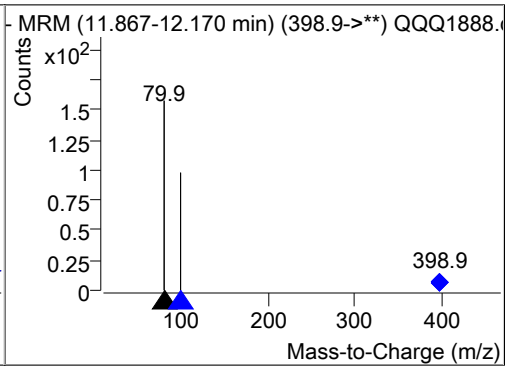




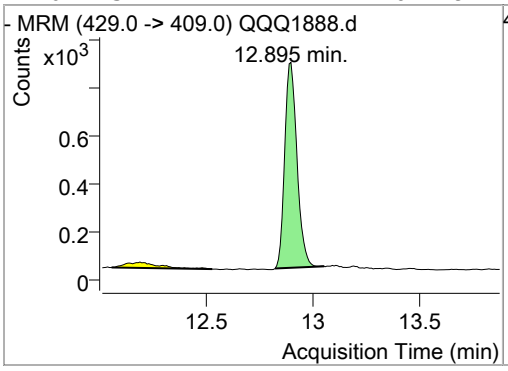
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.3680	11.96	-0.08	2186	398.9 -> 98.9	48.4	41.0	61.5

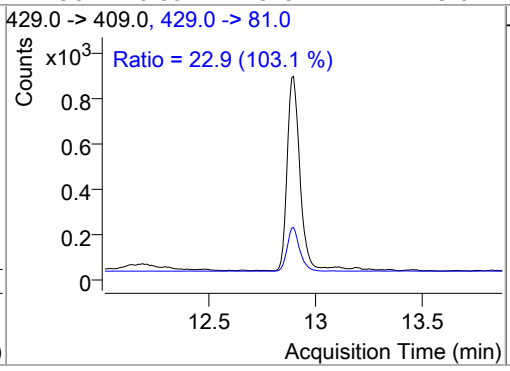


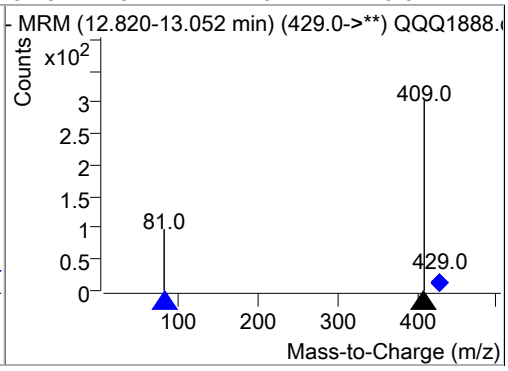




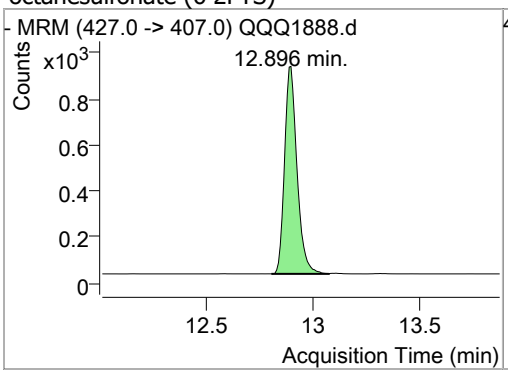
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	0.4749	12.90	-0.08	3432	429.0 -> 81.0	22.9	17.8	26.6

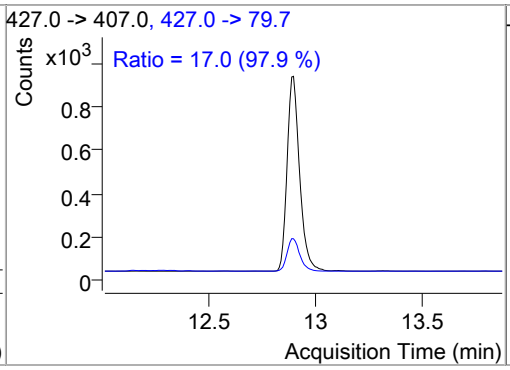


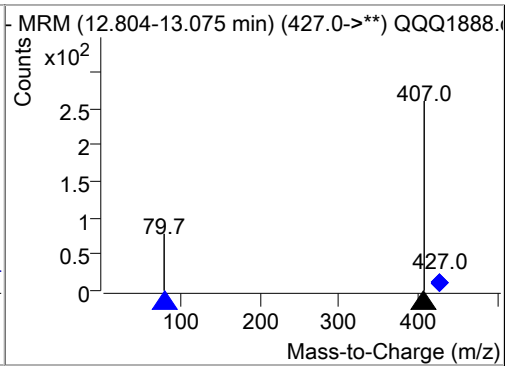




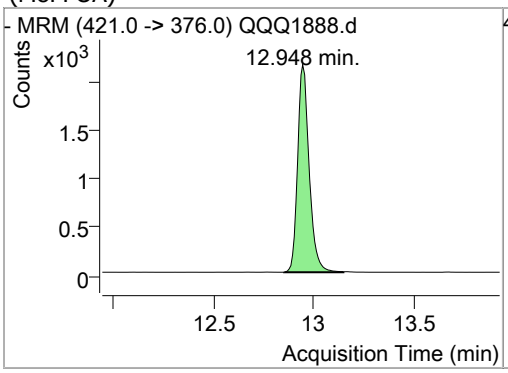
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.5033	12.90	-0.08	3682	427.0 -> 79.7	17.0	13.9	20.8

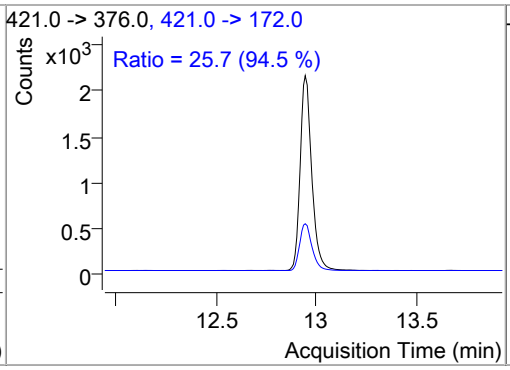


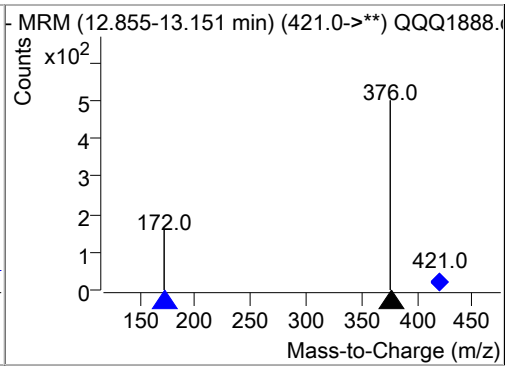




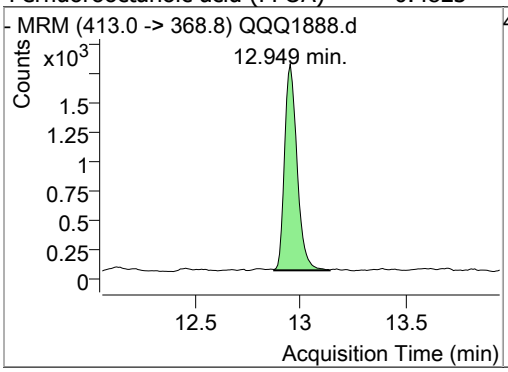
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	0.5003	12.95	-0.08	8521	421.0 -> 172.0	25.7	21.7	32.6

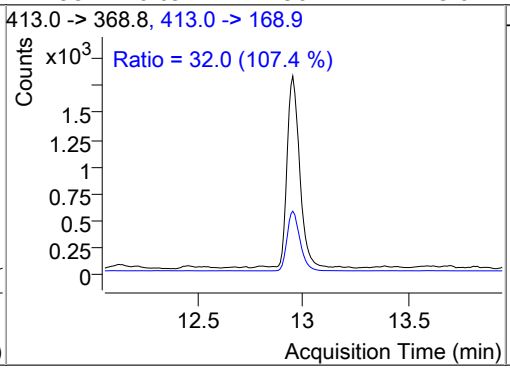


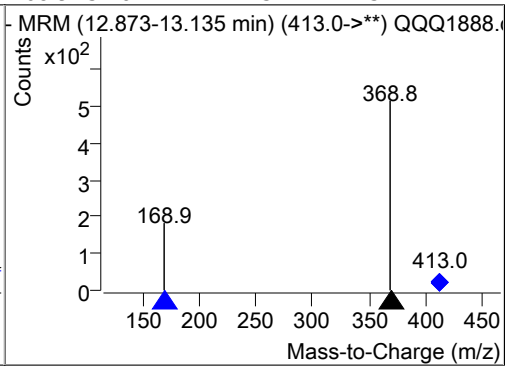




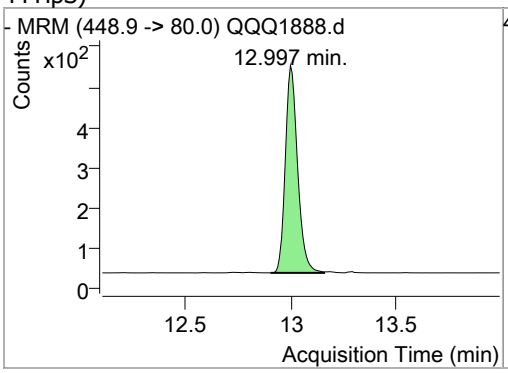
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.4823	12.95	-0.09	7290	413.0 -> 168.9	32.0	22.3	37.2

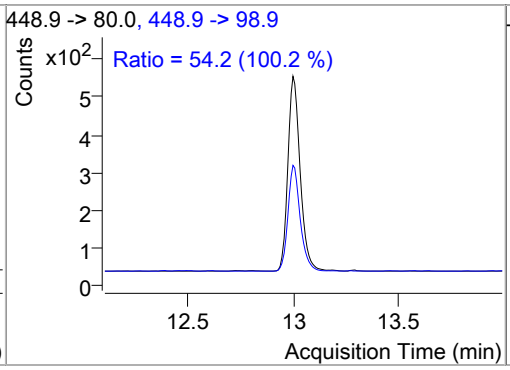


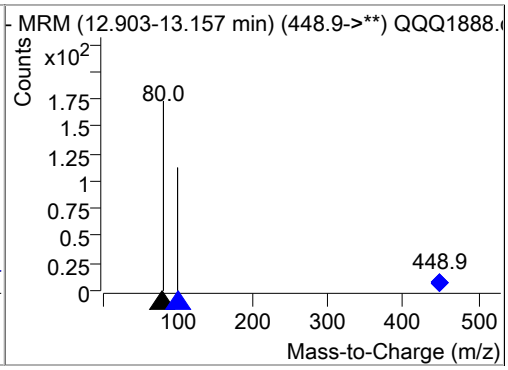




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.4717	13.00	-0.08	2076	448.9 -> 98.9	54.2	43.3	64.9

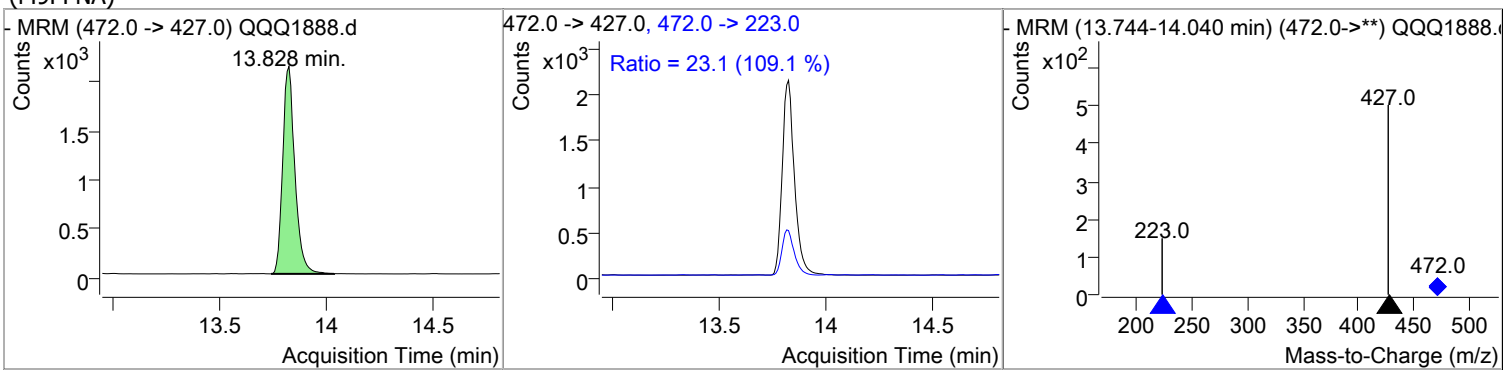




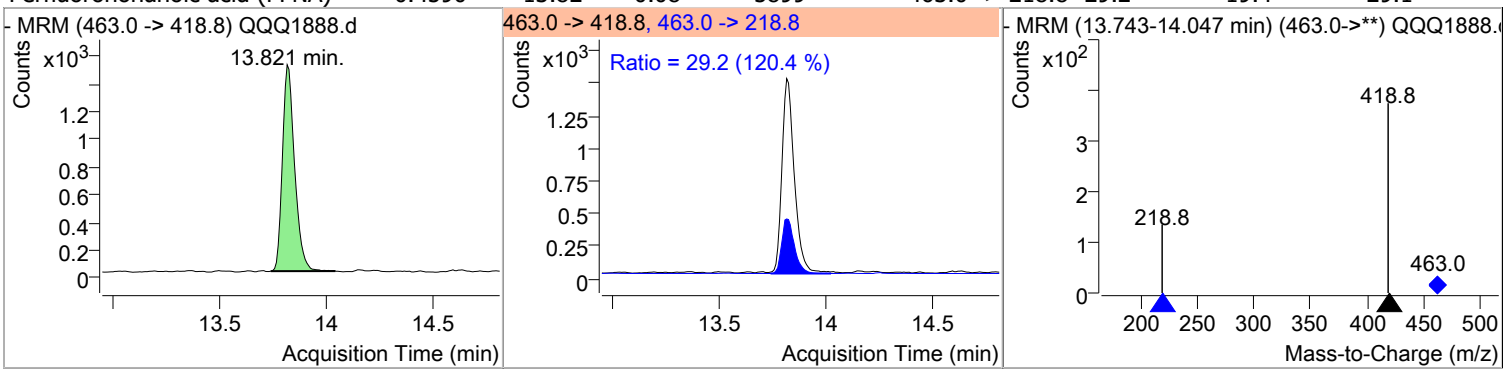


Quantitation Results Report (Not Reviewed)

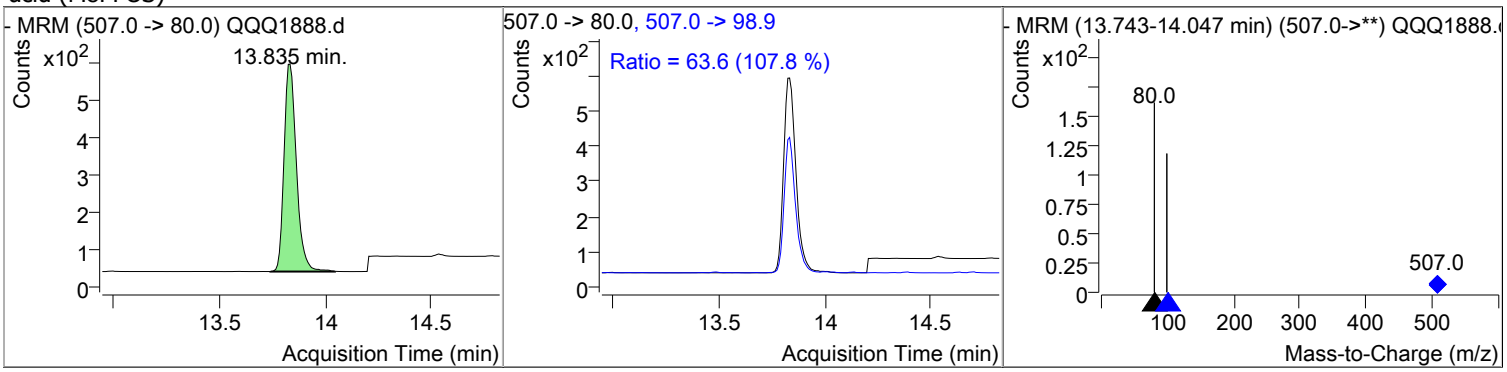
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.4800	13.83	-0.08	8396	472.0 -> 223.0	23.1	16.9	25.4



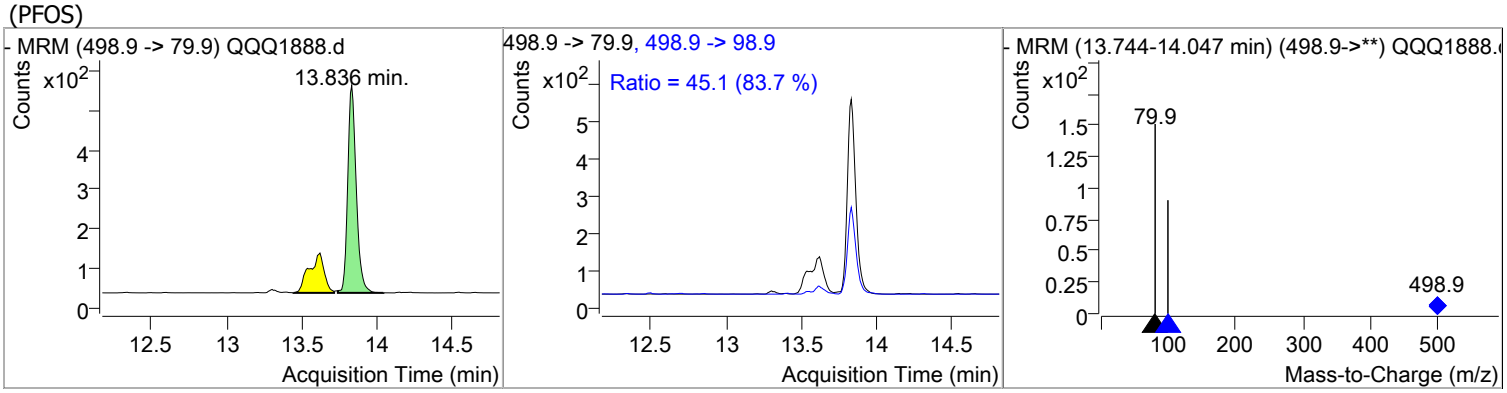
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.4590	13.82	-0.08	5899	463.0 -> 218.8	29.2	19.4	29.1



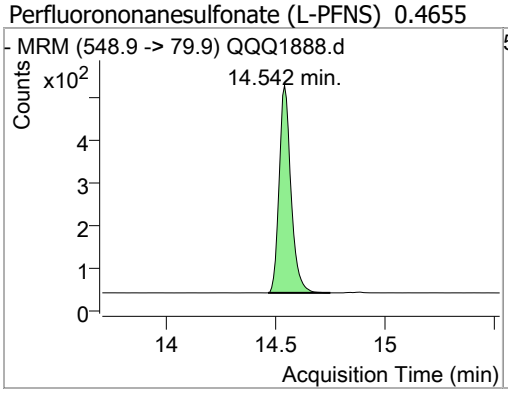
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.4675	13.84	-0.08	2243	507.0 -> 98.9	63.6	47.2	70.8

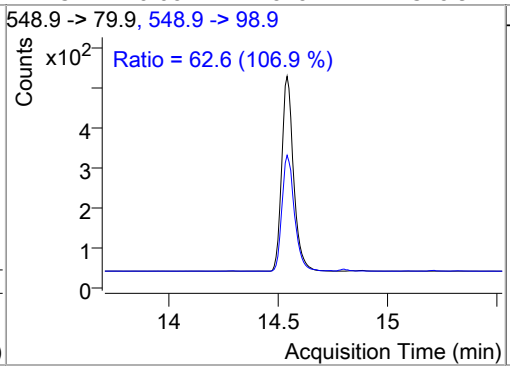


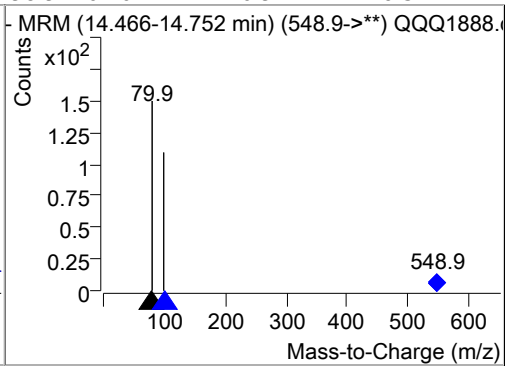
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.3930	13.84	-0.08	2059	498.9 -> 98.9	45.1	43.1	64.6



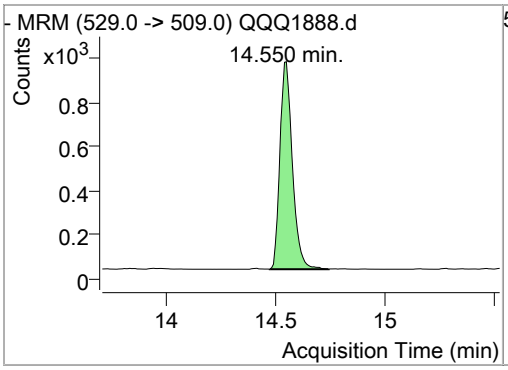
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.4655	14.54	-0.08	1828	548.9 -> 98.9	62.6	46.9	70.3

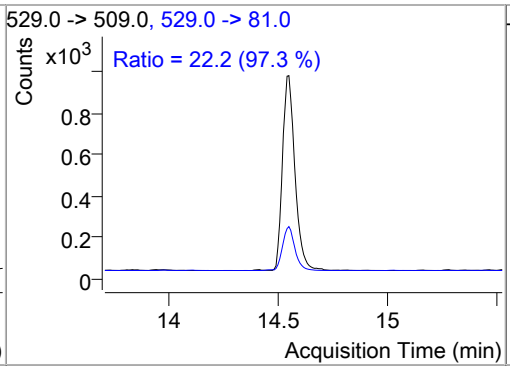


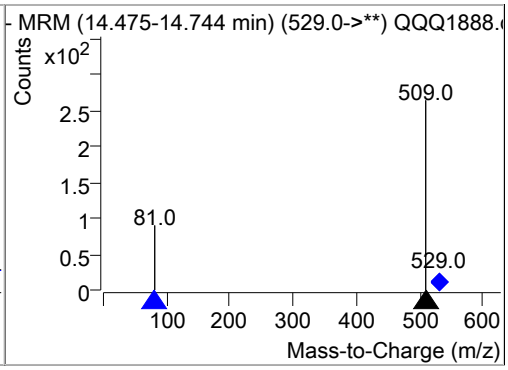




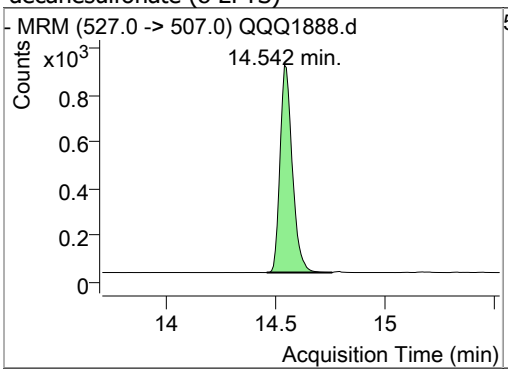
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	0.3294	14.55	-0.07	3749	529.0 -> 81.0	22.2	18.3	27.4

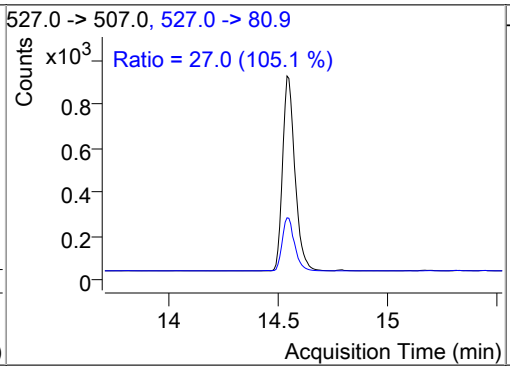


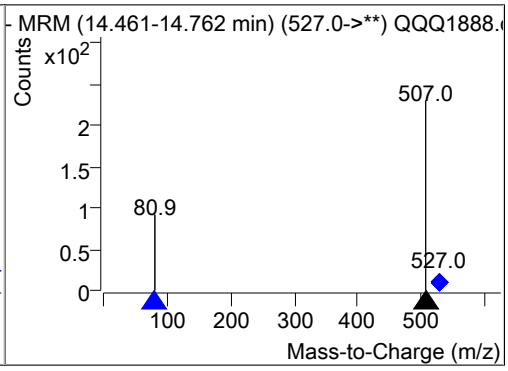




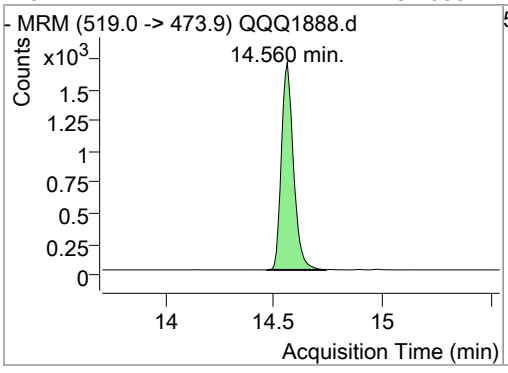
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.3872	14.54	-0.08	3467	527.0 -> 80.9	27.0	20.6	30.9

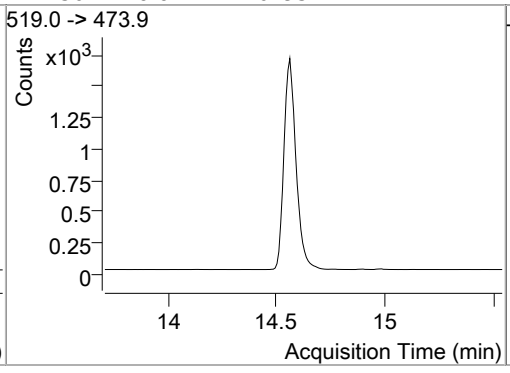


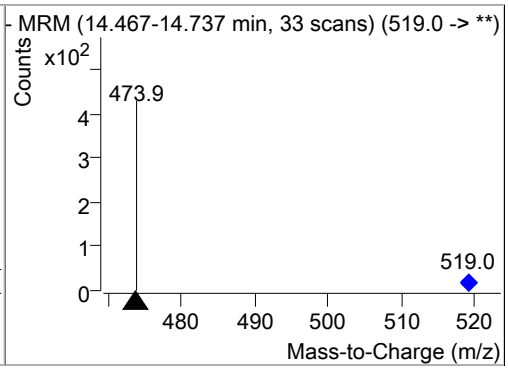




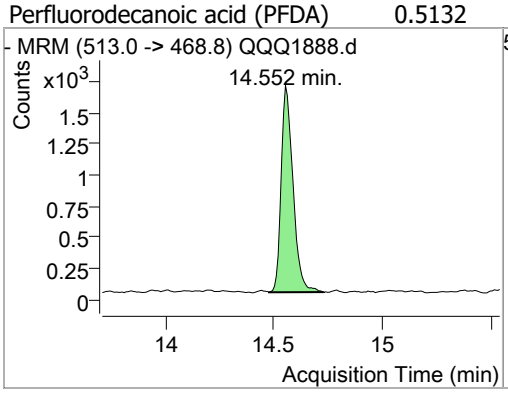
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	0.4666	14.56	-0.07	6493				

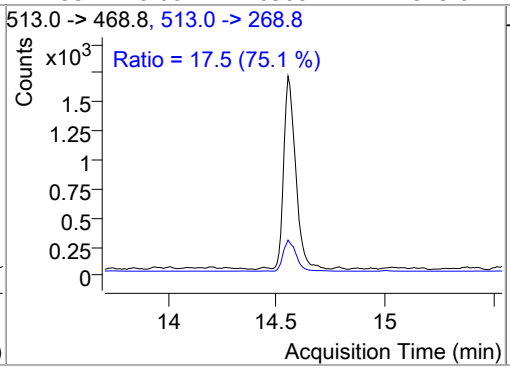


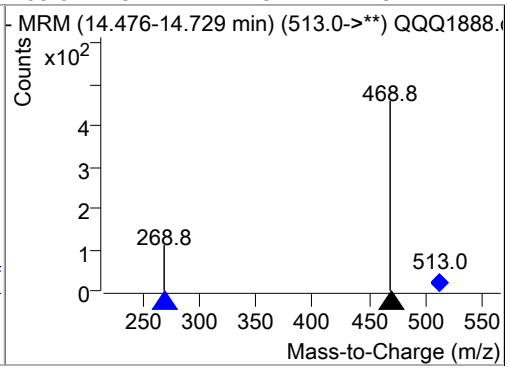




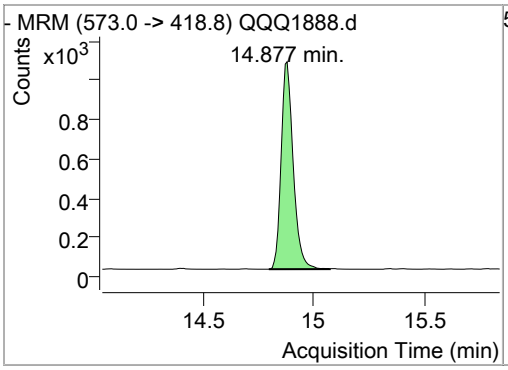
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.5132	14.55	-0.08	6300	513.0 -> 268.8	17.5	17.5	29.1

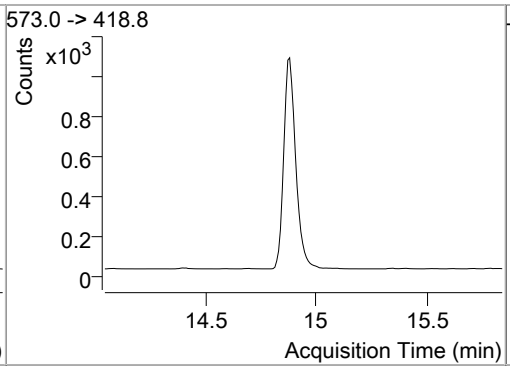


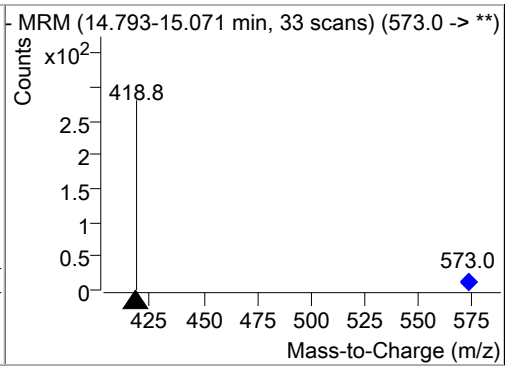




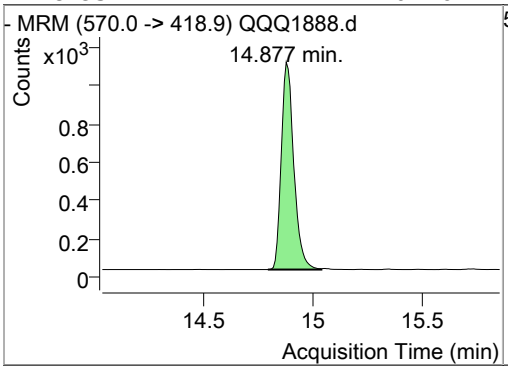
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	0.4723	14.88	-0.06	4030				

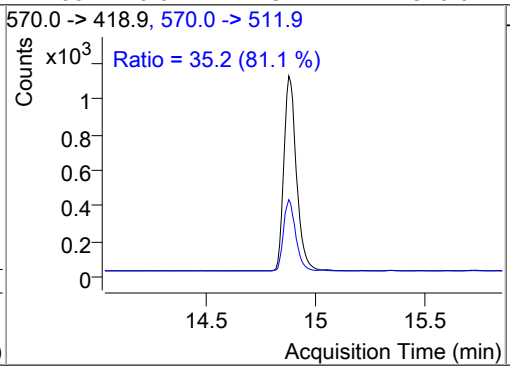


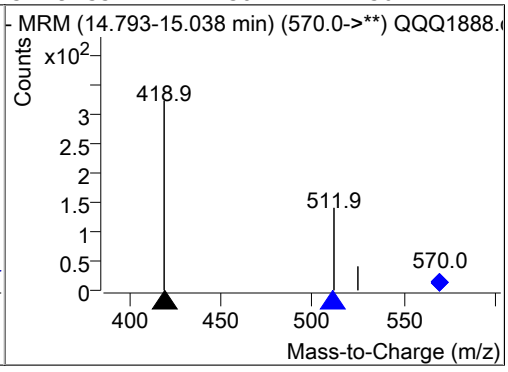




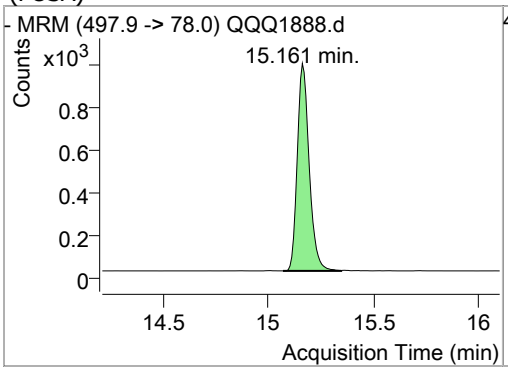
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.4784	14.88	-0.07	4317	570.0 -> 511.9	35.2	30.4	56.4

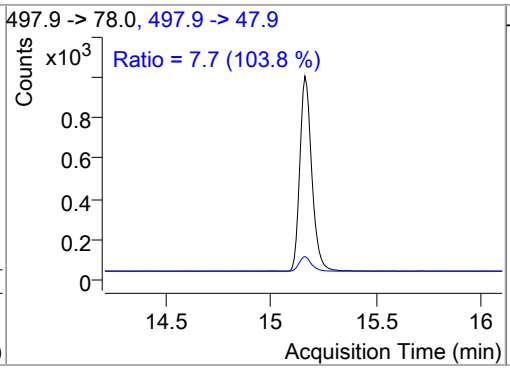


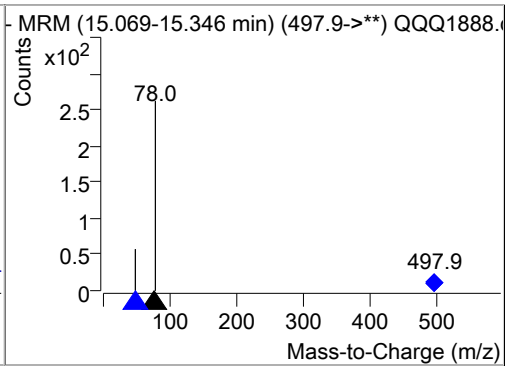




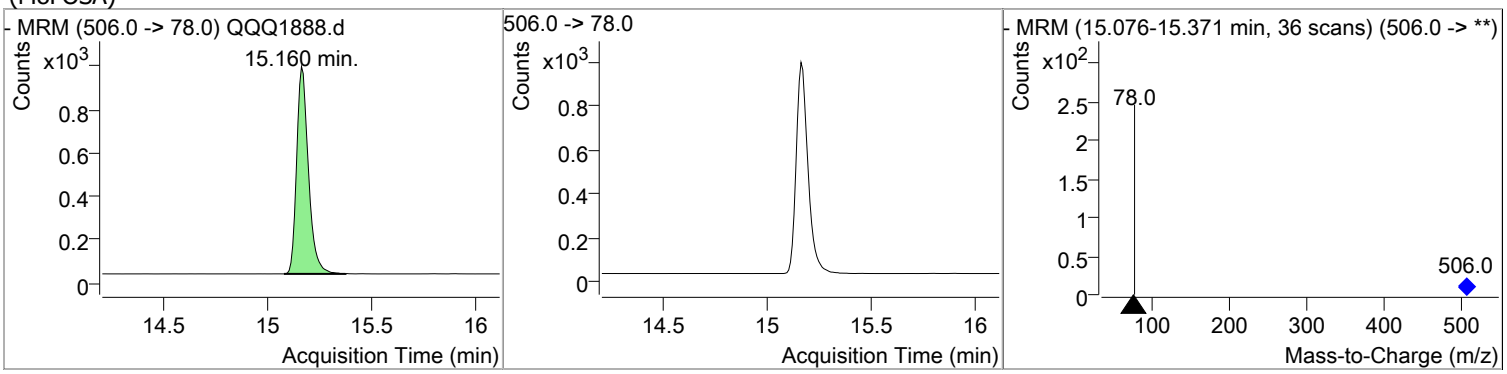
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.5055	15.16	-0.03	3818	497.9 -> 47.9	7.7	5.9	8.8



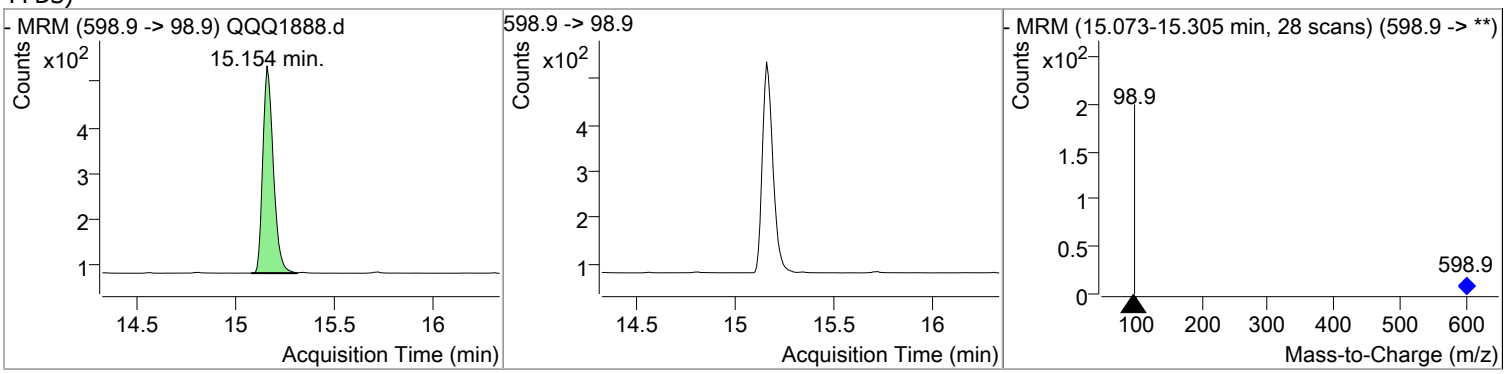




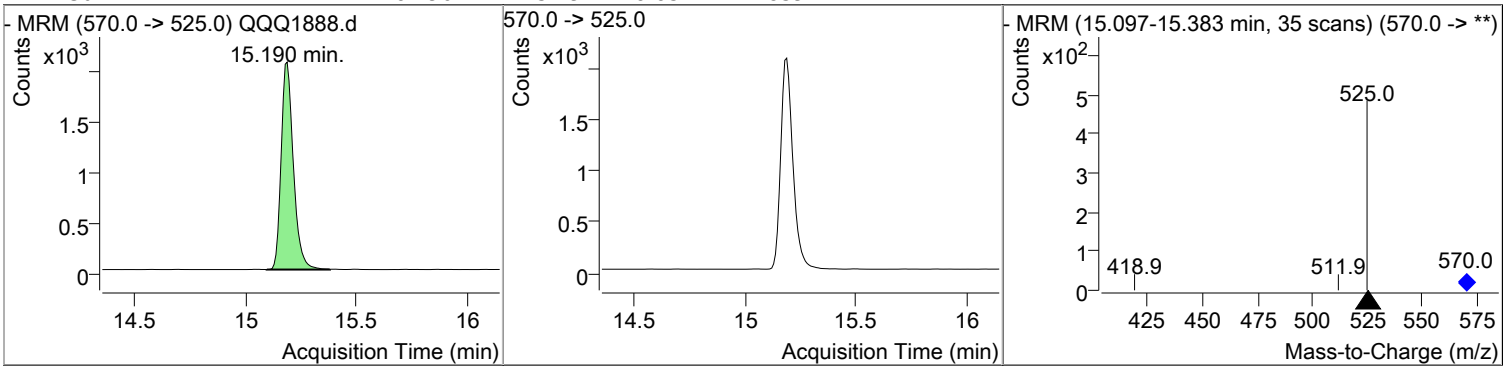
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	0.5163	15.16	-0.03	3743				



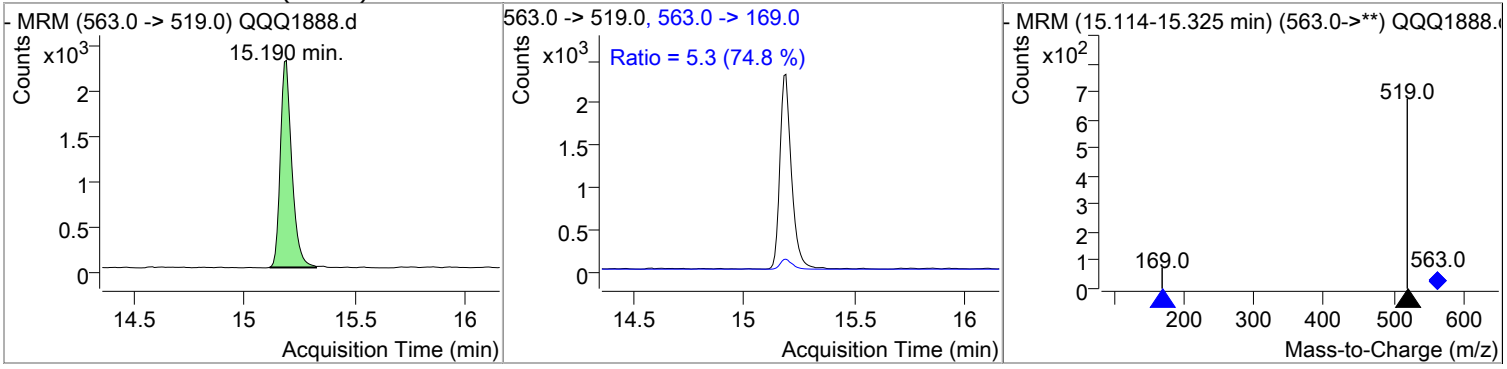
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.4612	15.15	-0.06	1675				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.4964	15.19	-0.05	7859				

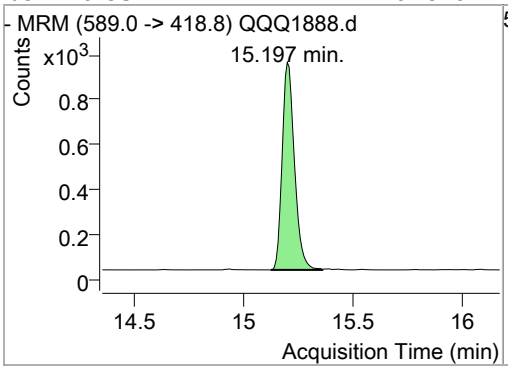


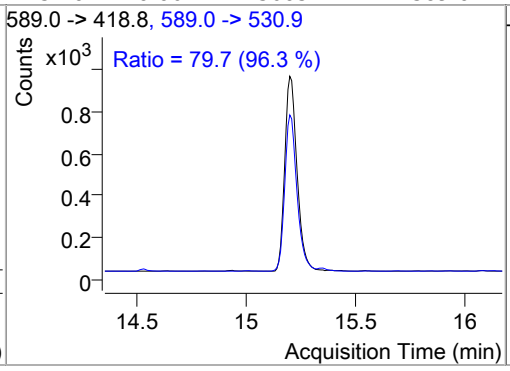
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.5645	15.19	-0.06	8294	563.0 -> 169.0	5.3	5.0	9.2

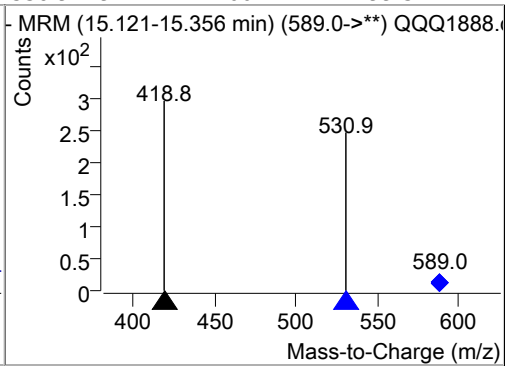


Quantitation Results Report (Not Reviewed)

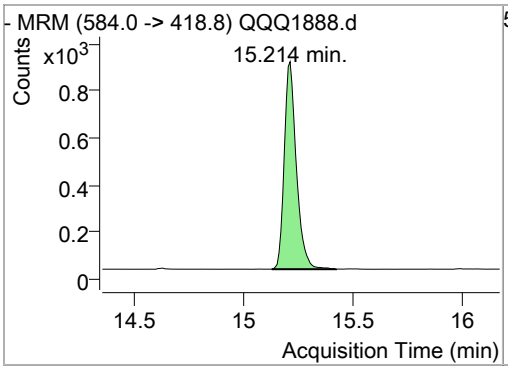
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	0.4978	15.20	-0.06	3605	589.0 -> 530.9	79.7	66.2	99.3

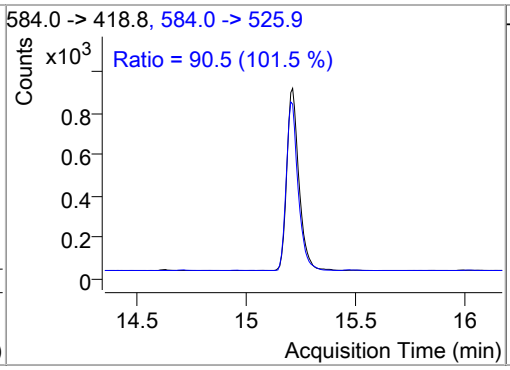


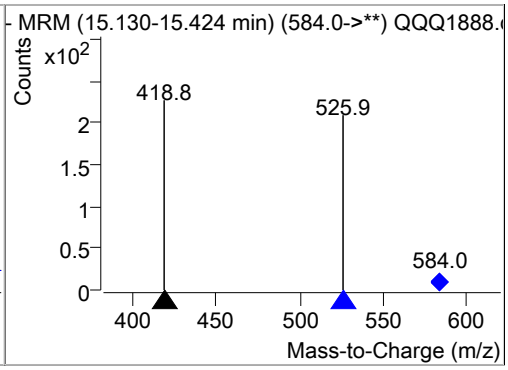




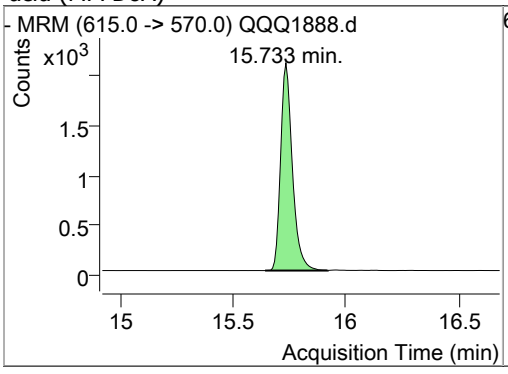
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.4745	15.21	-0.05	3394	584.0 -> 525.9	90.5	71.3	107.0

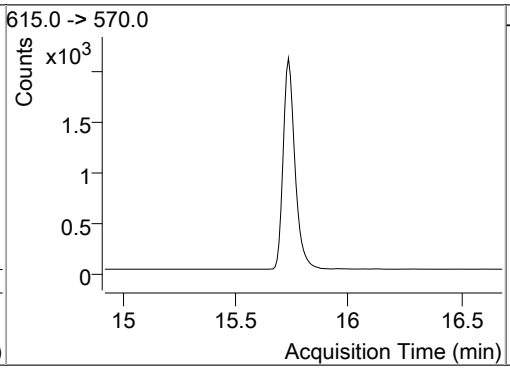


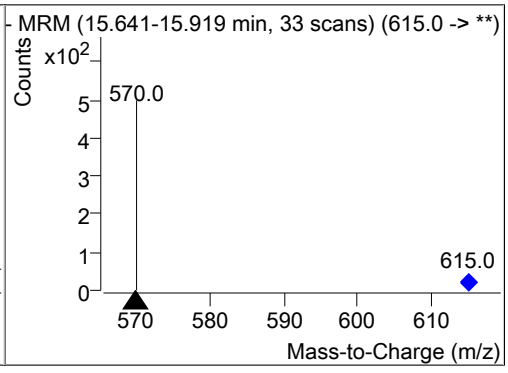




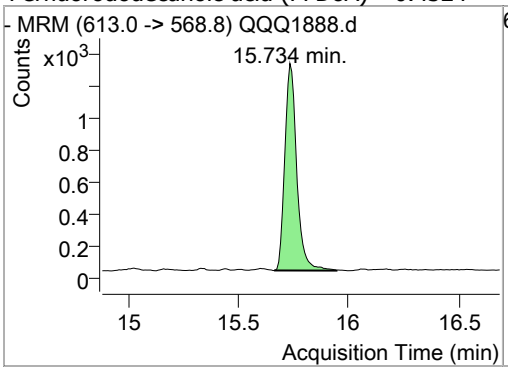
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.4669	15.73	-0.04	7600				

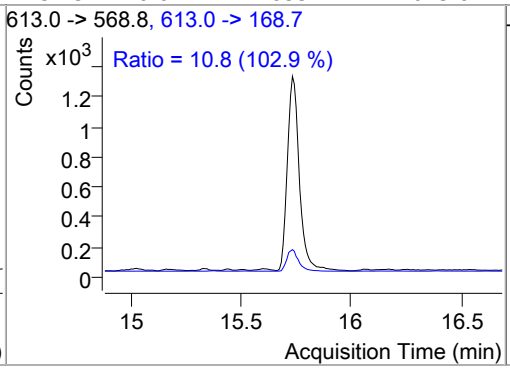


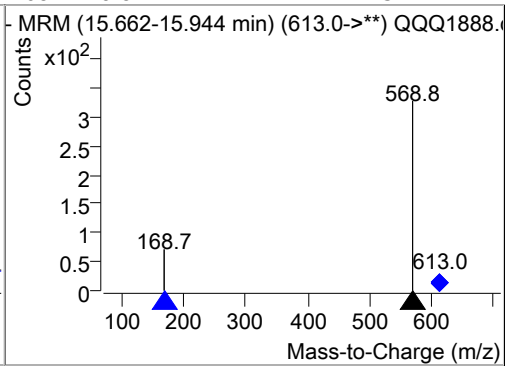




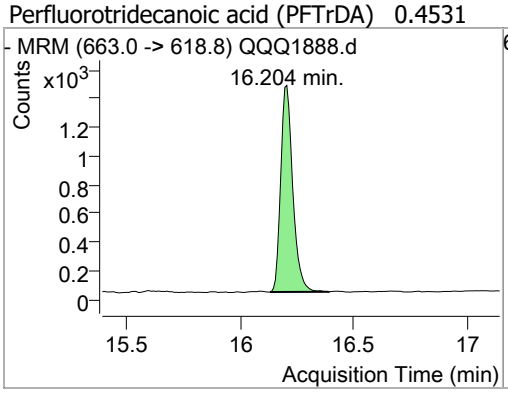
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.4324	15.73	-0.04	4853	613.0 -> 168.7	10.8	7.4	13.7

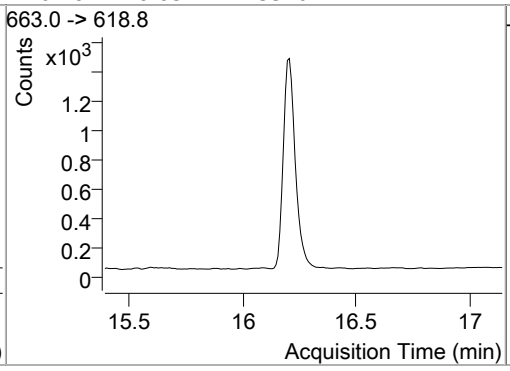


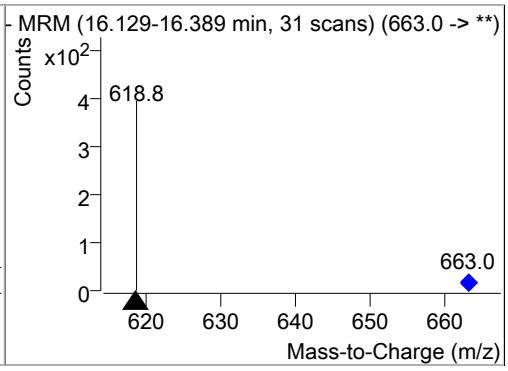




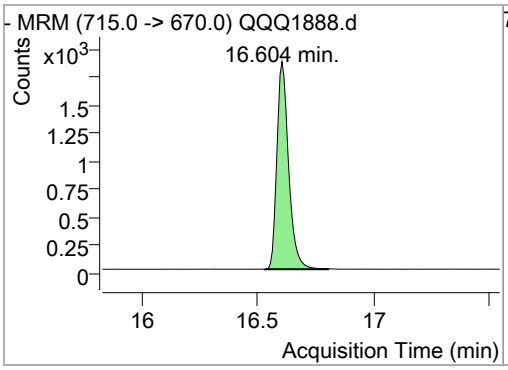
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.4531	16.20	-0.03	5346				

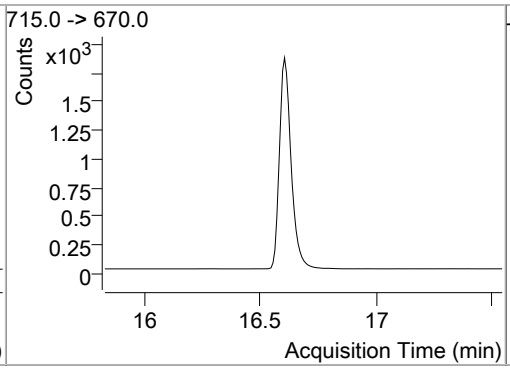


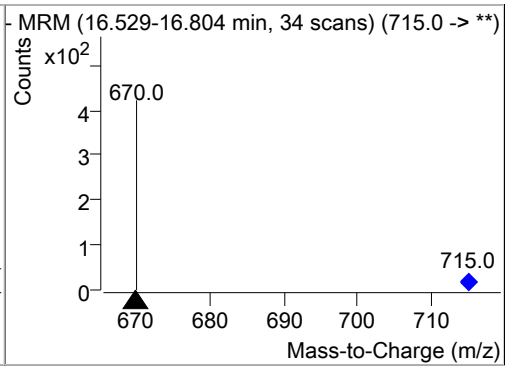




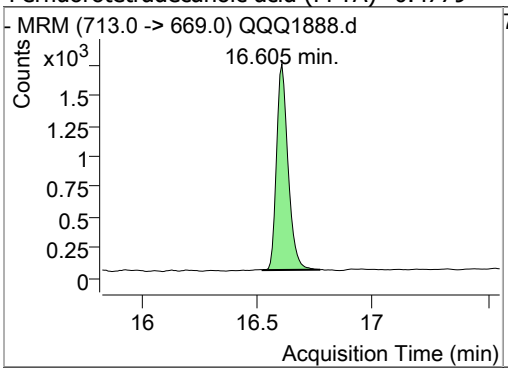
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.4894	16.60	-0.03	6503				

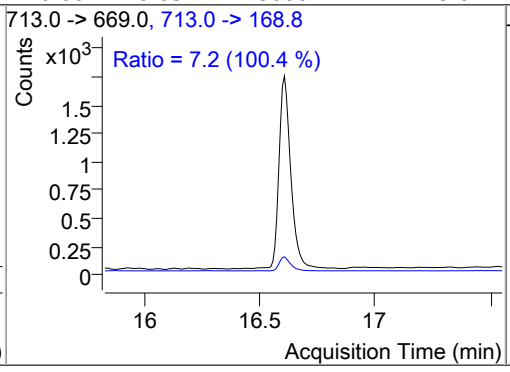


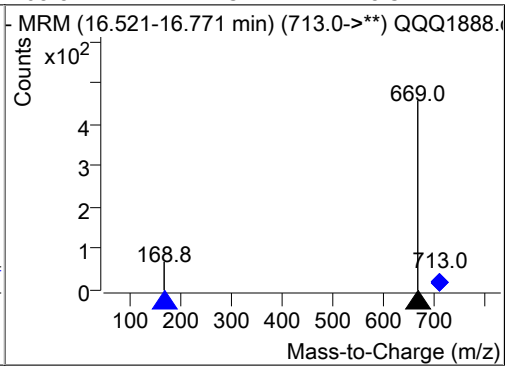




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.4779	16.60	-0.03	5888	713.0 -> 168.8	7.2	5.7	8.5







Data File	QQQ1889.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 2:31:31 PM
Sample Name	SEQ-CAL3	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	1.00 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
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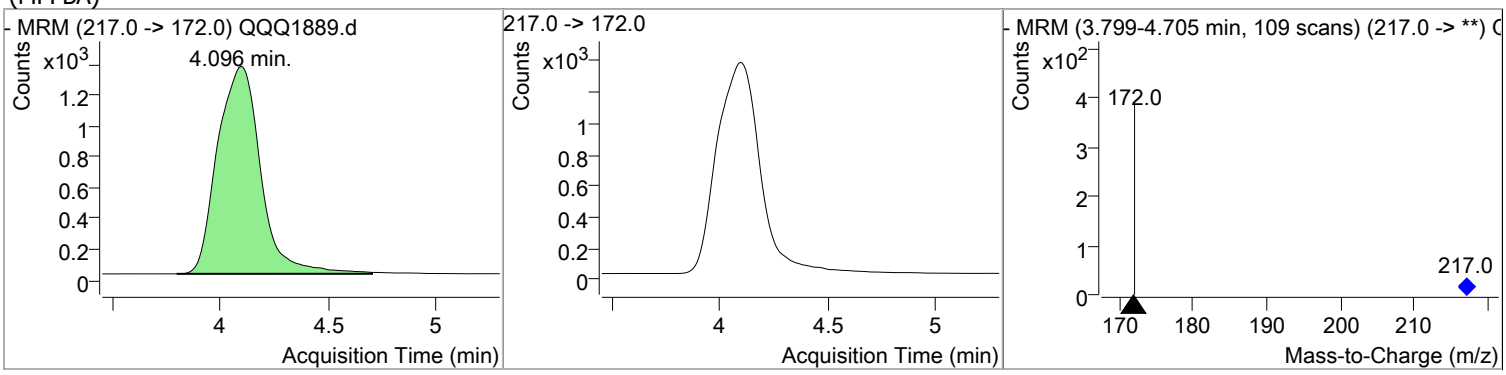
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
MPFOA	12.949	417.0 -> 372.0	229097	10.0000	ng/ml		-0.085
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.096	217.0 -> 172.0	18773	0.9594	ng/ml		-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.59%		*	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	28221	0.9638	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.64%		*	
M3PFBS	8.752	302.0 -> 79.9	7860	0.9413	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.41%		*	
M2-4-2FTS	10.183	329.0 -> 309.0	11030	0.9601	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.60%		*	
M5PFHxA	10.328	318.0 -> 273.0	29024	0.9848	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.85%		*	
M4PFHpA	11.835	367.0 -> 322.0	6375	0.9957	ng/ml		-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.96%		*	
M3PFHxS	11.957	402.0 -> 80.0	5760	0.9861	ng/ml		-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.86%		*	
M2-6-2FTS	12.887	429.0 -> 409.0	6447	0.9515	ng/ml		-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.51%		*	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	16402	1.0271	ng/ml		-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 10.27%		*	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	16003	0.9760	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.76%		*	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	4438	0.9865	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.87%		*	
M2-8-2FTS	14.550	529.0 -> 509.0	6880	0.9429	ng/ml		-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.43%		*	
M6PFDA	14.560	519.0 -> 473.9	14319	1.0975	ng/ml		-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 10.98%		*	
d3-N-MeFOSAA	14.877	573.0 -> 418.8	7750	0.9685	ng/ml		-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.69%		*	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.160	506.0 -> 78.0	6726	0.9895	ng/ml		-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.89%		*	
M7PFUdA	15.190	570.0 -> 525.0	14816	0.9981	ng/ml		-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.98%		*	
d5-N-EtFOSAA	15.197	589.0 -> 418.8	6833	1.0066	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 10.07%		*	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.733	615.0 -> 570.0	14934	0.9786	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.79%		*	
M2PFTeDA	16.604	715.0 -> 670.0	12239	0.9824	ng/ml		-0.033
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 9.82%		*	

Target Compounds **QValue**

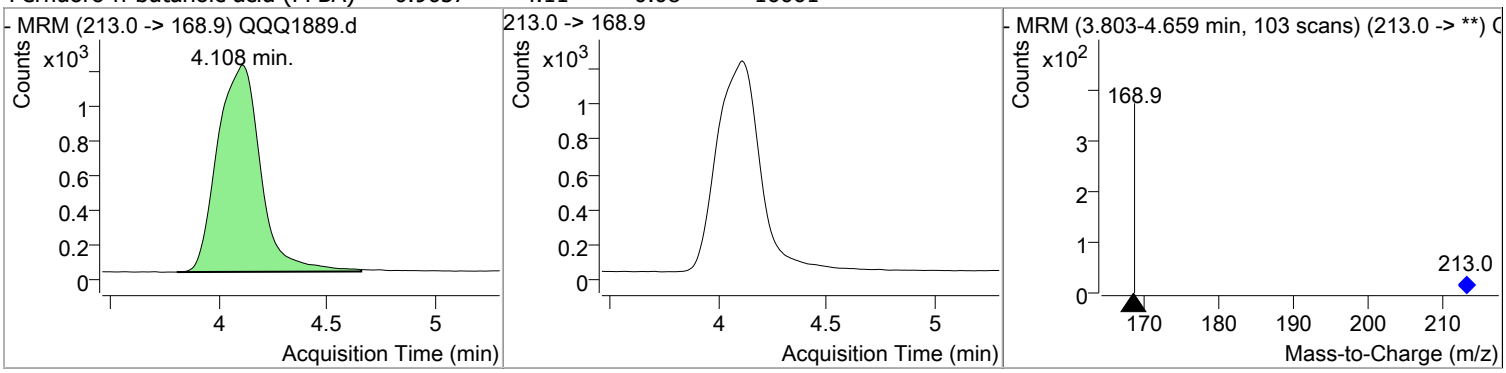
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	16661	0.9657	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	24505	0.9533	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	6603	0.8772	ng/ml	99
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	9390	0.9891	ng/ml	98
Perfluorohexanoic acid (PFHxA)	10.322	313.0 -> 268.9	25616	1.0075	ng/ml	99
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	6080	0.9238	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	18389	0.9817	ng/ml	99
Perfluorohexanesulfonic acid (PFHxS)	11.959	398.9 -> 79.9	4031	0.7240	ng/ml	98
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	6867	1.0011	ng/ml	97
Perfluorooctanoic acid (PFOA)	12.949	413.0 -> 368.8	13883	0.9796	ng/ml	91
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	4088	0.9910	ng/ml	98
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	12127	1.0066	ng/ml	99
Perfluorooctanesulfonic acid (PFOS)	13.836	498.9 -> 79.9	3272	0.6660	ng/ml	100
Perfluorononanesulfonate (L-PFNS)	14.542	548.9 -> 79.9	3490	0.9481	ng/ml	95
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.551	527.0 -> 507.0	6231	0.9950	ng/ml	95
Perfluorodecanoic acid (PFDA)	14.560	513.0 -> 468.8	11087	0.9633	ng/ml	93
N-MeFOSAA	14.886	570.0 -> 418.9	8309	0.9820	ng/ml	97
Perfluoro-1-octanesulfonamide (FOSA)	15.161	497.9 -> 78.0	6981	0.9858	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.154	598.9 -> 98.9	3287	0.9652	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.190	563.0 -> 519.0	12524	0.9091	ng/ml	96
N-EtFOSAA	15.214	584.0 -> 418.8	6582	0.9815	ng/ml	98
Perfluorododecanoic acid (PFDoA)	15.734	613.0 -> 568.8	10712	1.0182	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	16.204	663.0 -> 618.8	10729	0.9699	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.605	713.0 -> 669.0	11530	0.9983	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

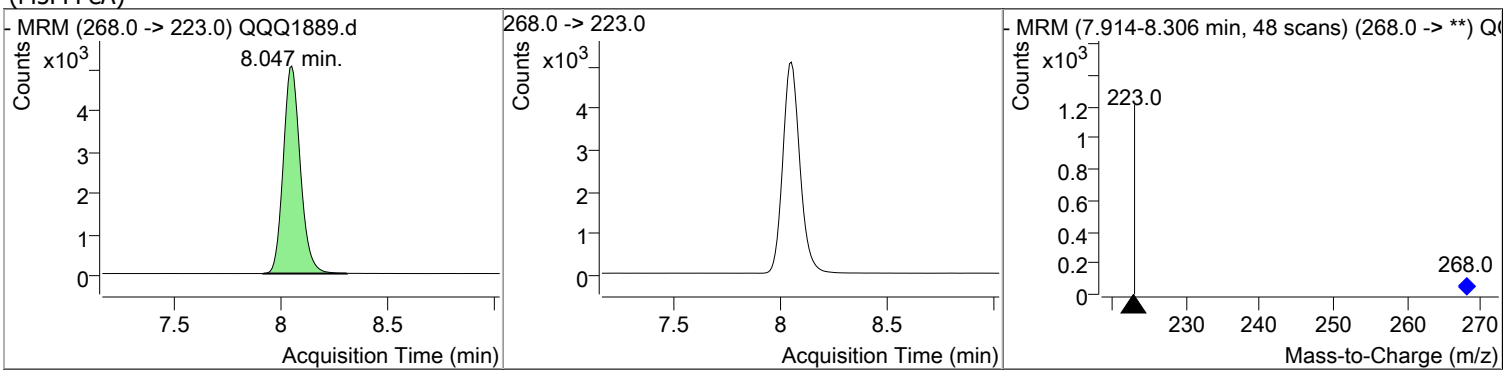
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	0.9594	4.10	-0.09	18773				



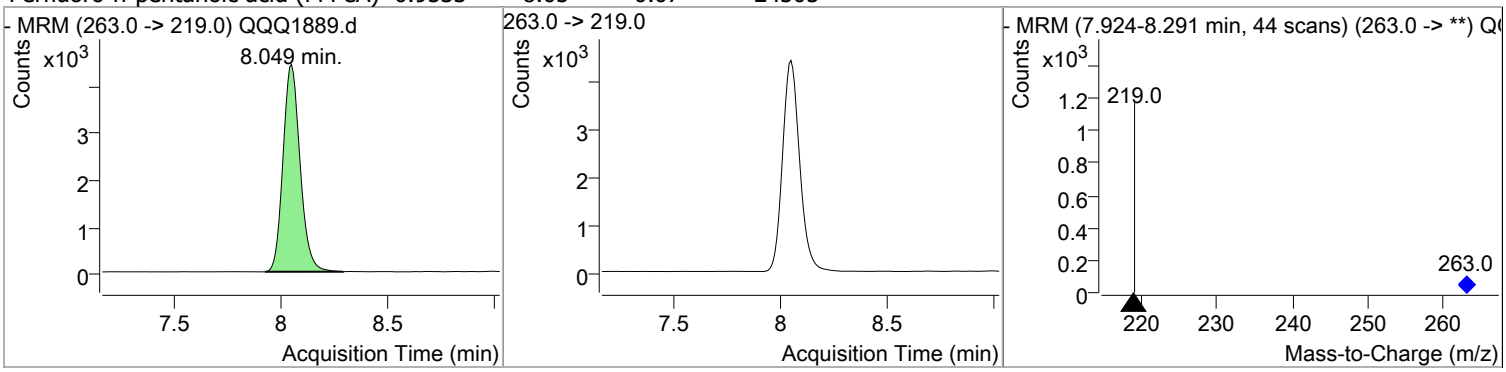
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.9657	4.11	-0.08	16661				



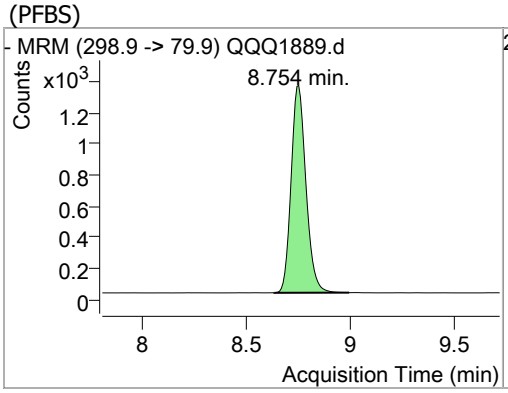
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	0.9638	8.05	-0.07	28221				

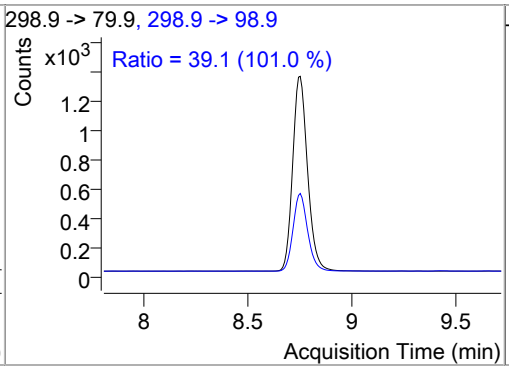


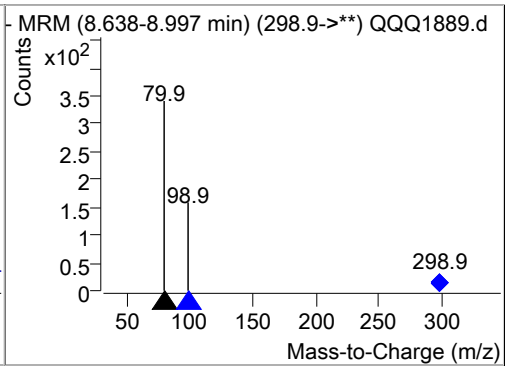
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.9533	8.05	-0.07	24505				



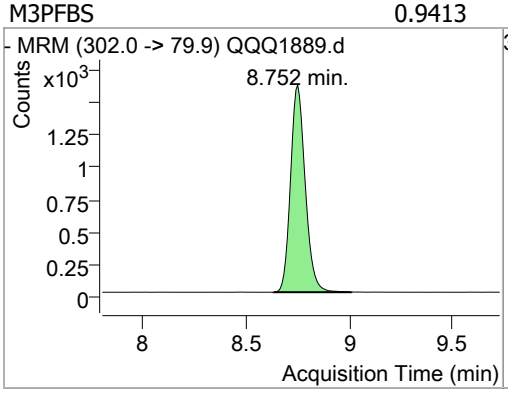
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.8772	8.75	-0.06	6603	298.9 -> 98.9	39.1	31.0	46.5

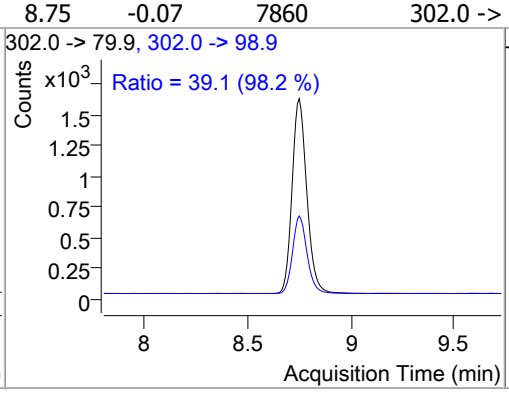


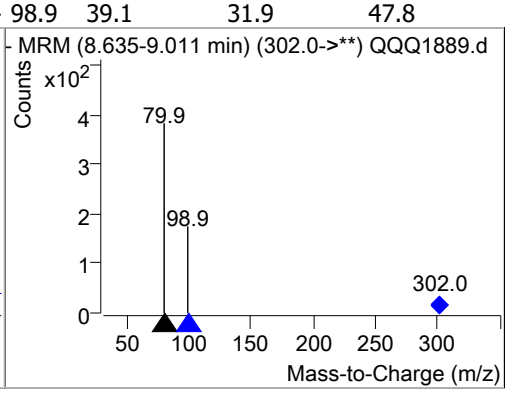




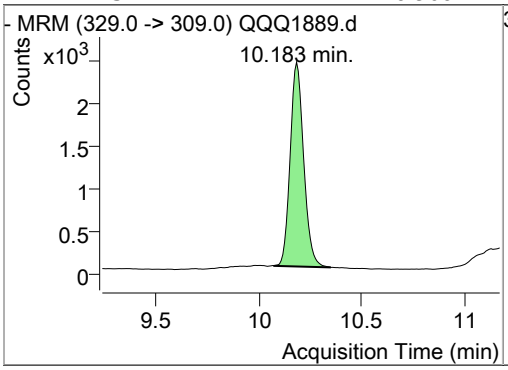
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	0.9413	8.75	-0.07	7860	302.0 -> 98.9	39.1	31.9	47.8

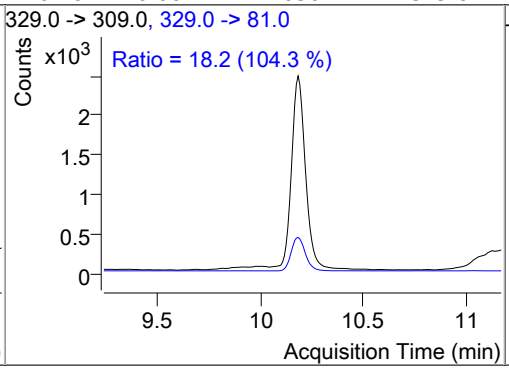


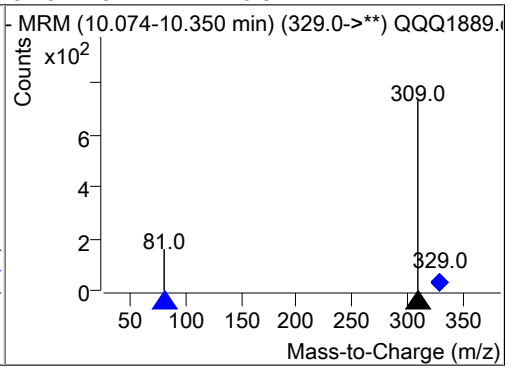




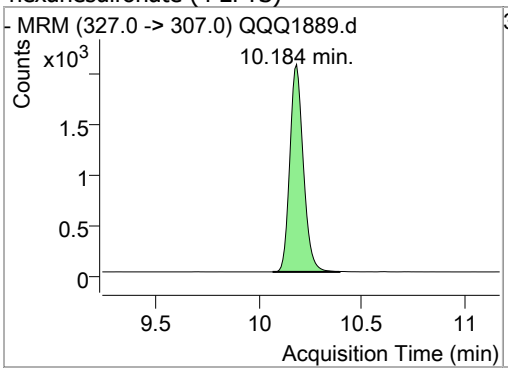
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	0.9601	10.18	-0.08	11030	329.0 -> 81.0	18.2	10.5	24.4

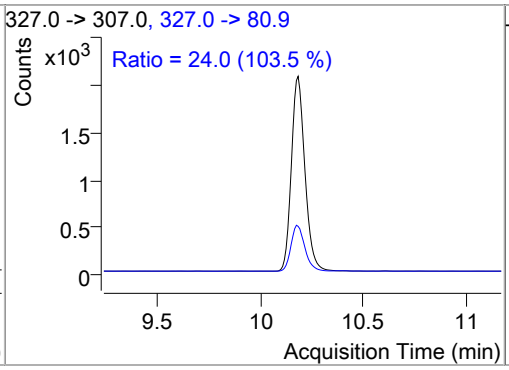


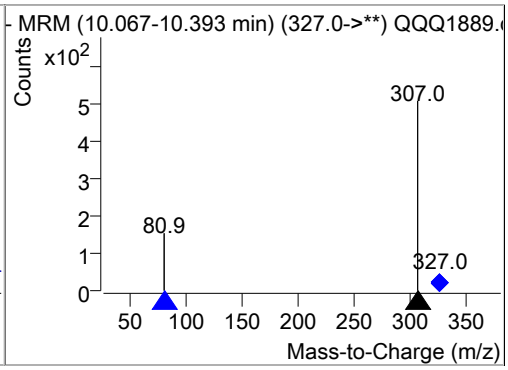




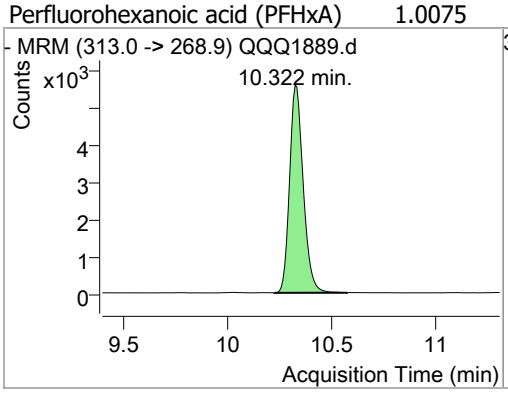
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.9891	10.18	-0.08	9390	327.0 -> 80.9	24.0	13.9	32.5

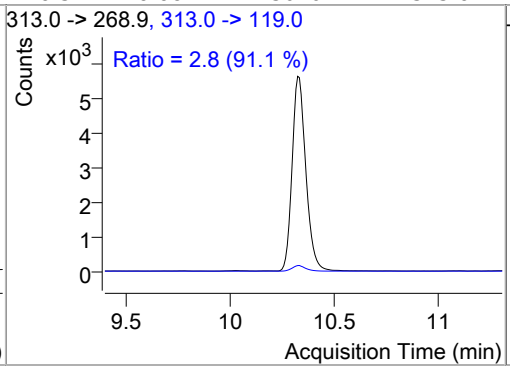


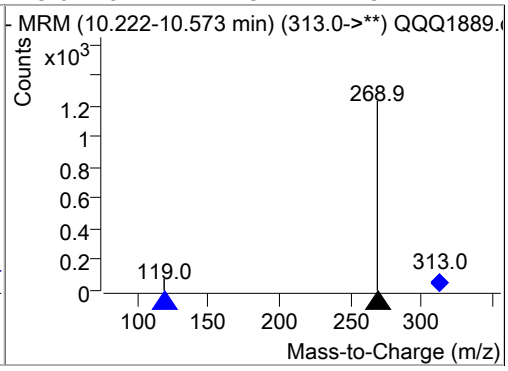




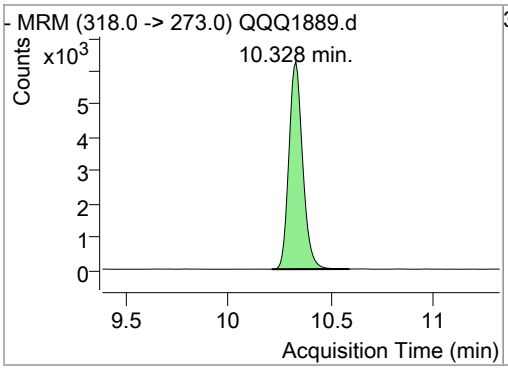
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	1.0075	10.32	-0.08	25616	313.0 -> 119.0	2.8	2.5	3.7

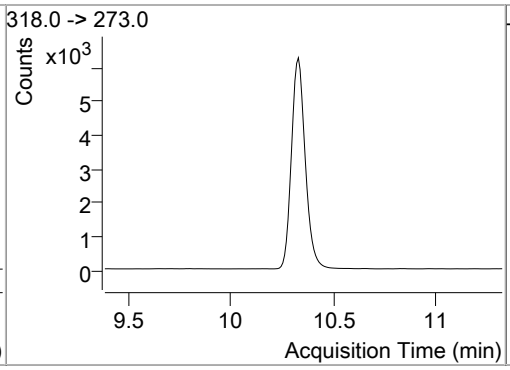


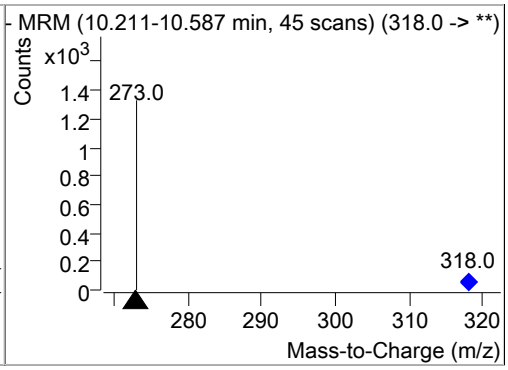




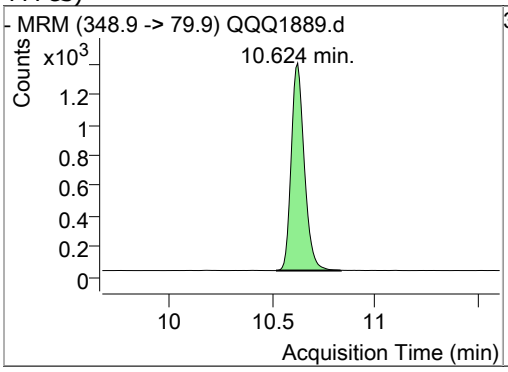
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	0.9848	10.33	-0.08	29024				

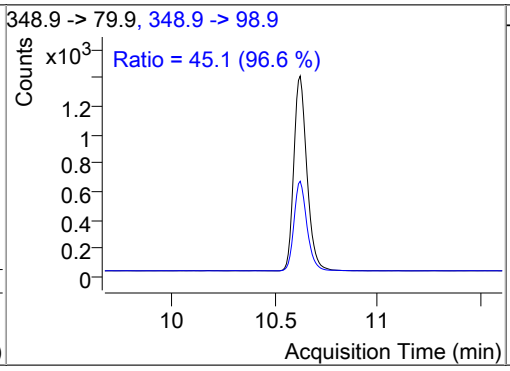


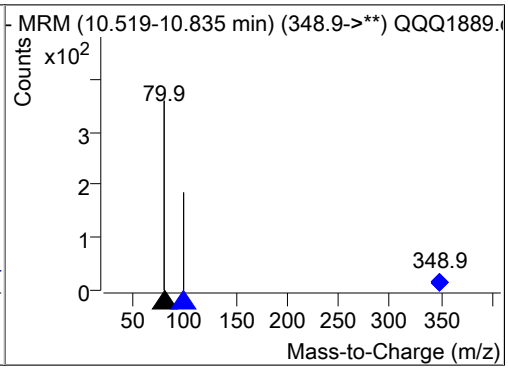




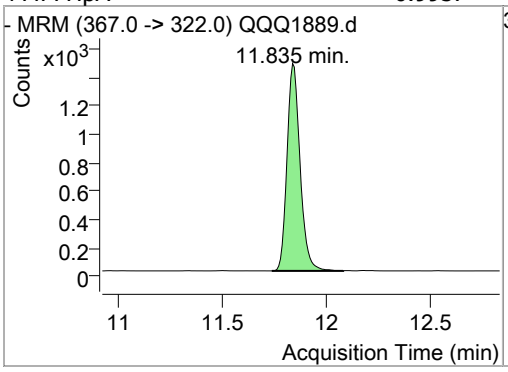
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.9238	10.62	-0.08	6080	348.9 -> 98.9	45.1	37.3	56.0

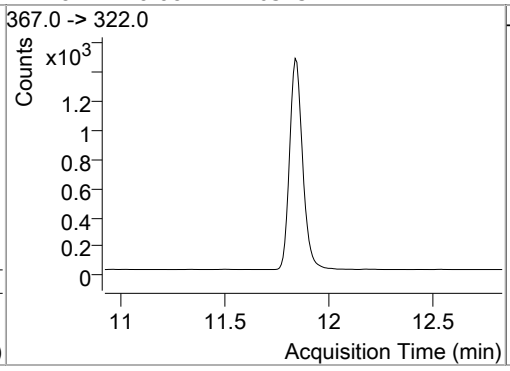


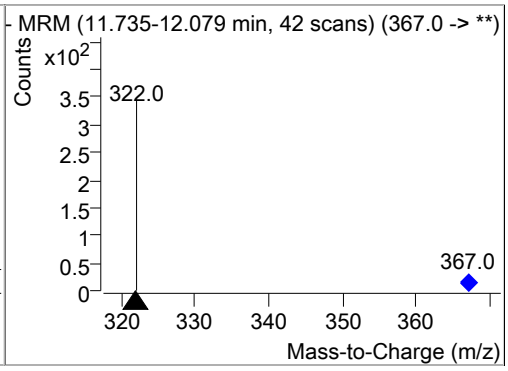




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	0.9957	11.84	-0.08	6375				

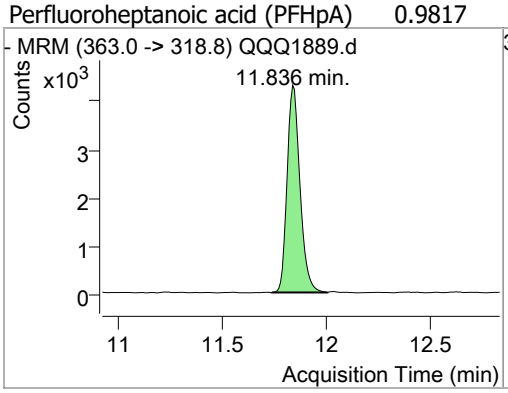


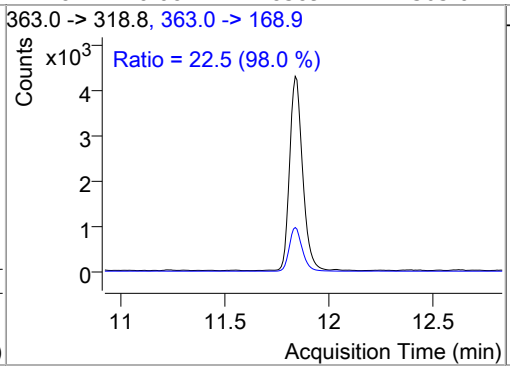


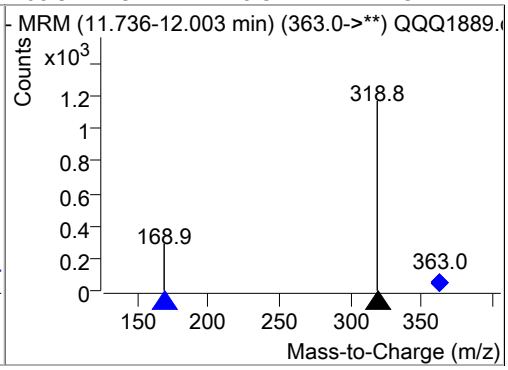


Quantitation Results Report (Not Reviewed)

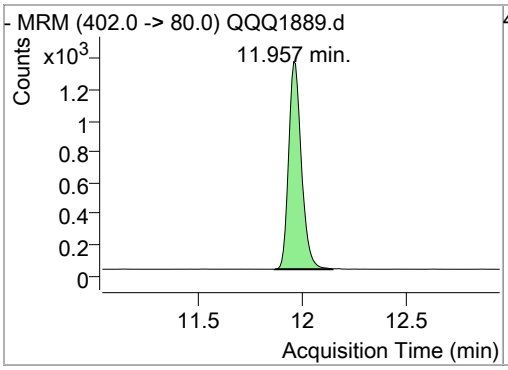
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.9817	11.84	-0.08	18389	363.0 -> 168.9	22.5	18.3	27.5

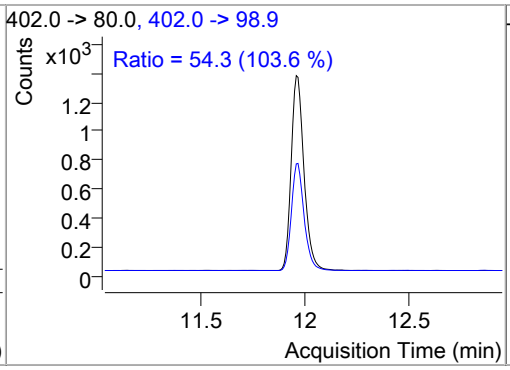


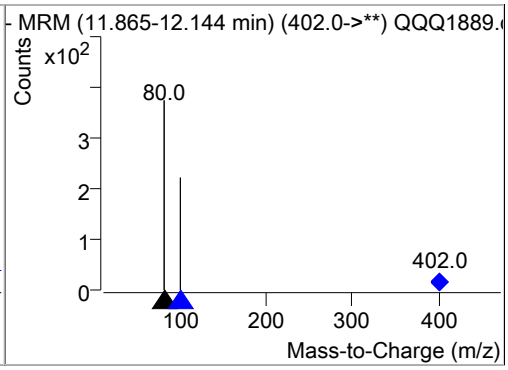




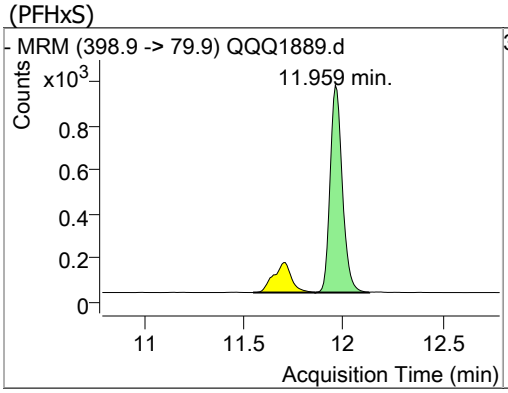
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	0.9861	11.96	-0.09	5760	402.0 -> 98.9	54.3	42.0	62.9

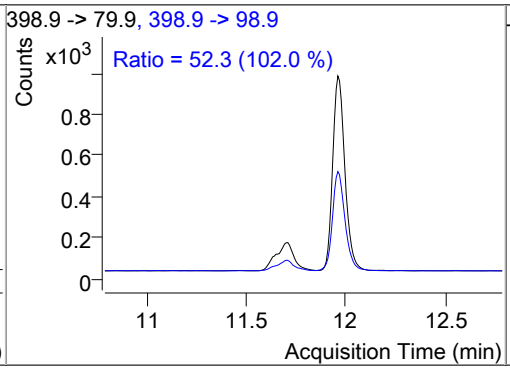


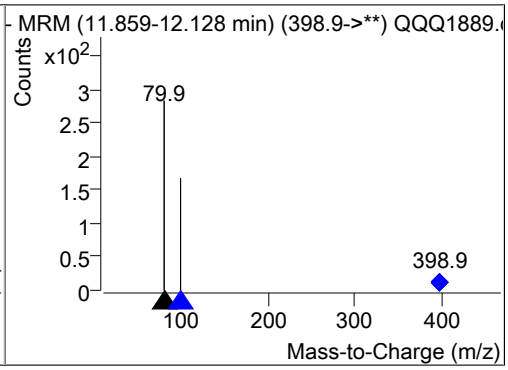




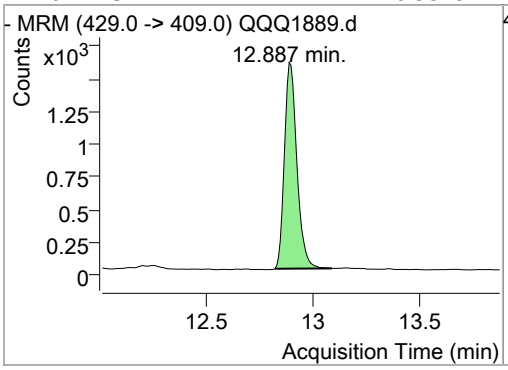
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.7240	11.96	-0.08	4031	398.9 -> 98.9	52.3	41.0	61.5

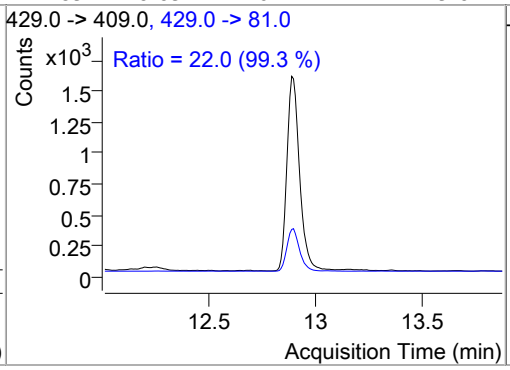


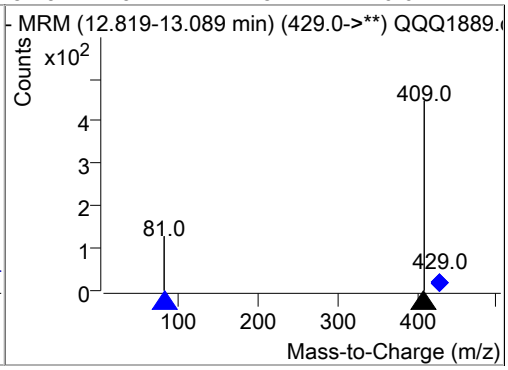




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	0.9515	12.89	-0.09	6447	429.0 -> 81.0	22.0	17.8	26.6

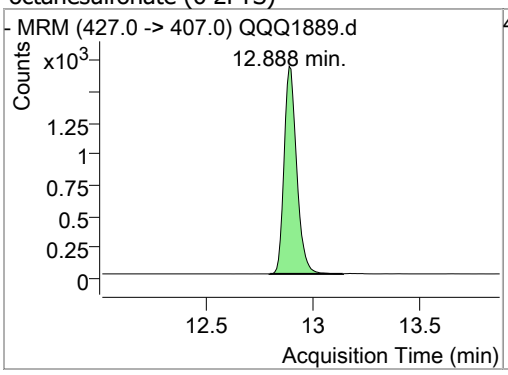


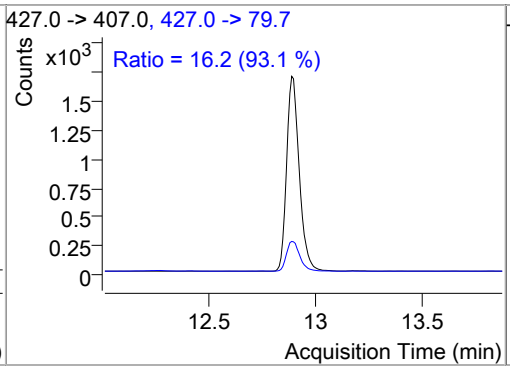


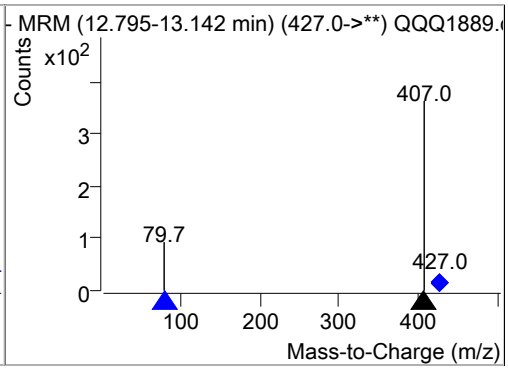


Quantitation Results Report (Not Reviewed)

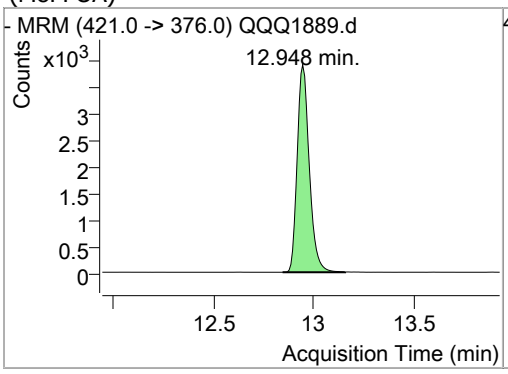
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	1.0011	12.89	-0.09	6867	427.0 -> 79.7	16.2	13.9	20.8

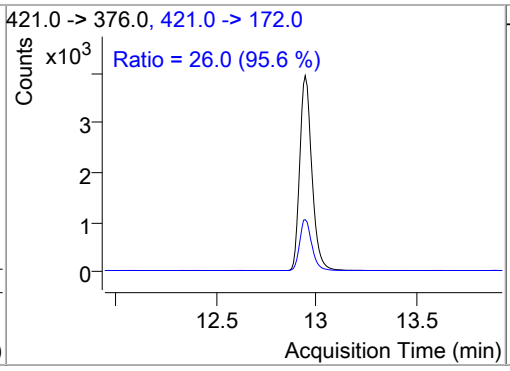


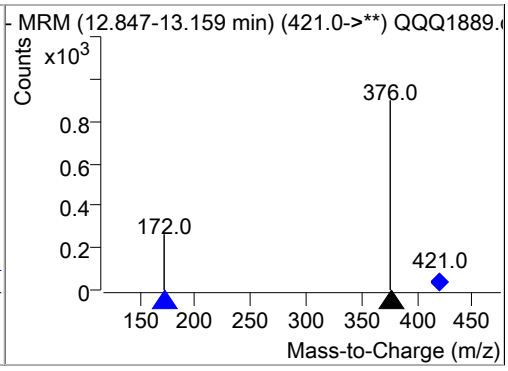




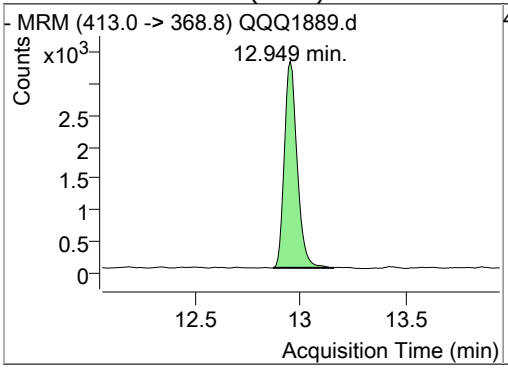
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	1.0271	12.95	-0.08	16402	421.0 -> 172.0	26.0	21.7	32.6

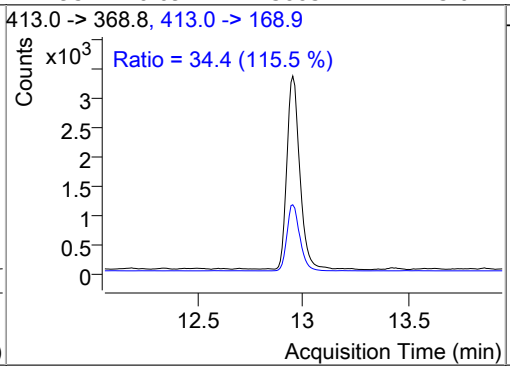


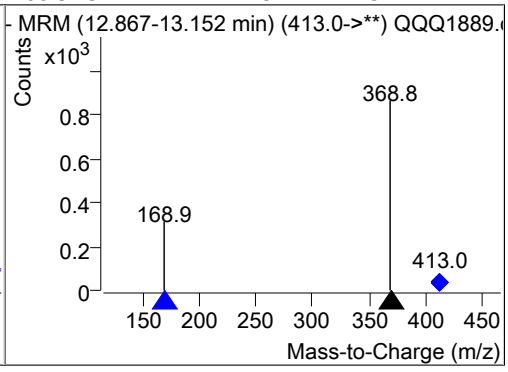




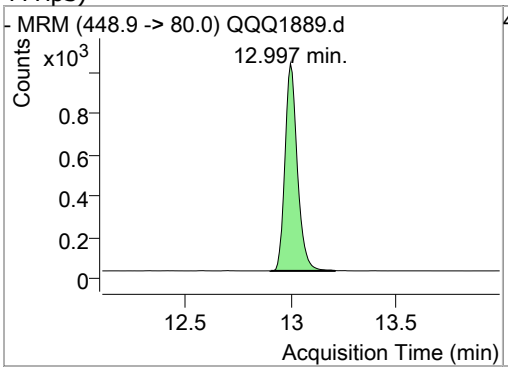
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.9796	12.95	-0.09	13883	413.0 -> 168.9	34.4	22.3	37.2

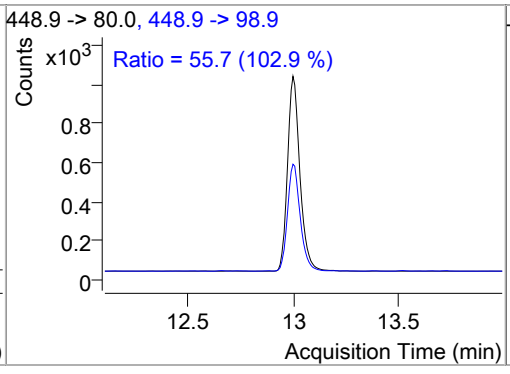


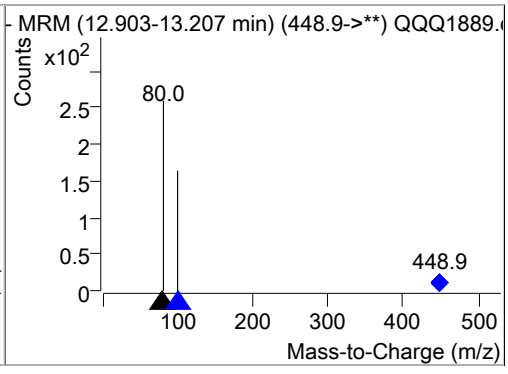




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.9910	13.00	-0.08	4088	448.9 -> 98.9	55.7	43.3	64.9

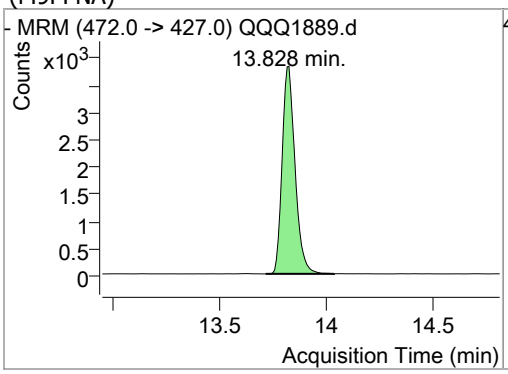


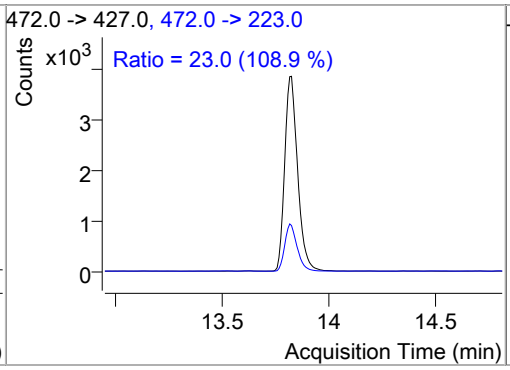


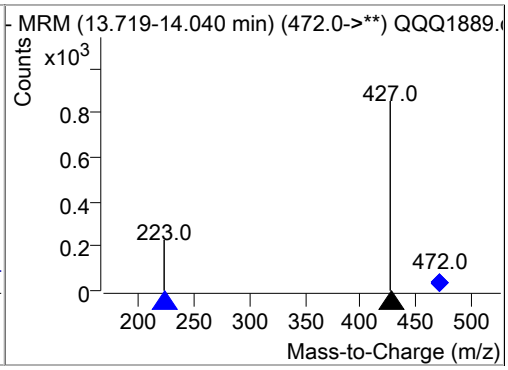


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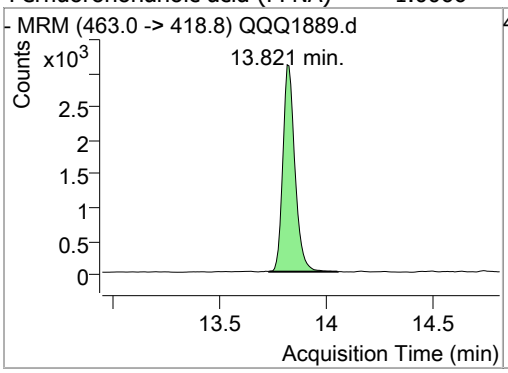
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	0.9760	13.83	-0.08	16003	472.0 -> 223.0	23.0	16.9	25.4

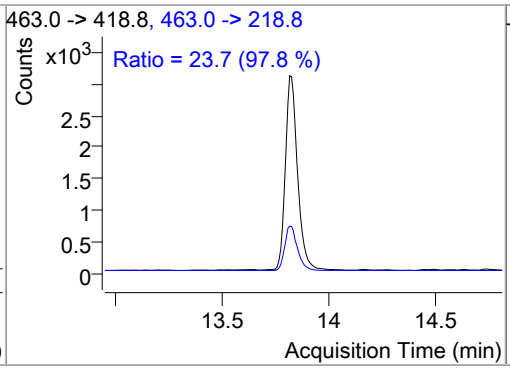


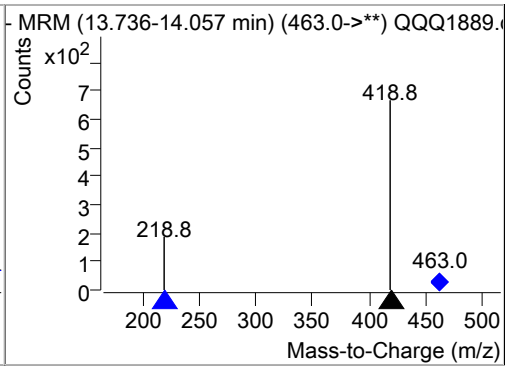




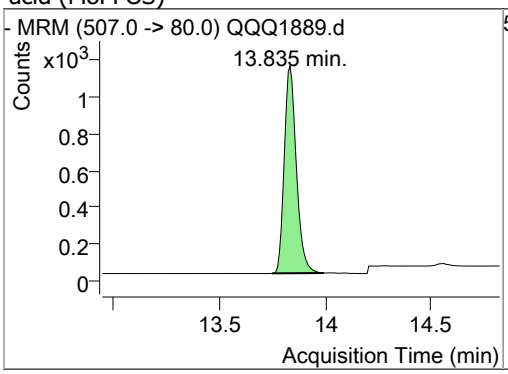
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	1.0066	13.82	-0.08	12127	463.0 -> 218.8	23.7	19.4	29.1

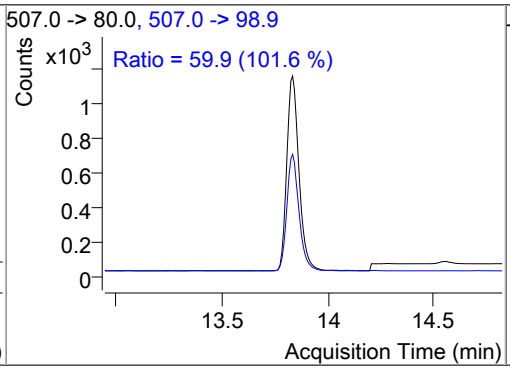


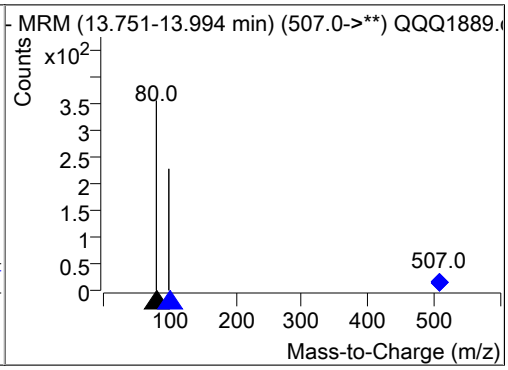




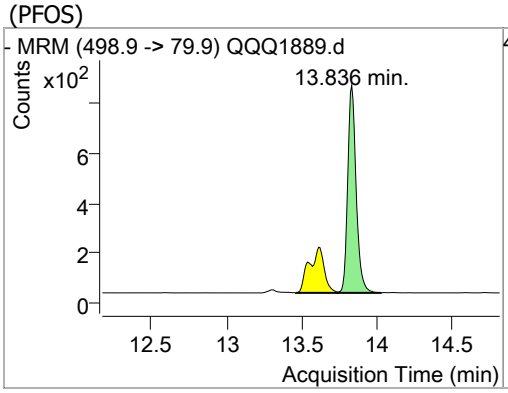
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	0.9865	13.84	-0.08	4438	507.0 -> 98.9	59.9	47.2	70.8

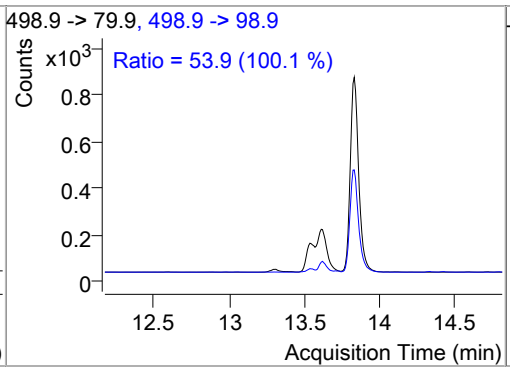


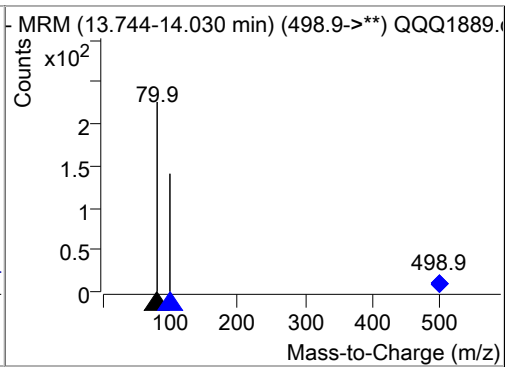




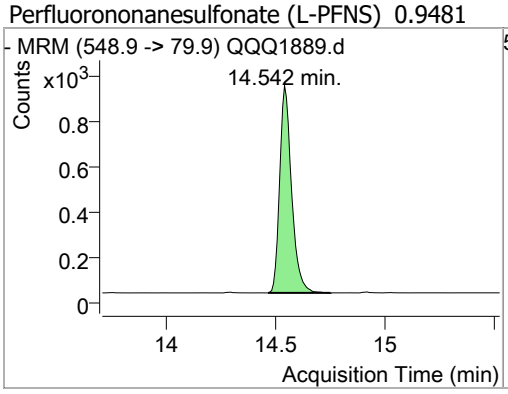
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.6660	13.84	-0.08	3272	498.9 -> 98.9	53.9	43.1	64.6

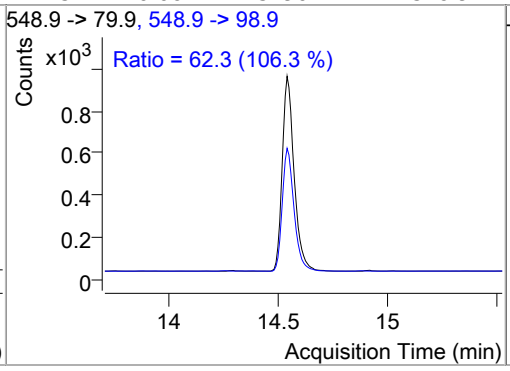


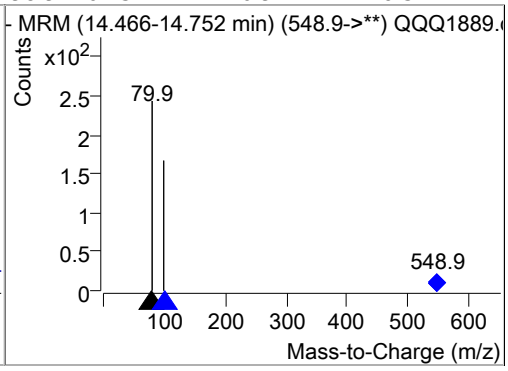




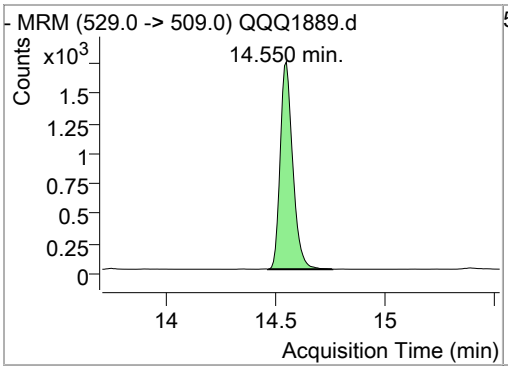
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.9481	14.54	-0.08	3490	548.9 -> 98.9	62.3	46.9	70.3

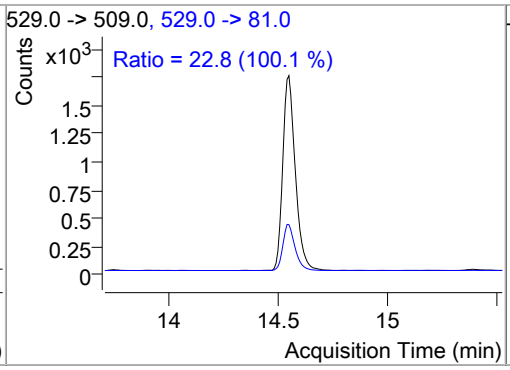


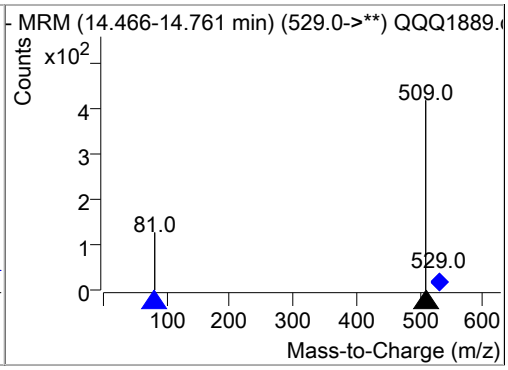




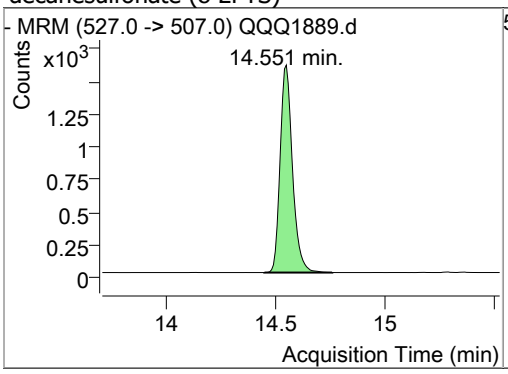
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	0.9429	14.55	-0.07	6880	529.0 -> 81.0	22.8	18.3	27.4

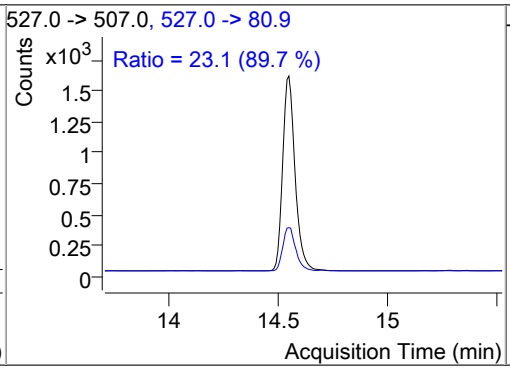


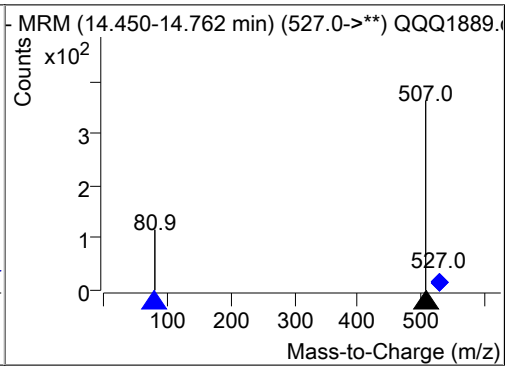




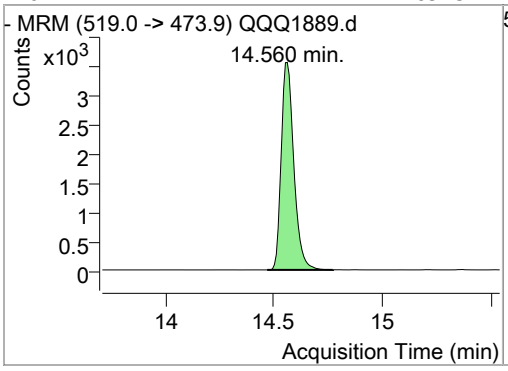
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.9950	14.55	-0.07	6231	527.0 -> 80.9	23.1	20.6	30.9

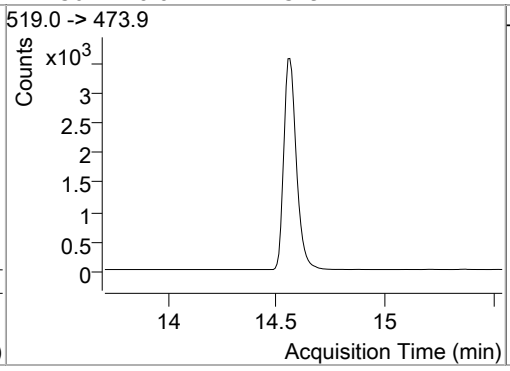


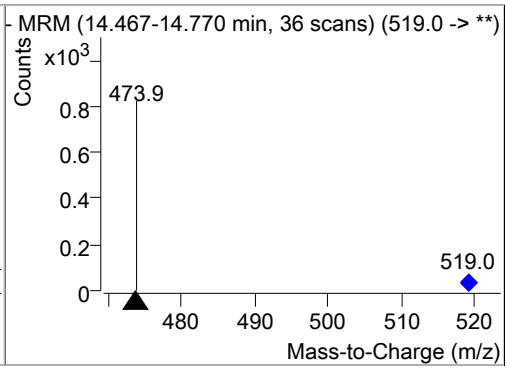




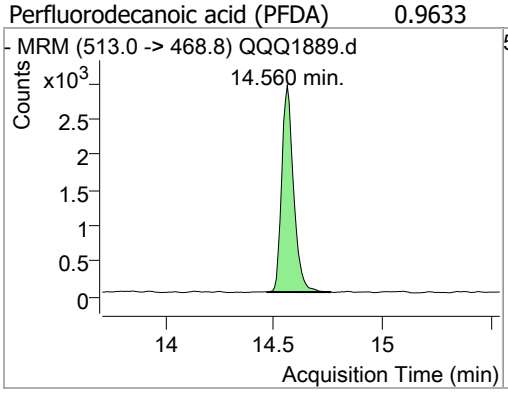
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	1.0975	14.56	-0.07	14319				

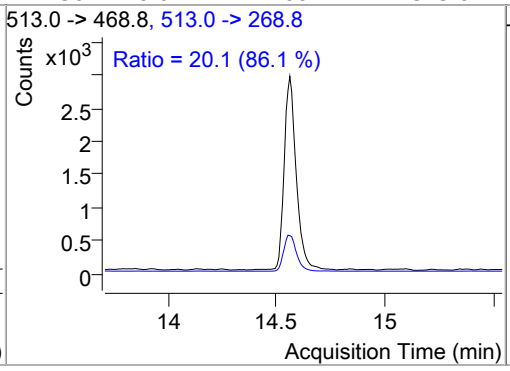


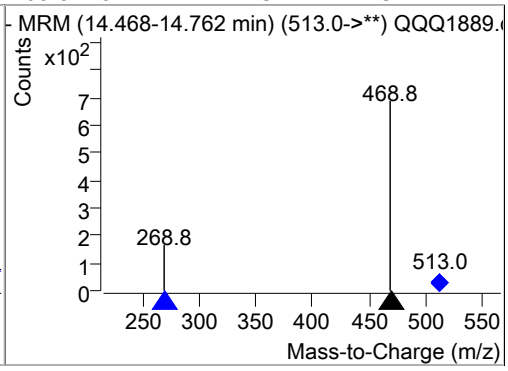




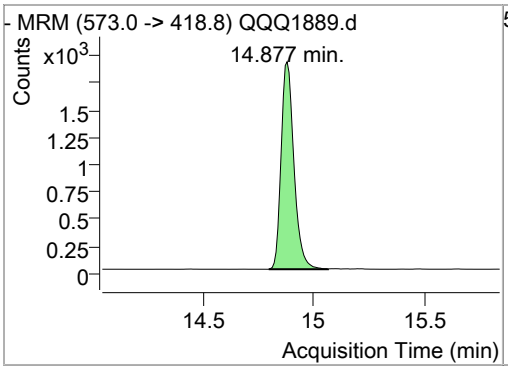
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.9633	14.56	-0.07	11087	513.0 -> 268.8	20.1	17.5	29.1

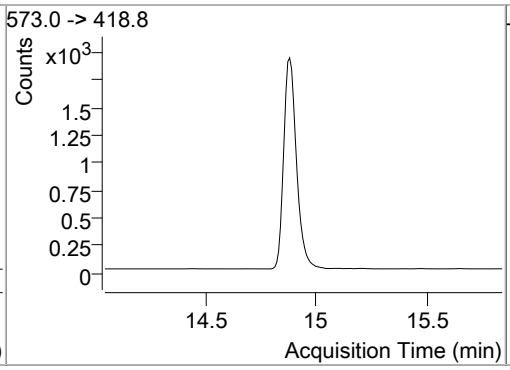


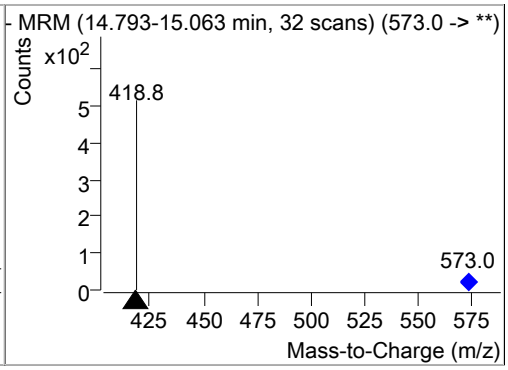




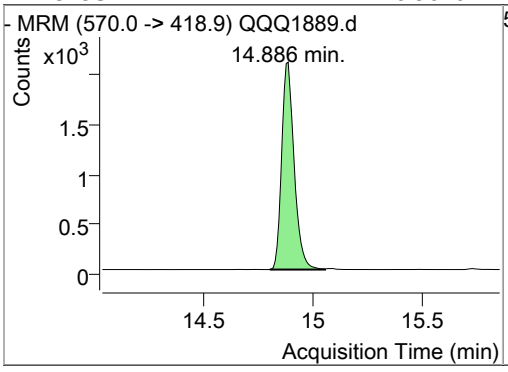
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	0.9685	14.88	-0.06	7750				

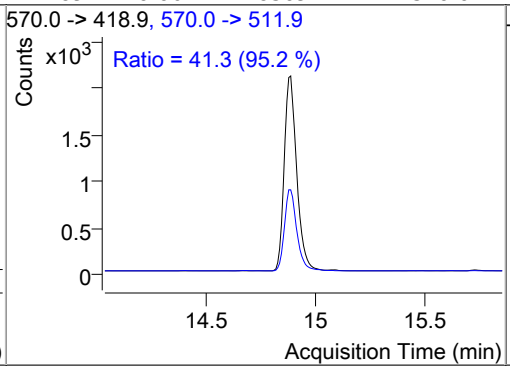


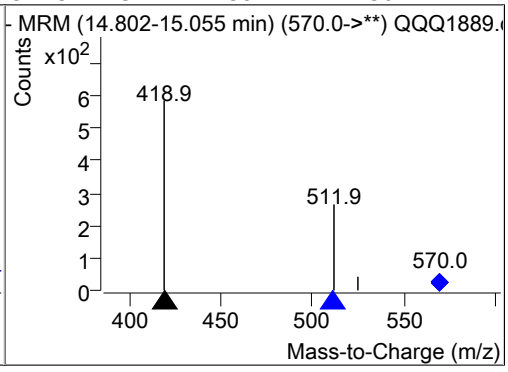




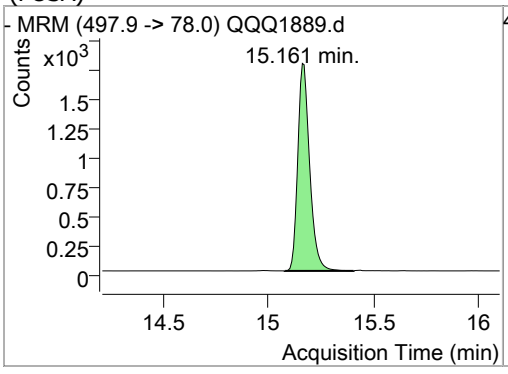
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.9820	14.89	-0.06	8309	570.0 -> 511.9	41.3	30.4	56.4

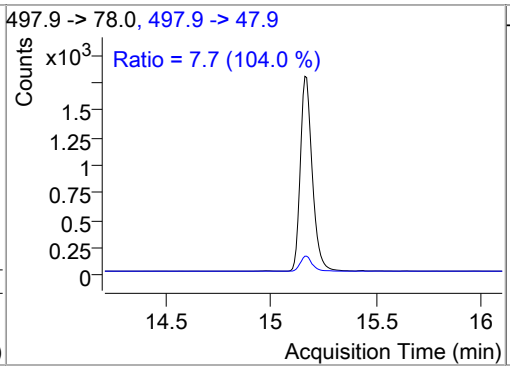


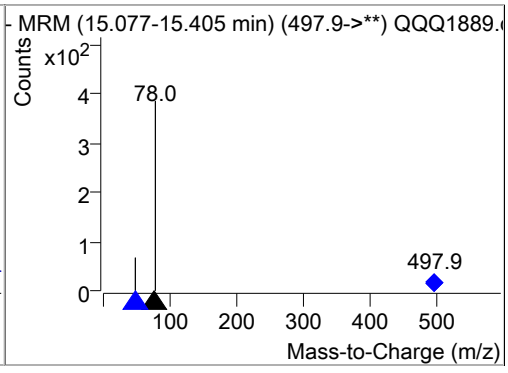




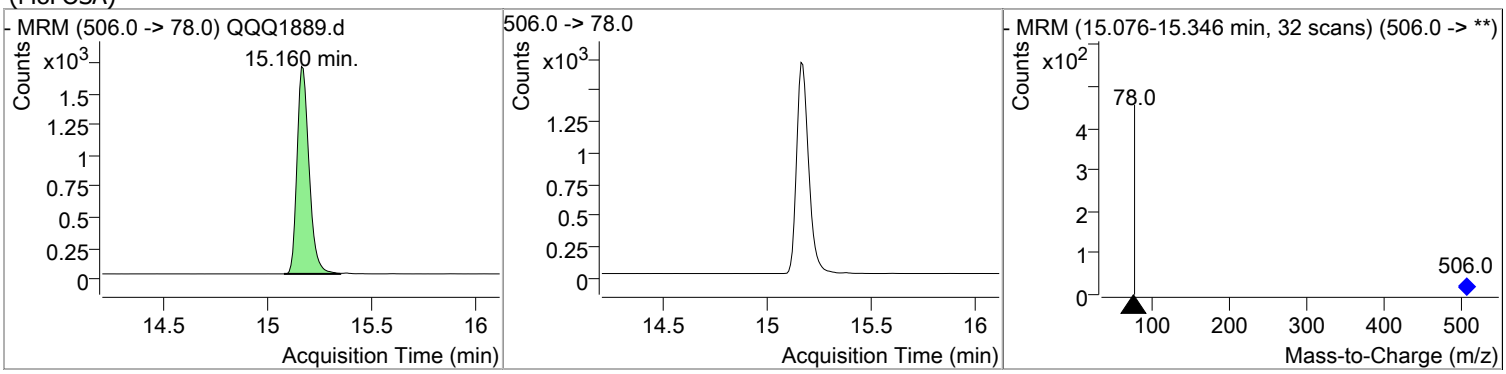
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.9858	15.16	-0.03	6981	497.9 -> 47.9	7.7	5.9	8.8



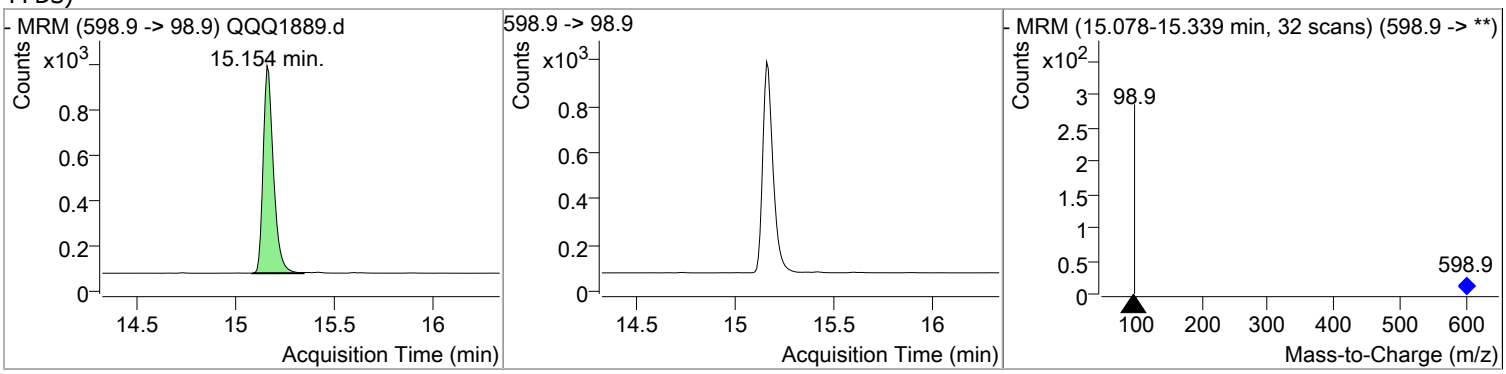




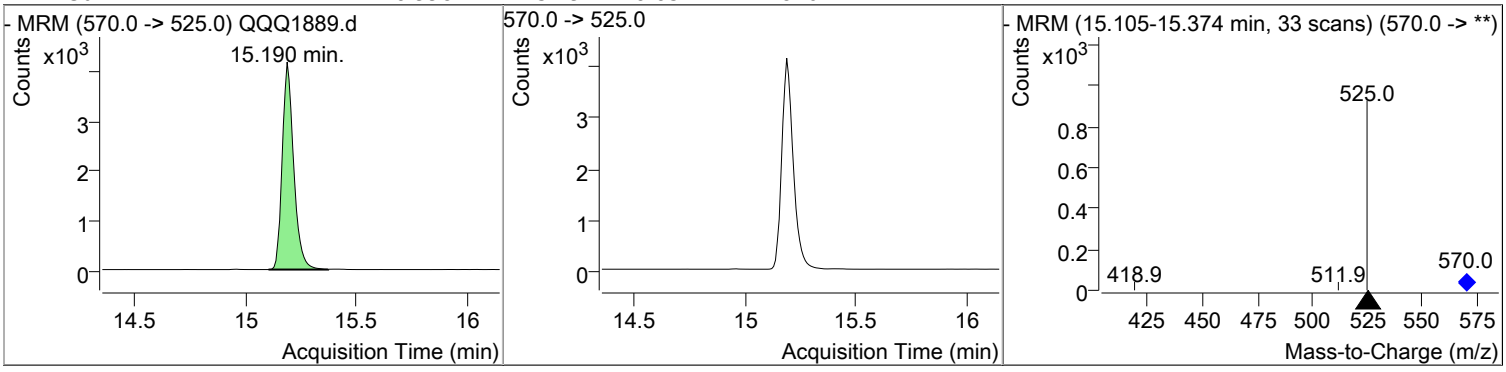
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	0.9895	15.16	-0.03	6726				



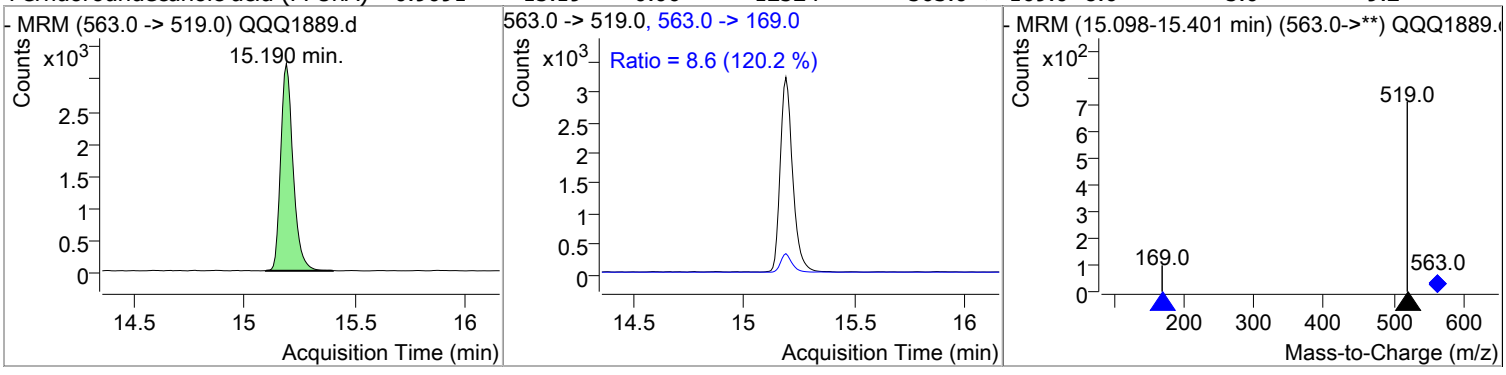
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.9652	15.15	-0.06	3287				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	0.9981	15.19	-0.05	14816				

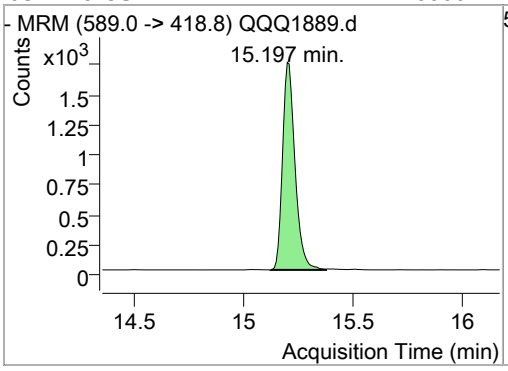


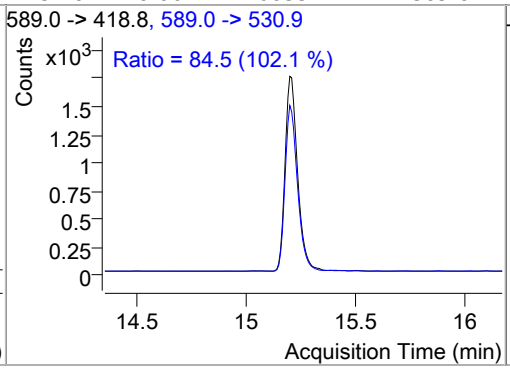
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.9091	15.19	-0.06	12524	563.0 -> 169.0	8.6	5.0	9.2

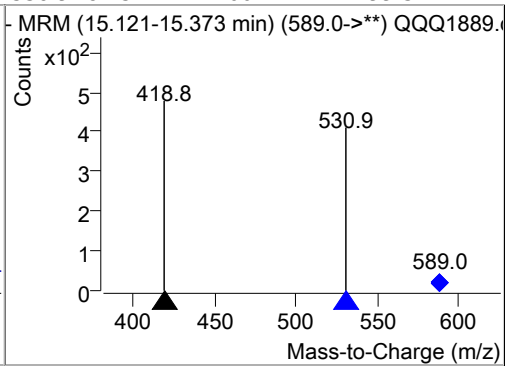


Quantitation Results Report (Not Reviewed)

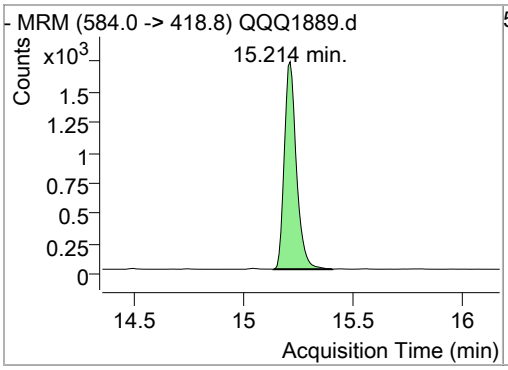
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	1.0066	15.20	-0.06	6833	589.0 -> 530.9	84.5	66.2	99.3

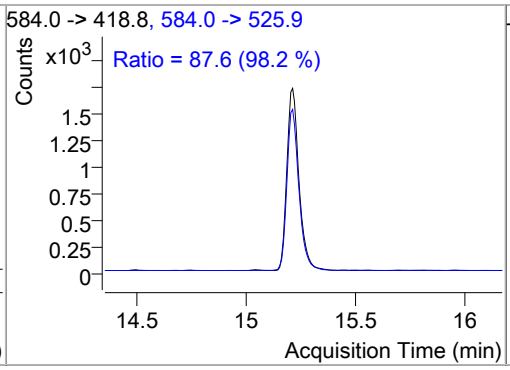


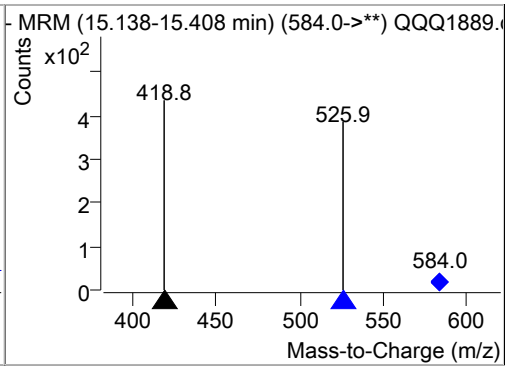




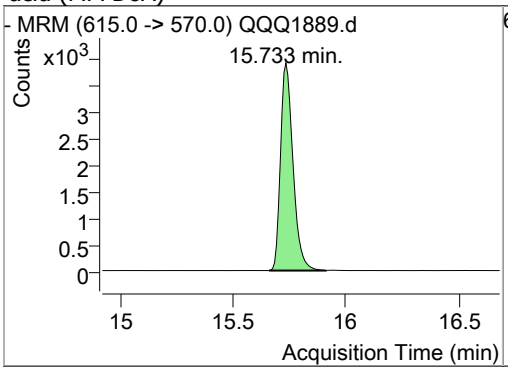
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.9815	15.21	-0.05	6582	584.0 -> 525.9	87.6	71.3	107.0

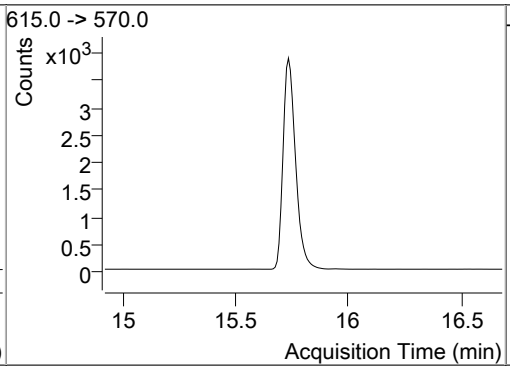


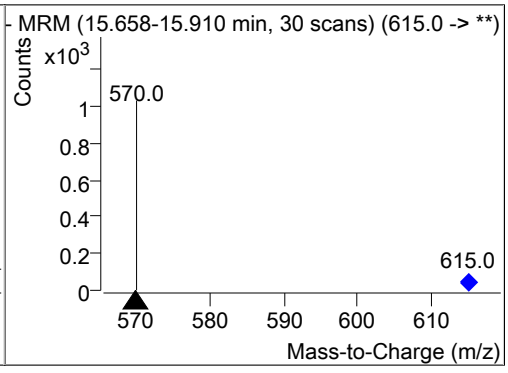




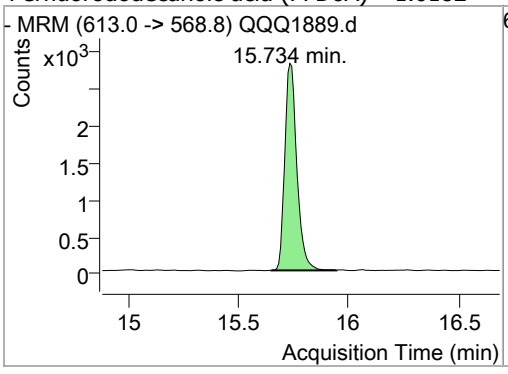
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	0.9786	15.73	-0.04	14934				

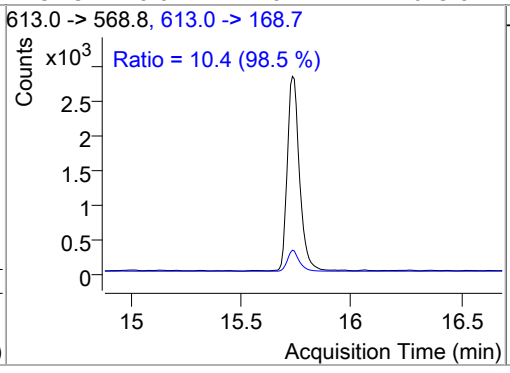


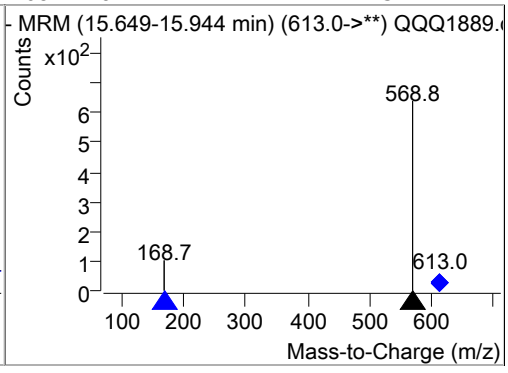




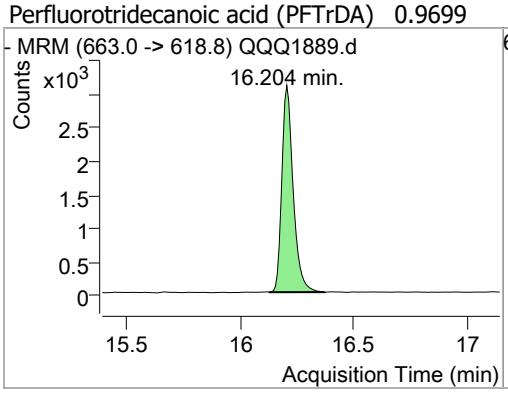
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	1.0182	15.73	-0.04	10712	613.0 -> 168.7	10.4	7.4	13.7

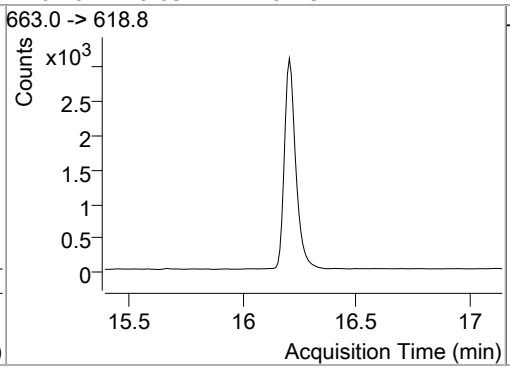


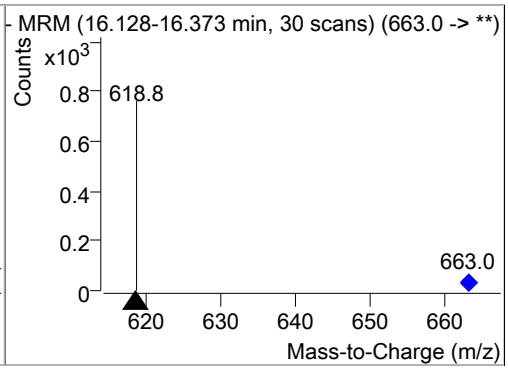




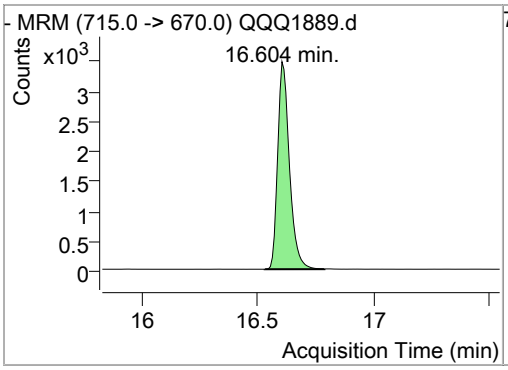
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.9699	16.20	-0.03	10729				

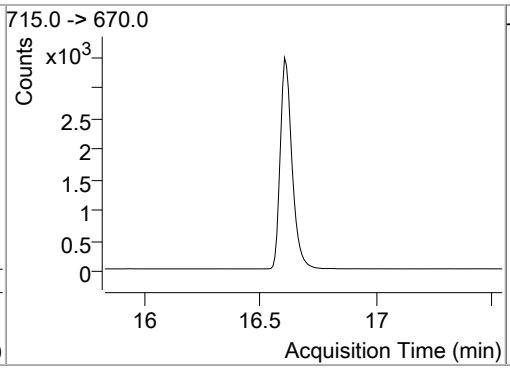


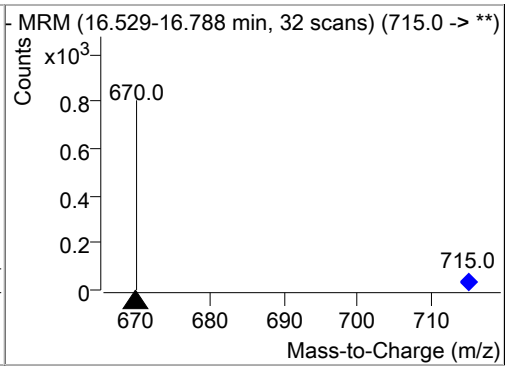




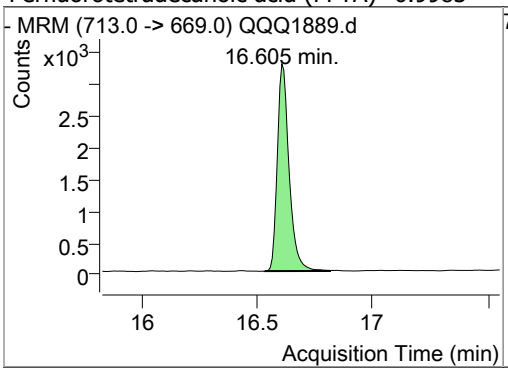
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	0.9824	16.60	-0.03	12239				

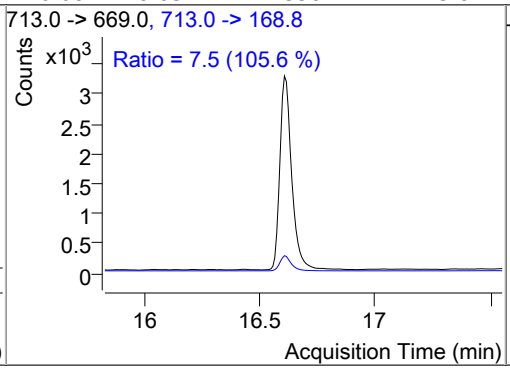


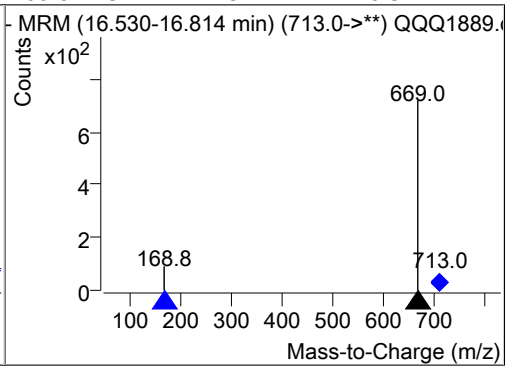




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.9983	16.60	-0.03	11530	713.0 -> 168.8	7.5	5.7	8.5







Quantitation Results Report (Not Reviewed)

Data File	QQQ1890.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 2:58:25 PM
Sample Name	SEQ-CAL4	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	2.50 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

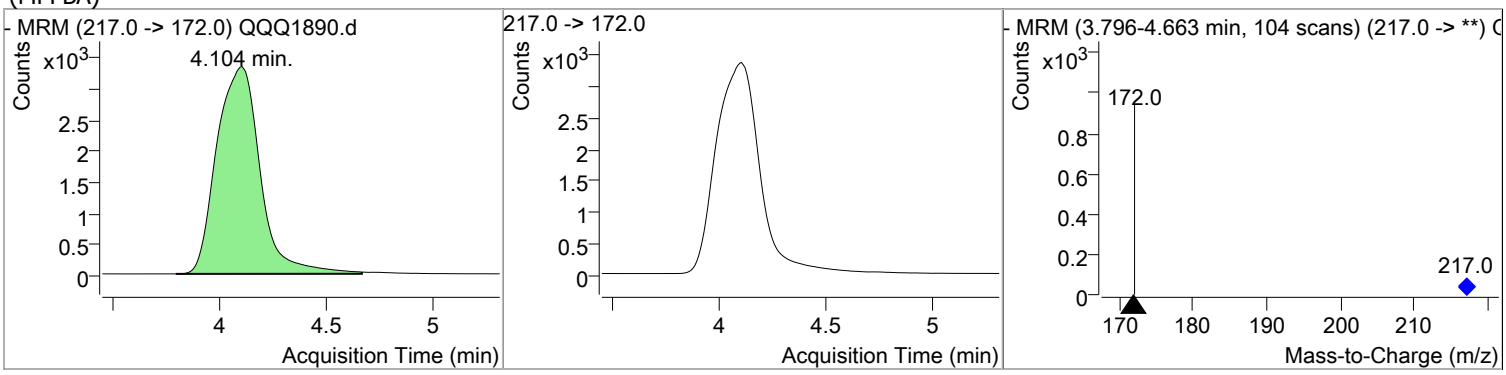
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
MPFOA	12.958	417.0 -> 372.0	215133	10.0000	ng/ml		-0.075
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	46814	2.5478	ng/ml		-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.48%			
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	71064	2.5846	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.85%			
M3PFBS	8.752	302.0 -> 79.9	19161	2.4435	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 24.43%		*	
M2-4-2FTS	10.183	329.0 -> 309.0	26610	2.4666	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 24.67%		*	
M5PFHxA	10.328	318.0 -> 273.0	72527	2.6206	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 26.21%			
M4PFHpA	11.844	367.0 -> 322.0	15729	2.6160	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 26.16%			
M3PFHxS	11.966	402.0 -> 80.0	13786	2.5132	ng/ml		-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.13%			
M2-6-2FTS	12.895	429.0 -> 409.0	16244	2.5530	ng/ml		-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.53%			
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.958	421.0 -> 376.0	37939	2.5298	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.30%			
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.837	472.0 -> 427.0	42020	2.7290	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 27.29%			
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	10646	2.5198	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.20%			
M2-8-2FTS	14.559	529.0 -> 509.0	16117	2.8899	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.90%			
M6PFDA	14.568	519.0 -> 473.9	33333	2.7207	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 27.21%			
d3-N-MeFOSAA	14.886	573.0 -> 418.8	19119	2.5445	ng/ml		-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.45%			
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.177	506.0 -> 78.0	16661	2.6102	ng/ml		-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 26.10%			
M7PFUdA	15.198	570.0 -> 525.0	38346	2.7511	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 27.51%			
d5-N-EtFOSAA	15.213	589.0 -> 418.8	17127	2.6867	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 26.87%			
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.750	615.0 -> 570.0	40889	2.8533	ng/ml		-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.53%			
M2PFTeDA	16.612	715.0 -> 670.0	29854	2.5517	ng/ml		-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 25.52%			

Target Compounds **QValue**

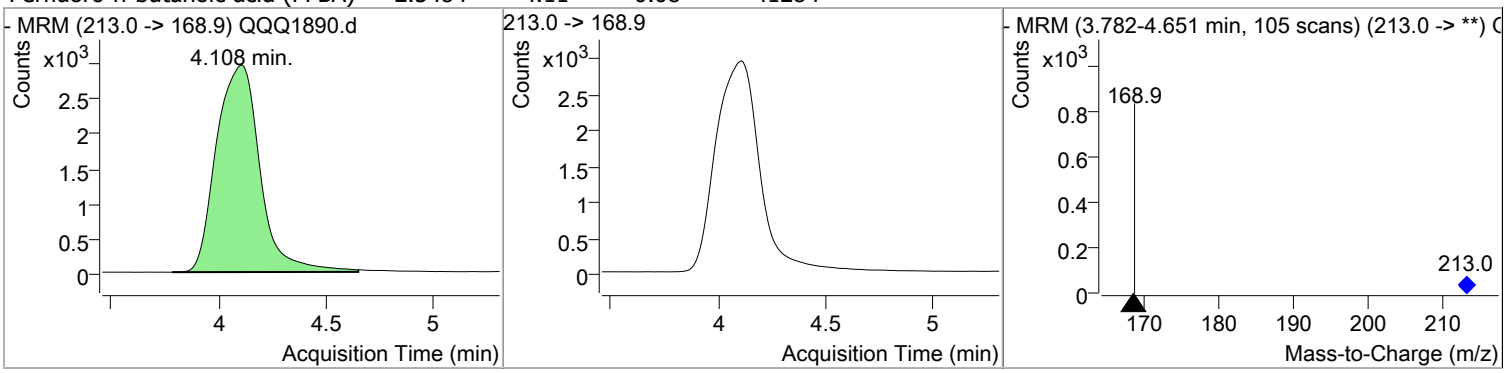
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	41284	2.5484	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	62481	2.5884	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	16393	2.3194	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	22713	2.5477	ng/ml		99
Perfluorohexanoic acid (PFHxA)	10.330	313.0 -> 268.9	62030	2.5980	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	14888	2.4087	ng/ml		99
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	47835	2.7194	ng/ml		96
Perfluorohexanesulfonic acid (PFHxS)	11.967	398.9 -> 79.9	10170	1.9450	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.896	427.0 -> 407.0	15864	2.4629	ng/ml		98
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	33370	2.5075	ng/ml		99
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.006	448.9 -> 80.0	10145	2.6190	ng/ml		98
Perfluorononanoic acid (PFNA)	13.837	463.0 -> 418.8	31629	2.7958	ng/ml		92
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	8889	1.9270	ng/ml		92
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	8573	2.4800	ng/ml		94
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	13519	2.7195	ng/ml		96
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	29458	2.7257	ng/ml	#	84
N-MeFOSAA	14.895	570.0 -> 418.9	20304	2.5553	ng/ml		89
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	17238	2.5922	ng/ml		97
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	7924	2.4775	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	33068	2.5560	ng/ml		99
N-EtFOSAA	15.222	584.0 -> 418.8	16324	2.5921	ng/ml		99
Perfluorododecanoic acid (PFDoA)	15.750	613.0 -> 568.8	27698	2.8035	ng/ml		98
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	28163	2.7112	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	26838	2.4745	ng/ml		99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

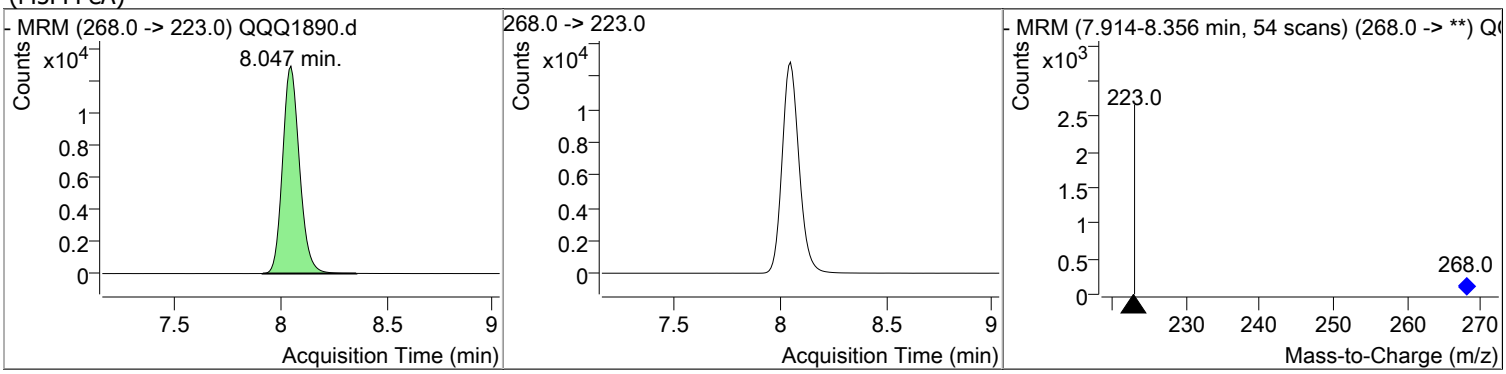
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	2.5478	4.10	-0.08	46814				



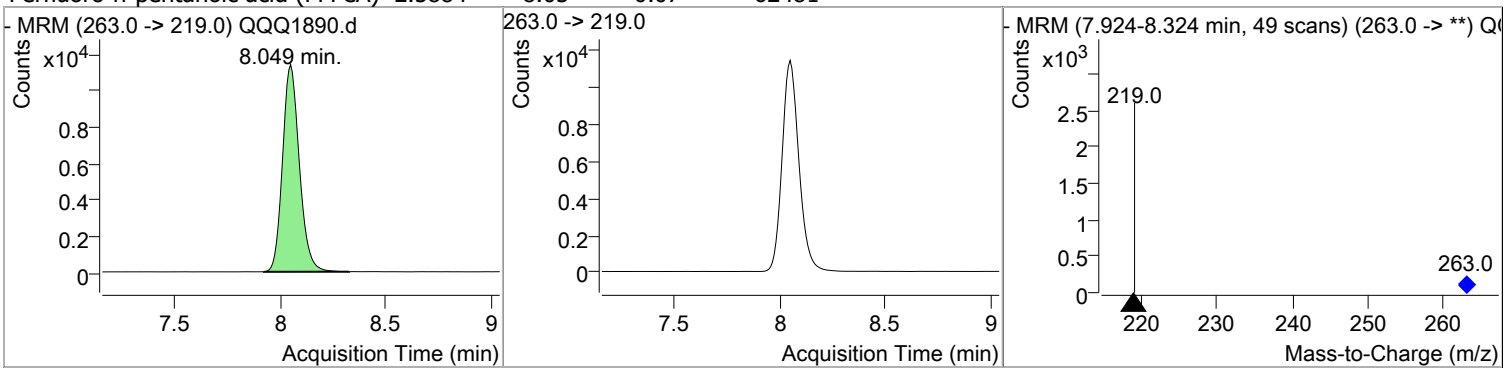
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	2.5484	4.11	-0.08	41284				



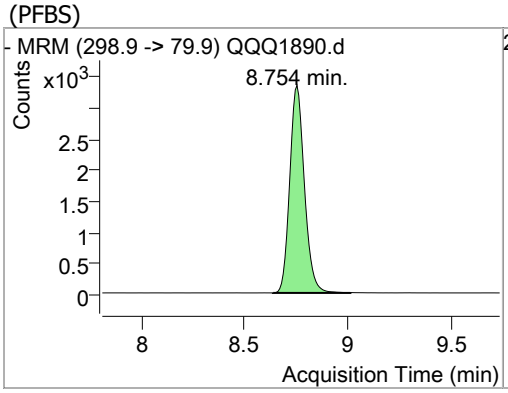
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	2.5846	8.05	-0.07	71064				

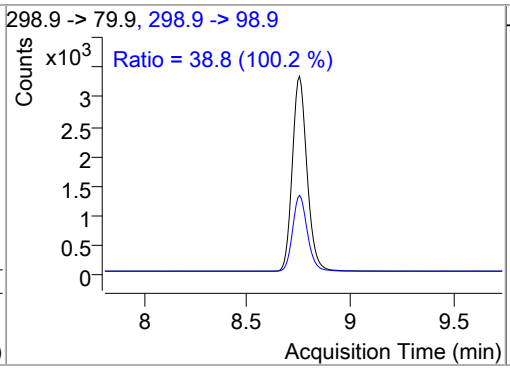


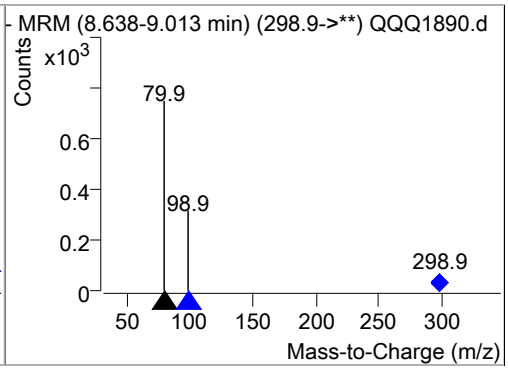
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	2.5884	8.05	-0.07	62481				



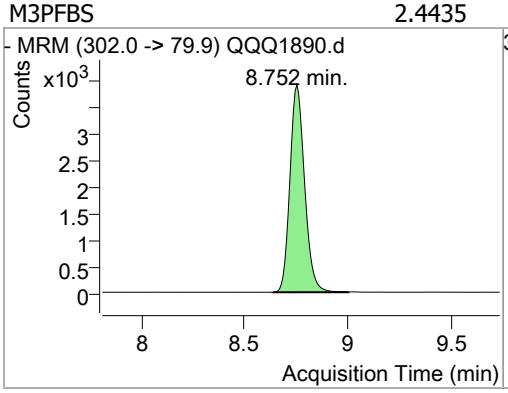
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	2.3194	8.75	-0.06	16393	298.9 -> 98.9	38.8	31.0	46.5

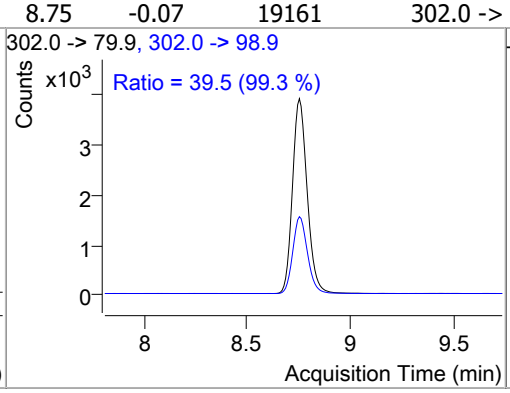


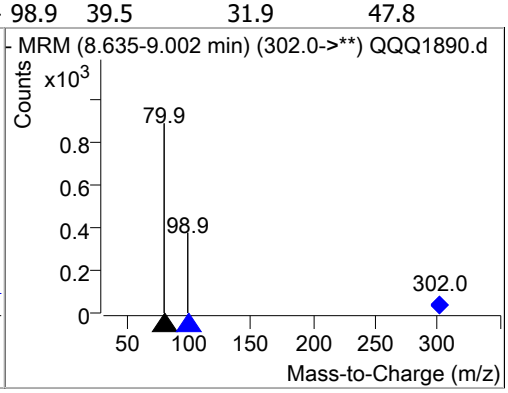




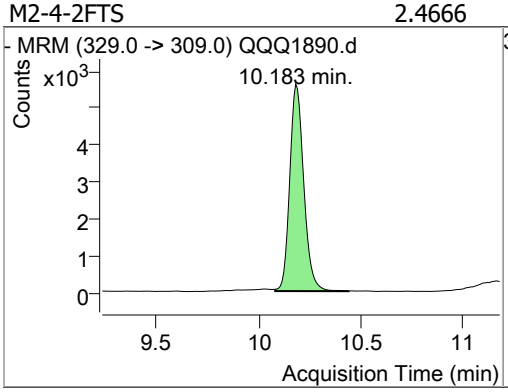
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	2.4435	8.75	-0.07	19161	302.0 -> 98.9	39.5	31.9	47.8

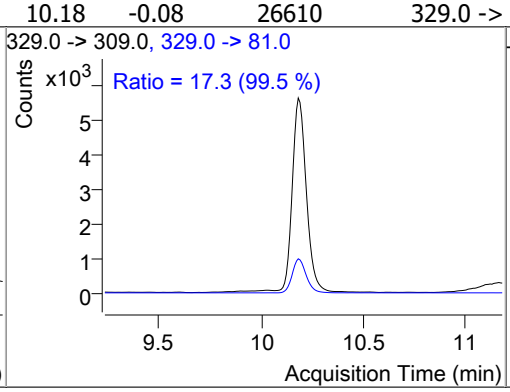


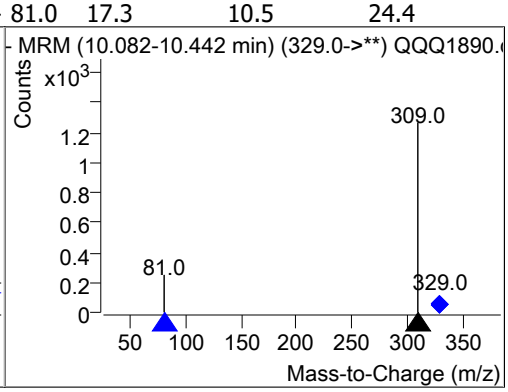




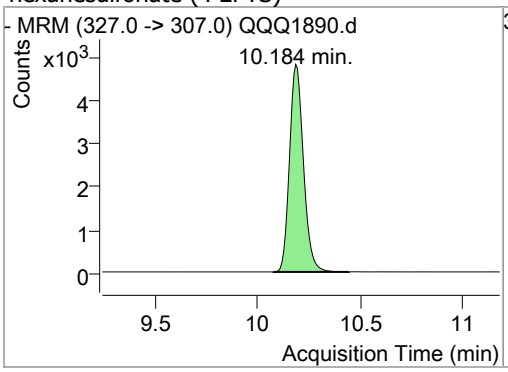
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	2.4666	10.18	-0.08	26610	329.0 -> 81.0	17.3	10.5	24.4

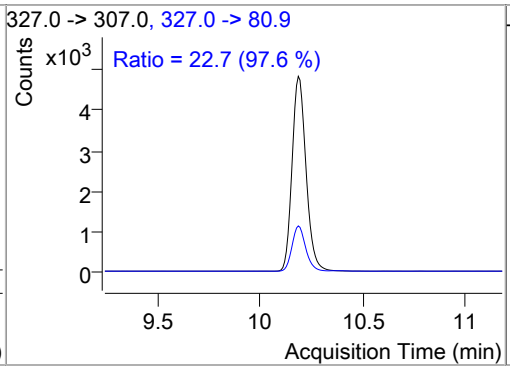


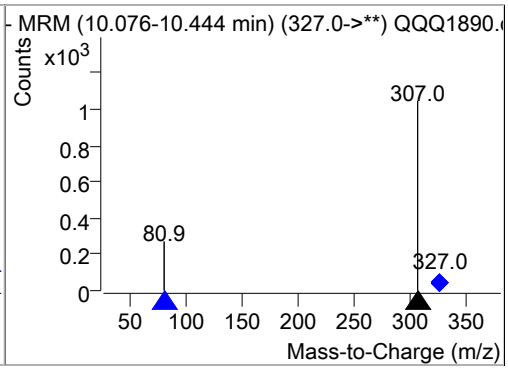




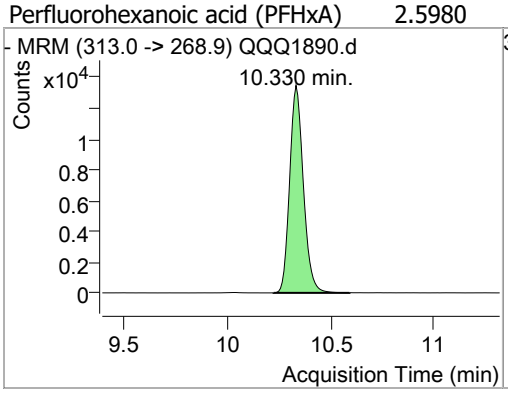
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	2.5477	10.18	-0.08	22713	327.0 -> 80.9	22.7	13.9	32.5

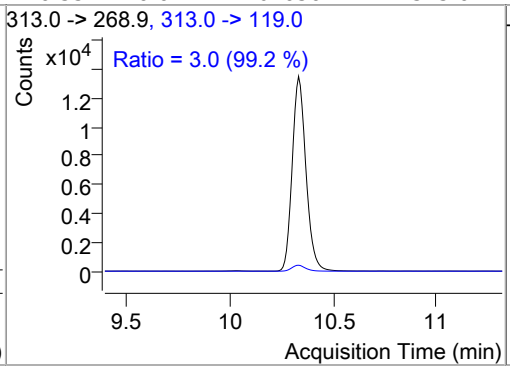


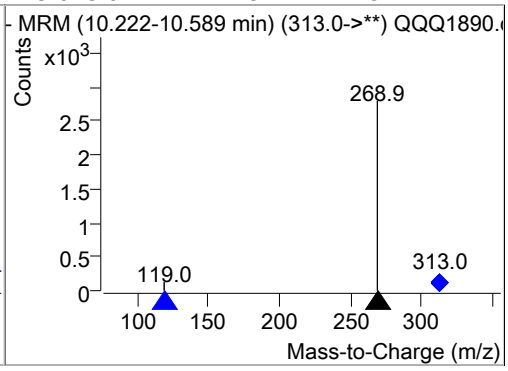




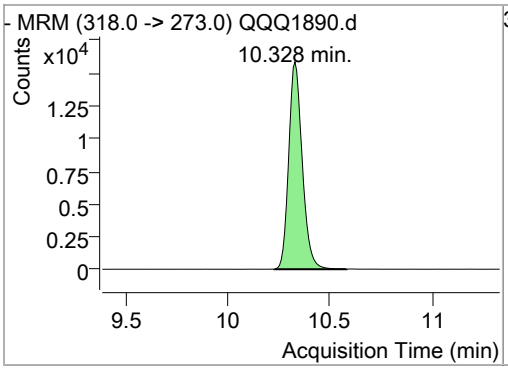
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	2.5980	10.33	-0.07	62030	313.0 -> 119.0	3.0	2.5	3.7

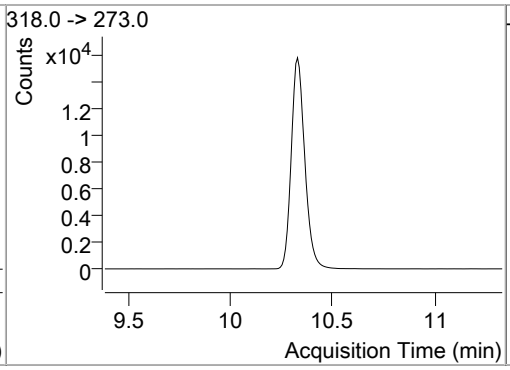


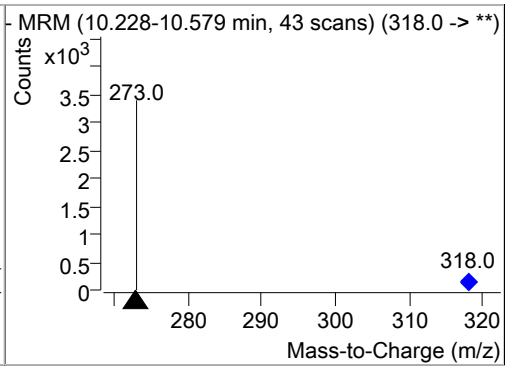




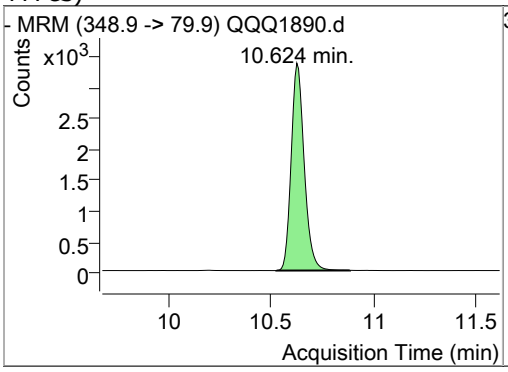
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	2.6206	10.33	-0.08	72527				

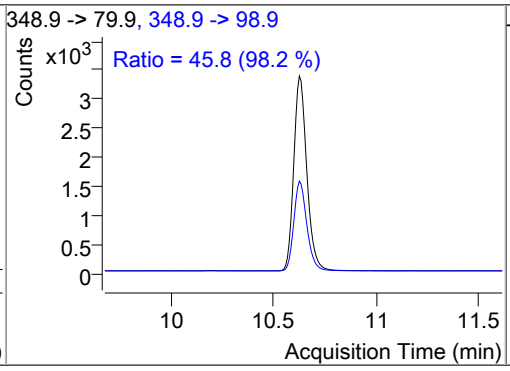


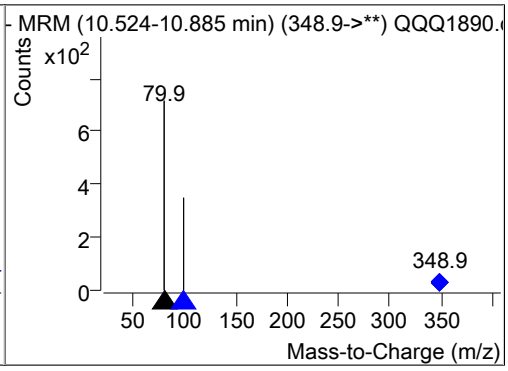




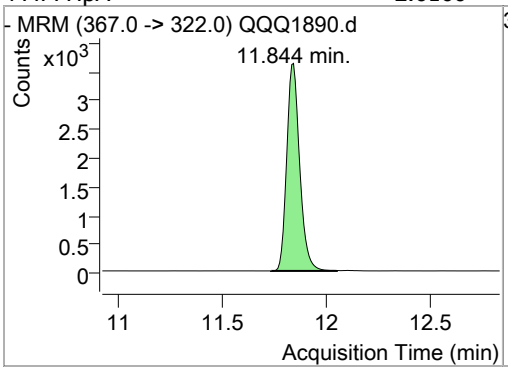
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	2.4087	10.62	-0.08	14888	348.9 -> 98.9	45.8	37.3	56.0

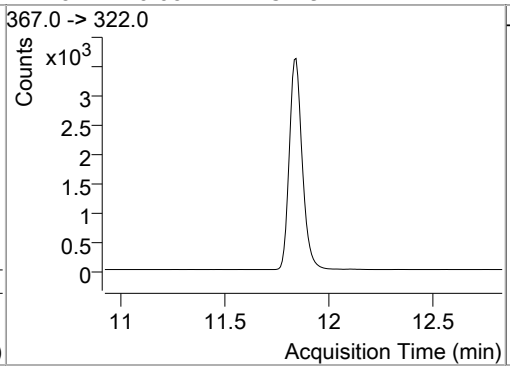


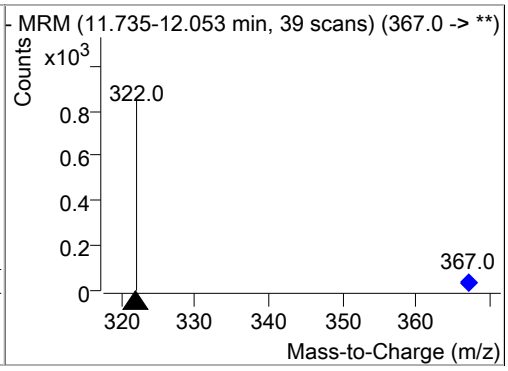




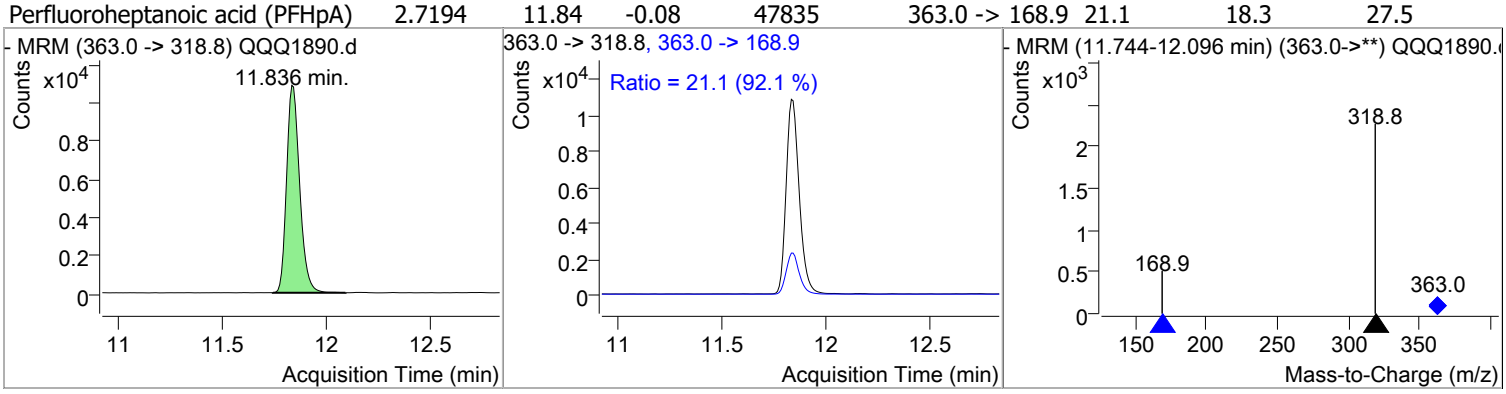
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	2.6160	11.84	-0.08	15729				



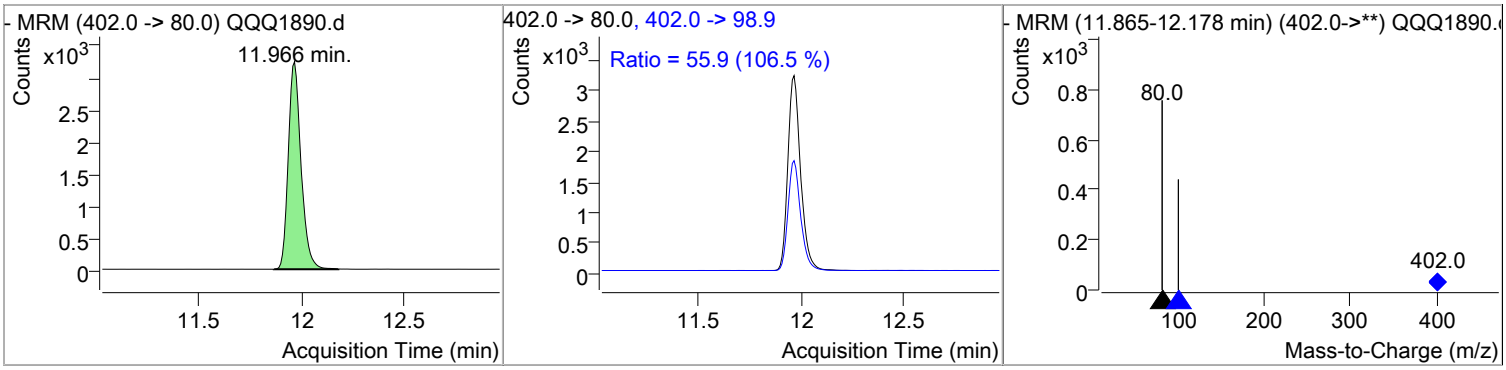




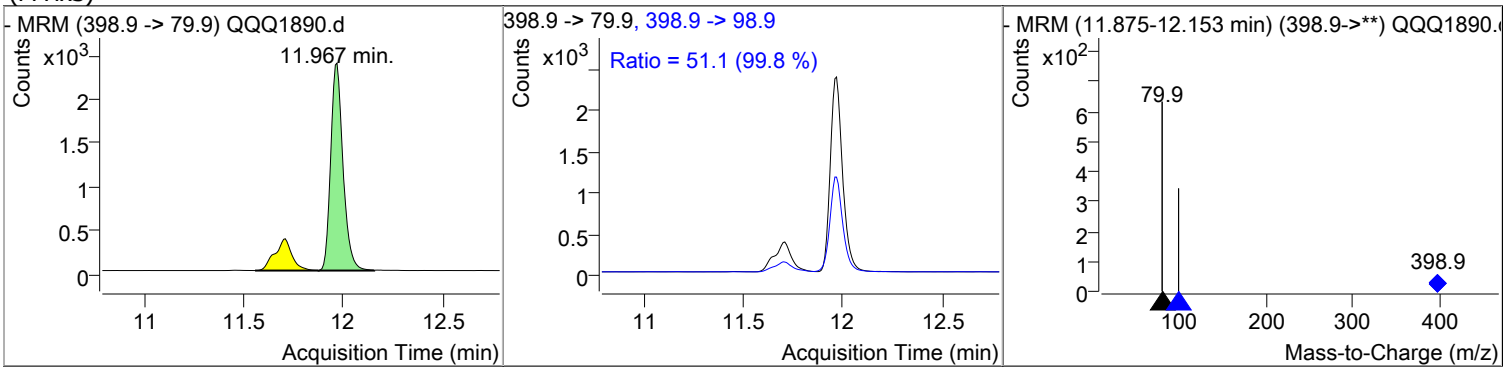
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	2.7194	11.84	-0.08	47835	363.0 -> 168.9	21.1	18.3	27.5



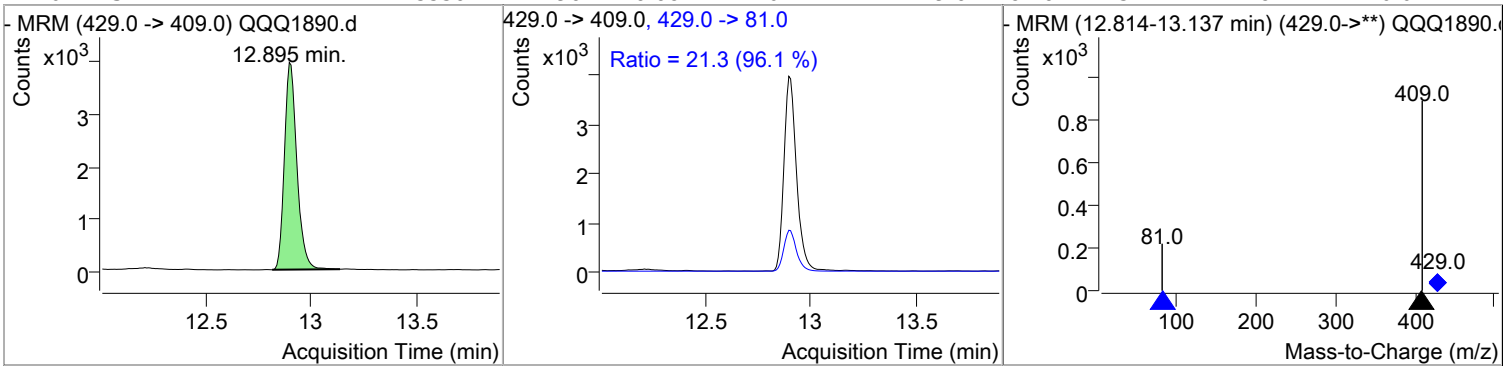
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	2.5132	11.97	-0.08	13786	402.0 -> 98.9	55.9	42.0	62.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	1.9450	11.97	-0.08	10170	398.9 -> 98.9	51.1	41.0	61.5

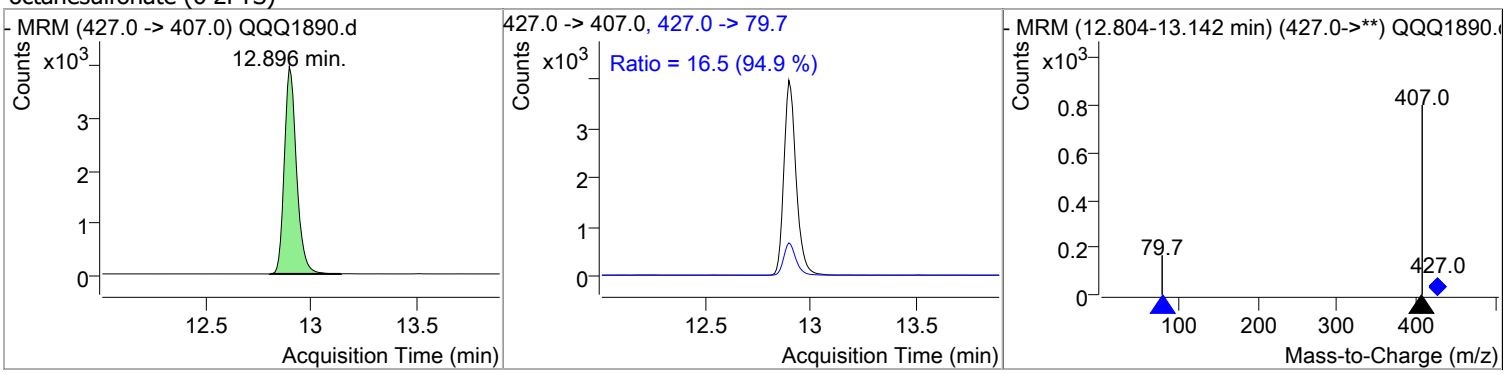


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	2.5530	12.90	-0.08	16244	429.0 -> 81.0	21.3	17.8	26.6

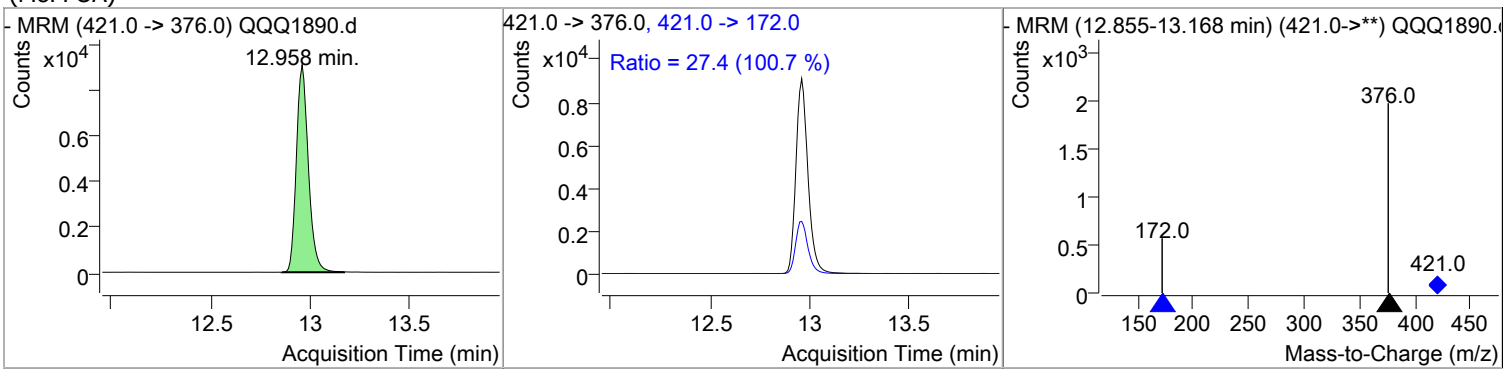


Quantitation Results Report (Not Reviewed)

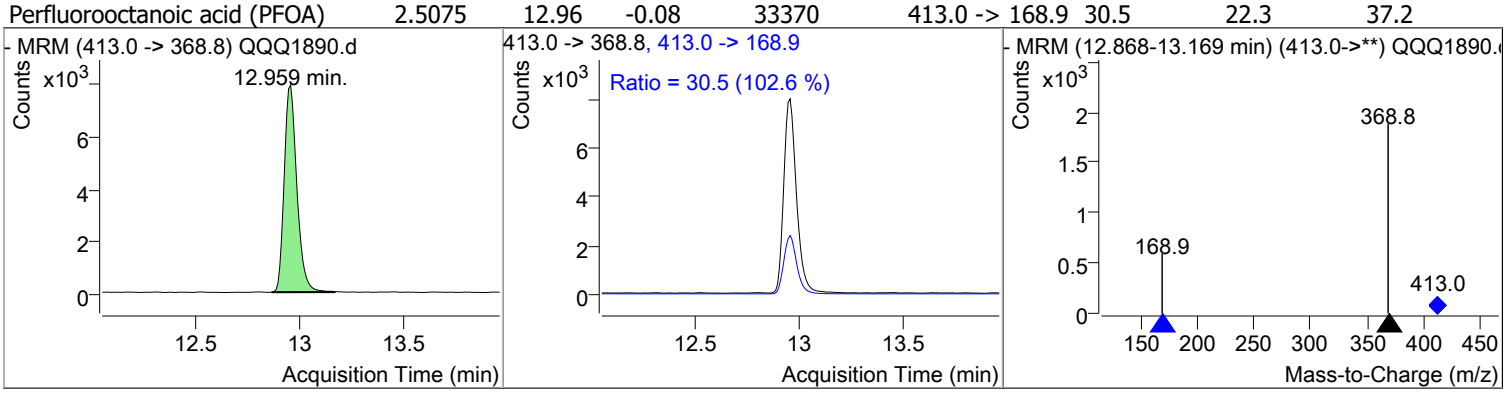
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	2.4629	12.90	-0.08	15864	427.0 -> 79.7	16.5	13.9	20.8



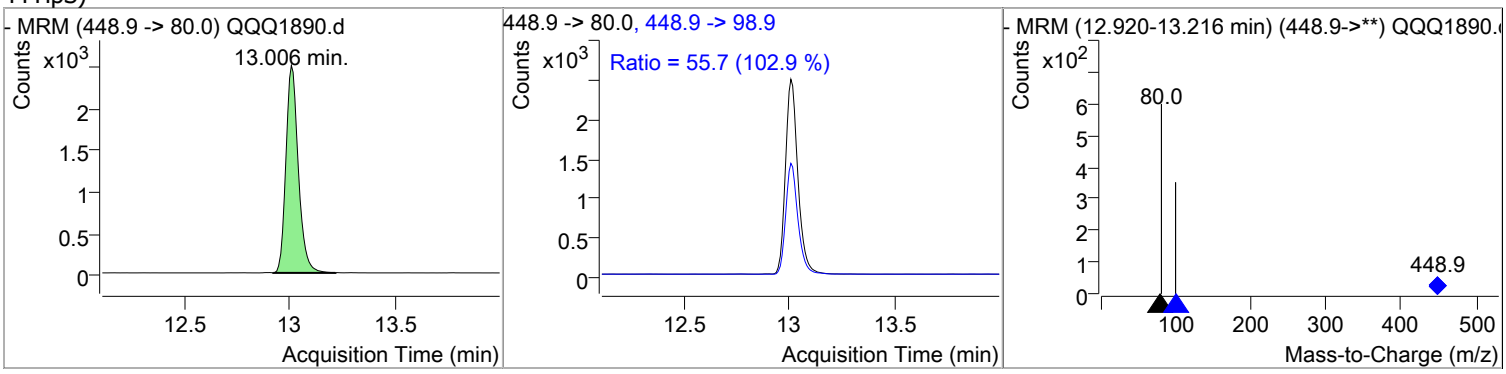
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	2.5298	12.96	-0.07	37939	421.0 -> 172.0	27.4	21.7	32.6



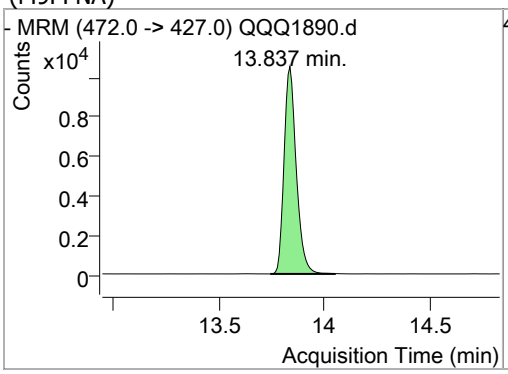
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	2.5075	12.96	-0.08	33370	413.0 -> 168.9	30.5	22.3	37.2

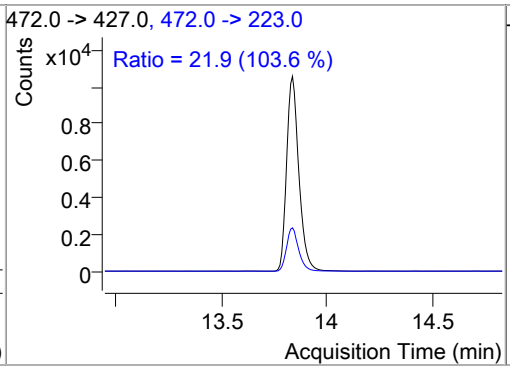


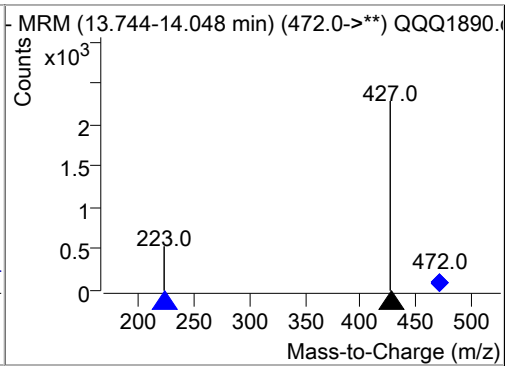
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	2.6190	13.01	-0.08	10145	448.9 -> 98.9	55.7	43.3	64.9



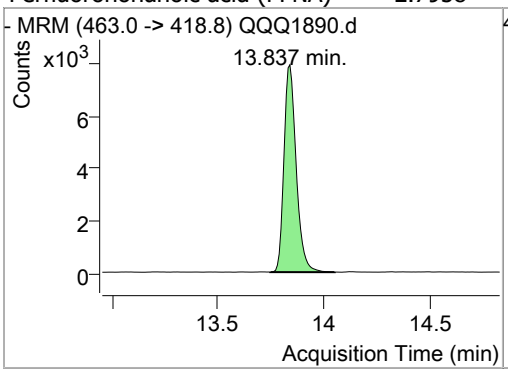
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	2.7290	13.84	-0.07	42020	472.0 -> 223.0	21.9	16.9	25.4

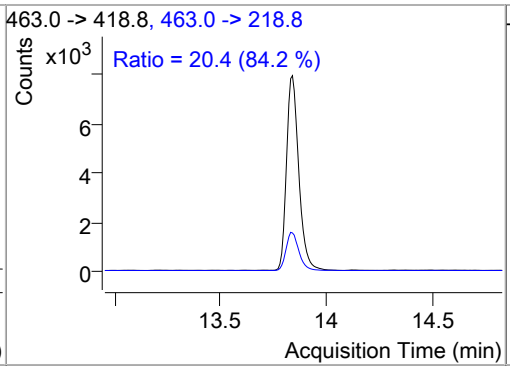


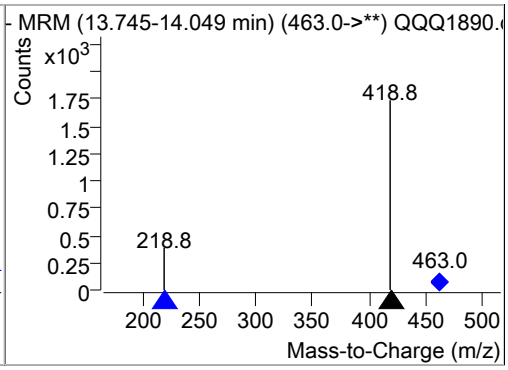




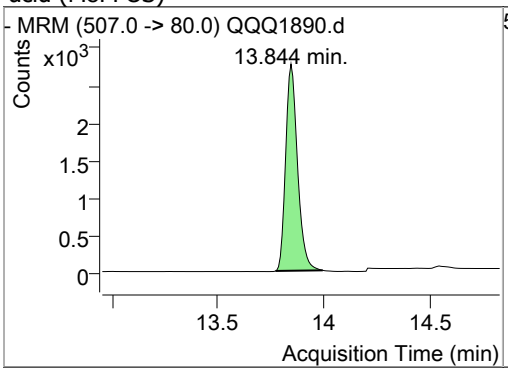
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	2.7958	13.84	-0.07	31629	463.0 -> 218.8	20.4	19.4	29.1

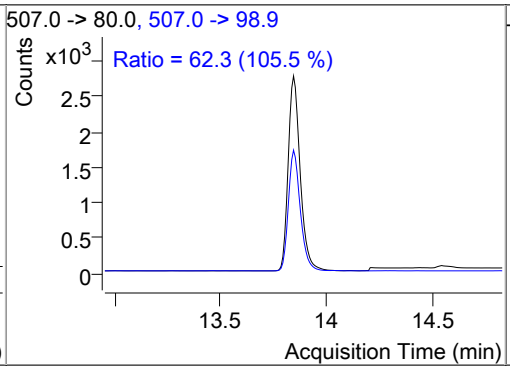


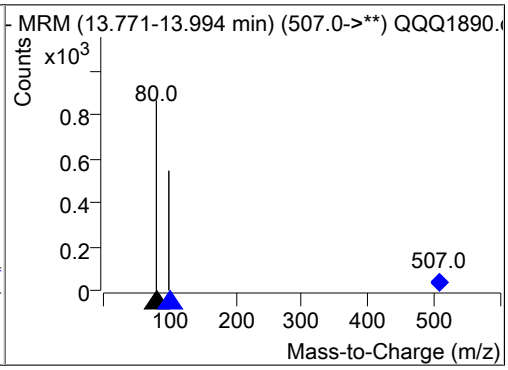




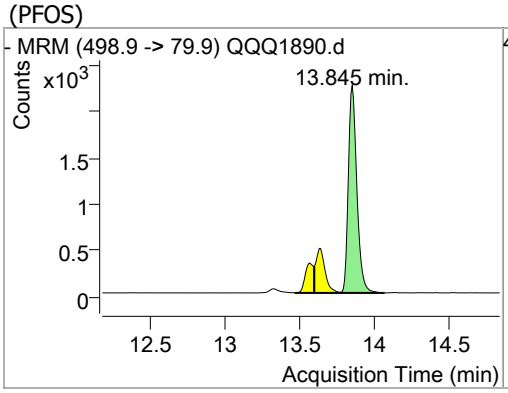
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	2.5198	13.84	-0.07	10646	507.0 -> 98.9	62.3	47.2	70.8

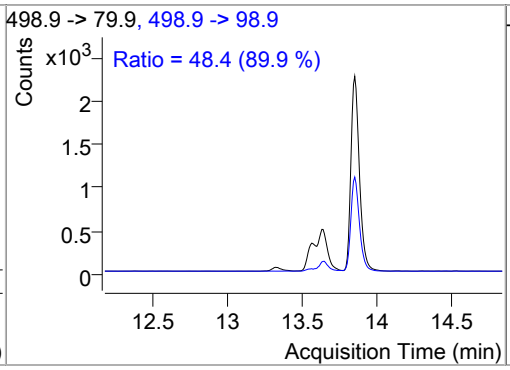


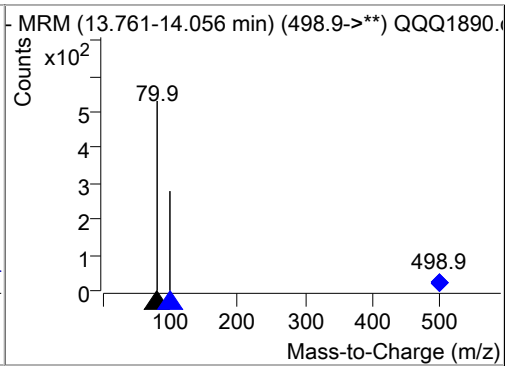




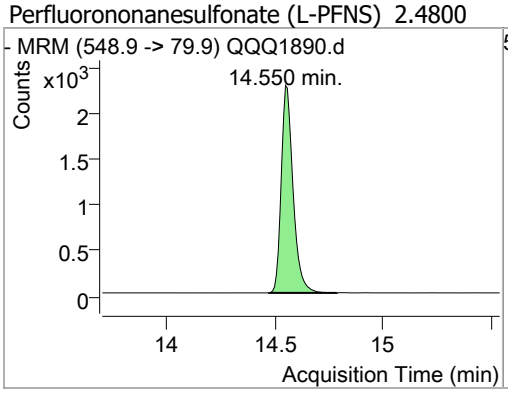
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	1.9270	13.84	-0.07	8889	498.9 -> 98.9	48.4	43.1	64.6

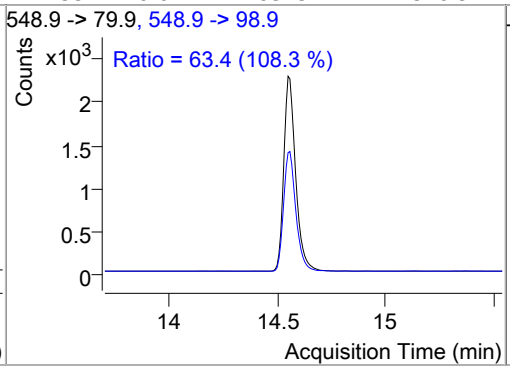


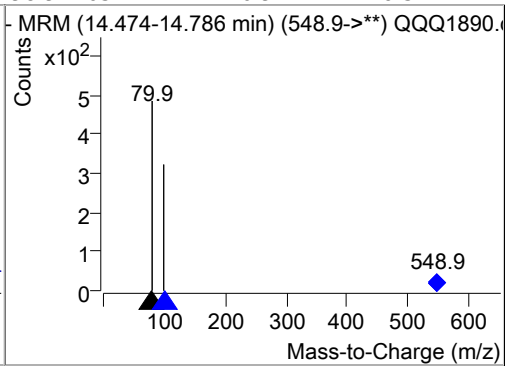




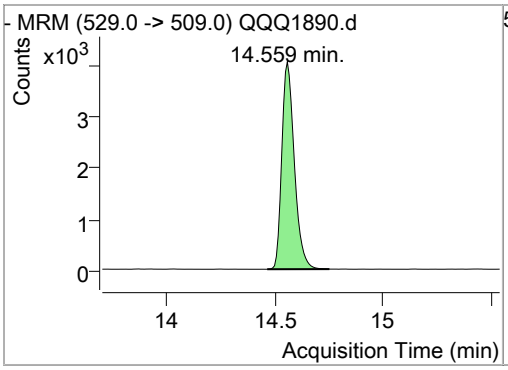
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	2.4800	14.55	-0.07	8573	548.9 -> 98.9	63.4	46.9	70.3

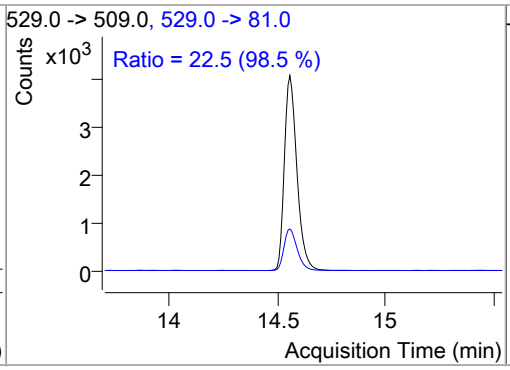


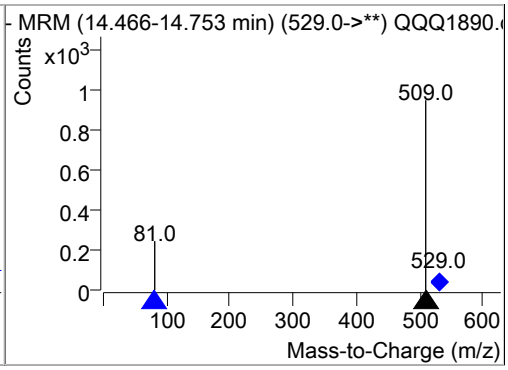




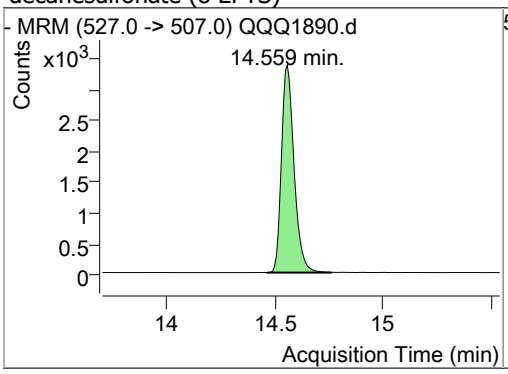
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	2.8899	14.56	-0.06	16117	529.0 -> 81.0	22.5	18.3	27.4

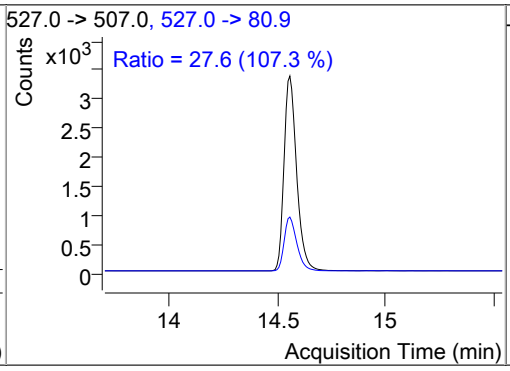


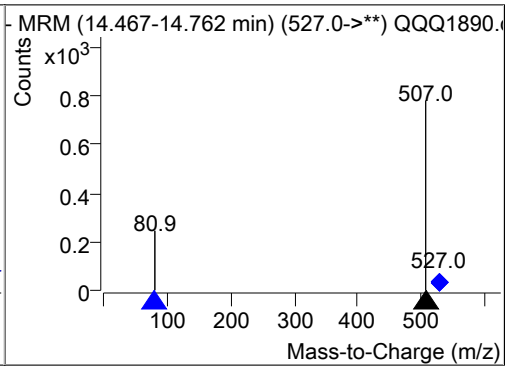




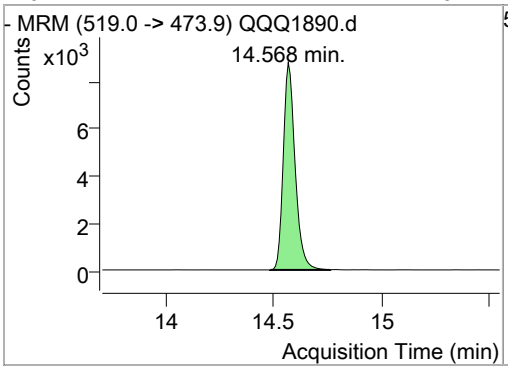
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	2.7195	14.56	-0.06	13519	527.0 -> 80.9	27.6	20.6	30.9

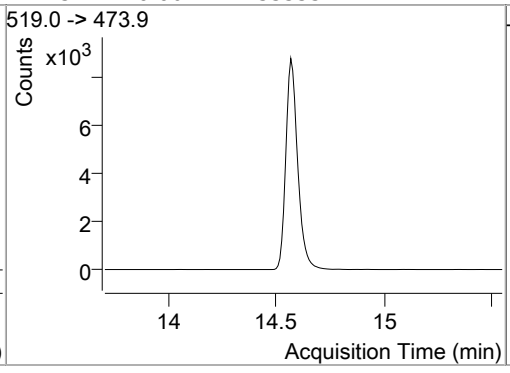


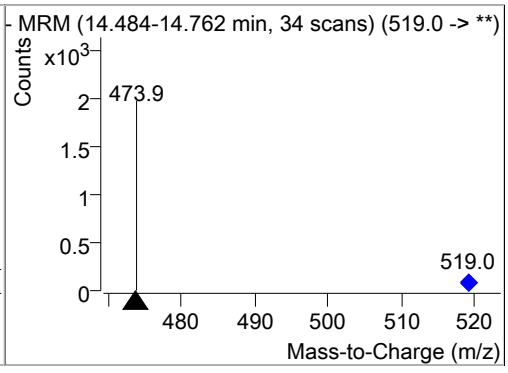




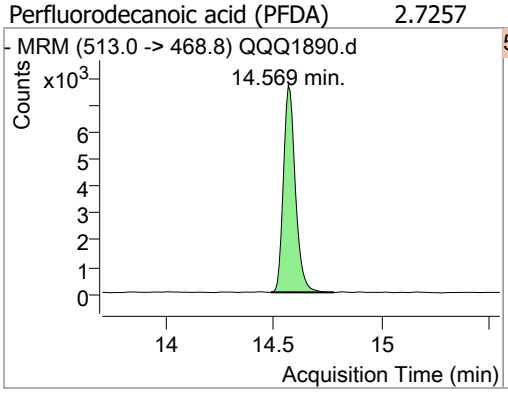
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	2.7207	14.57	-0.06	33333				

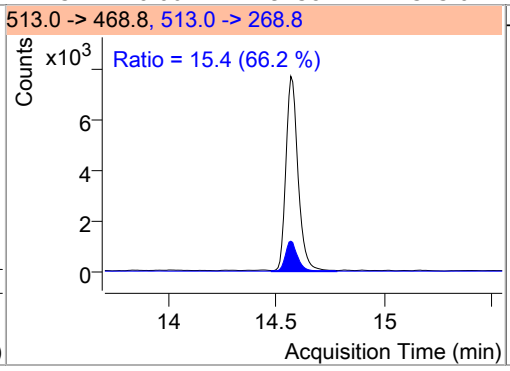


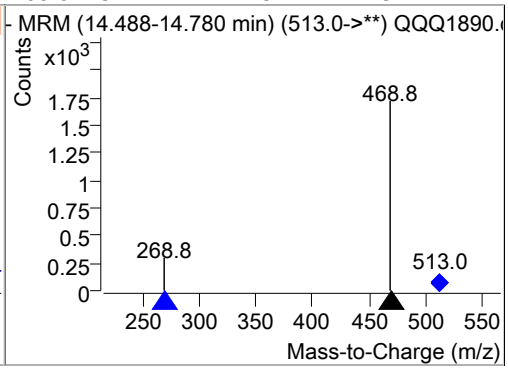




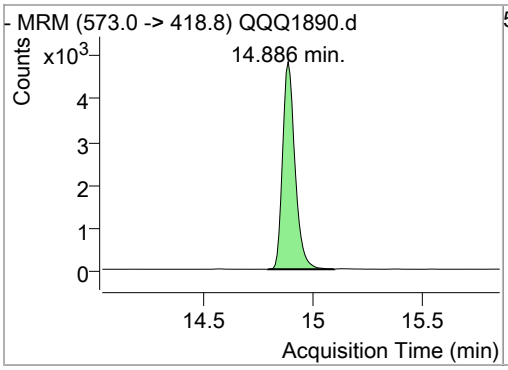
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	2.7257	14.57	-0.06	29458	513.0 -> 268.8	15.4	17.5	29.1

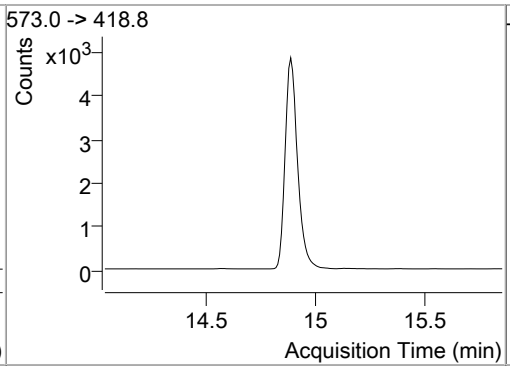


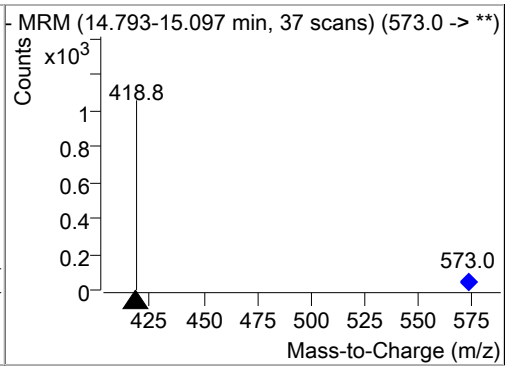




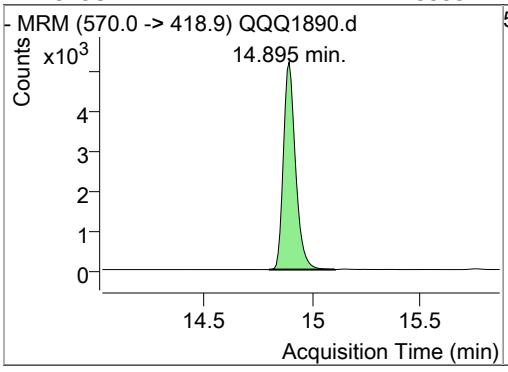
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	2.5445	14.89	-0.05	19119				

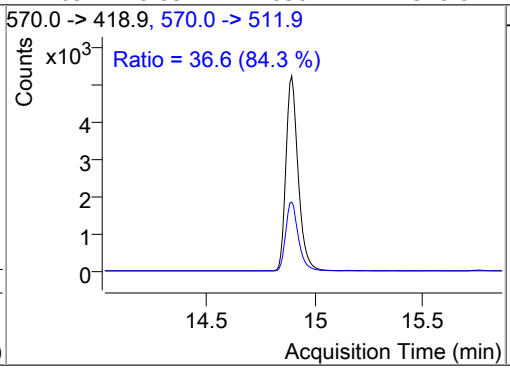


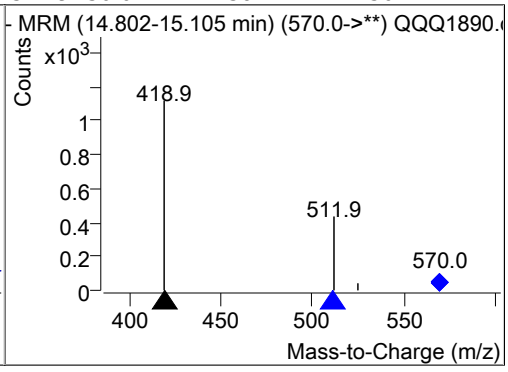




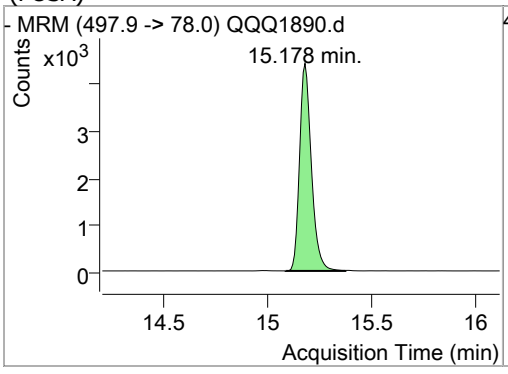
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	2.5553	14.89	-0.05	20304	570.0 -> 511.9	36.6	30.4	56.4

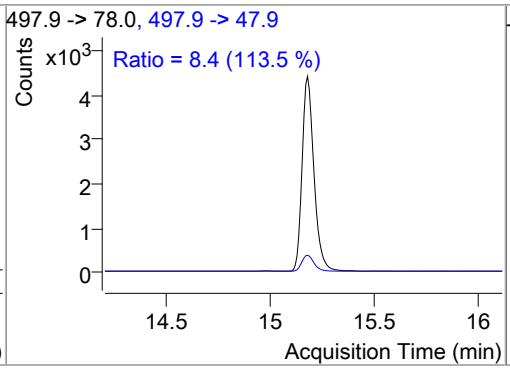


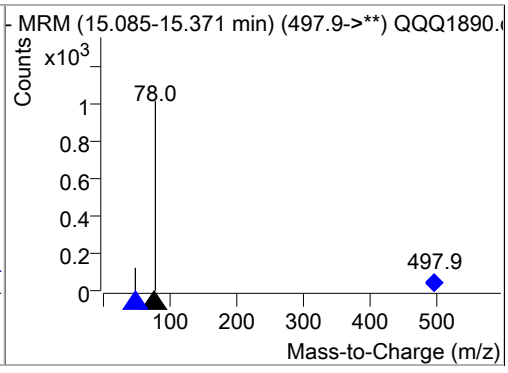




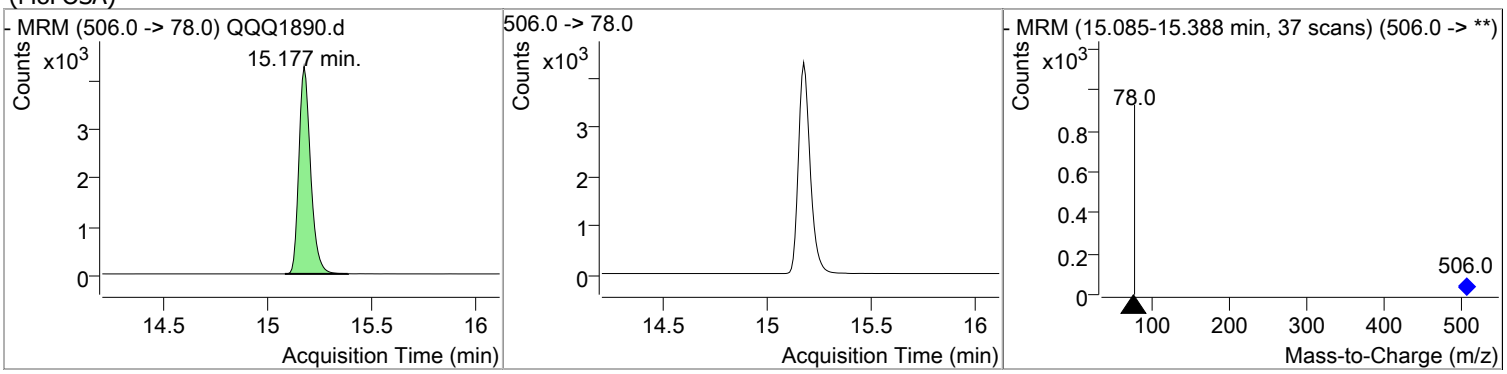
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	2.5922	15.18	-0.01	17238	497.9 -> 47.9	8.4	5.9	8.8



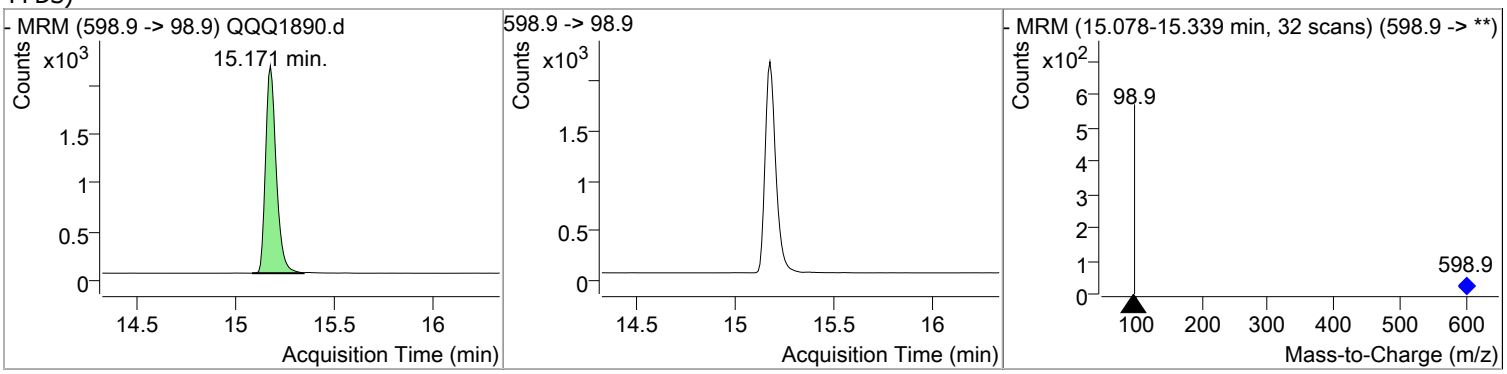




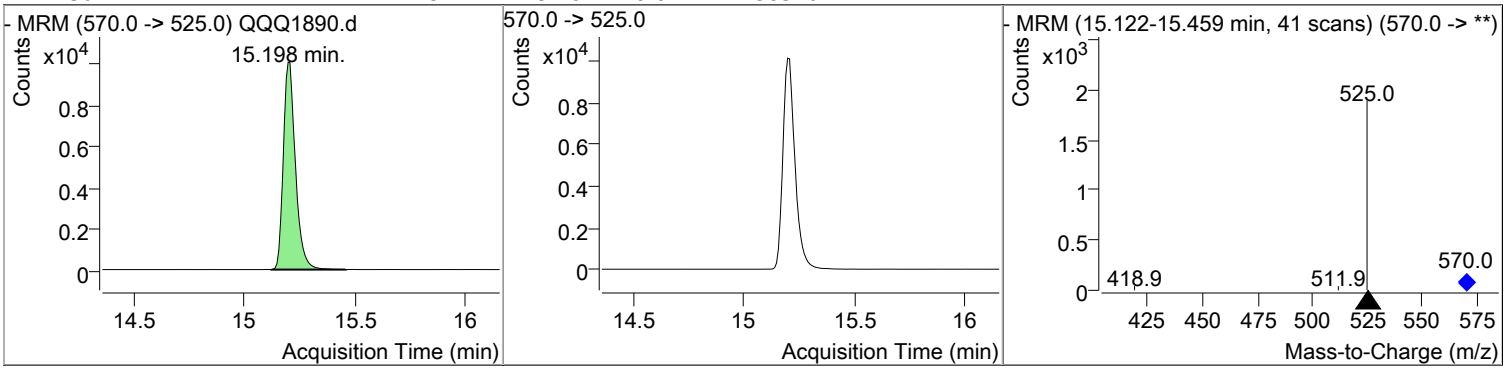
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.6102	15.18	-0.02	16661				



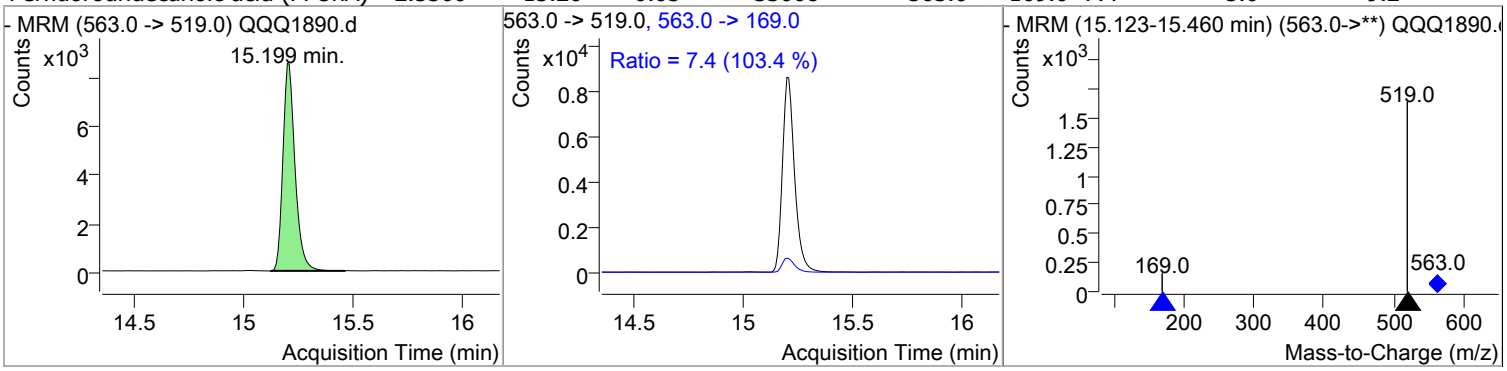
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	2.4775	15.17	-0.04	7924				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	2.7511	15.20	-0.04	38346				

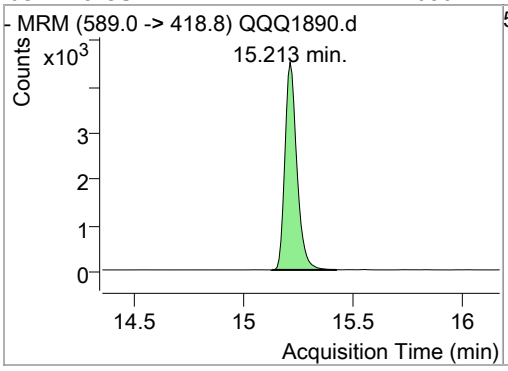


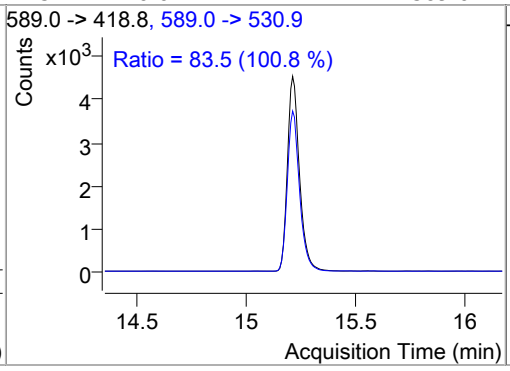
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	2.5560	15.20	-0.05	33068	563.0 -> 169.0	7.4	5.0	9.2

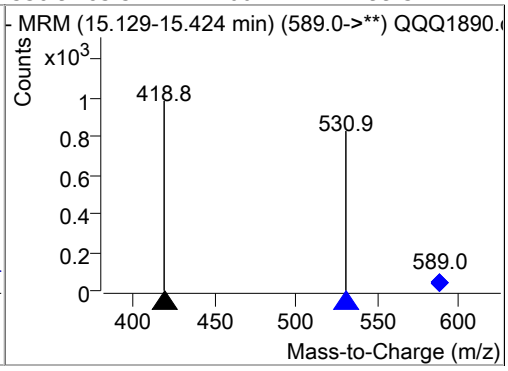


Quantitation Results Report (Not Reviewed)

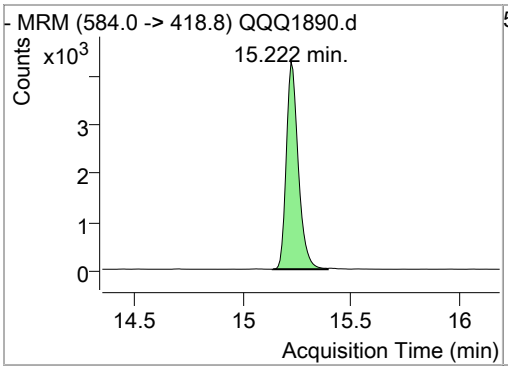
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	2.6867	15.21	-0.04	17127	589.0 -> 530.9	83.5	66.2	99.3

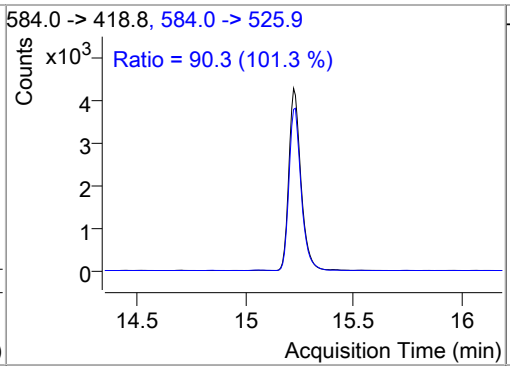


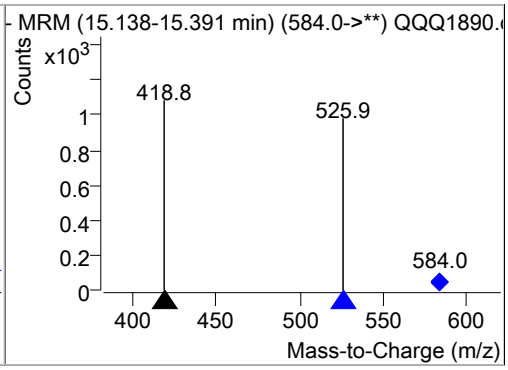




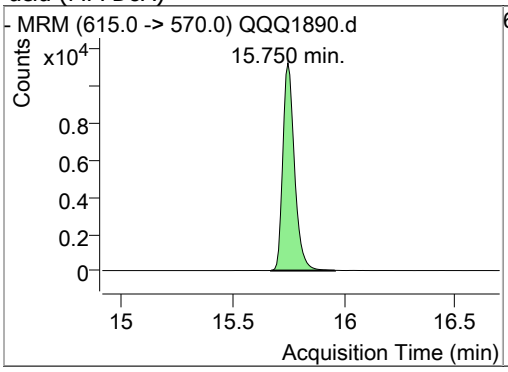
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	2.5921	15.22	-0.04	16324	584.0 -> 525.9	90.3	71.3	107.0

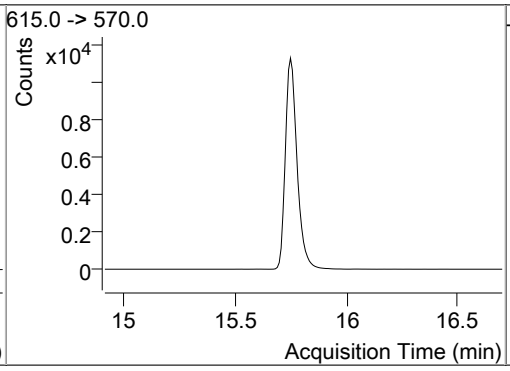


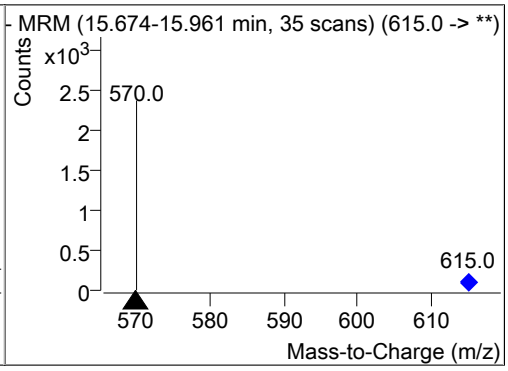




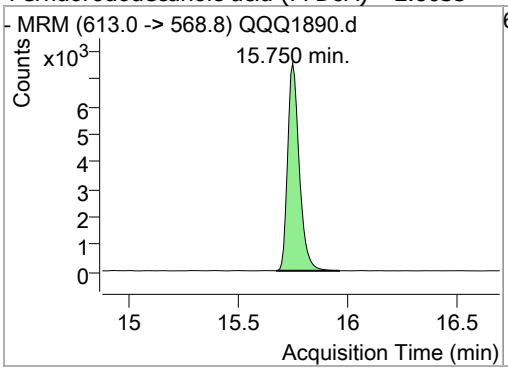
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	2.8533	15.75	-0.03	40889				

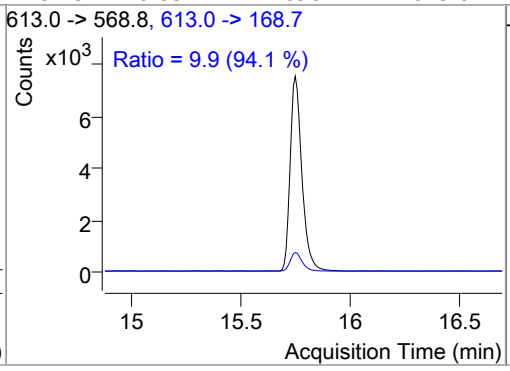


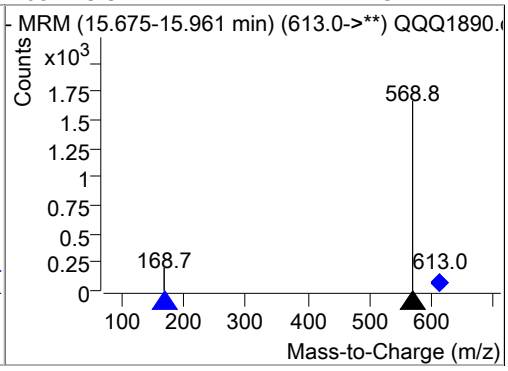




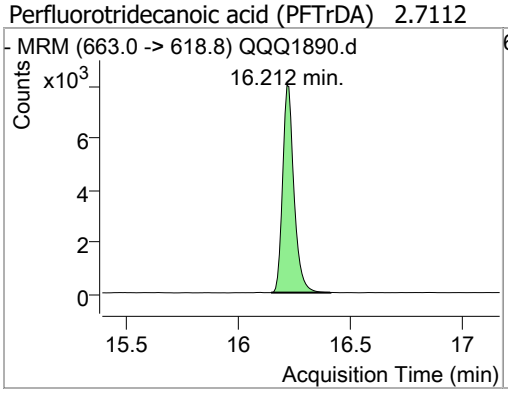
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	2.8035	15.75	-0.03	27698	613.0 -> 168.7	9.9	7.4	13.7

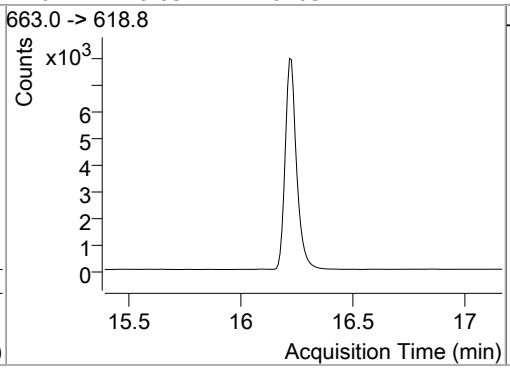


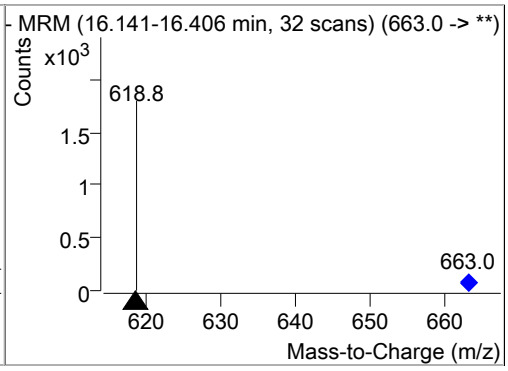




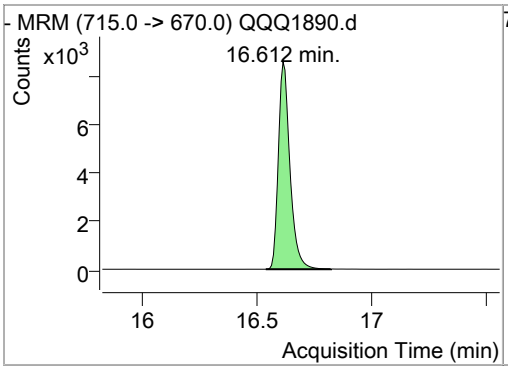
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	2.7112	16.21	-0.03	28163				

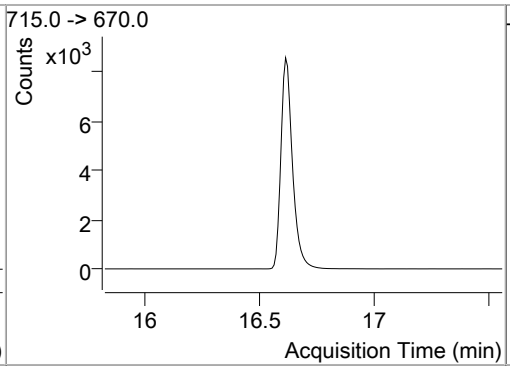


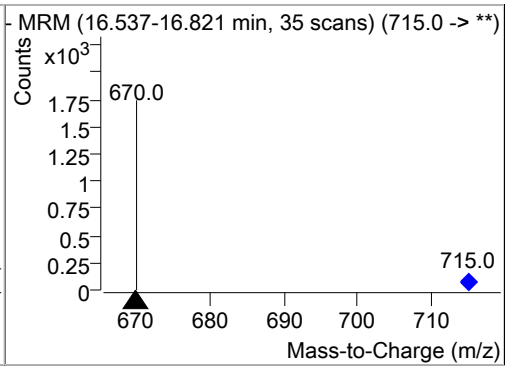




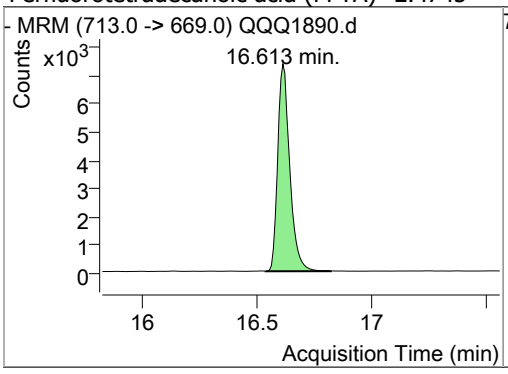
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	2.5517	16.61	-0.03	29854				

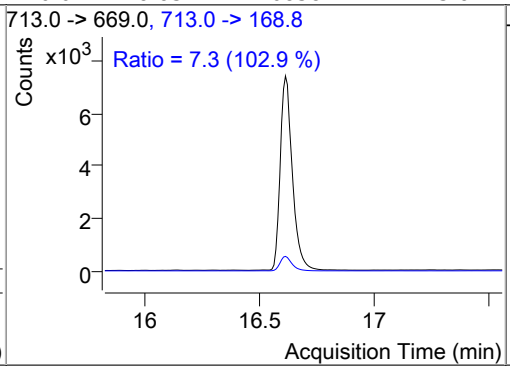


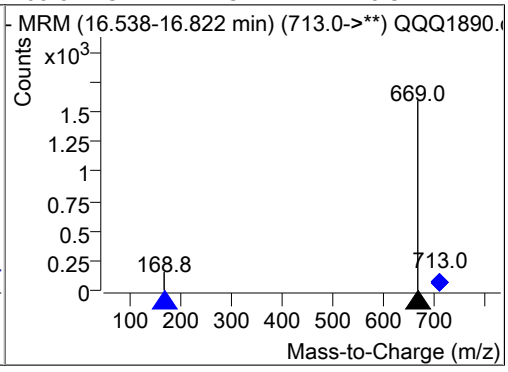




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	2.4745	16.61	-0.03	26838	713.0 -> 168.8	7.3	5.7	8.5







Data File	QQQ1891.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 3:25:20 PM
Sample Name	SEQ-CAL5	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	5.00 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

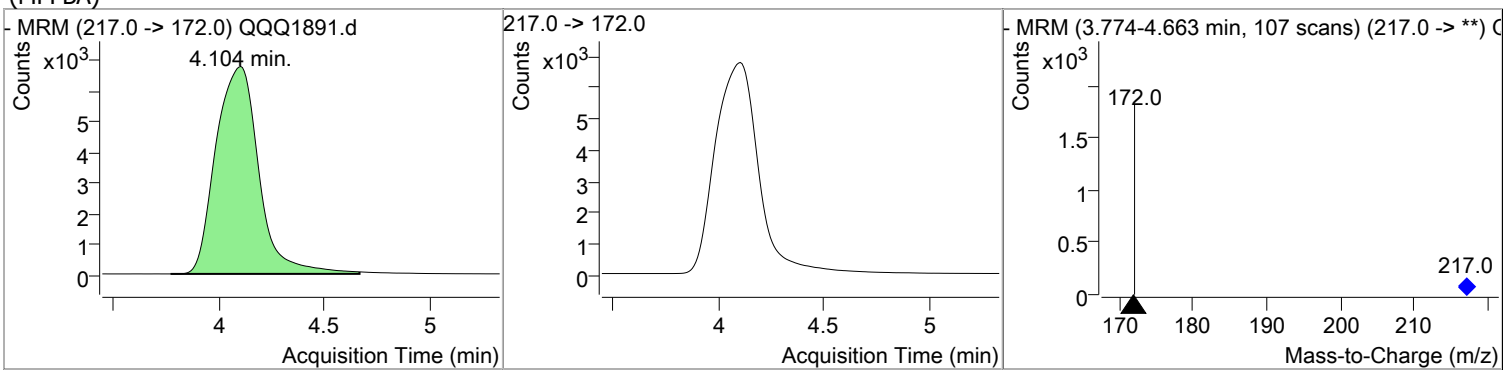
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.975	417.0 -> 372.0	230450	10.0000	ng/ml	-0.059
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	95385	4.8463	ng/ml	-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.46%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	143728	4.8799	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.80%		
M3PFBS	8.760	302.0 -> 79.9	38589	4.5939	ng/ml	-0.058
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.94%		
M2-4-2FTS	10.200	329.0 -> 309.0	49883	4.3165	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 43.17%		
M5PFHxA	10.345	318.0 -> 273.0	145693	4.9144	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.14%		
M4PFHpA	11.852	367.0 -> 322.0	31475	4.8870	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.87%		
M3PFHxS	11.982	402.0 -> 80.0	27025	4.5993	ng/ml	-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.99%		
M2-6-2FTS	12.921	429.0 -> 409.0	31456	4.6152	ng/ml	-0.052
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.15%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.974	421.0 -> 376.0	73231	4.5585	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.59%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.837	472.0 -> 427.0	82347	4.9925	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.92%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.852	507.0 -> 80.0	21160	4.6755	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.76%		
M2-8-2FTS	14.559	529.0 -> 509.0	26957	4.8276	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.28%		
M6PFDA	14.568	519.0 -> 473.9	61551	4.6900	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.90%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	39427	4.8985	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.99%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.177	506.0 -> 78.0	33086	4.8389	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.39%		
M7PFUdA	15.198	570.0 -> 525.0	69298	4.6413	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.41%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	33185	4.8599	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.60%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	77307	5.0360	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.36%		
M2PFTeDA	16.612	715.0 -> 670.0	56113	4.4773	ng/ml	-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 44.77%		

Target Compounds **QValue**

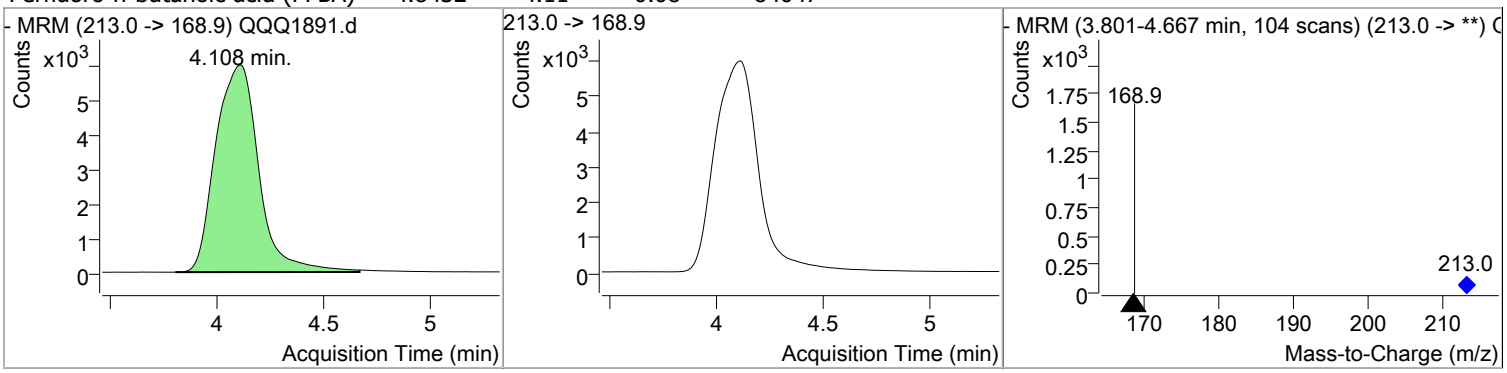
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	84047	4.8432	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	126604	4.8963	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.763	298.9 -> 79.9	32873	4.3420	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.201	327.0 -> 307.0	42517	4.4521	ng/ml	99
Perfluorohexanoic acid (PFHxA)	10.339	313.0 -> 268.9	125918	4.9232	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.641	348.9 -> 79.9	30258	4.5701	ng/ml	99
Perfluoroheptanoic acid (PFHpA)	11.853	363.0 -> 318.8	93037	4.9375	ng/ml	96
Perfluorohexanesulfonic acid (PFHxS)	11.984	398.9 -> 79.9	20036	3.5773	ng/ml	99
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.922	427.0 -> 407.0	30404	4.4063	ng/ml	99
Perfluorooctanoic acid (PFOA)	12.975	413.0 -> 368.8	66362	4.6551	ng/ml	99
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.022	448.9 -> 80.0	20351	4.9044	ng/ml	100
Perfluorononanoic acid (PFNA)	13.846	463.0 -> 418.8	54983	4.5371	ng/ml	99
Perfluorooctanesulfonic acid (PFOS)	13.853	498.9 -> 79.9	17335	3.5081	ng/ml	96
Perfluorononanesulfonate (L-PFNS)	14.558	548.9 -> 79.9	17352	4.6861	ng/ml	97
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	23805	4.7966	ng/ml	97
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	57604	4.9757	ng/ml	90
N-MeFOSAA	14.895	570.0 -> 418.9	40451	4.7524	ng/ml	95
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	34129	4.7912	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	15.162	598.9 -> 98.9	15810	4.6145	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	73286	5.2883	ng/ml	97
N-EtFOSAA	15.222	584.0 -> 418.8	32978	4.8887	ng/ml	98
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	51456	4.8620	ng/ml	96
Perfluorotridecanoic acid (PFTrDA)	16.204	663.0 -> 618.8	52385	4.7078	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	55923	4.8135	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

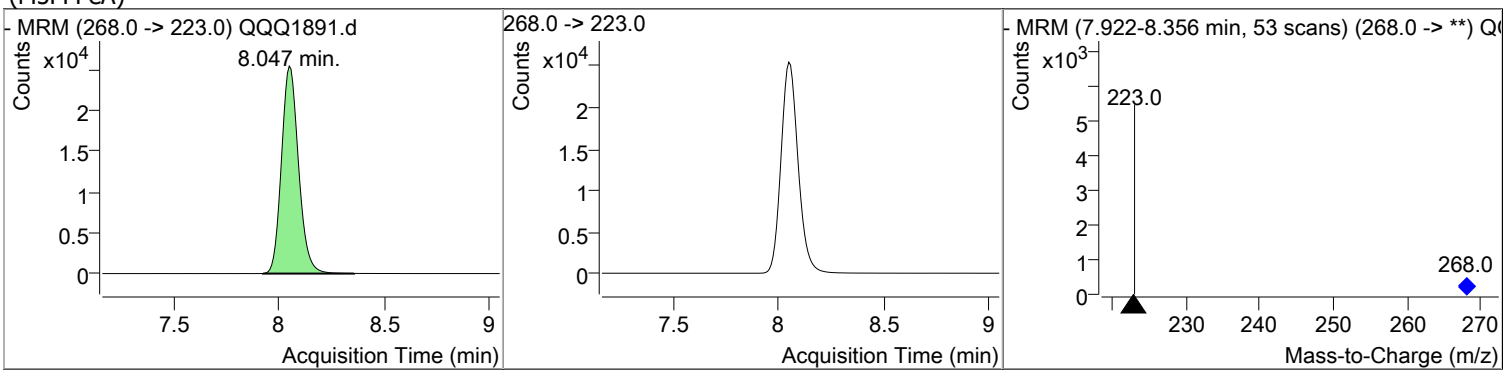
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.8463	4.10	-0.08	95385				



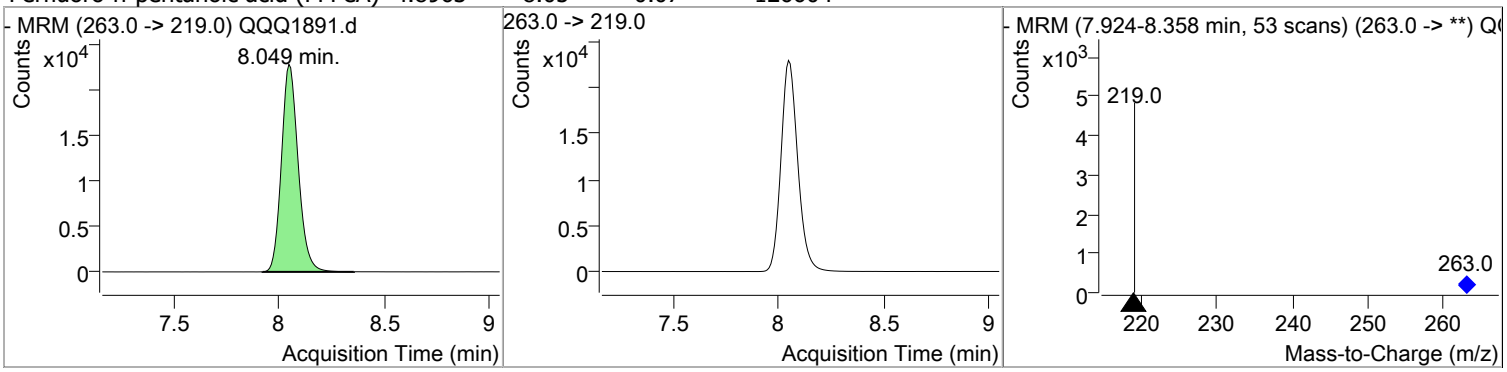
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	4.8432	4.11	-0.08	84047				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.8799	8.05	-0.07	143728				

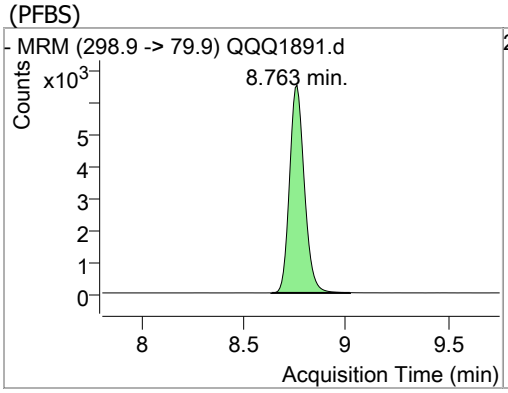


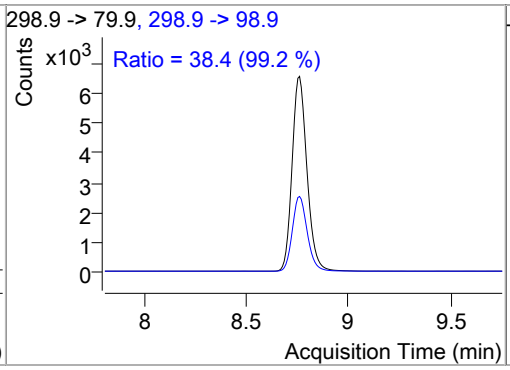
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.8963	8.05	-0.07	126604				

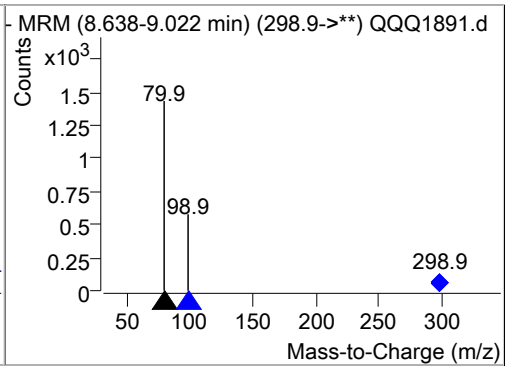


Quantitation Results Report (Not Reviewed)

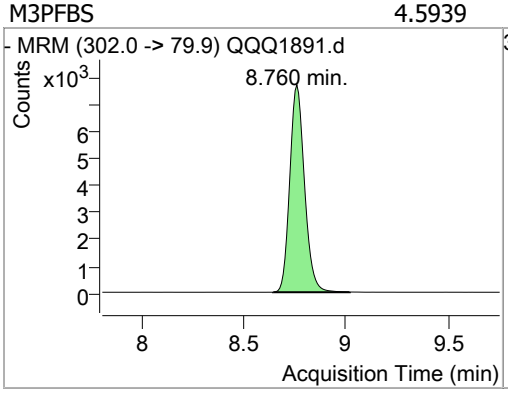
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.3420	8.76	-0.05	32873	298.9 -> 98.9	38.4	31.0	46.5

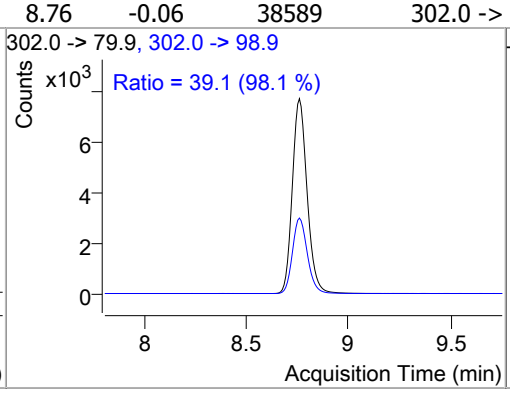


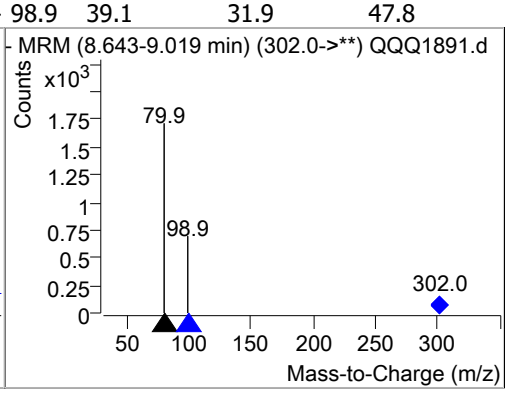




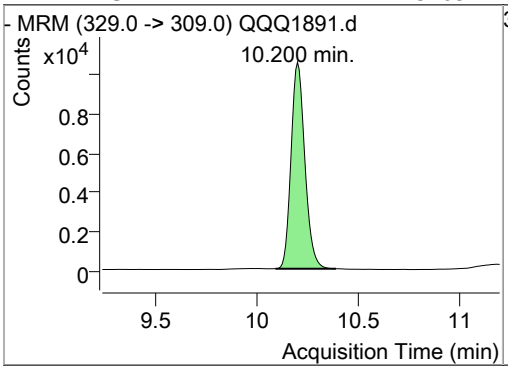
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.5939	8.76	-0.06	38589	302.0 -> 98.9	39.1	31.9	47.8

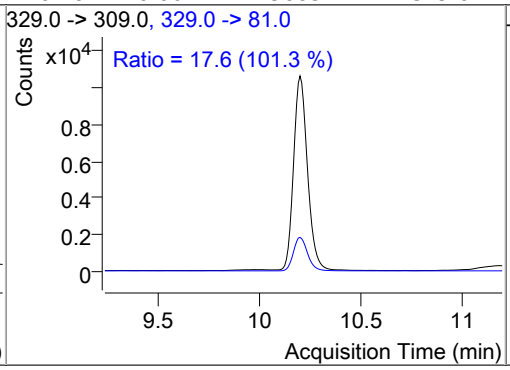


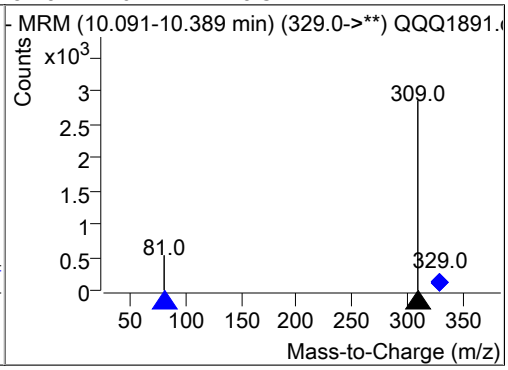




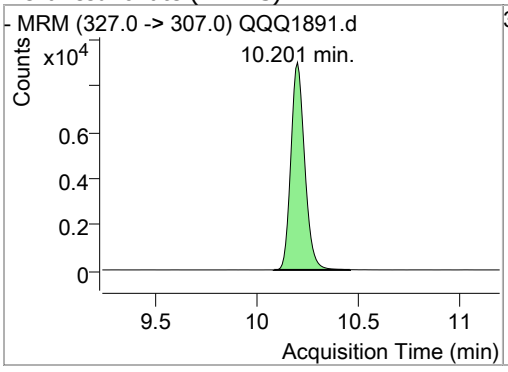
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.3165	10.20	-0.06	49883	329.0 -> 81.0	17.6	10.5	24.4

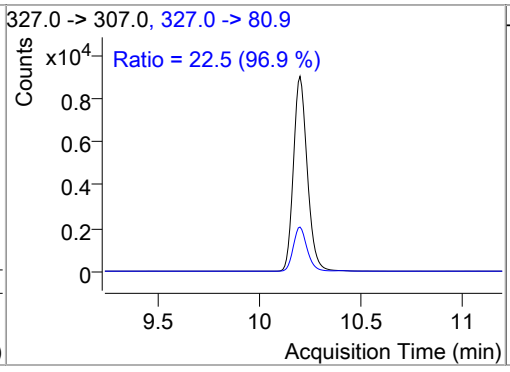


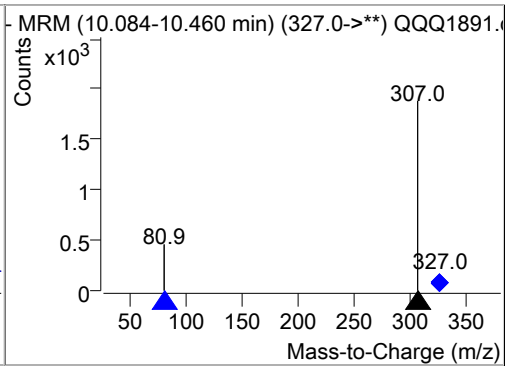




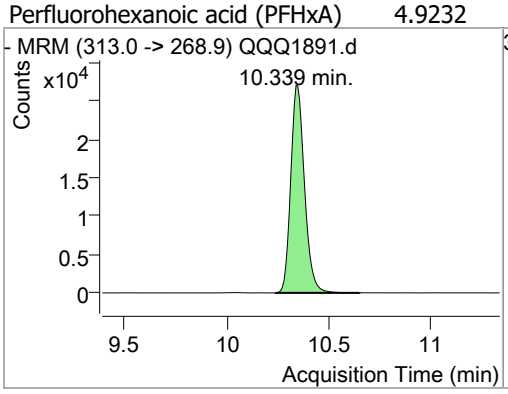
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.4521	10.20	-0.06	42517	327.0 -> 80.9	22.5	13.9	32.5

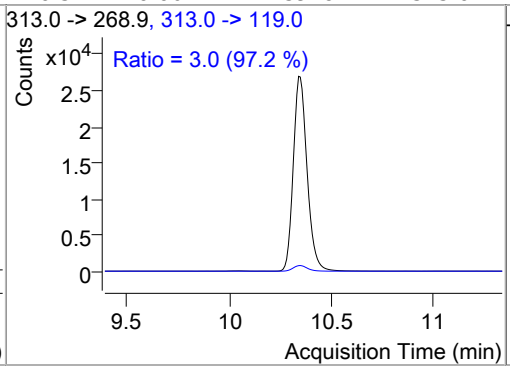


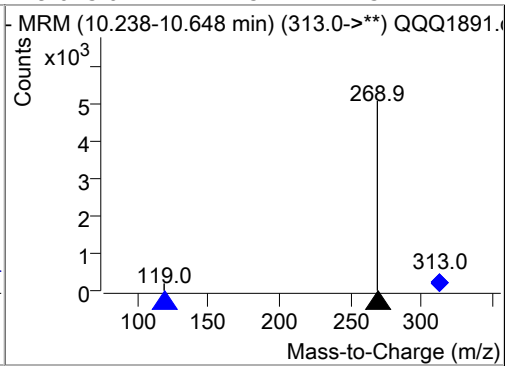




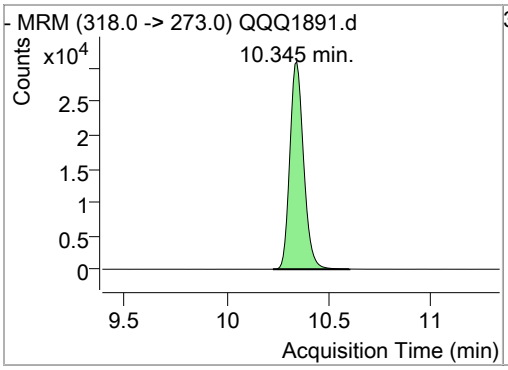
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.9232	10.34	-0.06	125918	313.0 -> 119.0	3.0	2.5	3.7

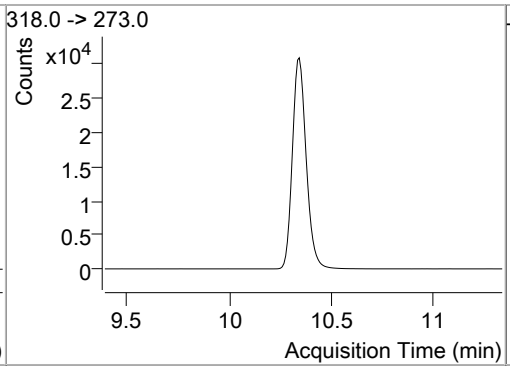


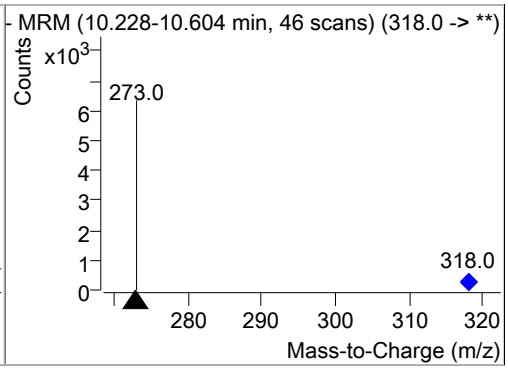




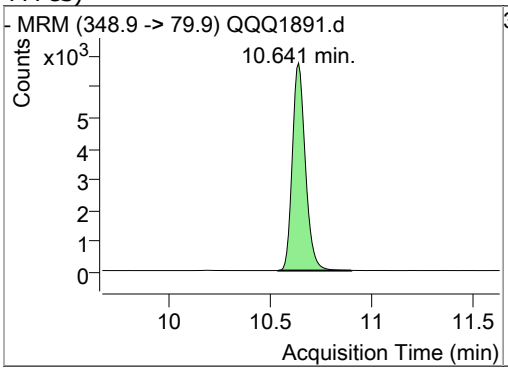
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	4.9144	10.34	-0.06	145693				

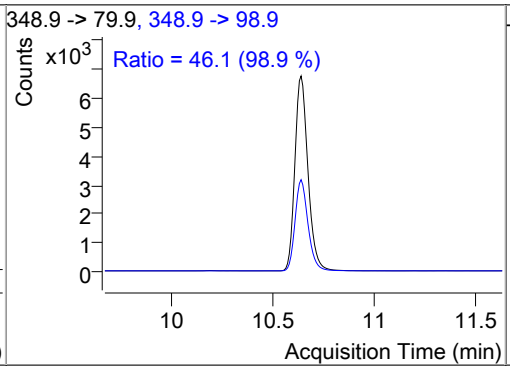


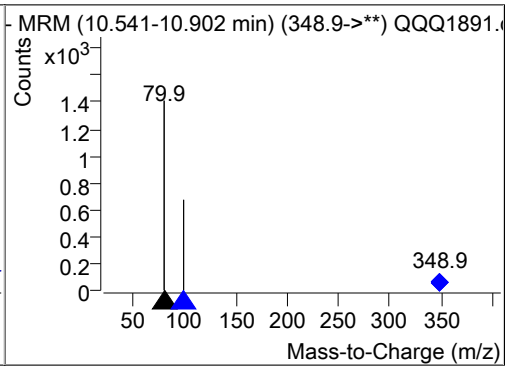




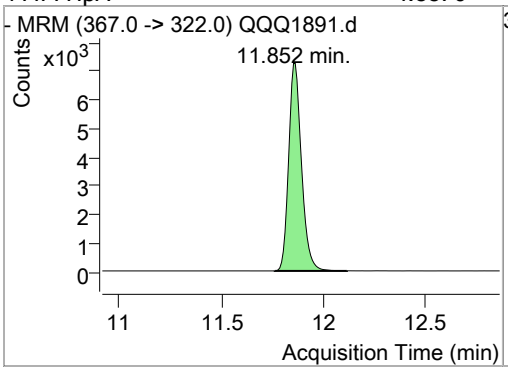
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.5701	10.64	-0.06	30258	348.9 -> 98.9	46.1	37.3	56.0

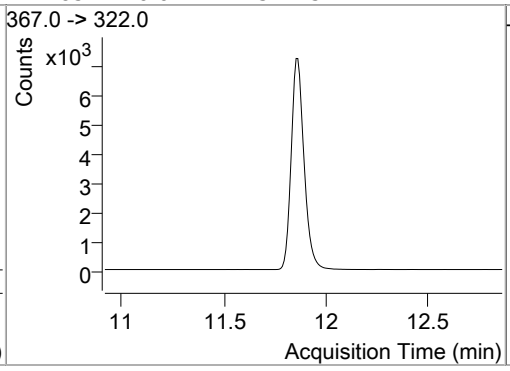


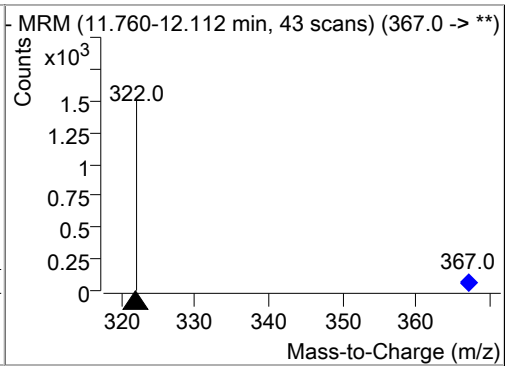




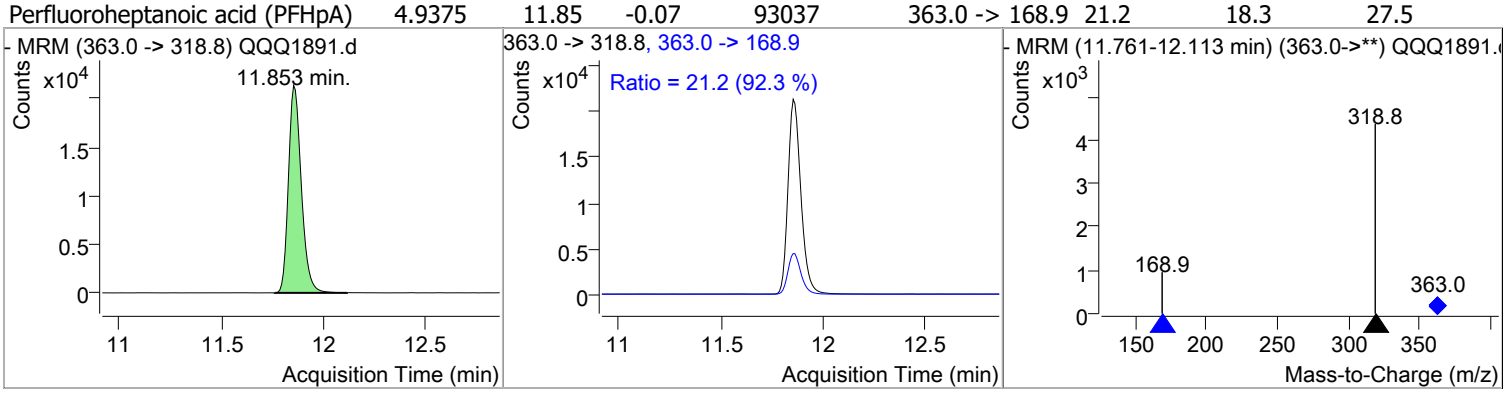
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	4.8870	11.85	-0.07	31475				



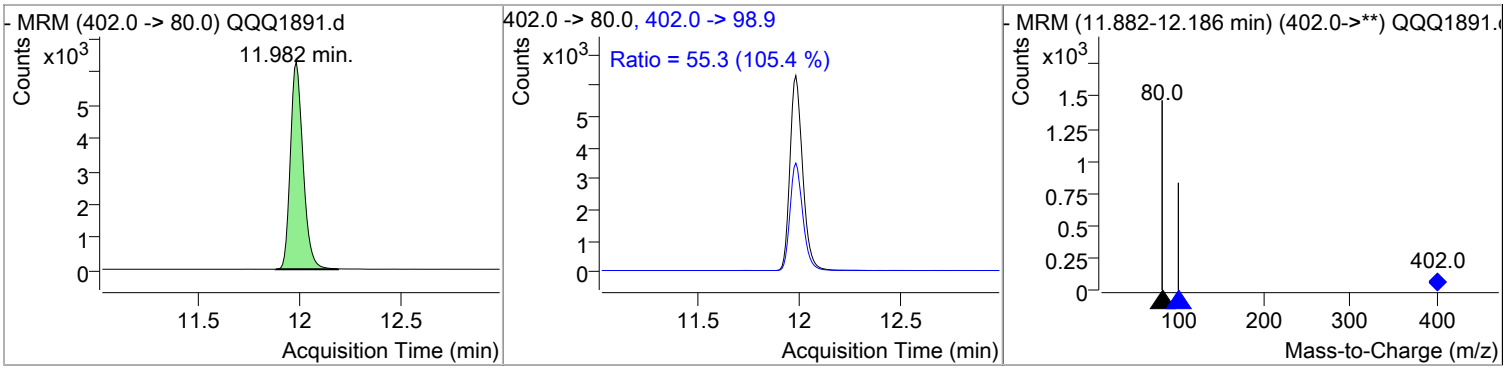




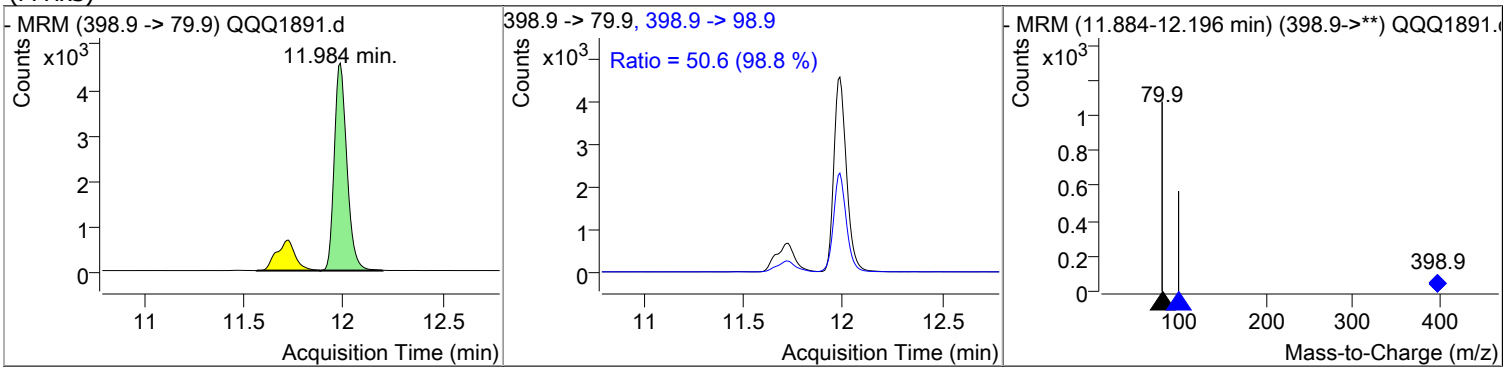
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	4.9375	11.85	-0.07	93037	363.0 -> 168.9	21.2	18.3	27.5



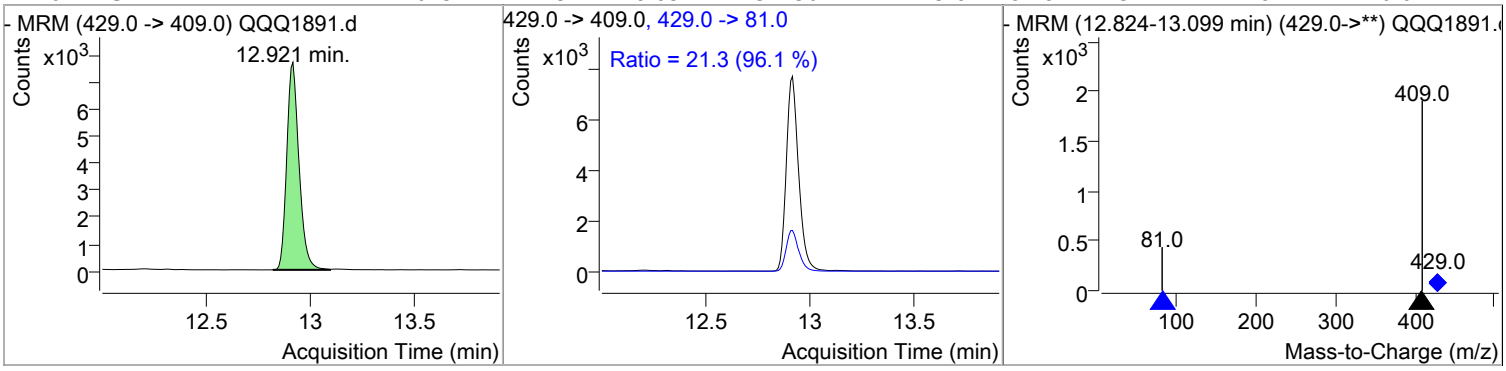
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.5993	11.98	-0.06	27025	402.0 -> 98.9	55.3	42.0	62.9



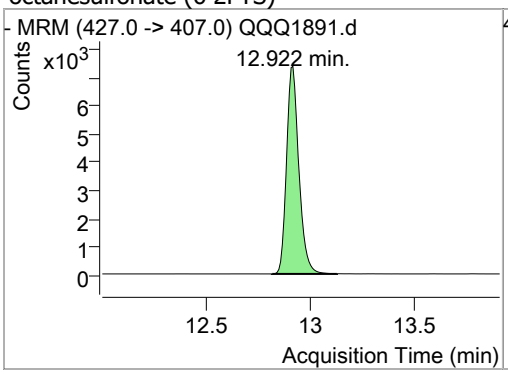
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.5773	11.98	-0.06	20036	398.9 -> 98.9	50.6	41.0	61.5

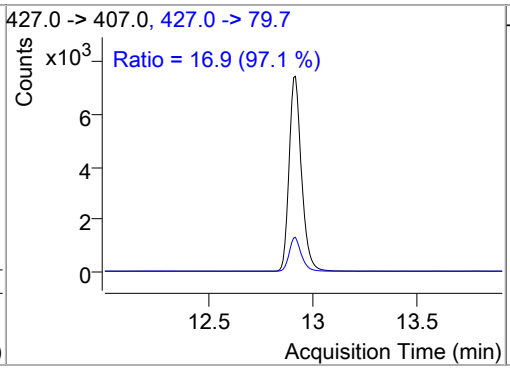


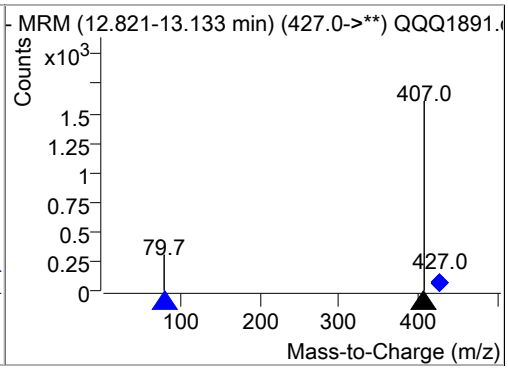
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.6152	12.92	-0.05	31456	429.0 -> 81.0	21.3	17.8	26.6



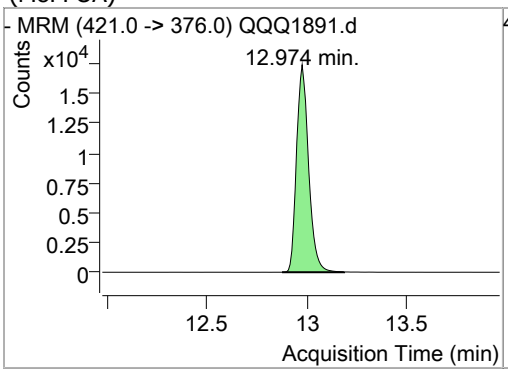
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.4063	12.92	-0.05	30404	427.0 -> 79.7	16.9	13.9	20.8

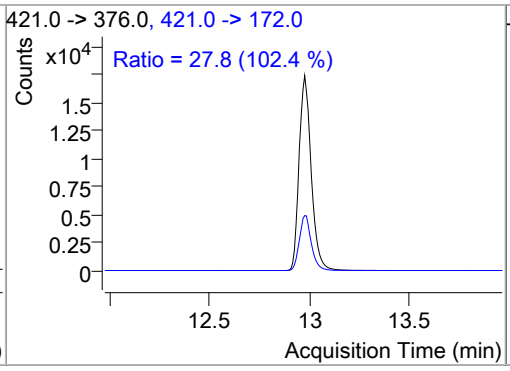


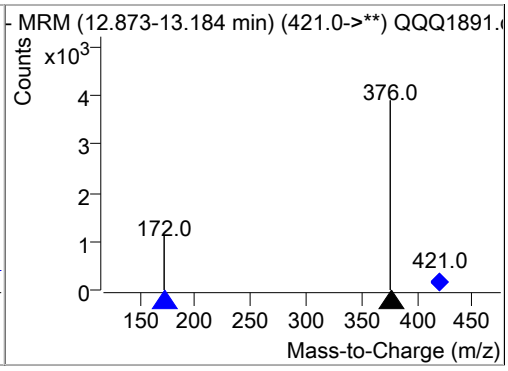




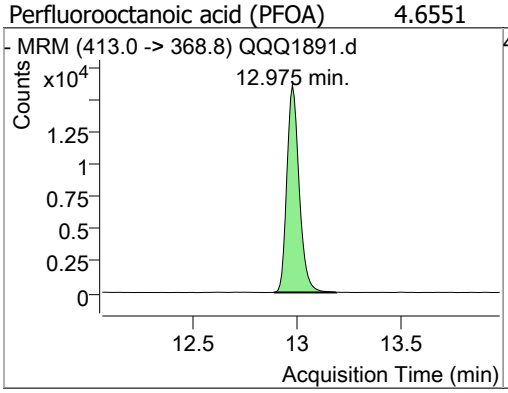
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.5585	12.97	-0.05	73231	421.0 -> 172.0	27.8	21.7	32.6

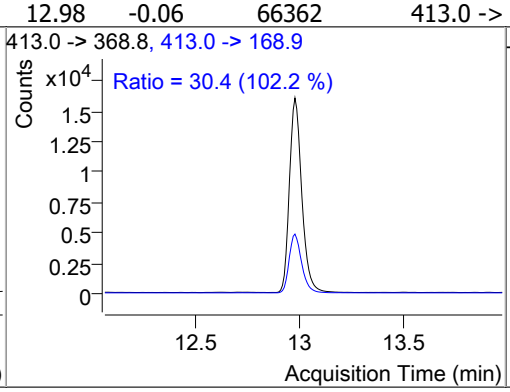


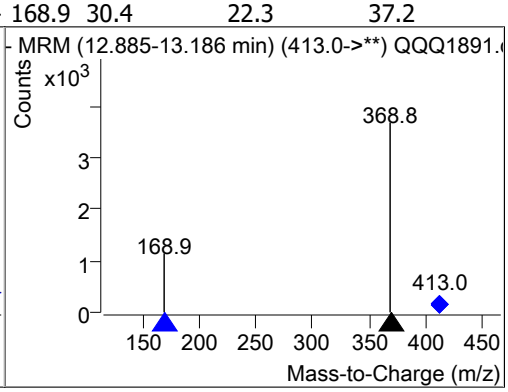




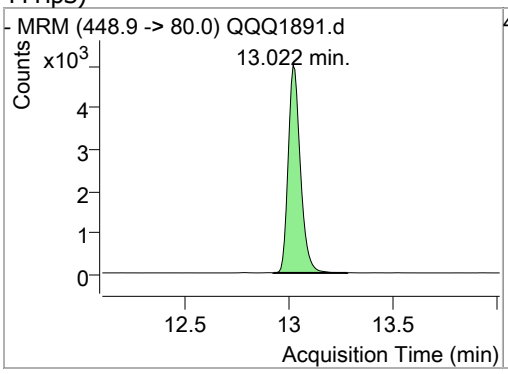
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.6551	12.98	-0.06	66362	413.0 -> 168.9	30.4	22.3	37.2

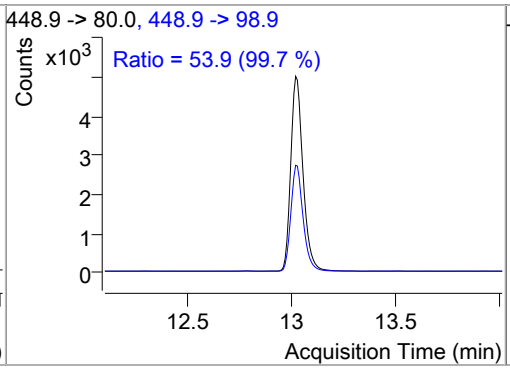


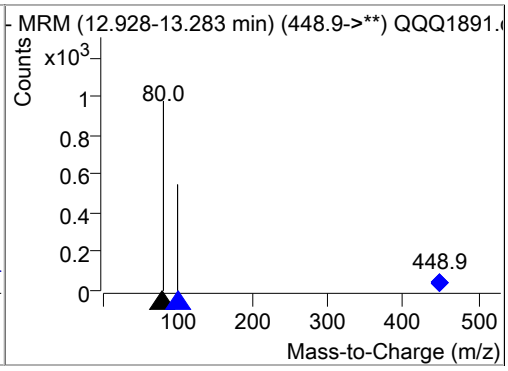




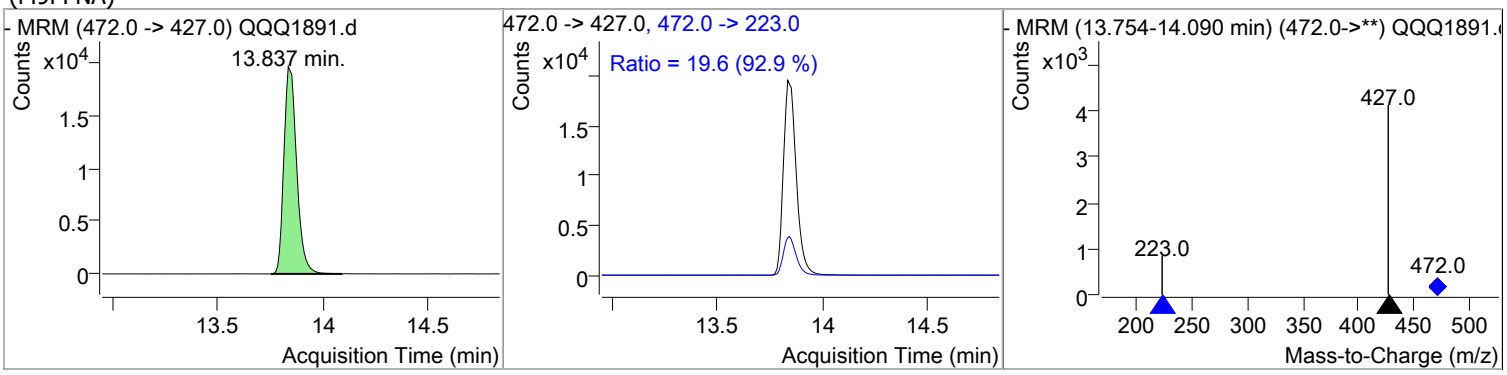
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	4.9044	13.02	-0.06	20351	448.9 -> 98.9	53.9	43.3	64.9



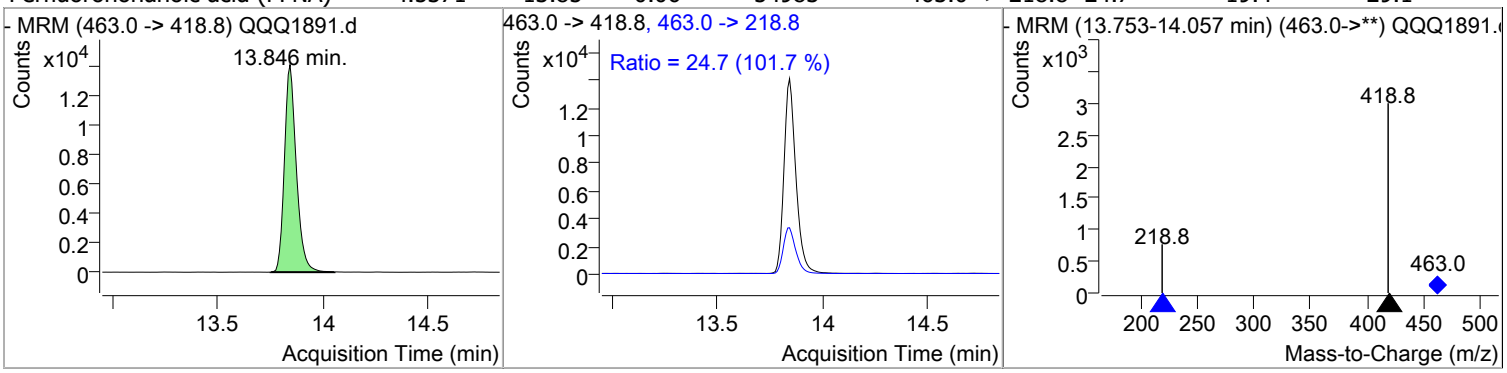




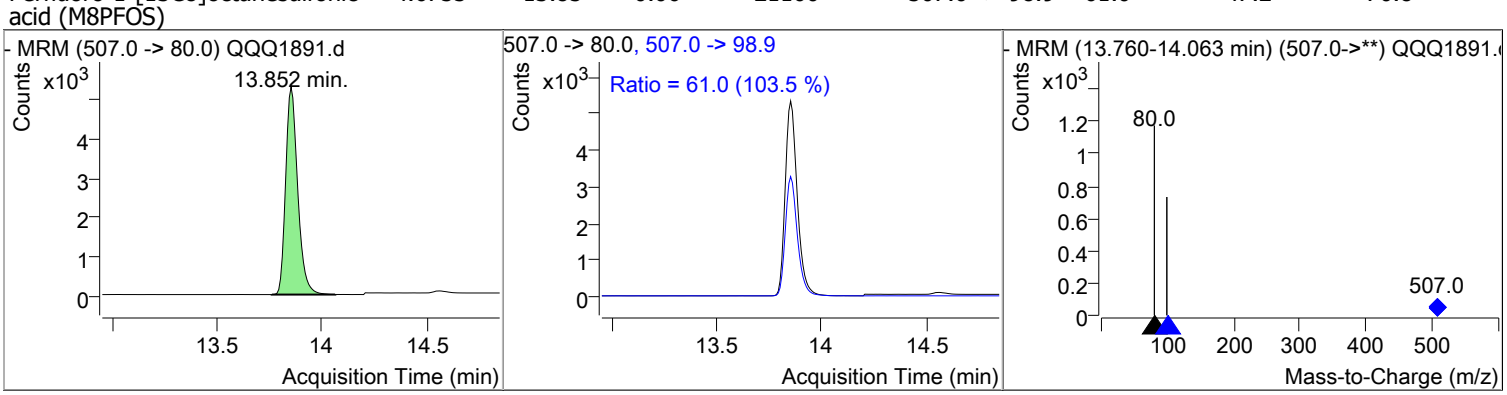
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	4.9925	13.84	-0.07	82347	472.0 -> 223.0	19.6	16.9	25.4



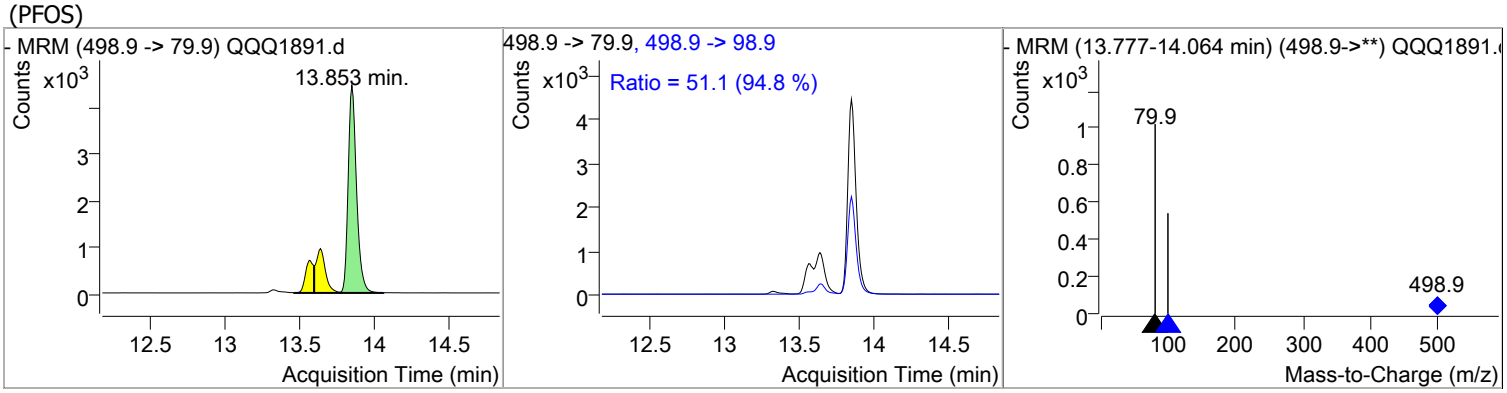
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	4.5371	13.85	-0.06	54983	463.0 -> 218.8	24.7	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.6755	13.85	-0.06	21160	507.0 -> 98.9	61.0	47.2	70.8

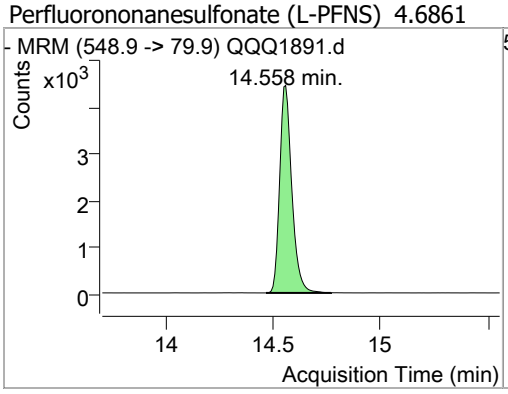


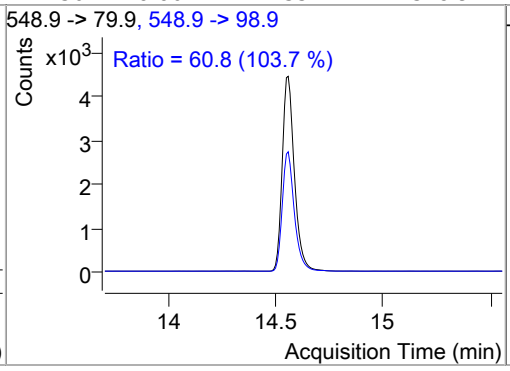
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.5081	13.85	-0.06	17335	498.9 -> 98.9	51.1	43.1	64.6

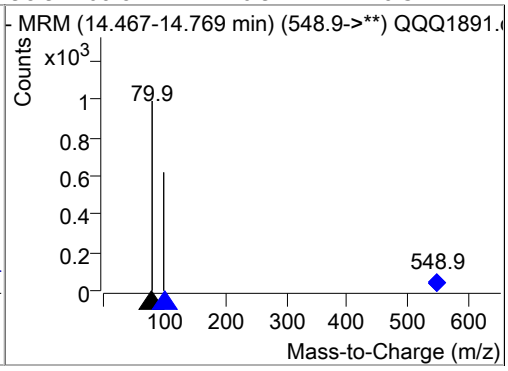


Quantitation Results Report (Not Reviewed)

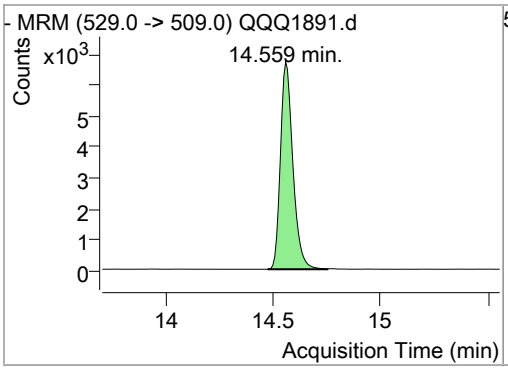
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.6861	14.56	-0.06	17352	548.9 -> 98.9	60.8	46.9	70.3

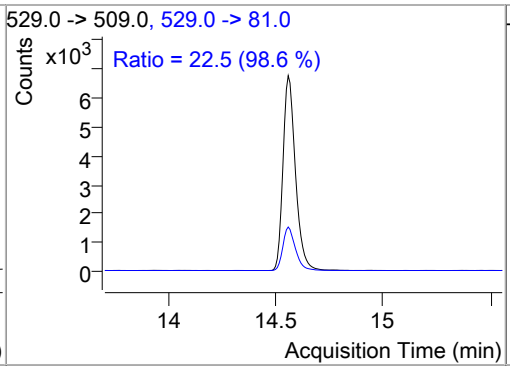


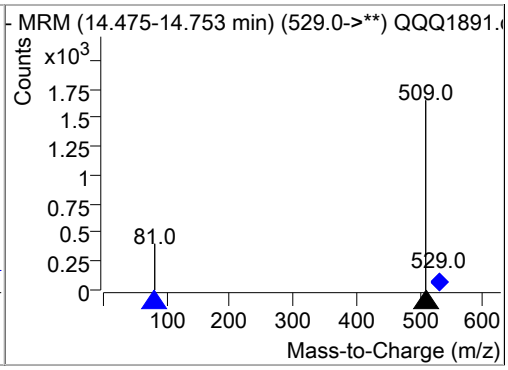




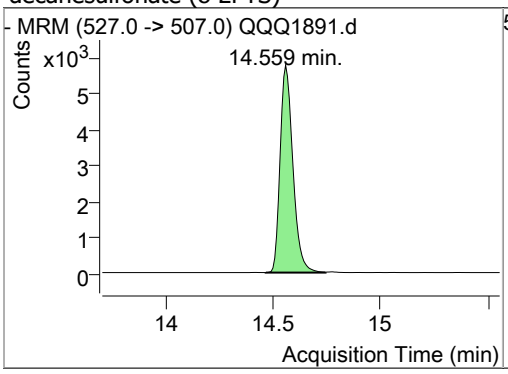
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.8276	14.56	-0.06	26957	529.0 -> 81.0	22.5	18.3	27.4

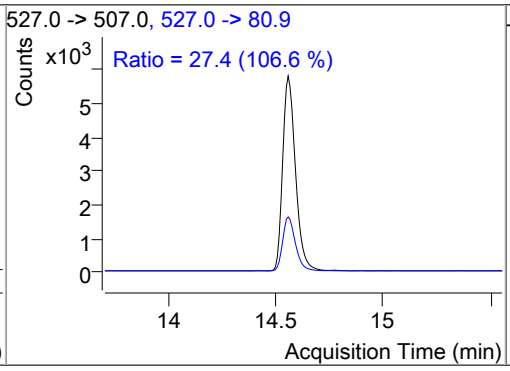


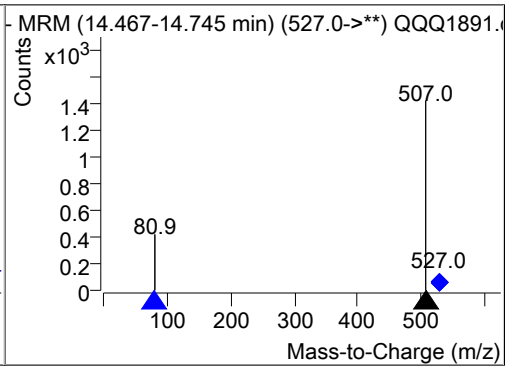




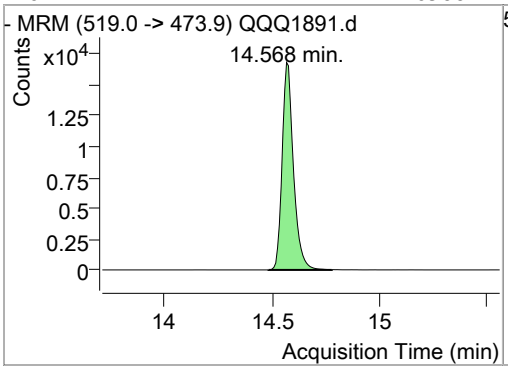
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	4.7966	14.56	-0.06	23805	527.0 -> 80.9	27.4	20.6	30.9

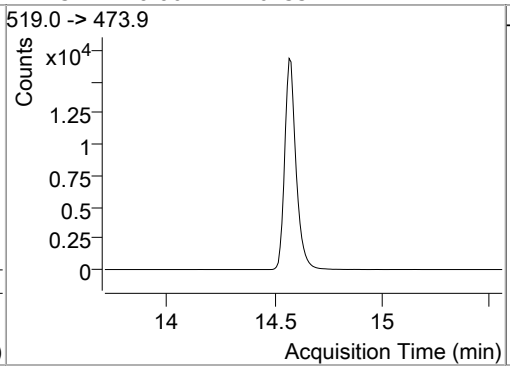


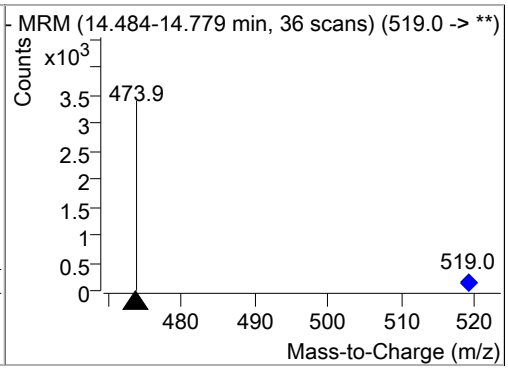




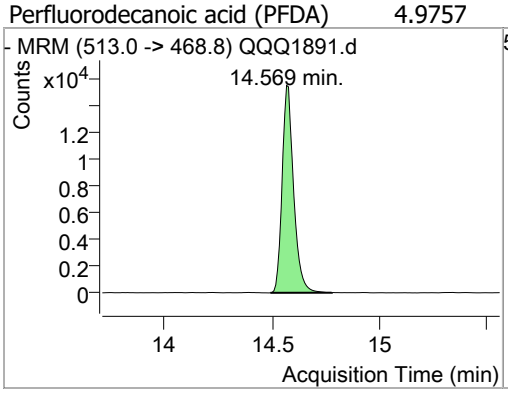
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	4.6900	14.57	-0.06	61551				

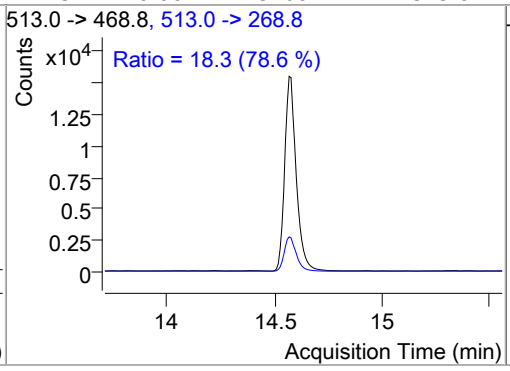


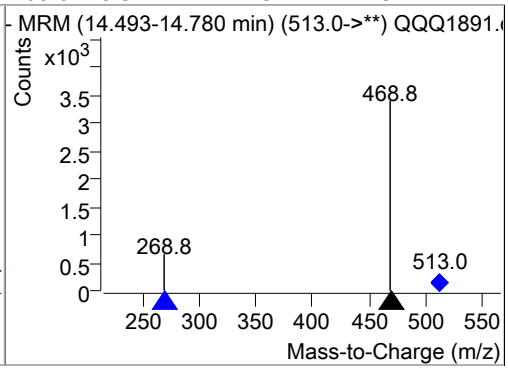




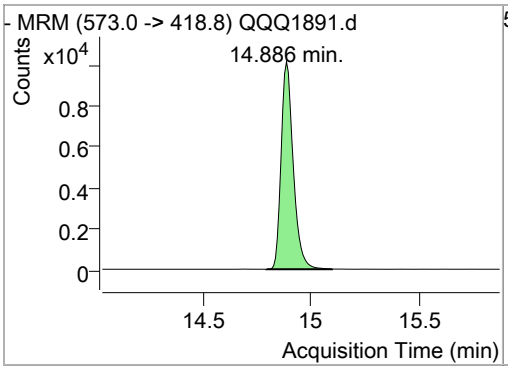
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.9757	14.57	-0.06	57604	513.0 -> 268.8	18.3	17.5	29.1

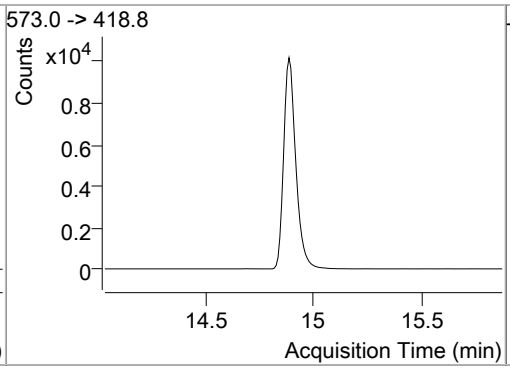


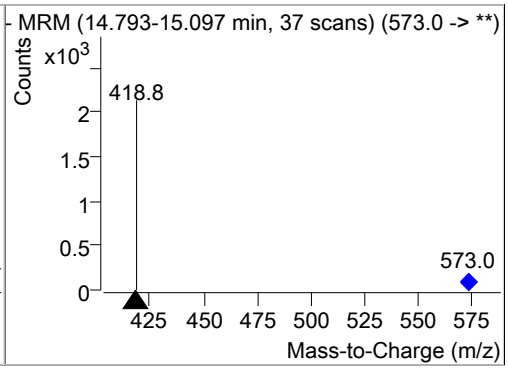




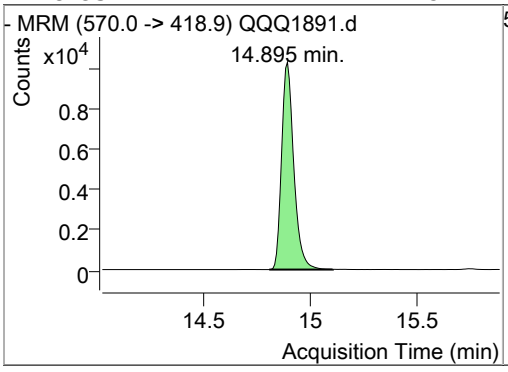
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.8985	14.89	-0.05	39427				

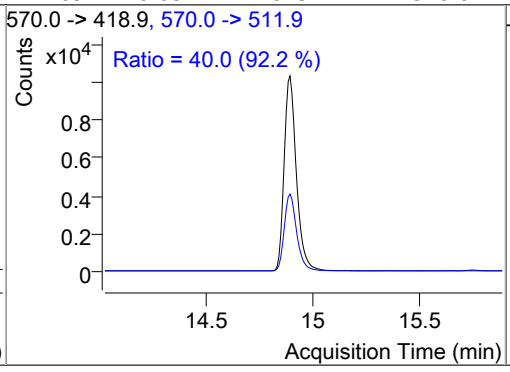


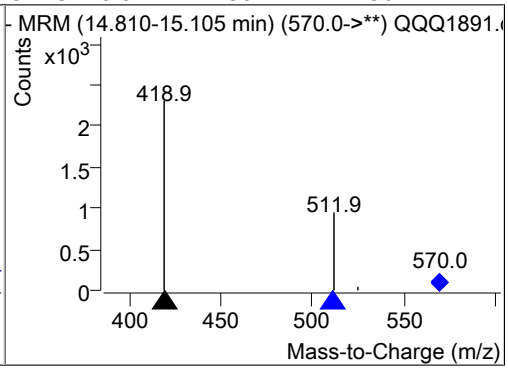




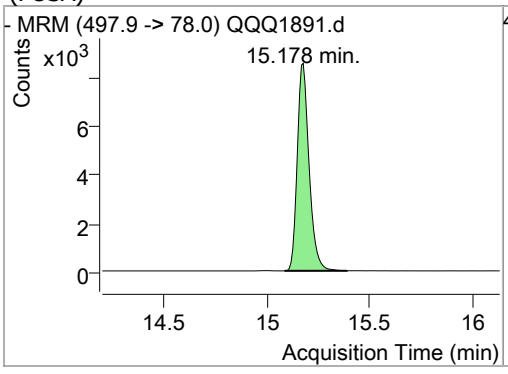
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.7524	14.89	-0.05	40451	570.0 -> 511.9	40.0	30.4	56.4

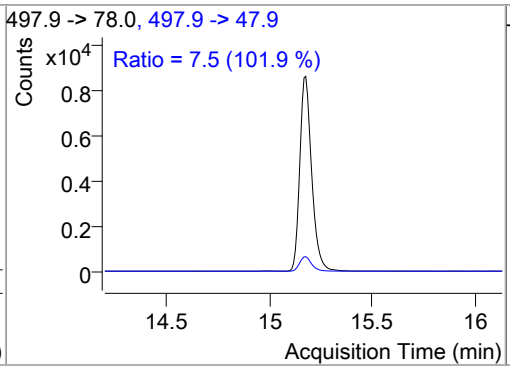


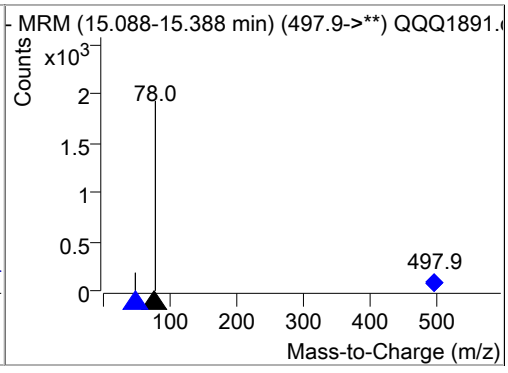




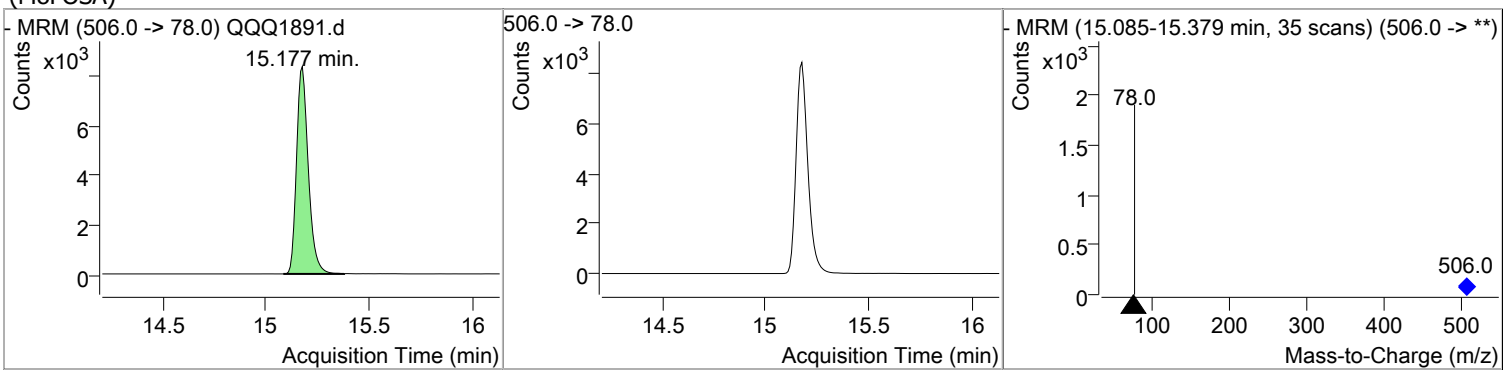
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	4.7912	15.18	-0.01	34129	497.9 -> 47.9	7.5	5.9	8.8



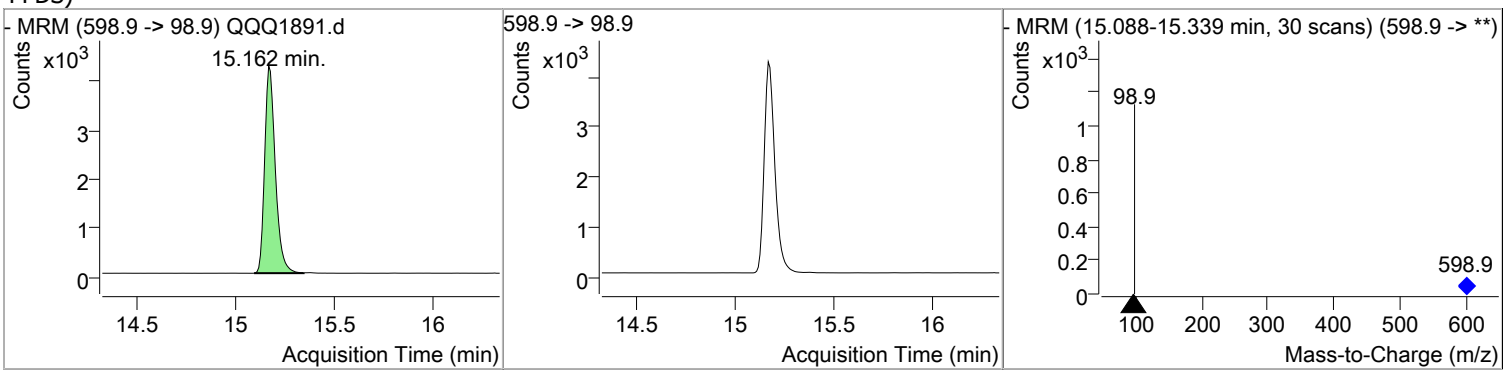




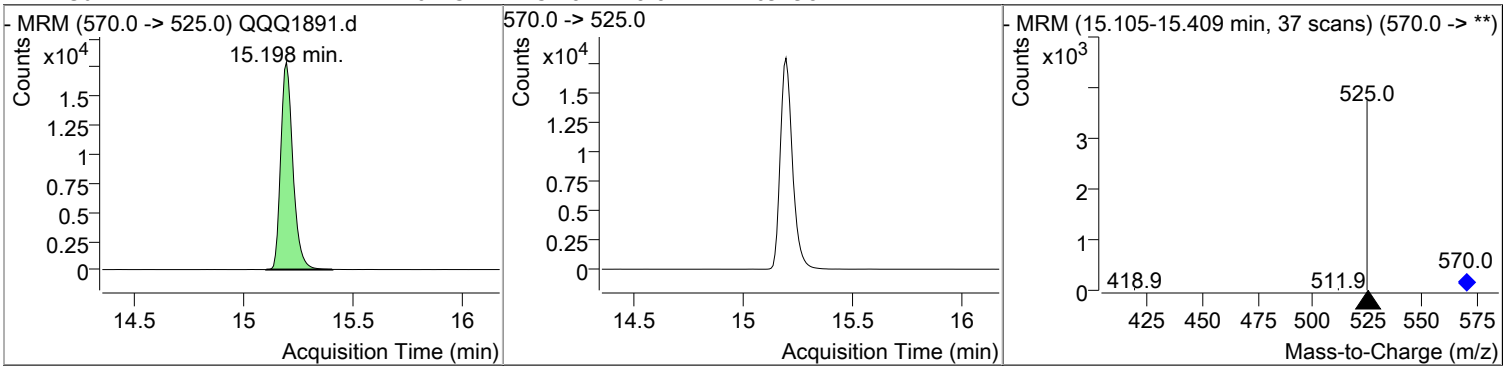
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.8389	15.18	-0.02	33086				



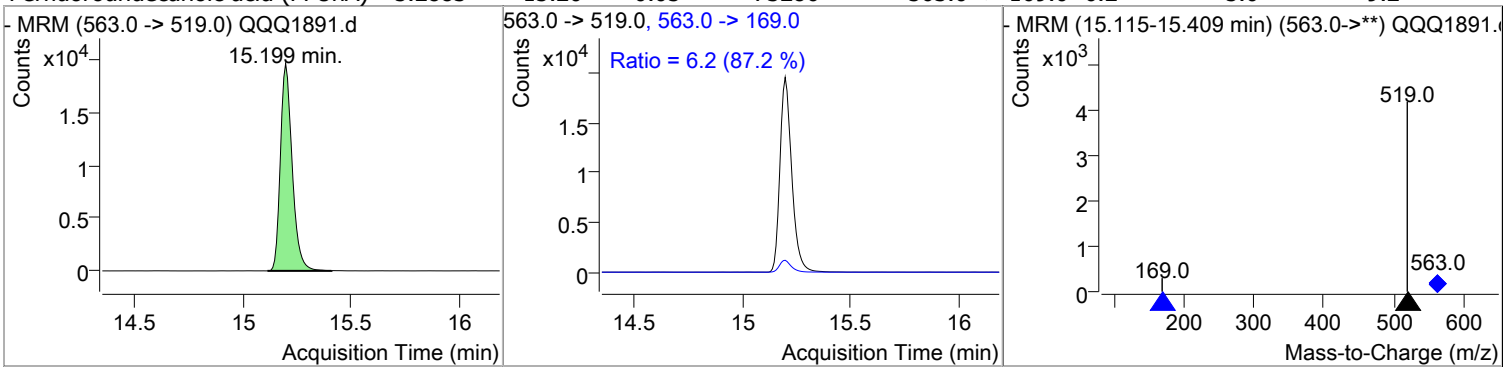
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.6145	15.16	-0.05	15810				



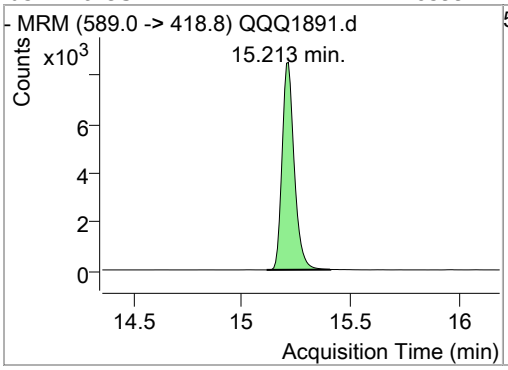
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	4.6413	15.20	-0.04	69298				

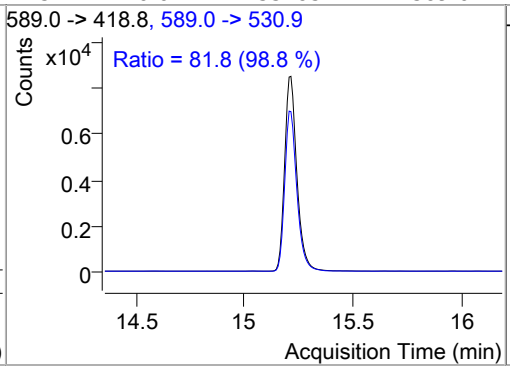


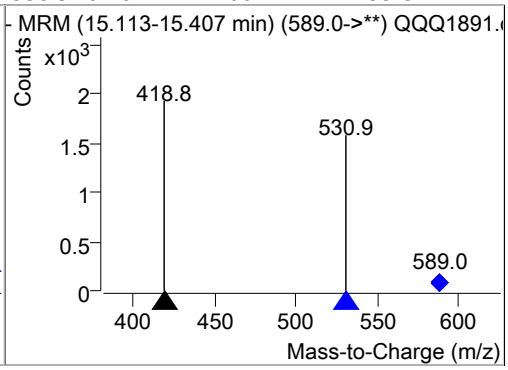
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	5.2883	15.20	-0.05	73286	563.0 -> 169.0	6.2	5.0	9.2



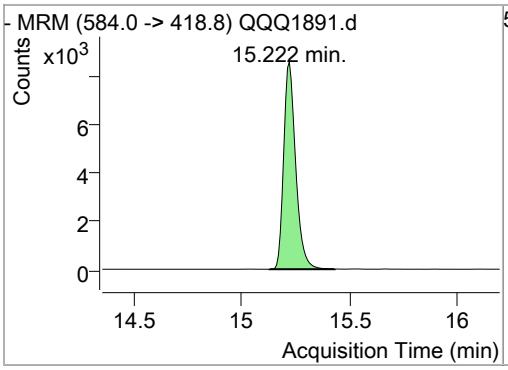
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.8599	15.21	-0.04	33185	589.0 -> 530.9	81.8	66.2	99.3

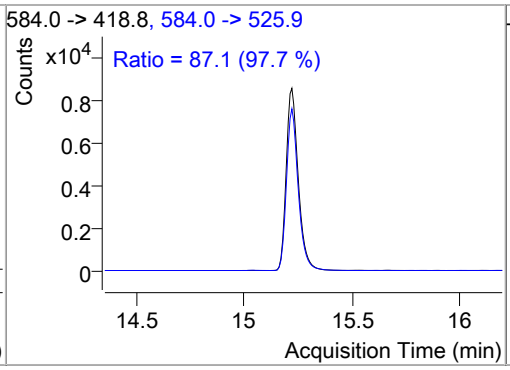


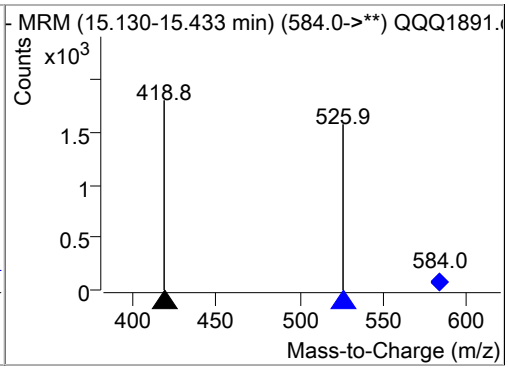




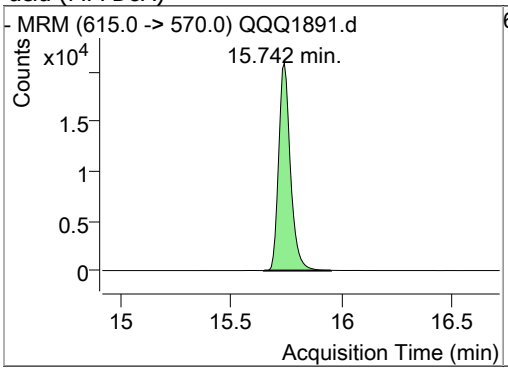
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.8887	15.22	-0.04	32978	584.0 -> 525.9	87.1	71.3	107.0

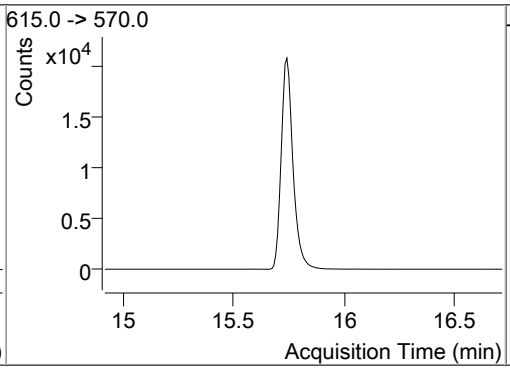


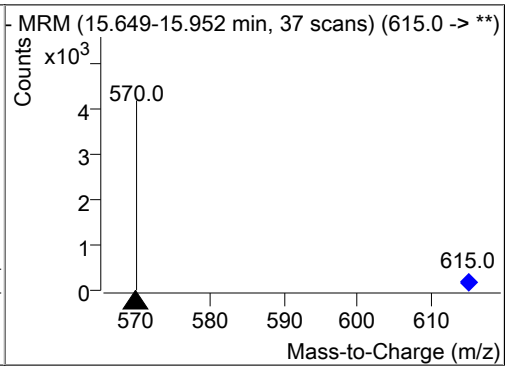




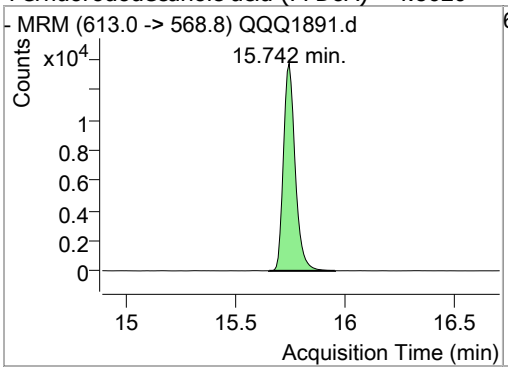
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.0360	15.74	-0.03	77307				

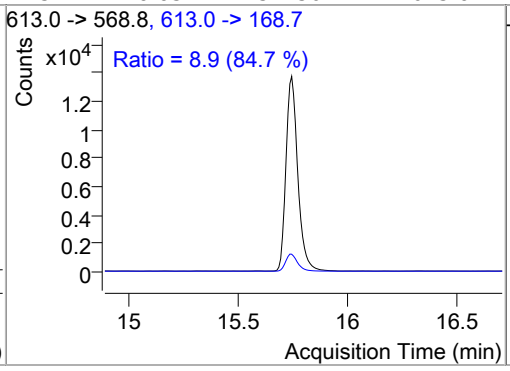


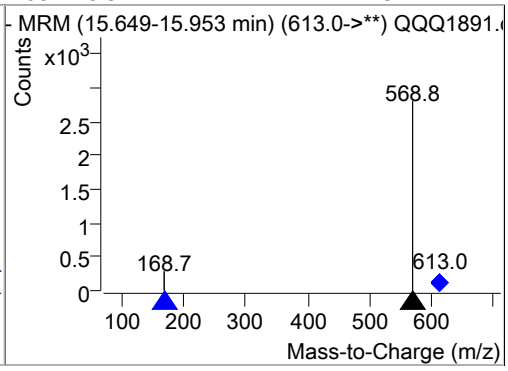




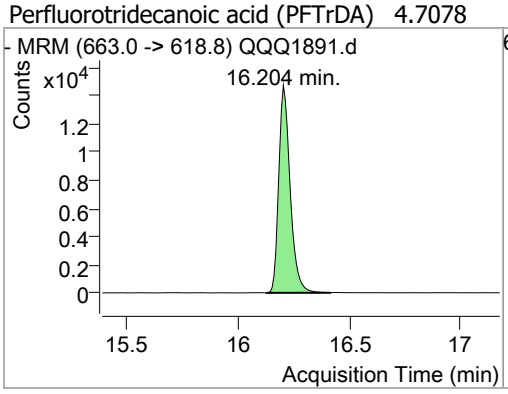
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.8620	15.74	-0.03	51456	613.0 -> 168.7	8.9	7.4	13.7

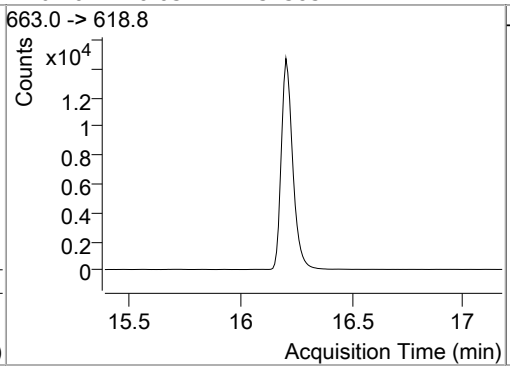


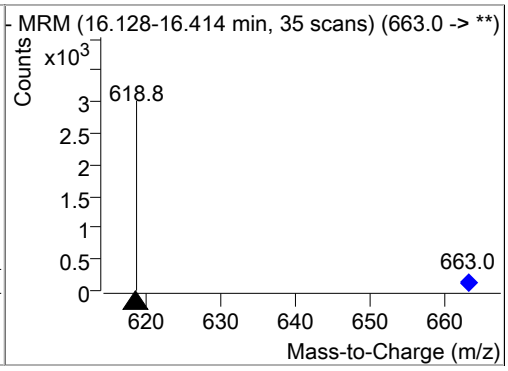




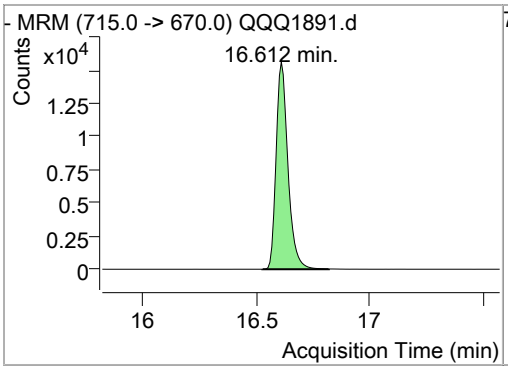
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	4.7078	16.20	-0.03	52385				

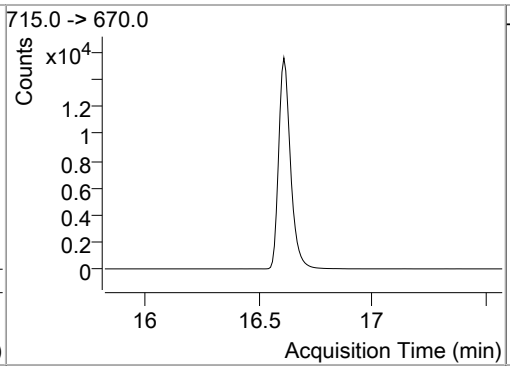


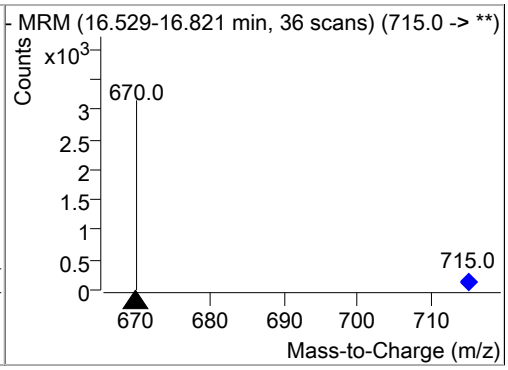




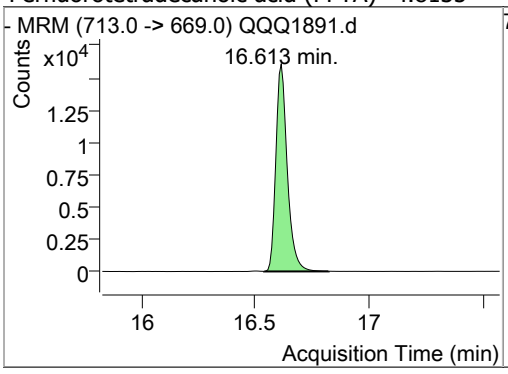
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	4.4773	16.61	-0.03	56113				

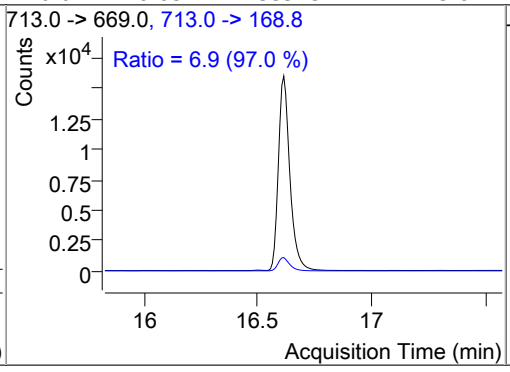


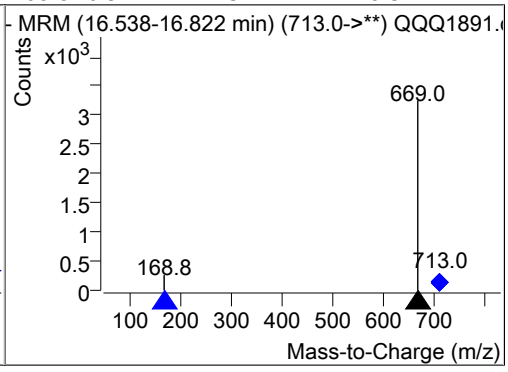




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.8135	16.61	-0.03	55923	713.0 -> 168.8	6.9	5.7	8.5







Data File	QQQ1892.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 3:52:15 PM
Sample Name	SEQ-CAL6	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	10.0 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
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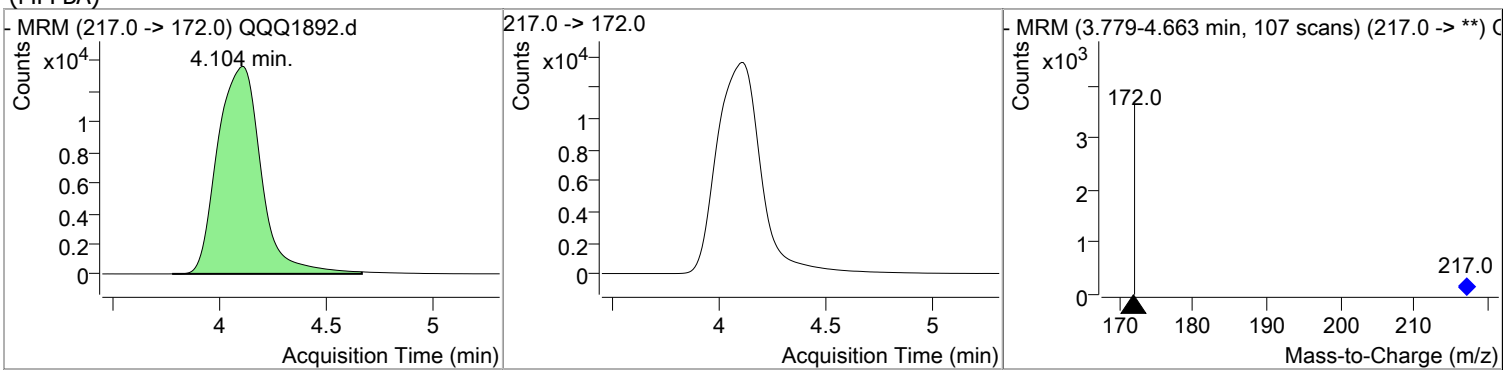
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.958	417.0 -> 372.0	219464	10.0000	ng/ml	-0.075
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	191962	10.2413	ng/ml	-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 102.41%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	287472	10.2489	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 102.49%		
M3PFBS	8.752	302.0 -> 79.9	73960	9.2455	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 92.45%		
M2-4-2FTS	10.183	329.0 -> 309.0	89686	8.1493	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 81.49%		
M5PFHxA	10.328	318.0 -> 273.0	285496	10.1121	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 101.12%		
M4PFHpA	11.844	367.0 -> 322.0	61111	9.9635	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 99.63%		
M3PFHxS	11.966	402.0 -> 80.0	52558	9.3923	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 93.92%		
M2-6-2FTS	12.895	429.0 -> 409.0	57495	8.8577	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 88.58%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.958	421.0 -> 376.0	158243	10.3435	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 103.43%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.837	472.0 -> 427.0	156698	9.9758	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 99.76%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	40381	9.3695	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 93.69%		
M2-8-2FTS	14.559	529.0 -> 509.0	44949	9.3392	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 93.39%		
M6PFDA	14.568	519.0 -> 473.9	114053	9.1255	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 91.26%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	79664	10.3932	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 103.93%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.169	506.0 -> 78.0	63780	9.7946	ng/ml	-0.026
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 97.95%		
M7PFUdA	15.198	570.0 -> 525.0	134330	9.4471	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 94.47%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	63235	9.7240	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 97.24%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	148281	10.1428	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 101.43%		
M2PFTeDA	16.620	715.0 -> 670.0	115833	9.7051	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 97.05%		

Target Compounds QValue

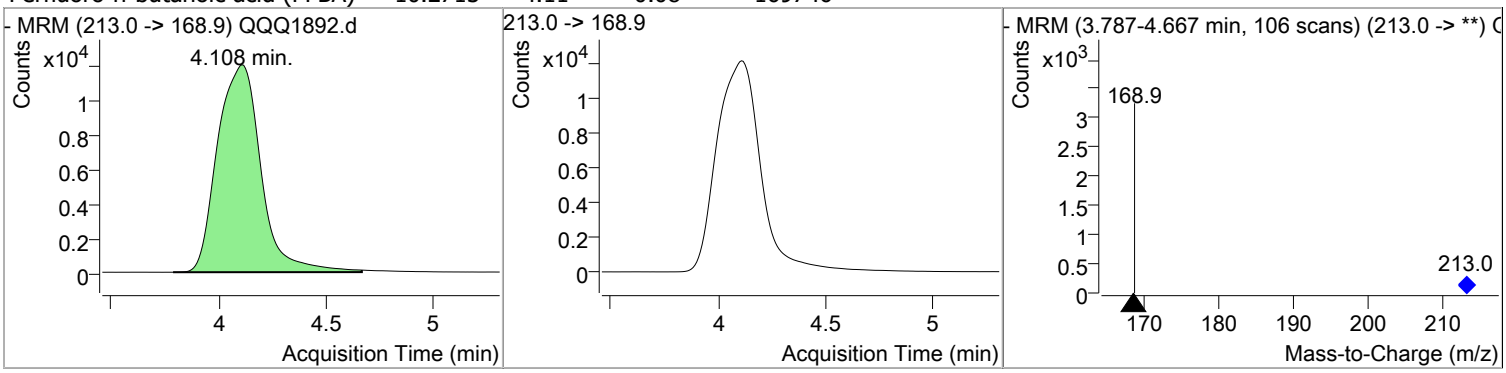
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	169746	10.2713	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	253100	10.2783	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	63022	8.7410	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	76769	8.4410	ng/ml	99
Perfluorohexanoic acid (PFHxA)	10.330	313.0 -> 268.9	242504	9.9561	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	60053	9.5243	ng/ml	100
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	177471	9.8898	ng/ml	98
Perfluorohexanesulfonic acid (PFHxS)	11.967	398.9 -> 79.9	39350	7.3775	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.896	427.0 -> 407.0	56207	8.5537	ng/ml	99
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	134950	9.9402	ng/ml	98
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.006	448.9 -> 80.0	39675	10.0400	ng/ml	97
Perfluorononanoic acid (PFNA)	13.829	463.0 -> 418.8	101201	8.7690	ng/ml	99
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	32586	6.9246	ng/ml	96
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	33918	9.6185	ng/ml	98
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	40365	9.4379	ng/ml	94
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	96845	8.7840	ng/ml	92
N-MeFOSAA	14.895	570.0 -> 418.9	82790	10.2135	ng/ml	96
Perfluoro-1-octanesulfonamide (FOSA)	15.169	497.9 -> 78.0	66480	9.7999	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.162	598.9 -> 98.9	31061	9.5195	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	124512	9.4344	ng/ml	98
N-EtFOSAA	15.222	584.0 -> 418.8	63256	9.8464	ng/ml	98
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	105651	10.4824	ng/ml	96
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	112858	10.6502	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	108818	9.8352	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

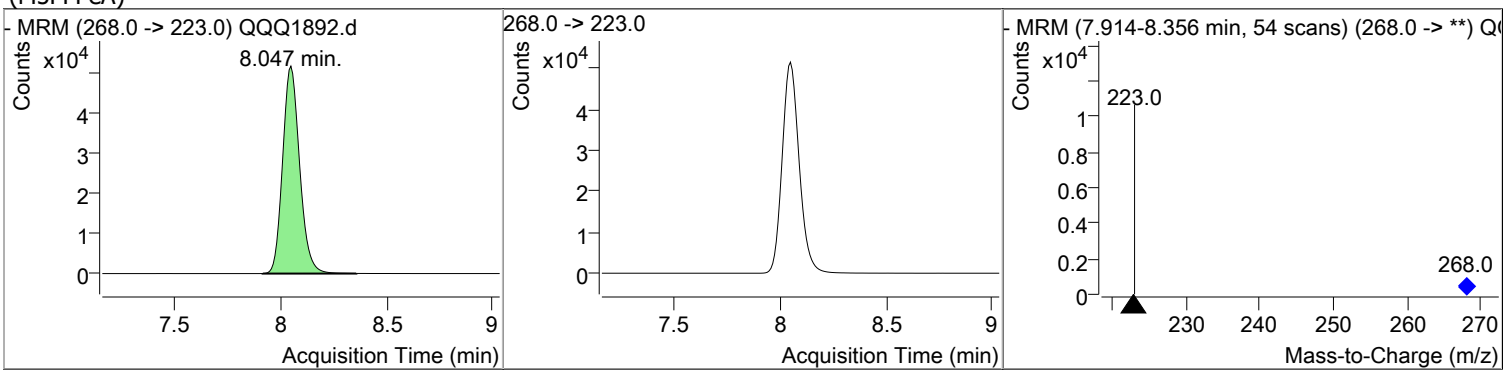
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	10.2413	4.10	-0.08	191962				



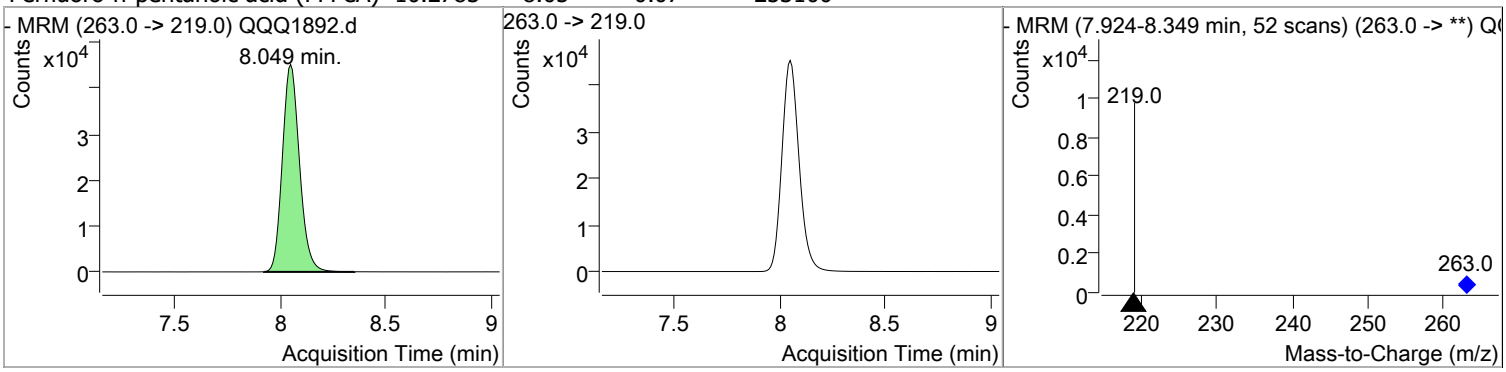
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	10.2713	4.11	-0.08	169746				



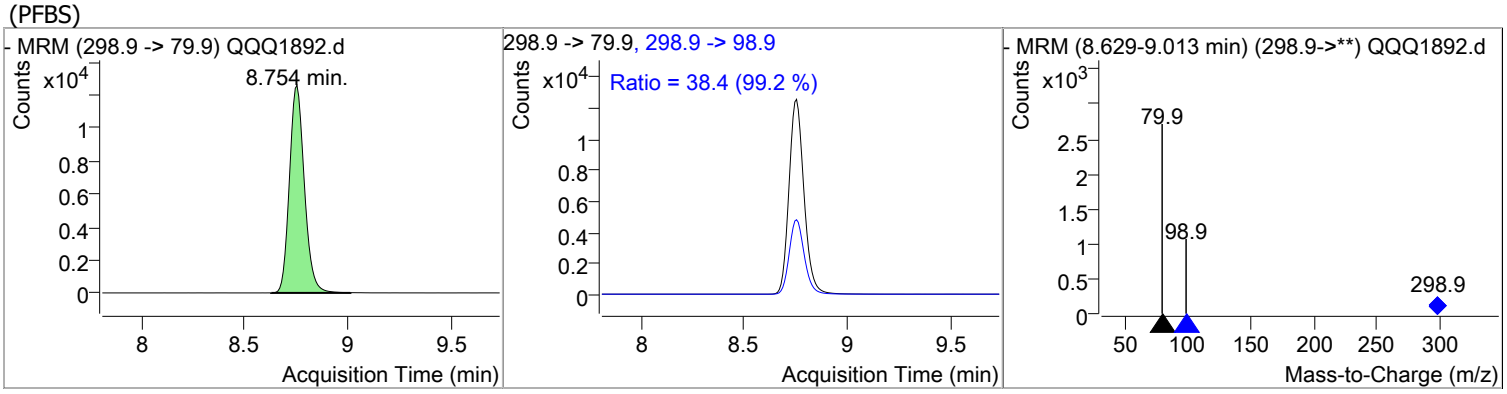
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	10.2489	8.05	-0.07	287472				



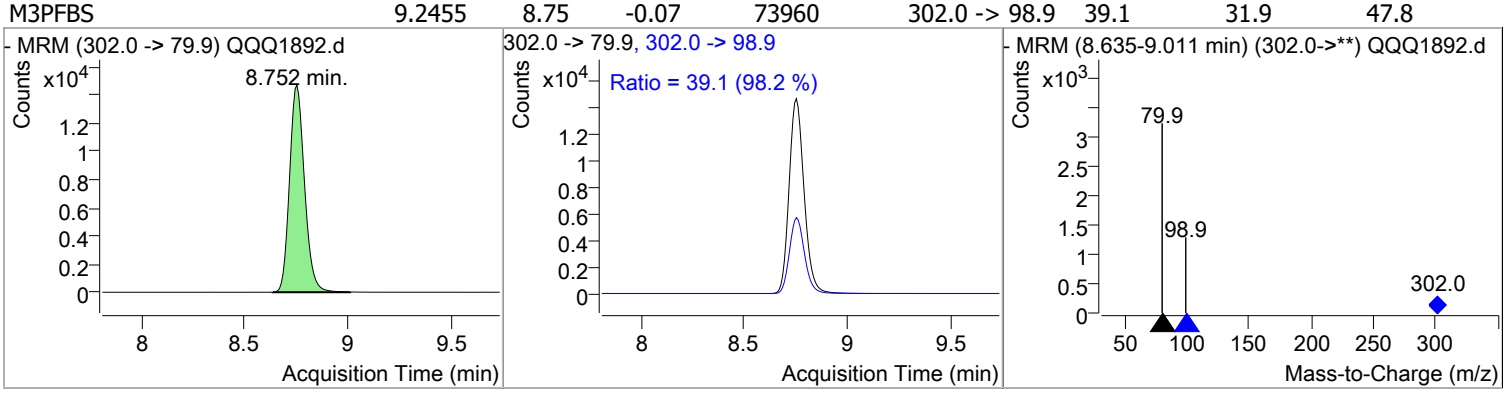
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	10.2783	8.05	-0.07	253100				



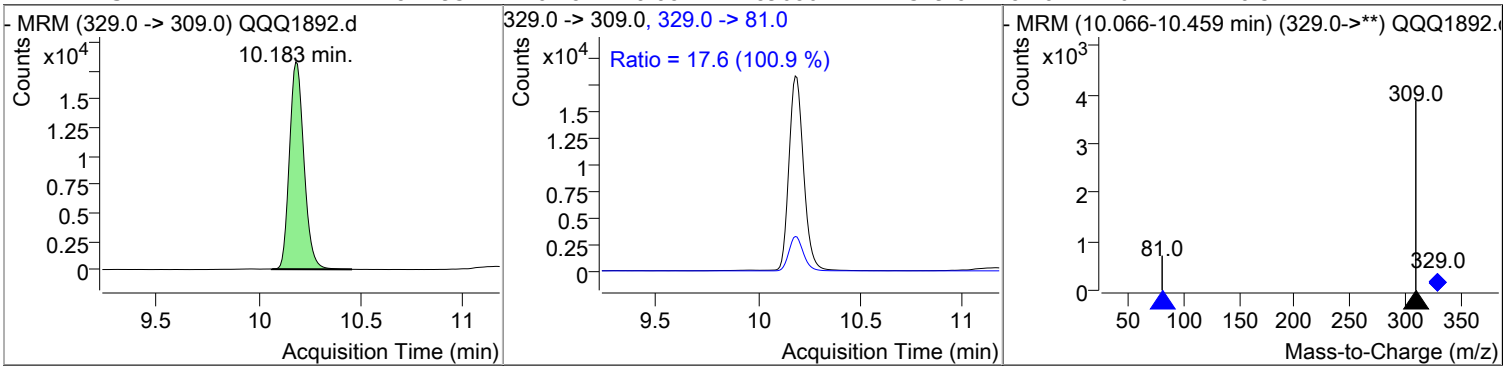
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	8.7410	8.75	-0.06	63022	298.9 -> 98.9	38.4	31.0	46.5



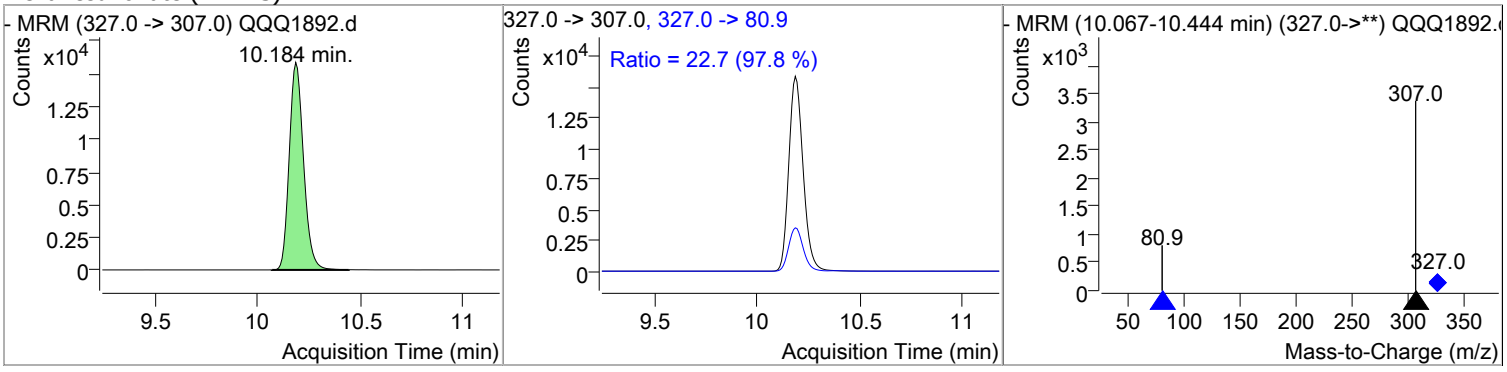
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	9.2455	8.75	-0.07	73960	302.0 -> 98.9	39.1	31.9	47.8



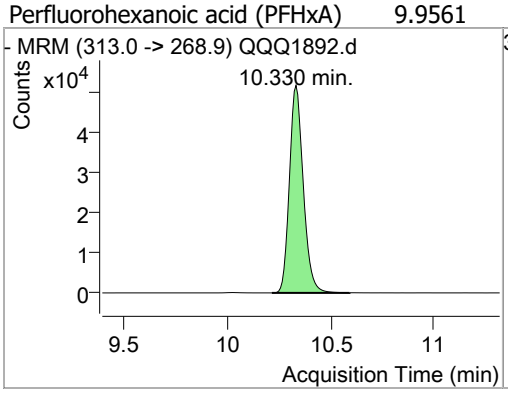
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	8.1493	10.18	-0.08	89686	329.0 -> 81.0	17.6	10.5	24.4

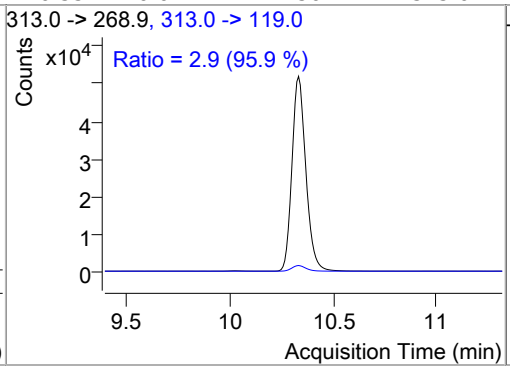


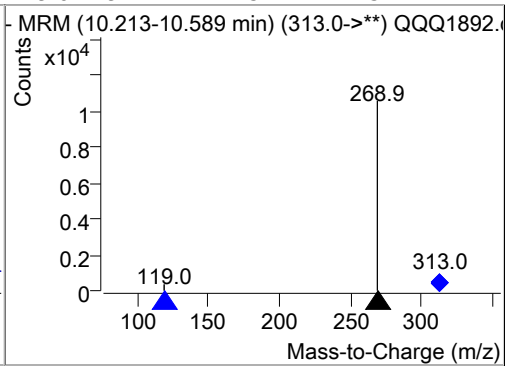
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	8.4410	10.18	-0.08	76769	327.0 -> 80.9	22.7	13.9	32.5



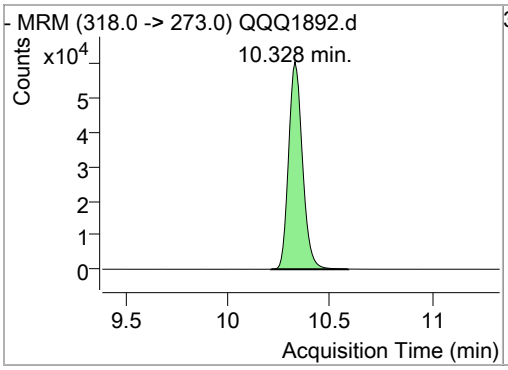
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	9.9561	10.33	-0.07	242504	313.0 -> 119.0	2.9	2.5	3.7

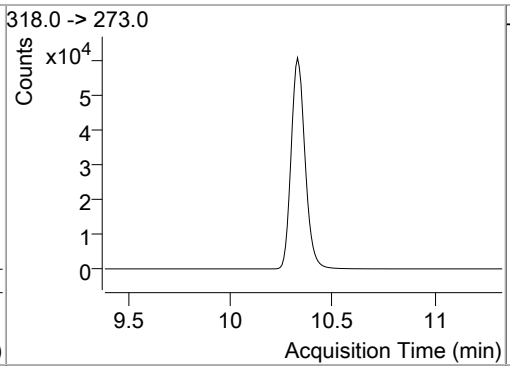


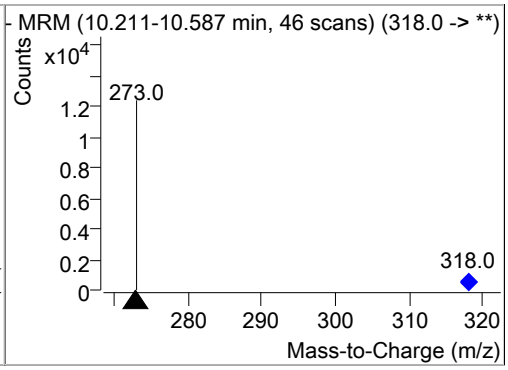




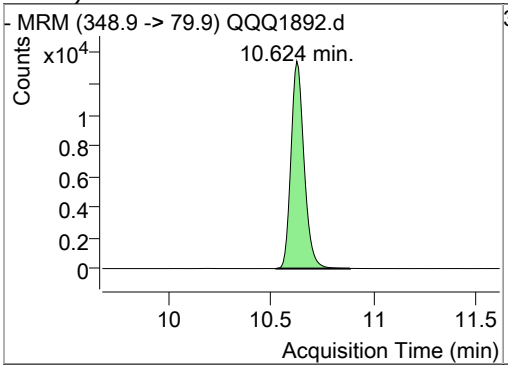
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	10.1121	10.33	-0.08	285496				

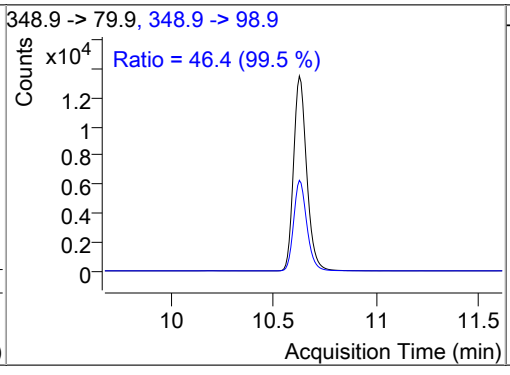


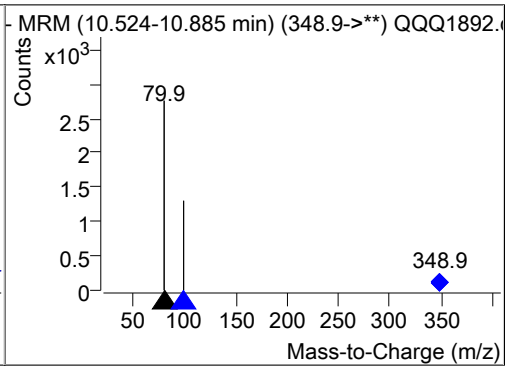




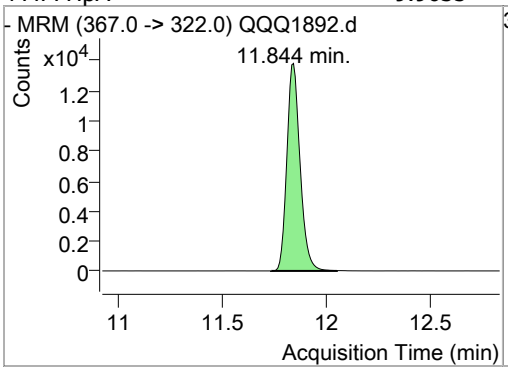
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	9.5243	10.62	-0.08	60053	348.9 -> 98.9	46.4	37.3	56.0

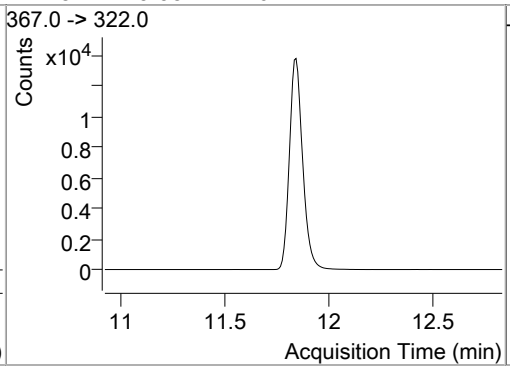


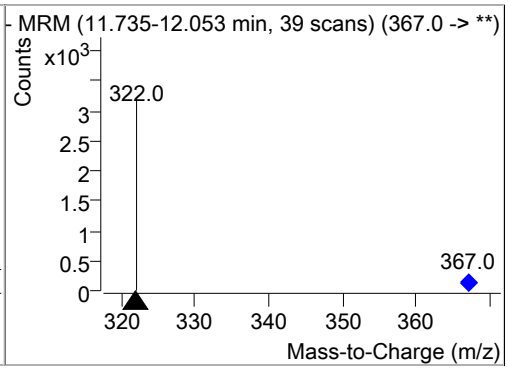




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	9.9635	11.84	-0.08	61111				

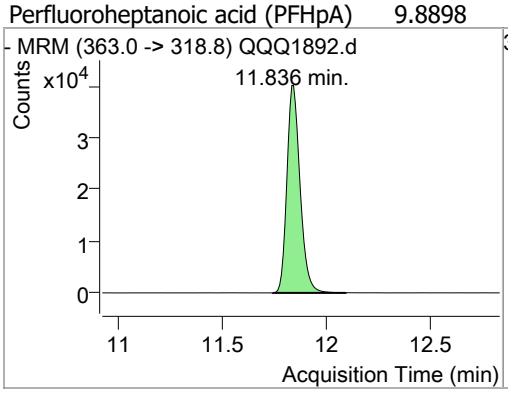


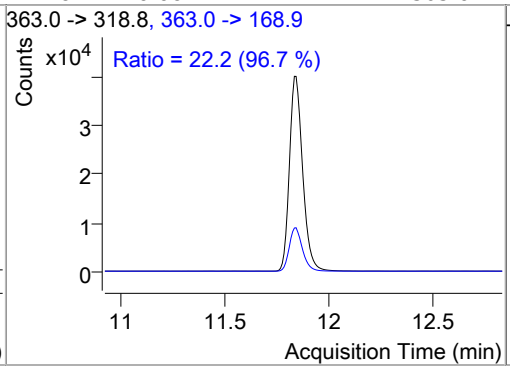


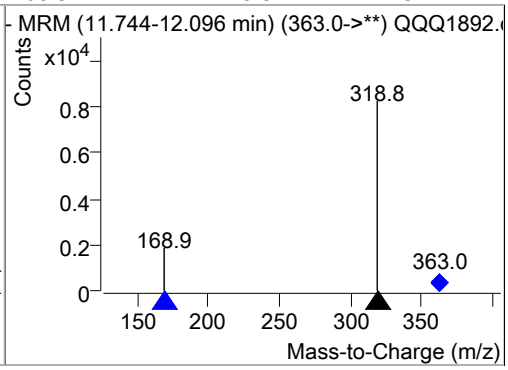


Quantitation Results Report (Not Reviewed)

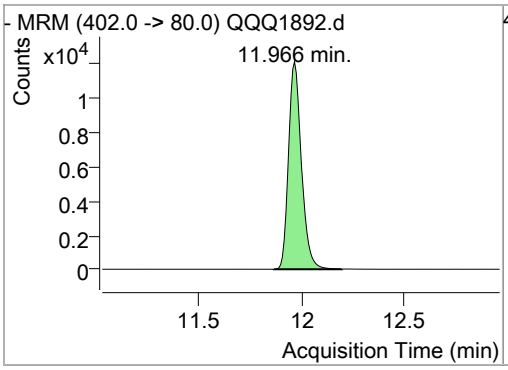
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	9.8898	11.84	-0.08	177471	363.0 -> 168.9	22.2	18.3	27.5

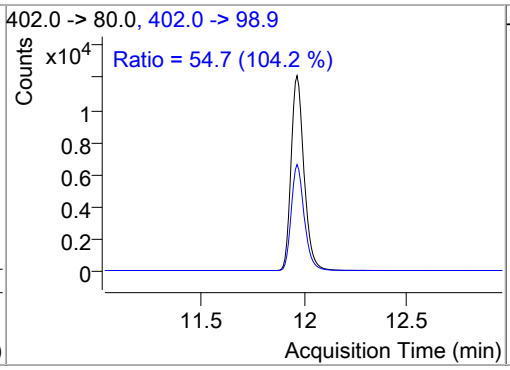


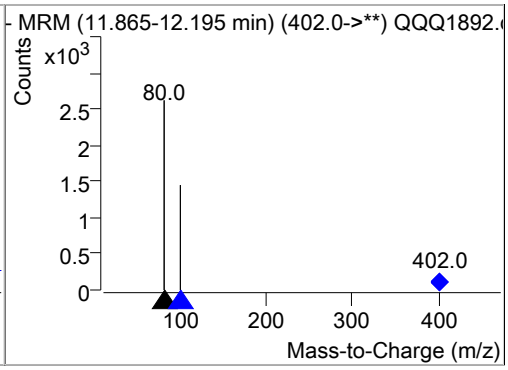




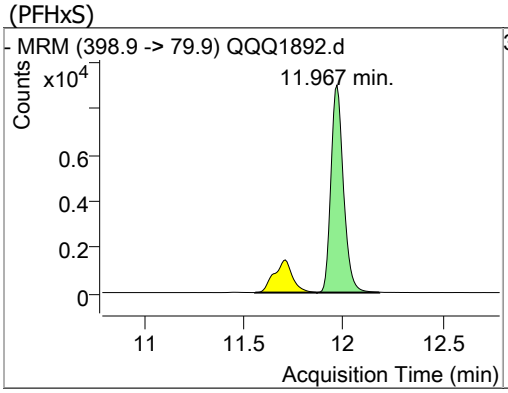
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	9.3923	11.97	-0.08	52558	402.0 -> 98.9	54.7	42.0	62.9

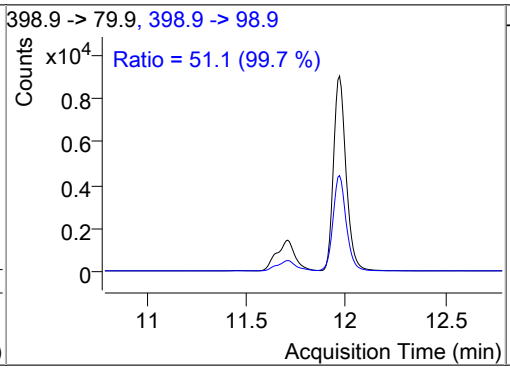


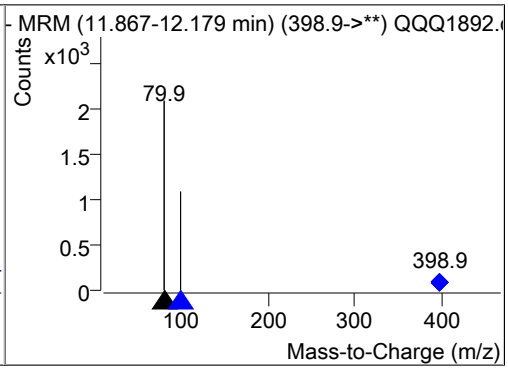




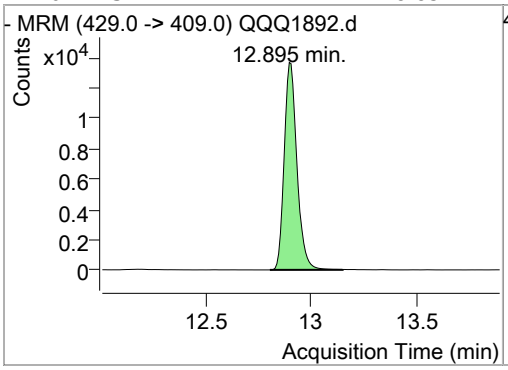
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	7.3775	11.97	-0.08	39350	398.9 -> 98.9	51.1	41.0	61.5

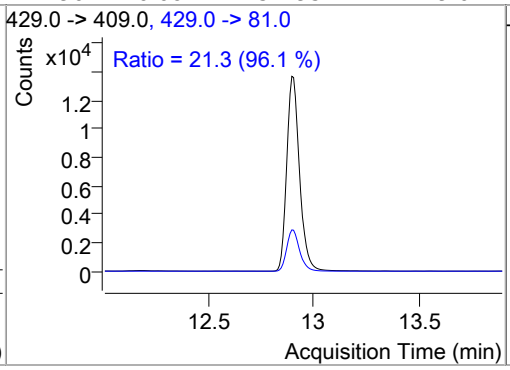


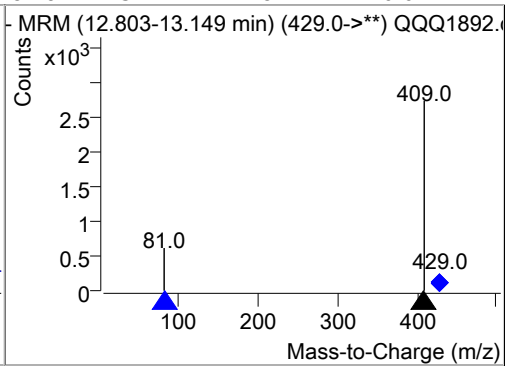




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	8.8577	12.90	-0.08	57495	429.0 -> 81.0	21.3	17.8	26.6

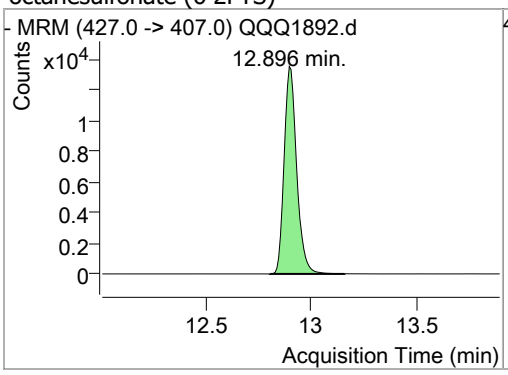


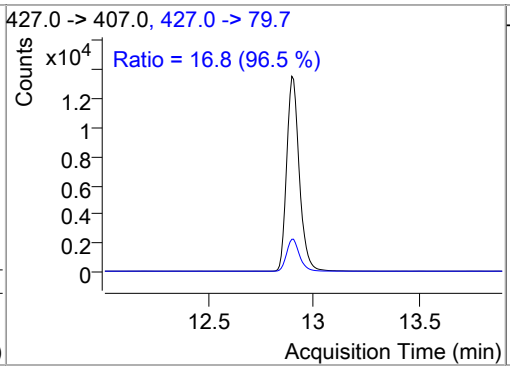


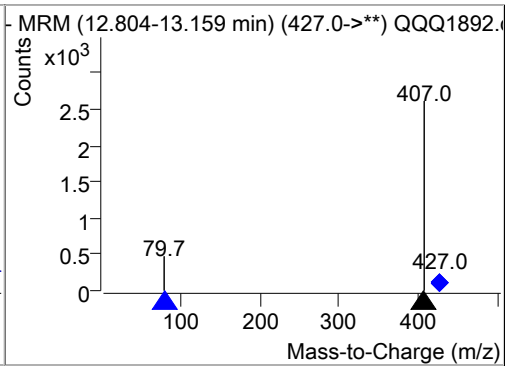


Quantitation Results Report (Not Reviewed)

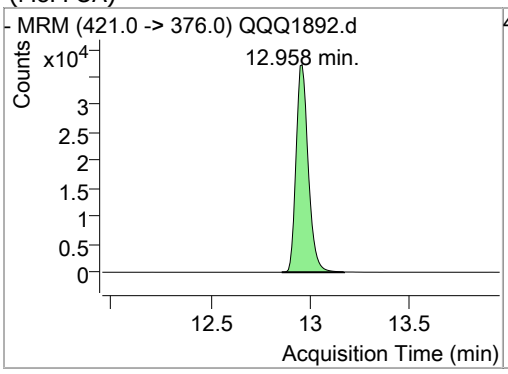
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	8.5537	12.90	-0.08	56207	427.0 -> 79.7	16.8	13.9	20.8

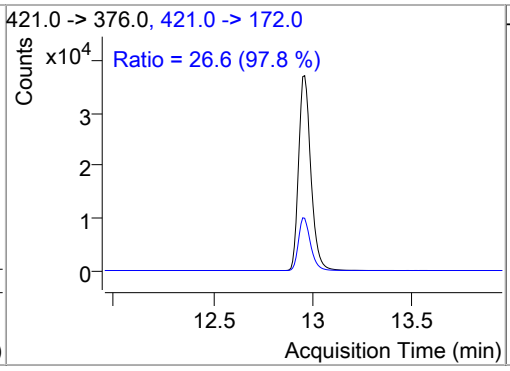


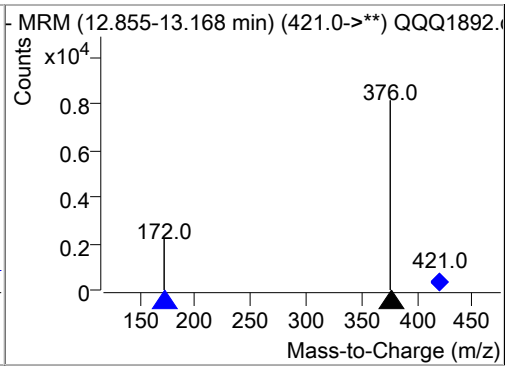




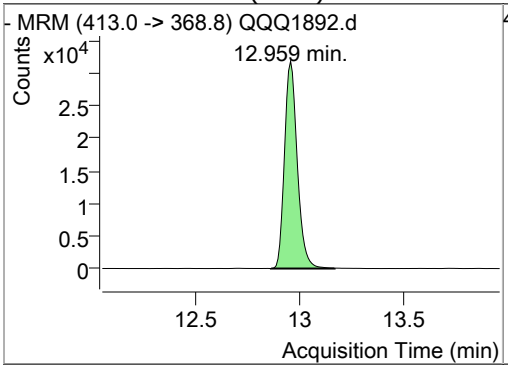
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	10.3435	12.96	-0.07	158243	421.0 -> 172.0	26.6	21.7	32.6

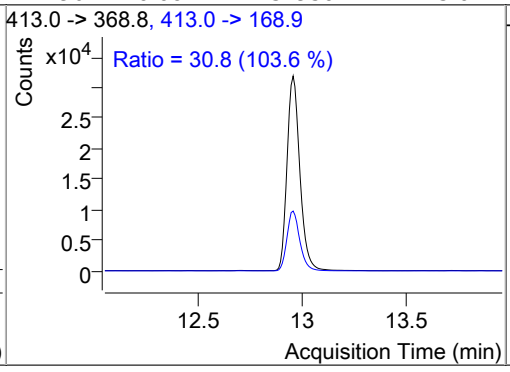


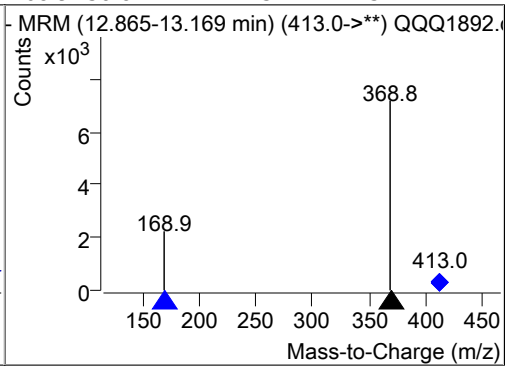




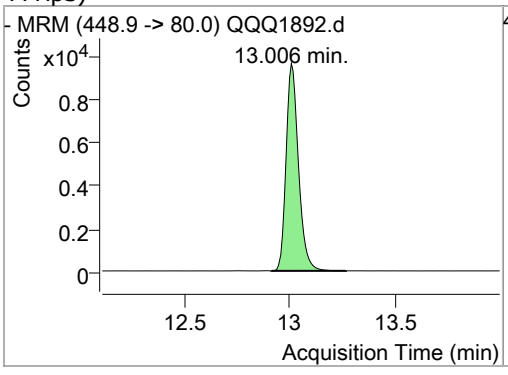
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	9.9402	12.96	-0.08	134950	413.0 -> 168.9	30.8	22.3	37.2

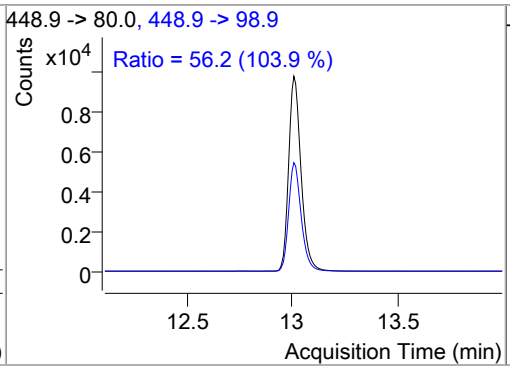


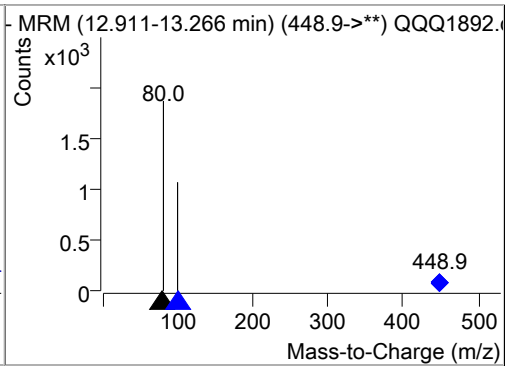




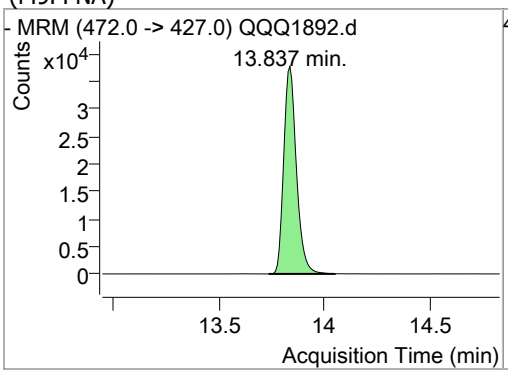
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	10.0400	13.01	-0.08	39675	448.9 -> 98.9	56.2	43.3	64.9

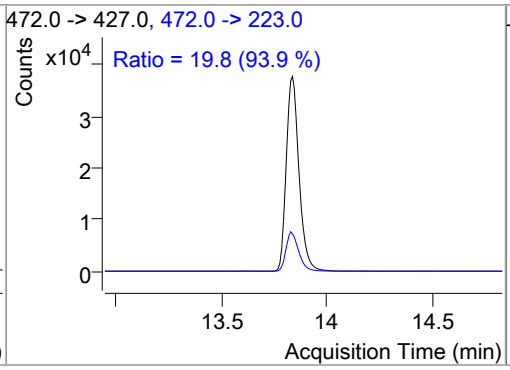


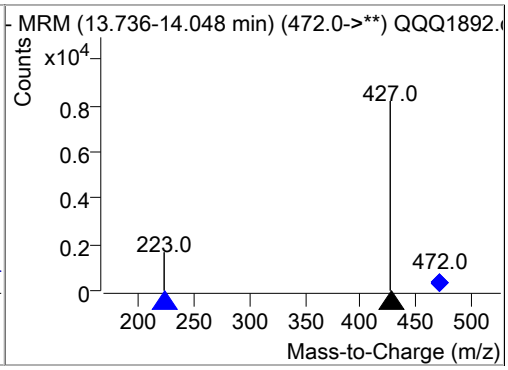




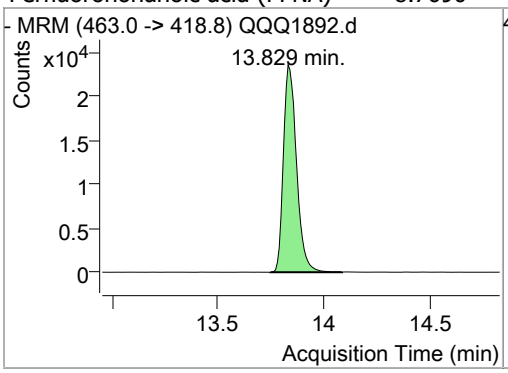
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	9.9758	13.84	-0.07	156698	472.0 -> 223.0	19.8	16.9	25.4

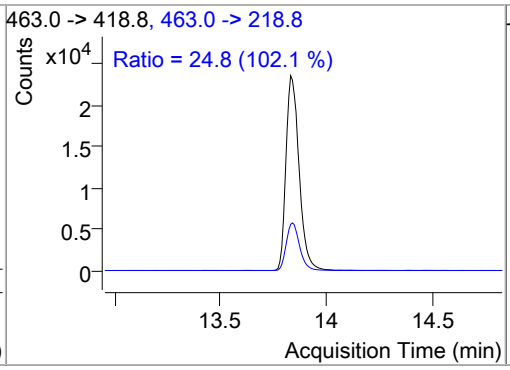


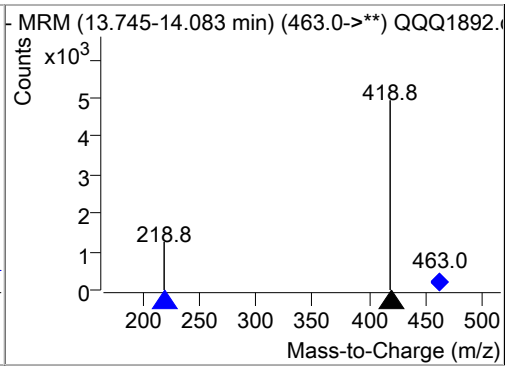




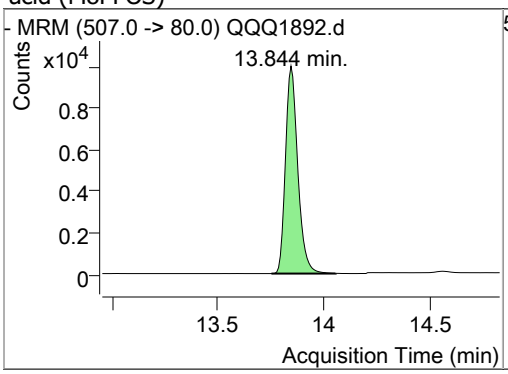
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	8.7690	13.83	-0.08	101201	463.0 -> 218.8	24.8	19.4	29.1

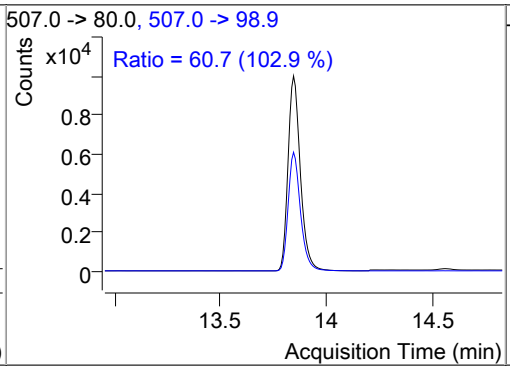


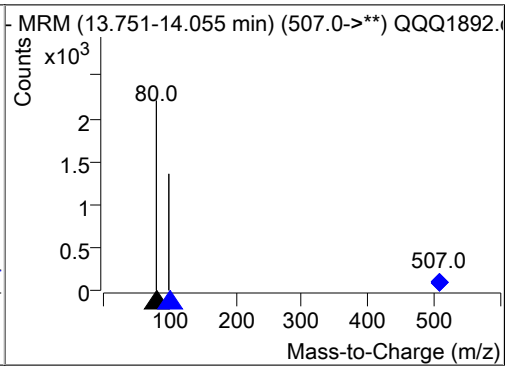




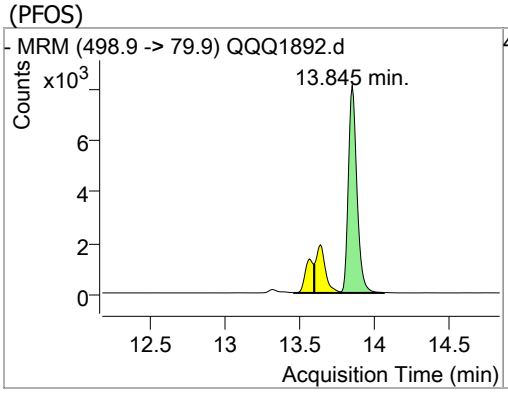
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	9.3695	13.84	-0.07	40381	507.0 -> 98.9	60.7	47.2	70.8

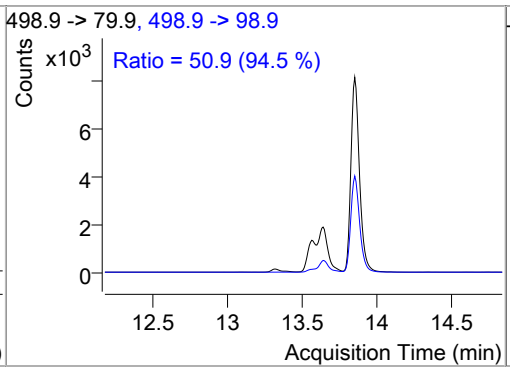


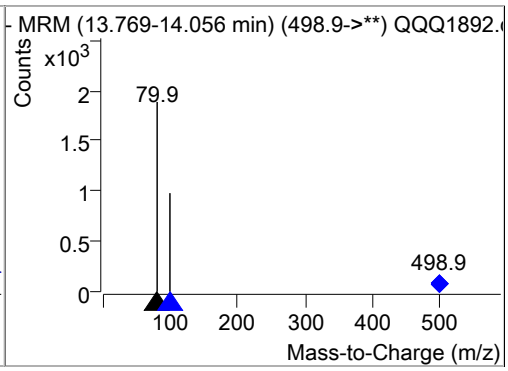




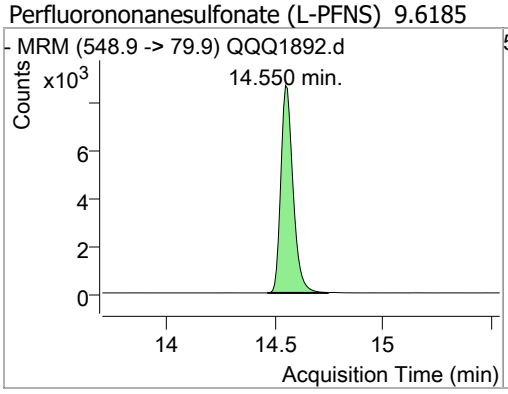
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	6.9246	13.84	-0.07	32586	498.9 -> 98.9	50.9	43.1	64.6

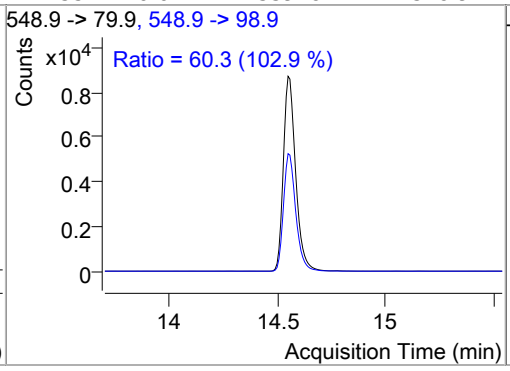


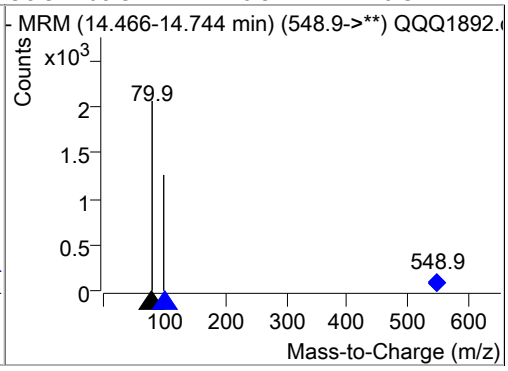




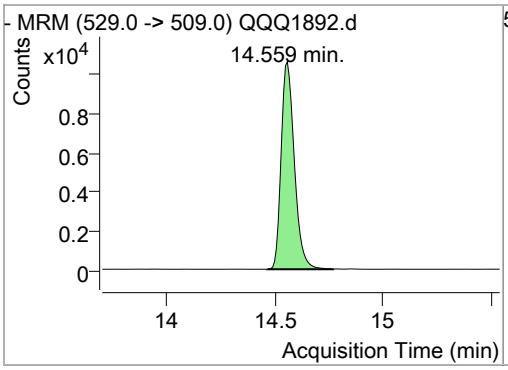
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	9.6185	14.55	-0.07	33918	548.9 -> 98.9	60.3	46.9	70.3

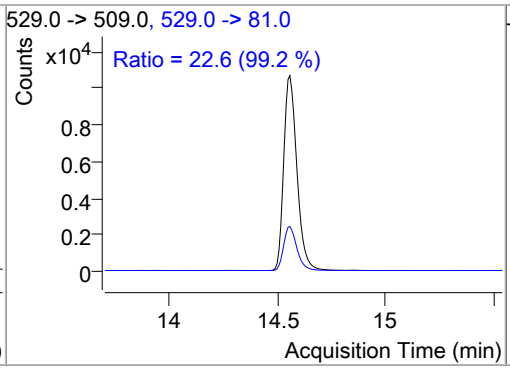


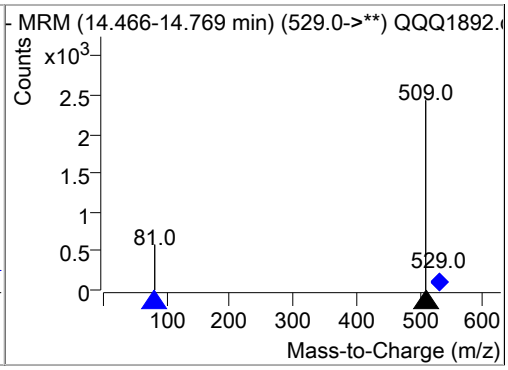




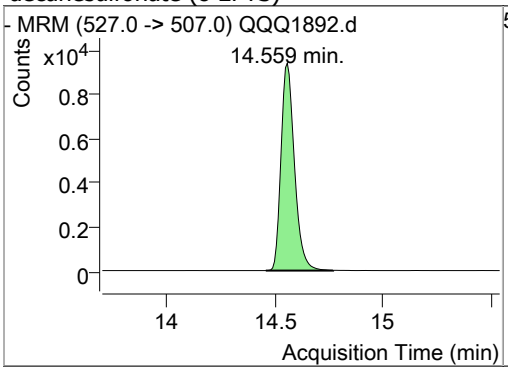
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	9.3392	14.56	-0.06	44949	529.0 -> 81.0	22.6	18.3	27.4

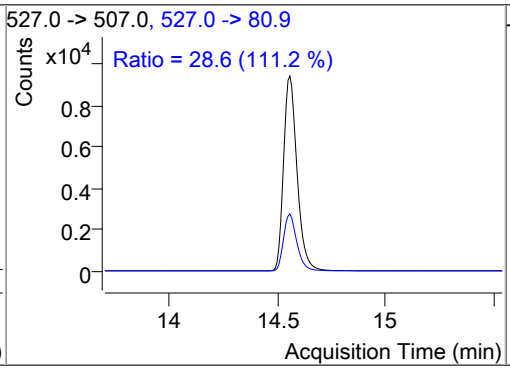


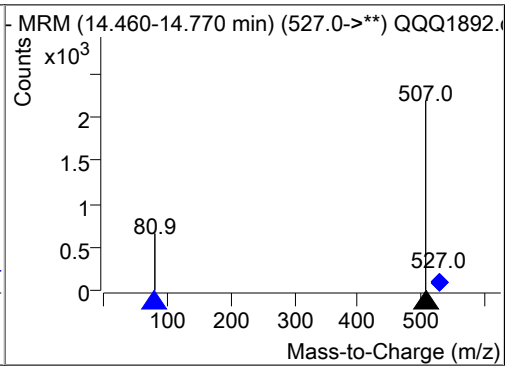




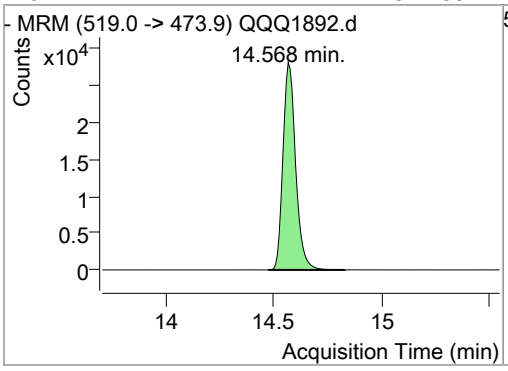
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	9.4379	14.56	-0.06	40365	527.0 -> 80.9	28.6	20.6	30.9

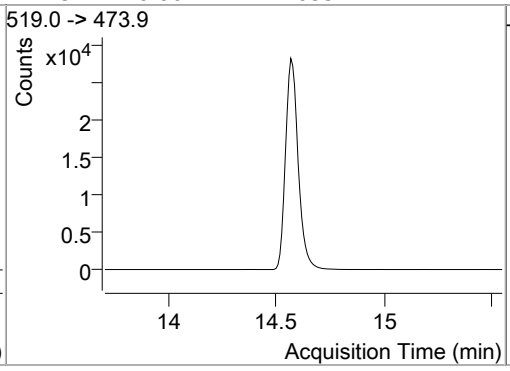


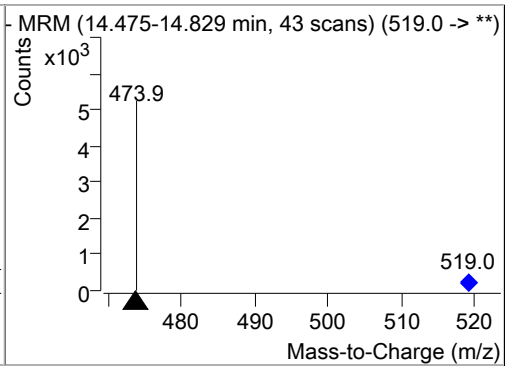




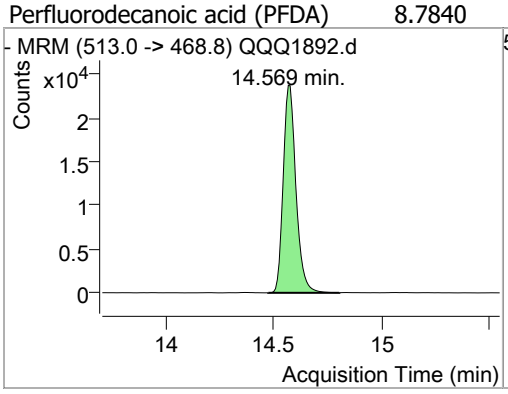
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	9.1255	14.57	-0.06	114053				

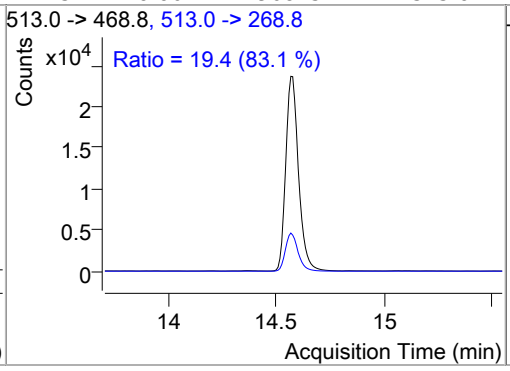


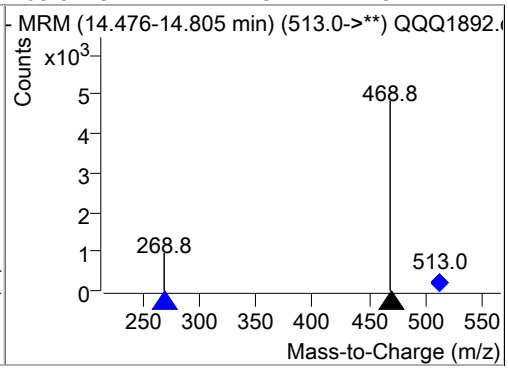




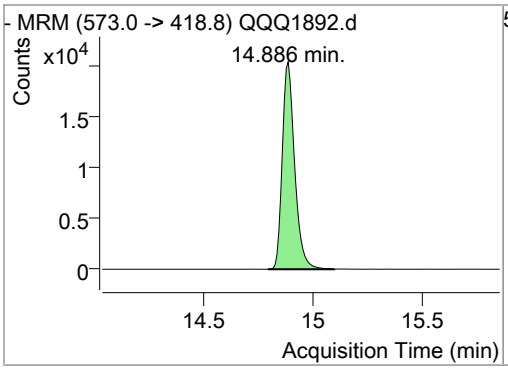
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	8.7840	14.57	-0.06	96845	513.0 -> 268.8	19.4	17.5	29.1

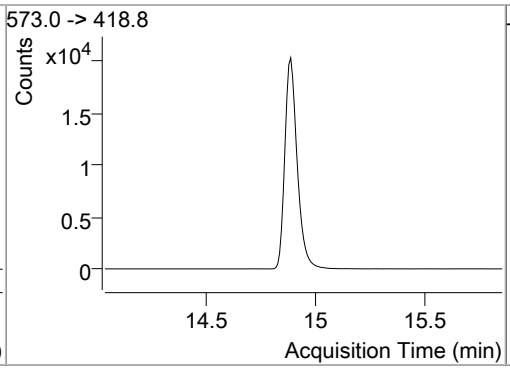


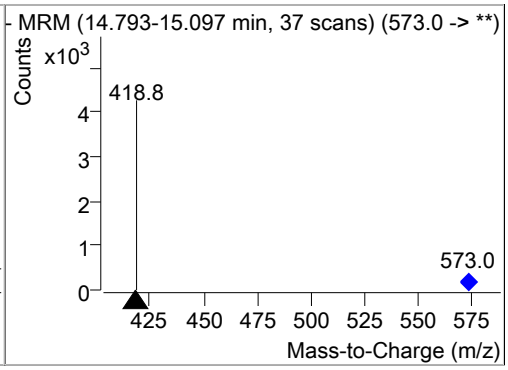




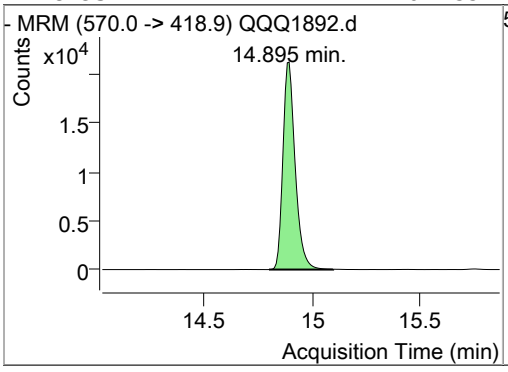
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	10.3932	14.89	-0.05	79664				

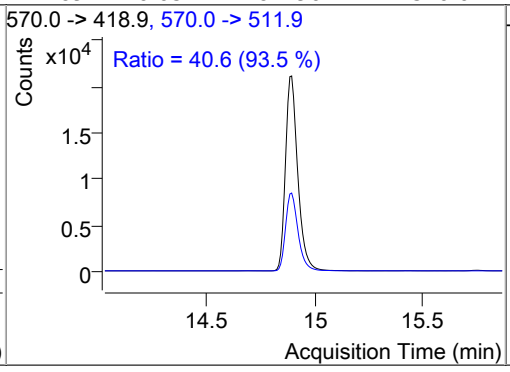


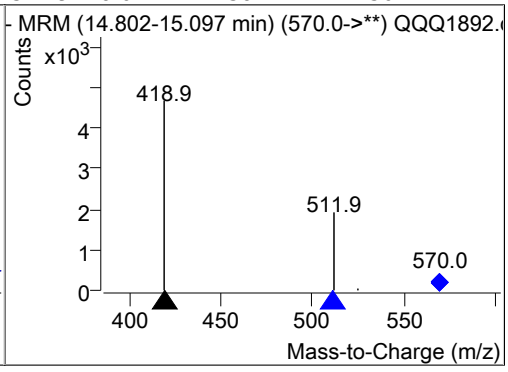




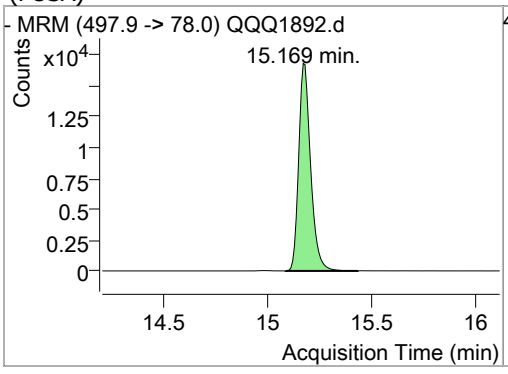
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	10.2135	14.89	-0.05	82790	570.0 -> 511.9	40.6	30.4	56.4

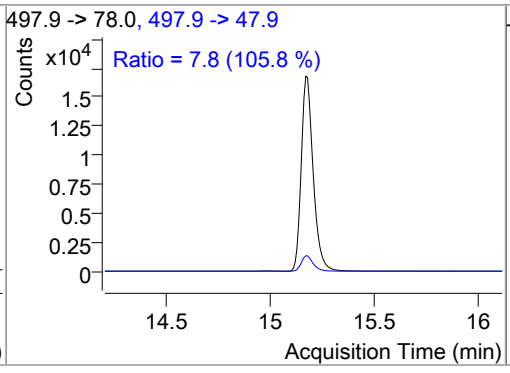


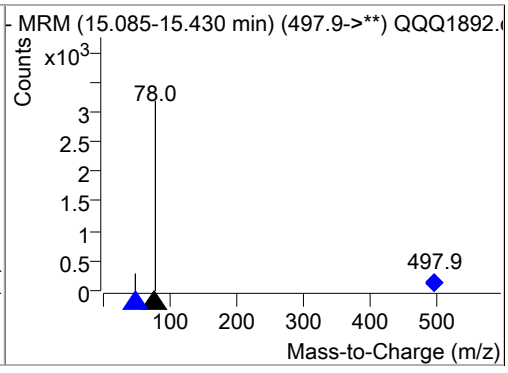




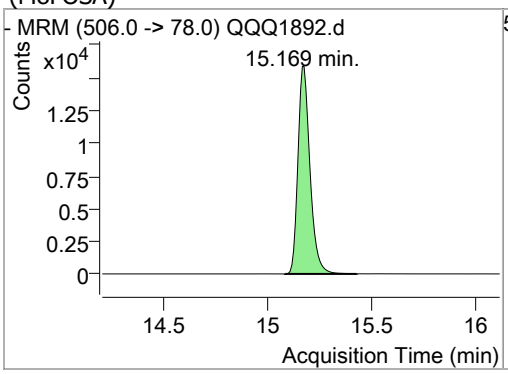
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	9.7999	15.17	-0.02	66480	497.9 -> 47.9	7.8	5.9	8.8

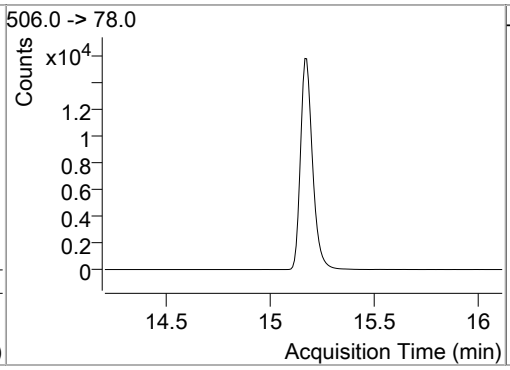


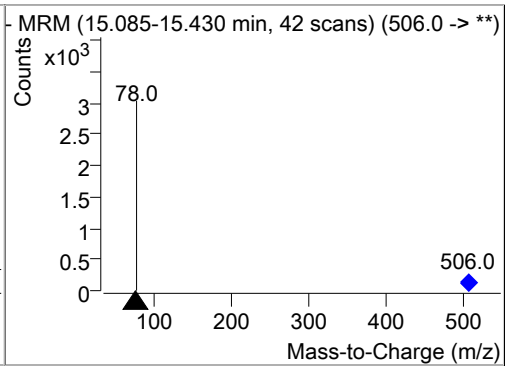




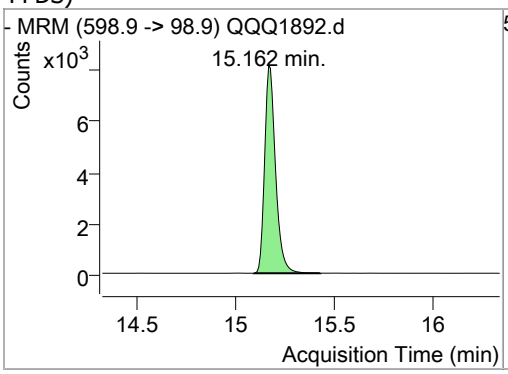
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	9.7946	15.17	-0.03	63780				

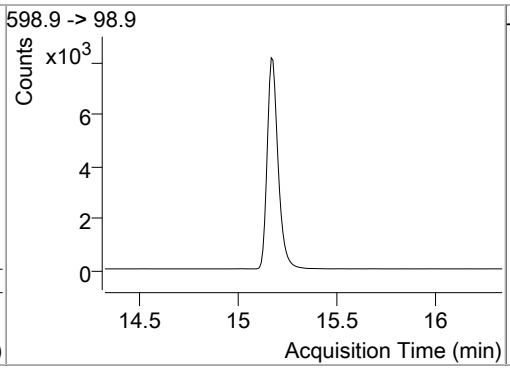


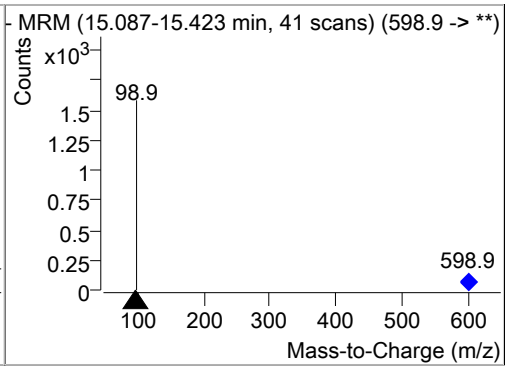




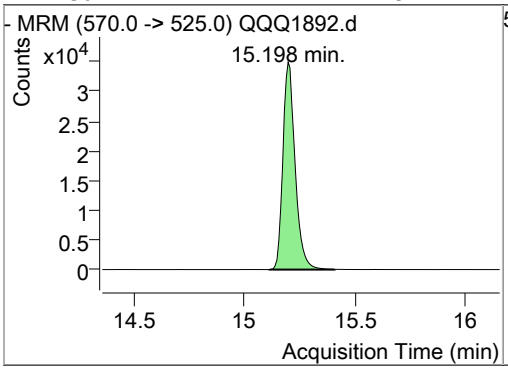
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	9.5195	15.16	-0.05	31061				

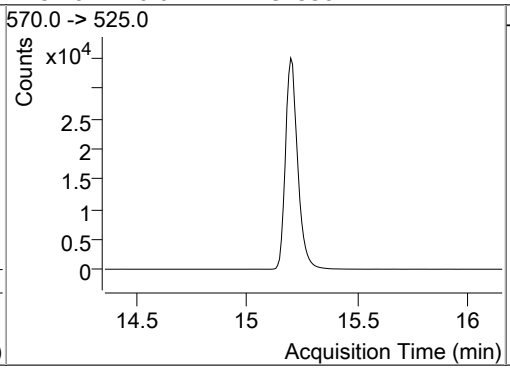


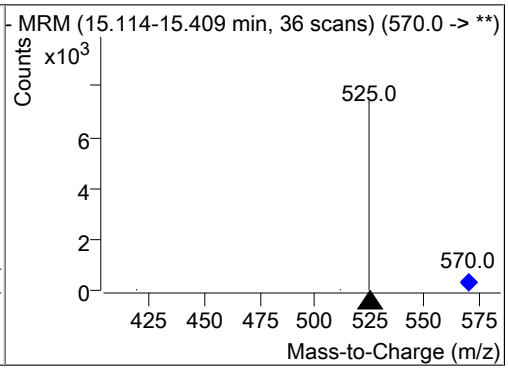




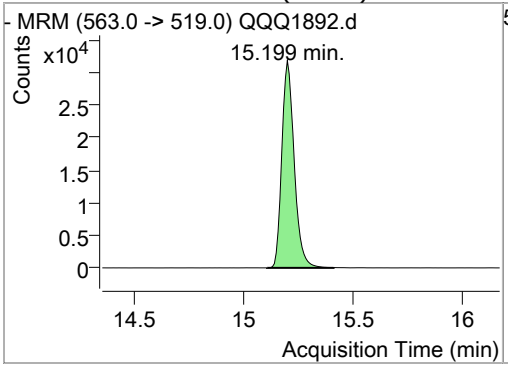
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	9.4471	15.20	-0.04	134330				

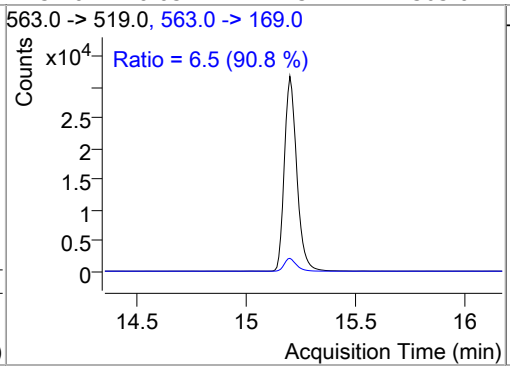


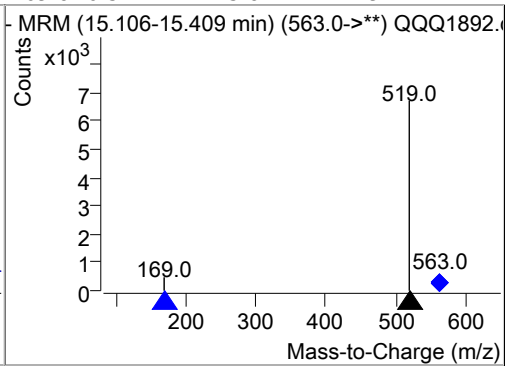




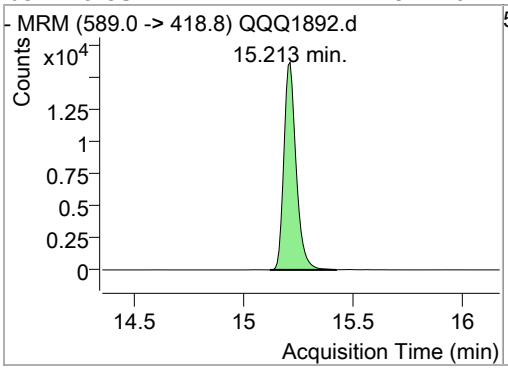
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	9.4344	15.20	-0.05	124512	563.0 -> 169.0	6.5	5.0	9.2

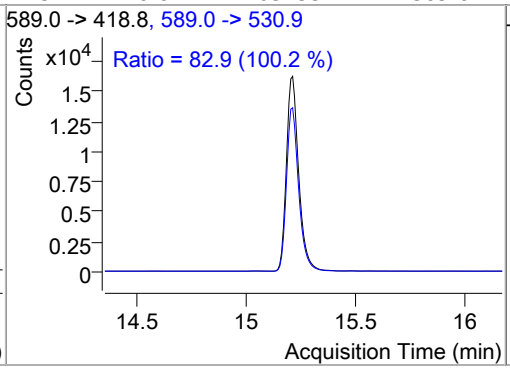


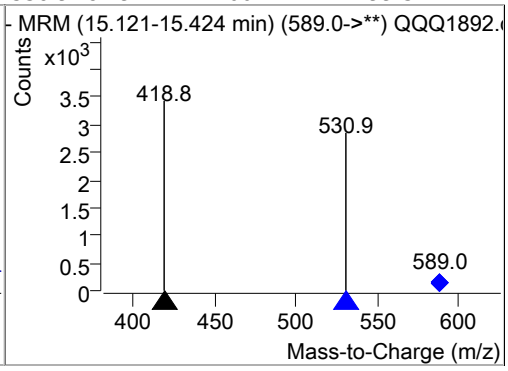




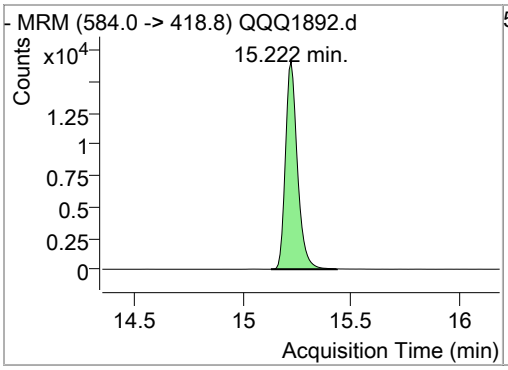
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	9.7240	15.21	-0.04	63235	589.0 -> 530.9	82.9	66.2	99.3

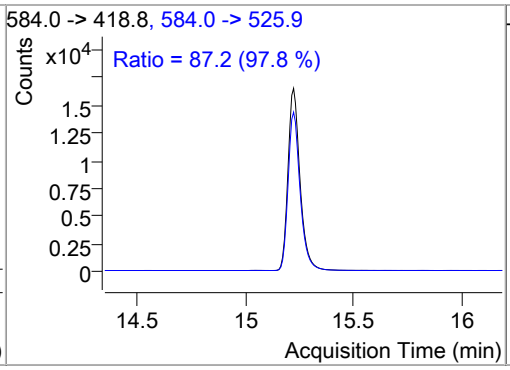


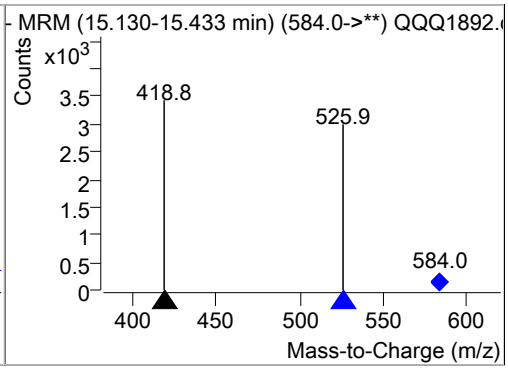




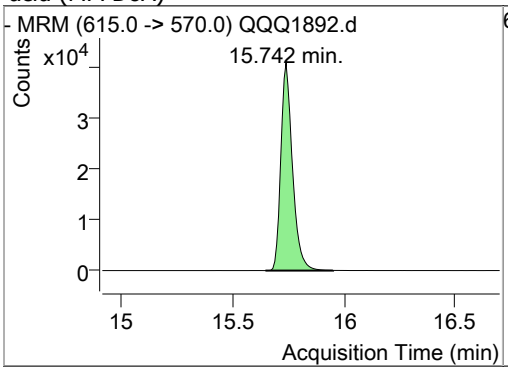
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	9.8464	15.22	-0.04	63256	584.0 -> 525.9	87.2	71.3	107.0

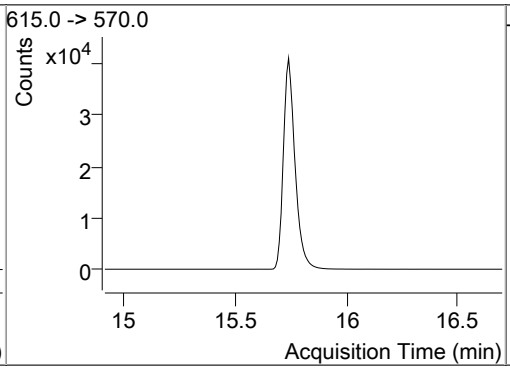


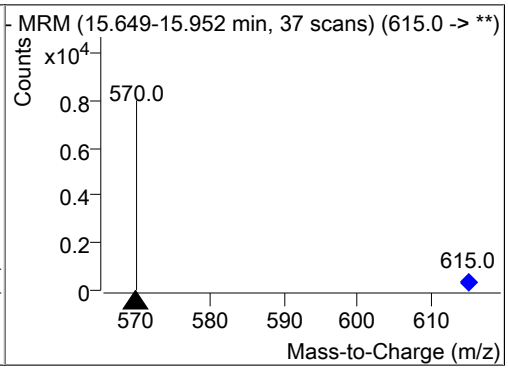




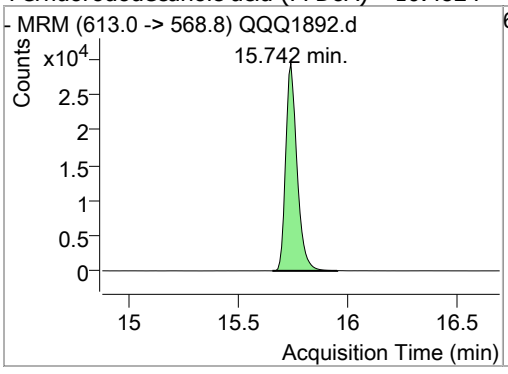
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	10.1428	15.74	-0.03	148281				

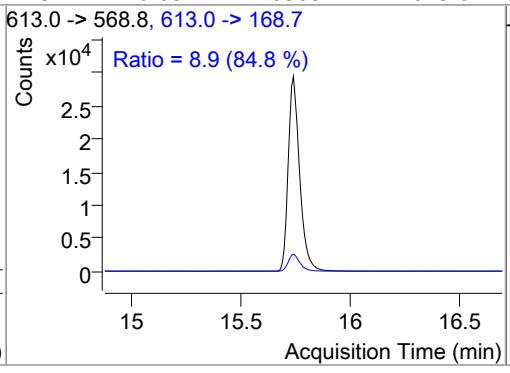


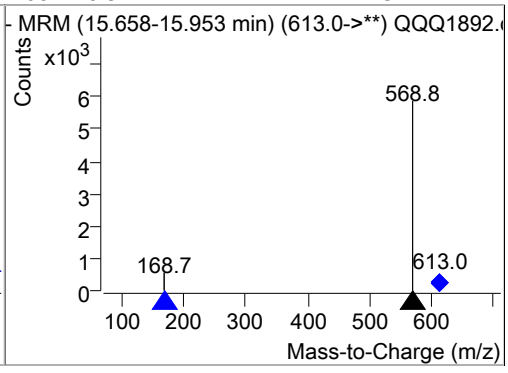




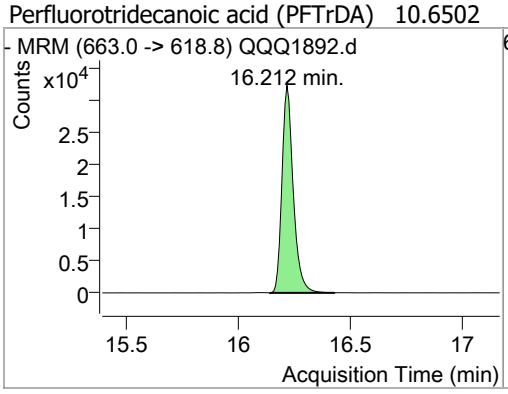
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	10.4824	15.74	-0.03	105651	613.0 -> 168.7	8.9	7.4	13.7

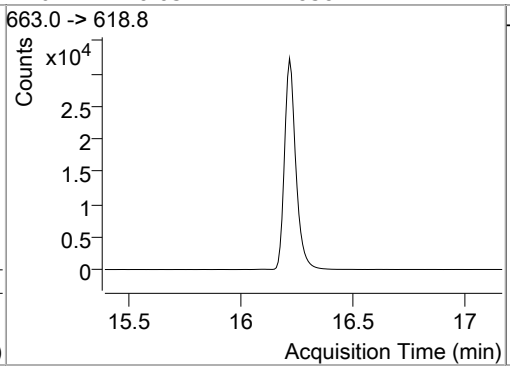


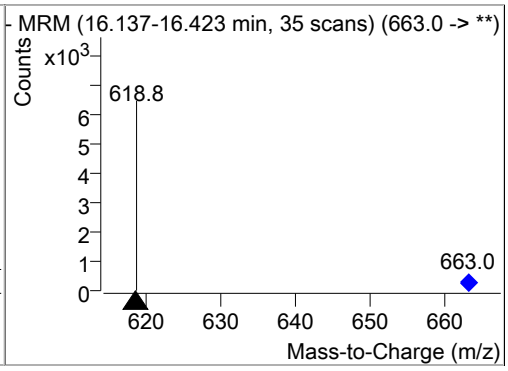




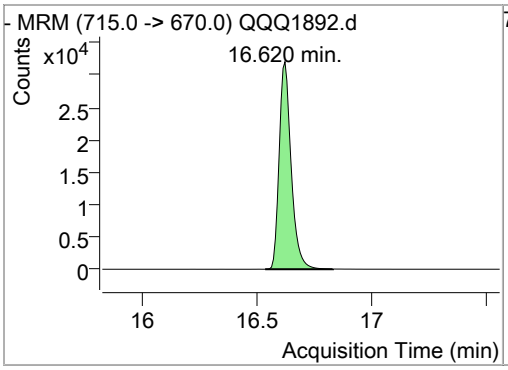
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	10.6502	16.21	-0.03	112858				

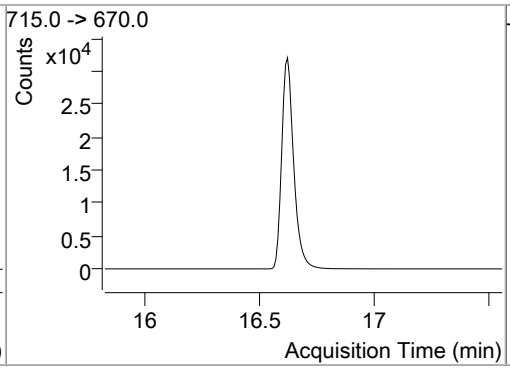


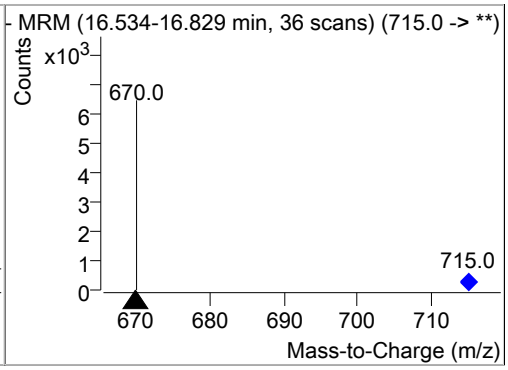




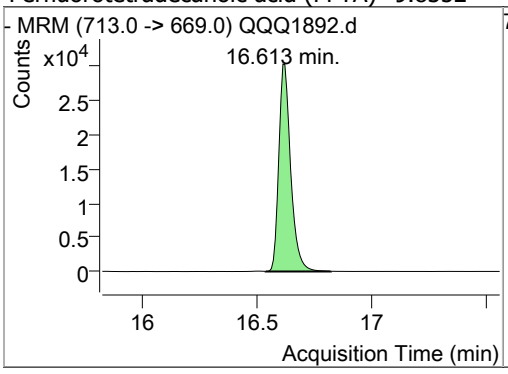
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	9.7051	16.62	-0.02	115833				

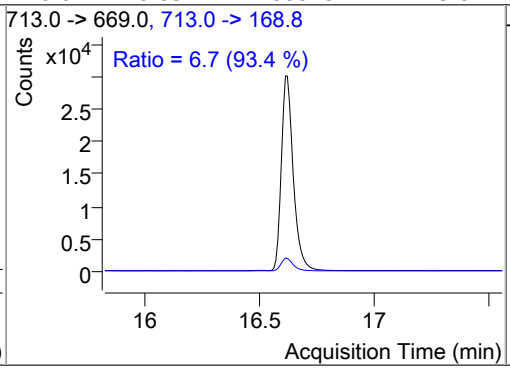


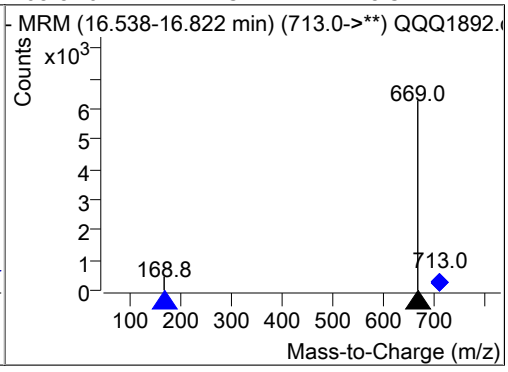




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	9.8352	16.61	-0.03	108818	713.0 -> 168.8	6.7	5.7	8.5







Quantitation Results Report (Not Reviewed)

Data File	QQQ1893.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 4:19:08 PM
Sample Name	SEQ-CAL7	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	20.05 ng/mL
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

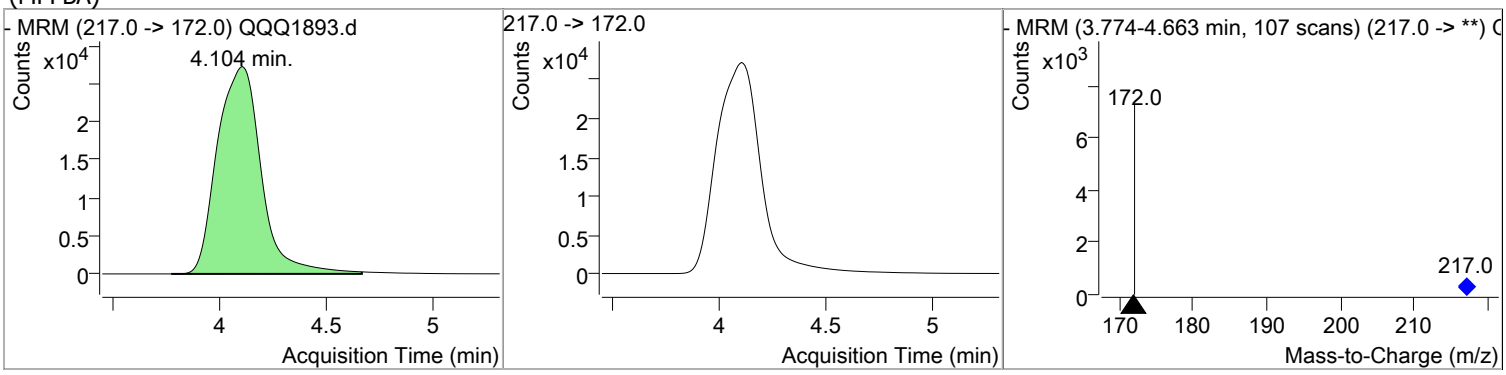
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Internal Standards							
MPFOA	12.958	417.0 -> 372.0	206564	10.0000	ng/ml		-0.075
System Monitoring Compounds							
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	386562	21.9113	ng/ml		-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 219.11%		*	
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	560166	21.2182	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 212.18%		*	
M3PFBS	8.752	302.0 -> 79.9	136130	18.0800	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 180.80%		*	
M2-4-2FTS	10.191	329.0 -> 309.0	153892	14.8566	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 148.57%		*	
M5PFHxA	10.336	318.0 -> 273.0	543310	20.4456	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 204.46%		*	
M4PFHpA	11.844	367.0 -> 322.0	111860	19.3765	ng/ml		-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 193.76%		*	
M3PFHxS	11.974	402.0 -> 80.0	96164	18.2581	ng/ml		-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 182.58%		*	
M2-6-2FTS	12.904	429.0 -> 409.0	101514	16.6161	ng/ml		-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 166.16%		*	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.958	421.0 -> 376.0	293019	20.3492	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 203.49%		*	
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	249707	16.8897	ng/ml		-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 168.90%		*	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	71004	17.5035	ng/ml		-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 175.03%		*	
M2-8-2FTS	14.559	529.0 -> 509.0	72010	19.2867	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 192.87%		*	
M6PFDA	14.568	519.0 -> 473.9	215982	18.3602	ng/ml		-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 183.60%		*	
d3-N-MeFOSAA	14.877	573.0 -> 418.8	153678	21.3012	ng/ml		-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 213.01%		*	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.169	506.0 -> 78.0	119743	19.5373	ng/ml		-0.026
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 195.37%		*	
M7PFUdA	15.198	570.0 -> 525.0	224787	16.7960	ng/ml		-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 167.96%		*	
d5-N-EtFOSAA	15.205	589.0 -> 418.8	116791	19.0814	ng/ml		-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 190.81%		*	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	262921	19.1077	ng/ml		-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 191.08%		*	
M2PFTeDA	16.612	715.0 -> 670.0	221954	19.7579	ng/ml		-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 197.58%		*	

Target Compounds QValue

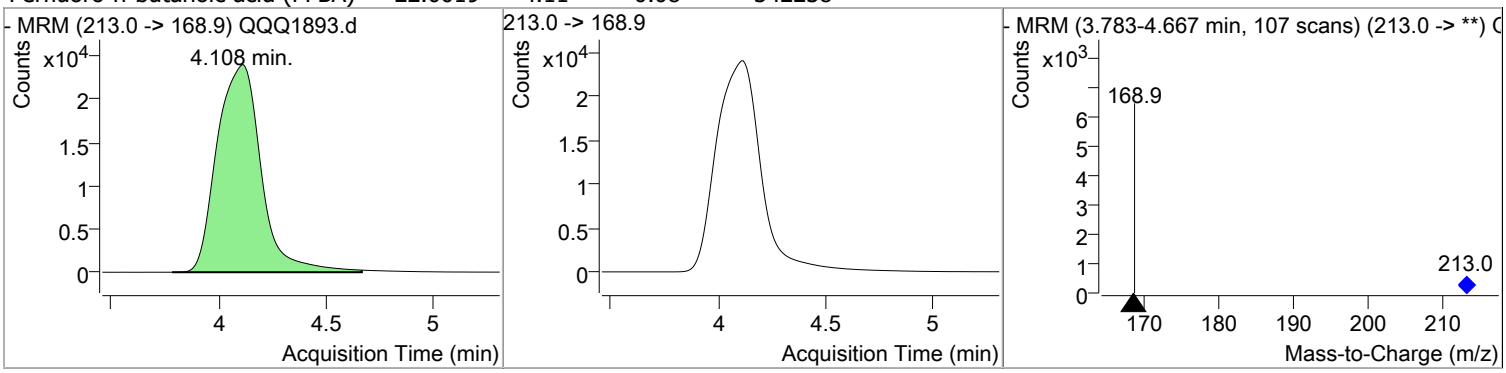
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	342238	22.0019	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	492009	21.2282	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	117055	17.2491	ng/ml	99
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.193	327.0 -> 307.0	132319	15.4576	ng/ml	99
Perfluorohexanoic acid (PFHxA)	10.339	313.0 -> 268.9	473493	20.6535	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.633	348.9 -> 79.9	115842	19.5195	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.853	363.0 -> 318.8	327214	19.3732	ng/ml	100
Perfluorohexanesulfonic acid (PFHxS)	11.976	398.9 -> 79.9	71578	14.2576	ng/ml	99
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.905	427.0 -> 407.0	96875	15.6634	ng/ml	98
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	251299	19.6663	ng/ml	98
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.014	448.9 -> 80.0	75193	20.2164	ng/ml	97
Perfluorononanoic acid (PFNA)	13.829	463.0 -> 418.8	187125	17.2269	ng/ml	99
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	57393	12.9576	ng/ml	95
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	62450	18.8156	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	64033	19.2558	ng/ml	100
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	167221	16.1143	ng/ml	93
N-MeFOSAA	14.886	570.0 -> 418.9	159986	20.9696	ng/ml	95
Perfluoro-1-octanesulfonamide (FOSA)	15.169	497.9 -> 78.0	124297	19.4671	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.162	598.9 -> 98.9	57923	18.8608	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.190	563.0 -> 519.0	218448	17.5858	ng/ml	98
N-EtFOSAA	15.222	584.0 -> 418.8	118120	19.5348	ng/ml	96
Perfluorododecanoic acid (PFDoA)	15.734	613.0 -> 568.8	170595	17.9829	ng/ml	99
Perfluorotridecanoic acid (PFTrDA)	16.204	663.0 -> 618.8	213964	21.4523	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	199930	19.1987	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

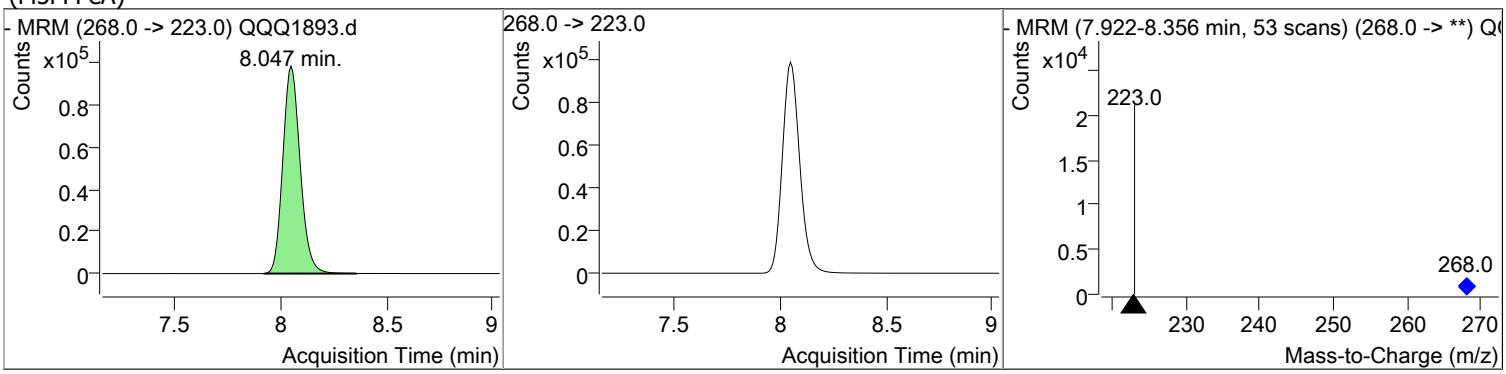
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	21.9113	4.10	-0.08	386562				



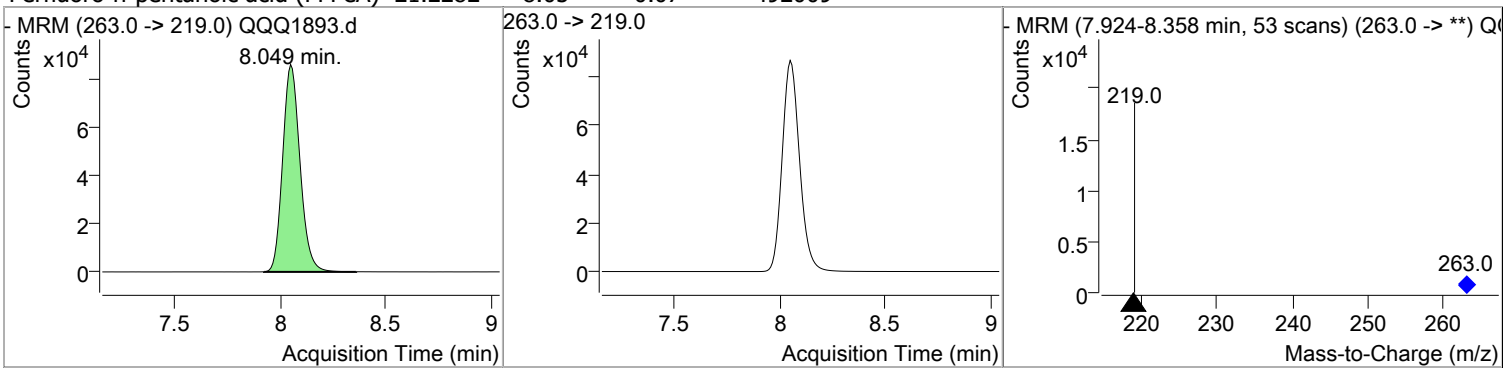
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	22.0019	4.11	-0.08	342238				



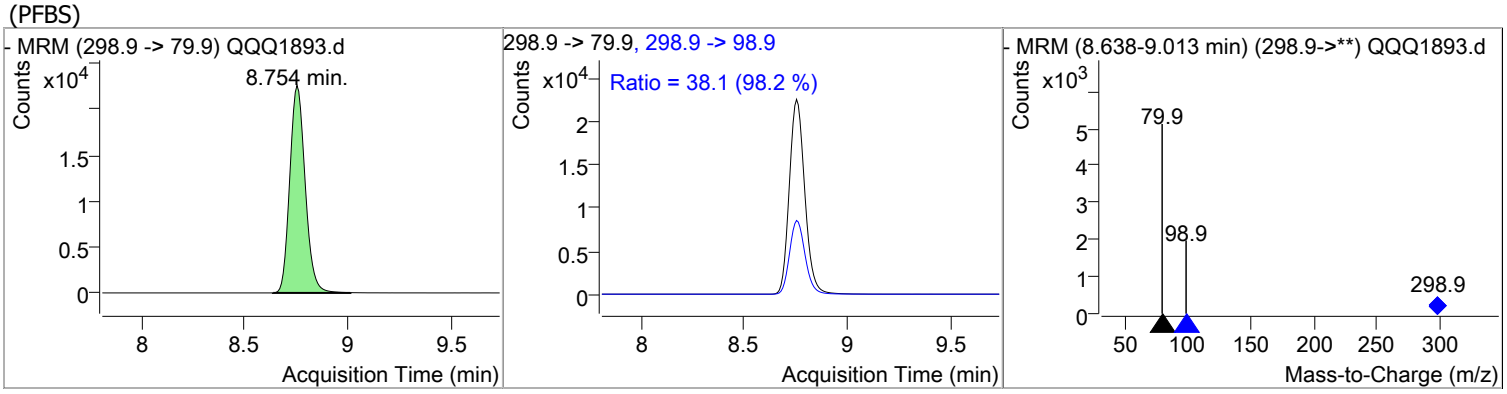
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	21.2182	8.05	-0.07	560166				



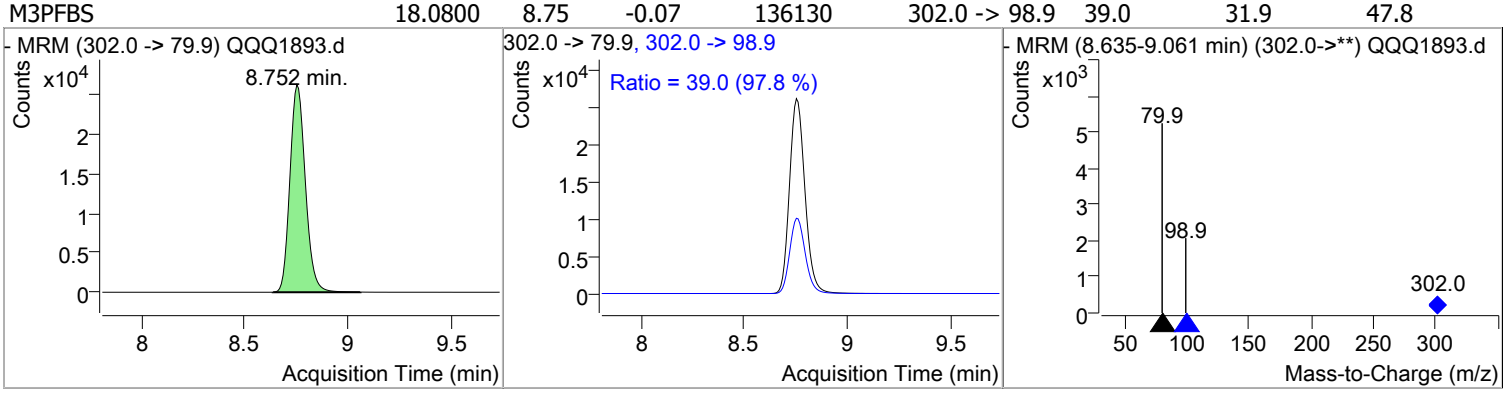
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	21.2282	8.05	-0.07	492009				



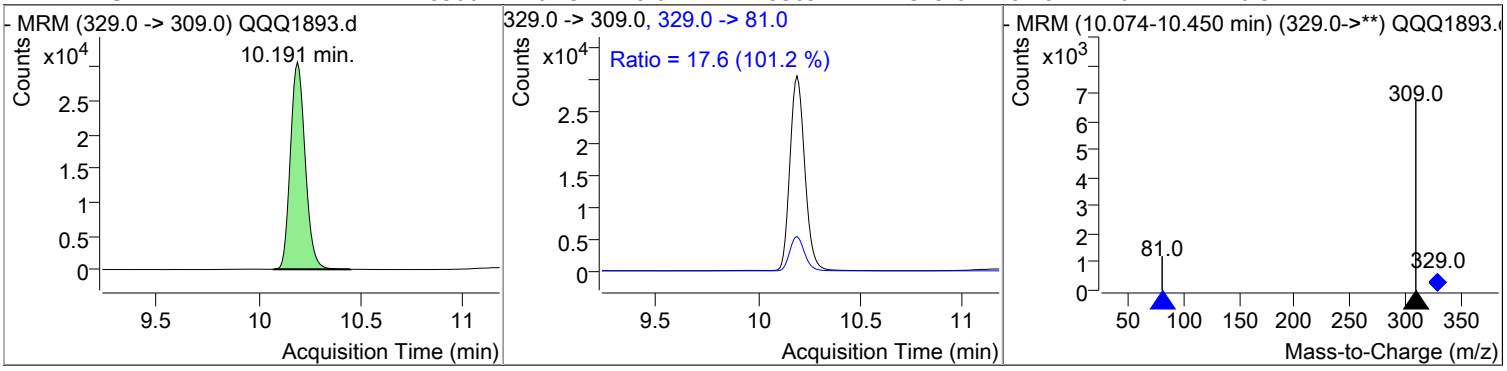
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	17.2491	8.75	-0.06	117055	298.9 -> 98.9	38.1	31.0	46.5



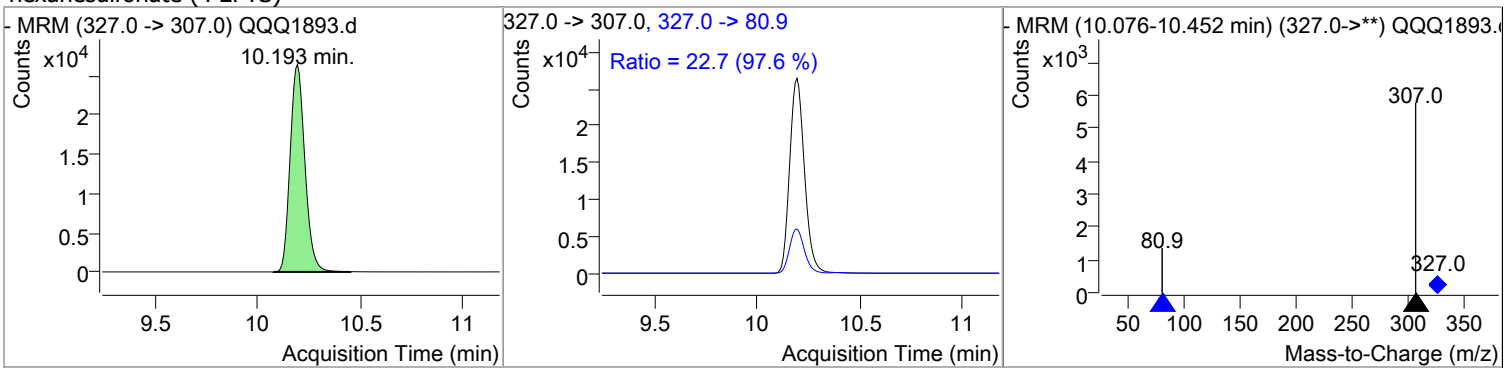
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	18.0800	8.75	-0.07	136130	302.0 -> 98.9	39.0	31.9	47.8



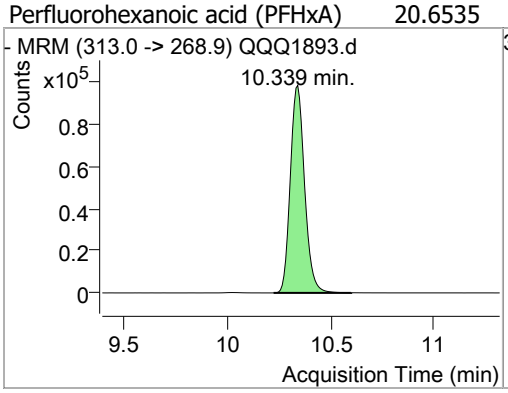
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	14.8566	10.19	-0.07	153892	329.0 -> 81.0	17.6	10.5	24.4

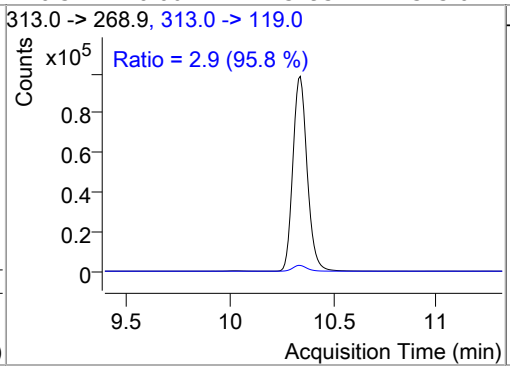


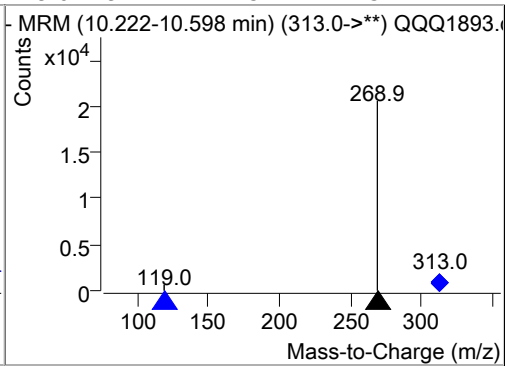
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	15.4576	10.19	-0.07	132319	327.0 -> 80.9	22.7	13.9	32.5



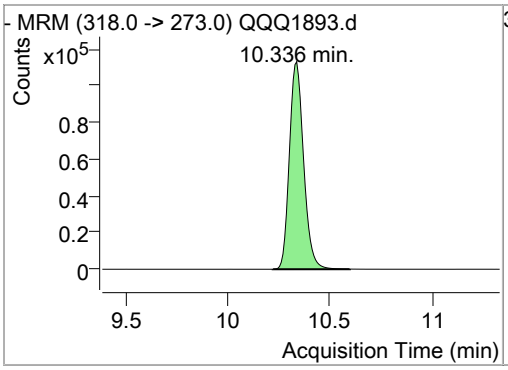
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	20.6535	10.34	-0.06	473493	313.0 -> 119.0	2.9	2.5	3.7

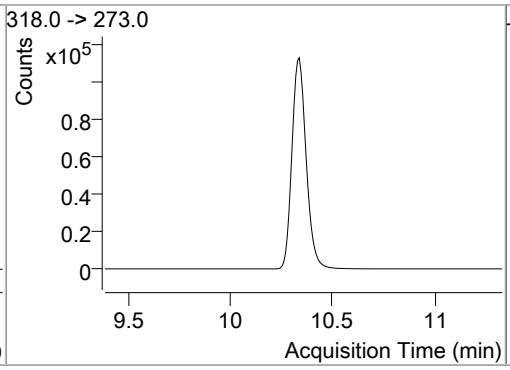


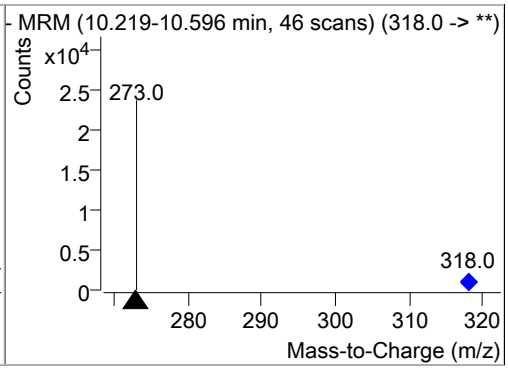




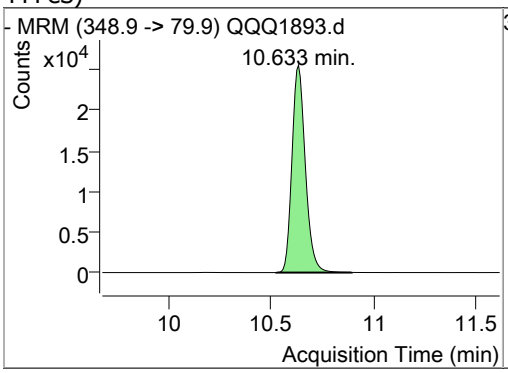
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	20.4456	10.34	-0.07	543310				

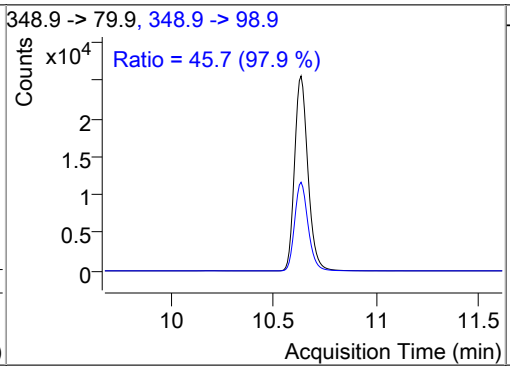


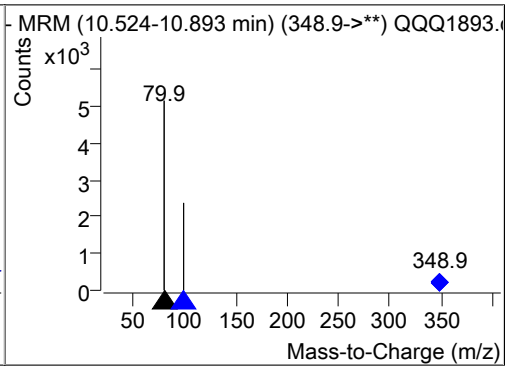




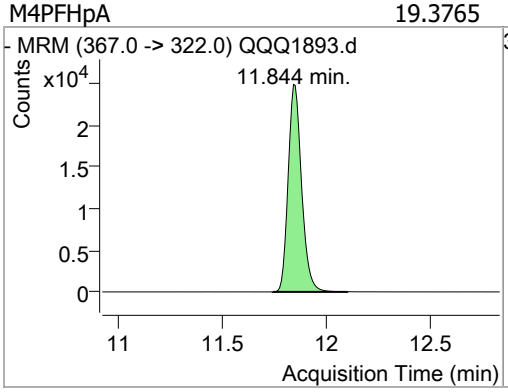
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	19.5195	10.63	-0.07	115842	348.9 -> 98.9	45.7	37.3	56.0

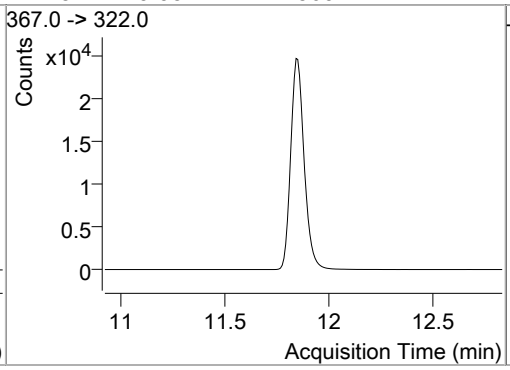


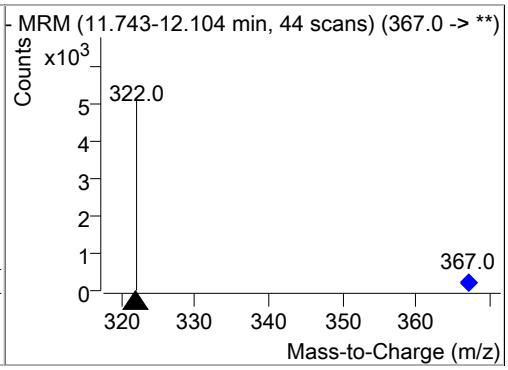




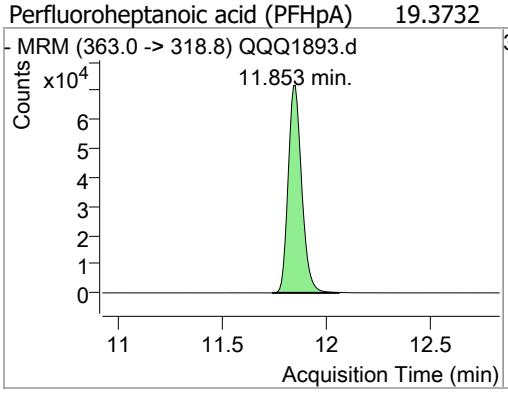
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	19.3765	11.84	-0.08	111860				

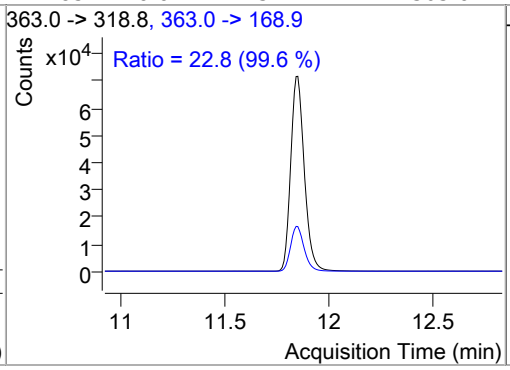


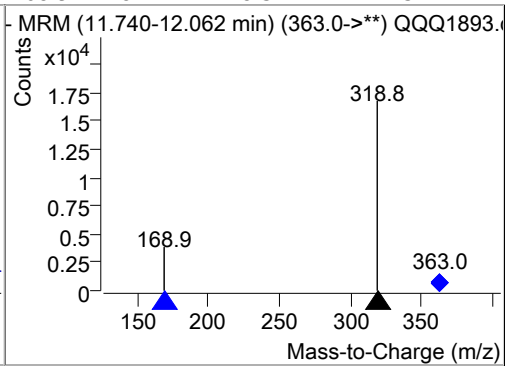




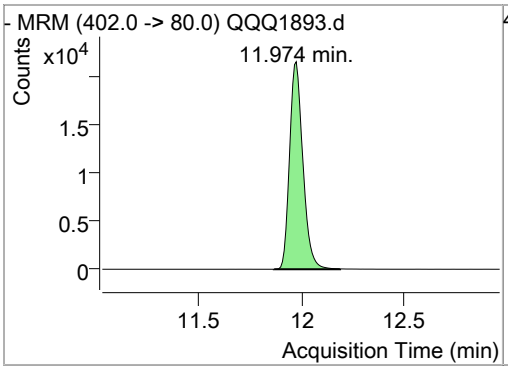
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	19.3732	11.85	-0.07	327214	363.0 -> 168.9	22.8	18.3	27.5

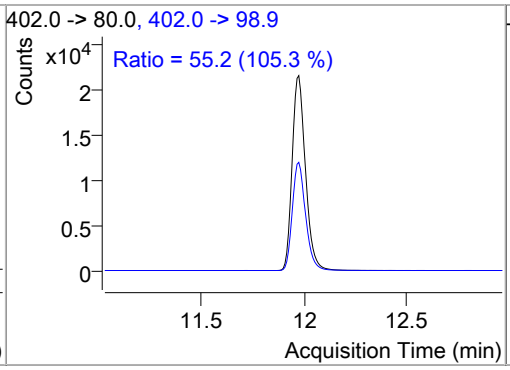


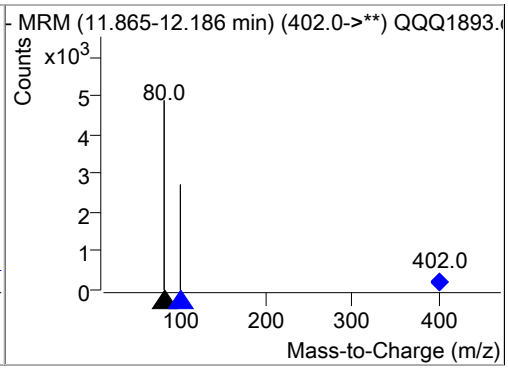




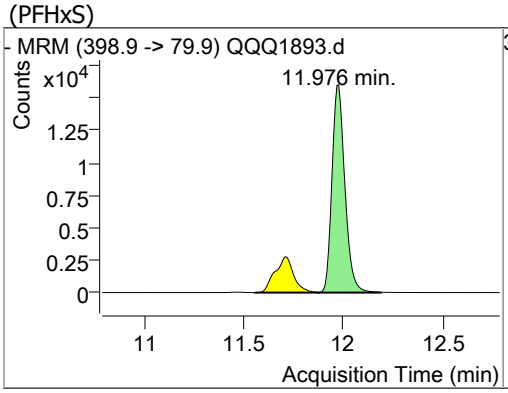
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	18.2581	11.97	-0.07	96164	402.0 -> 98.9	55.2	42.0	62.9

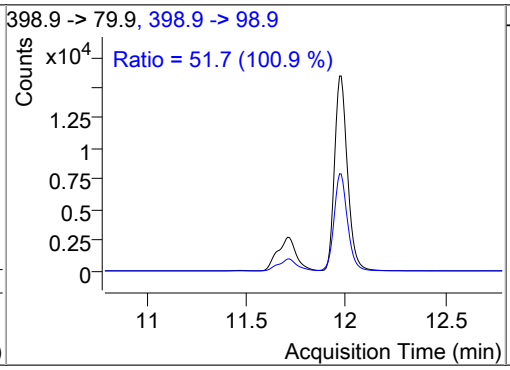


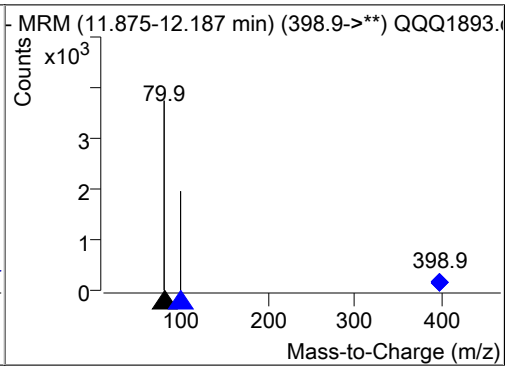




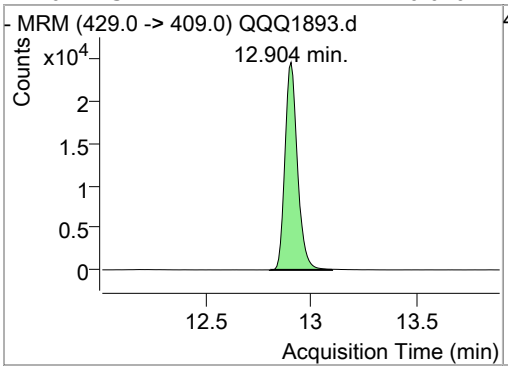
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	14.2576	11.98	-0.07	71578	398.9 -> 98.9	51.7	41.0	61.5

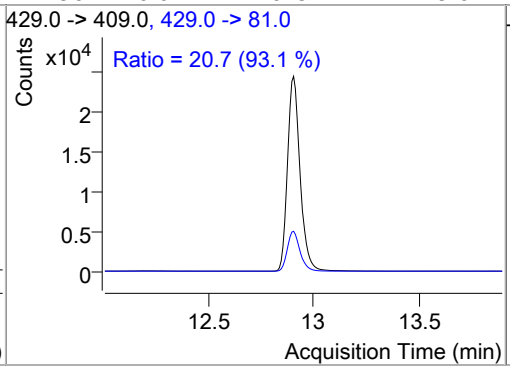


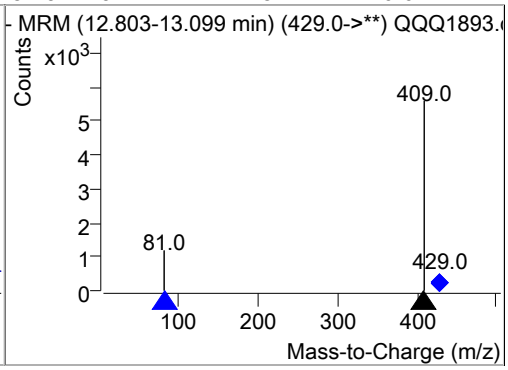




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	16.6161	12.90	-0.07	101514	429.0 -> 81.0	20.7	17.8	26.6

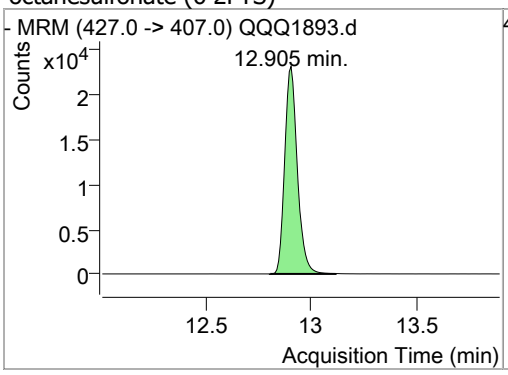


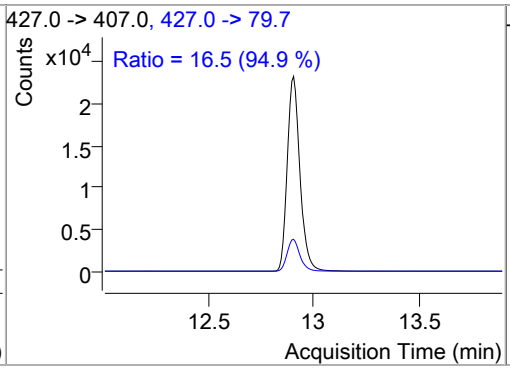


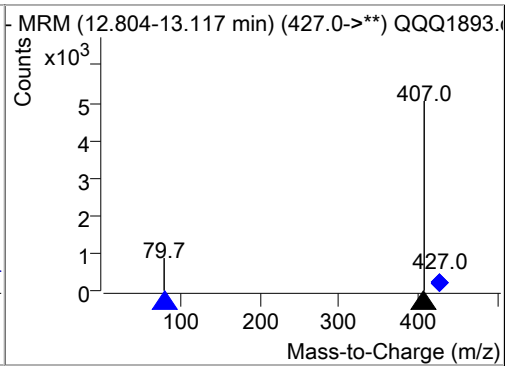


Quantitation Results Report (Not Reviewed)

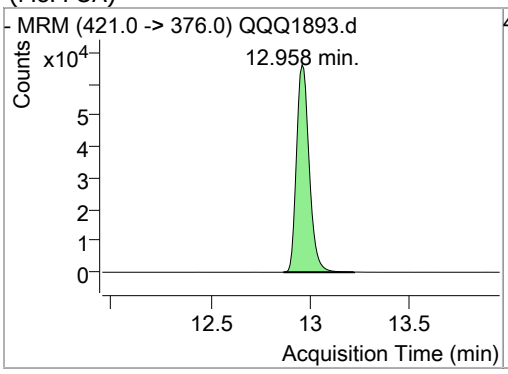
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	15.6634	12.90	-0.07	96875	427.0 -> 79.7	16.5	13.9	20.8

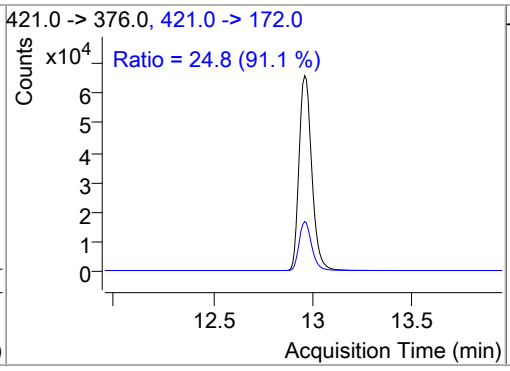


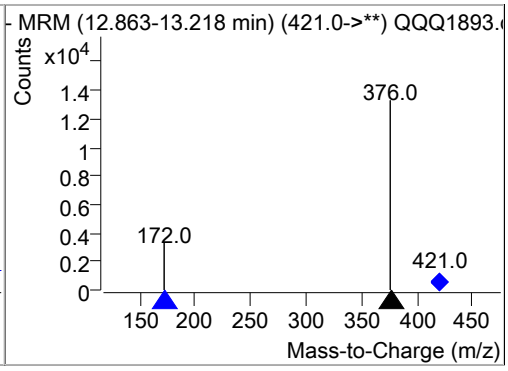




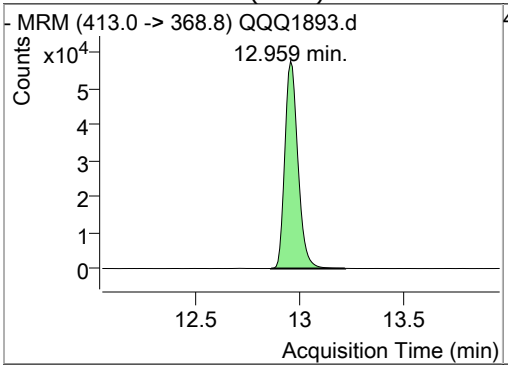
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	20.3492	12.96	-0.07	293019	421.0 -> 172.0	24.8	21.7	32.6

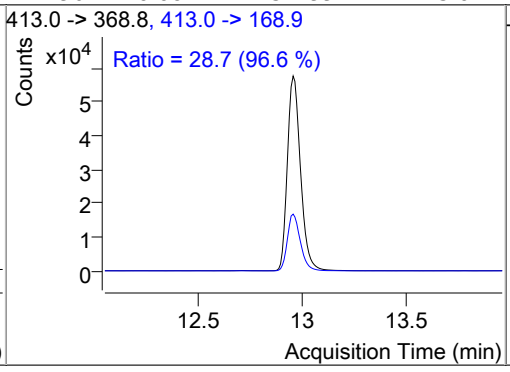


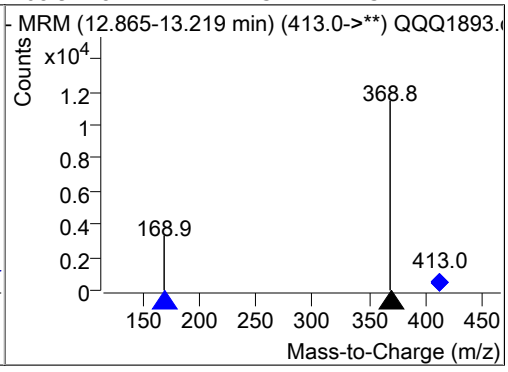




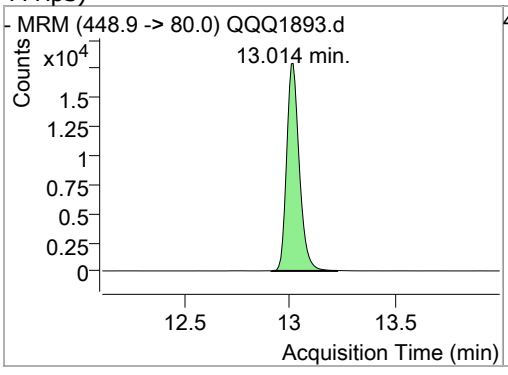
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	19.6663	12.96	-0.08	251299	413.0 -> 168.9	28.7	22.3	37.2

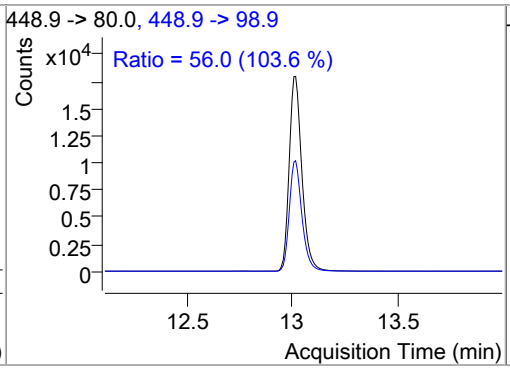


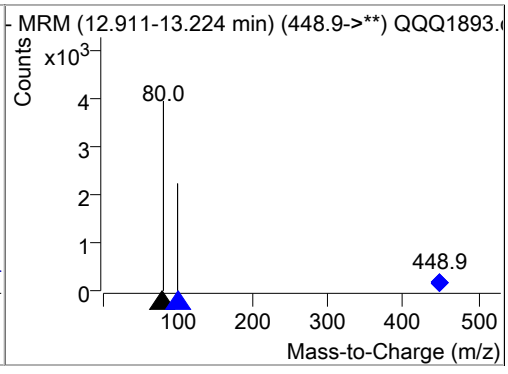




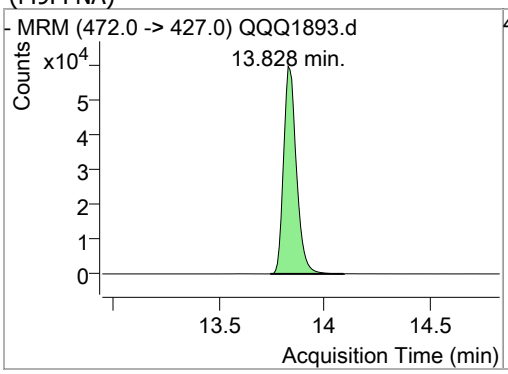
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	20.2164	13.01	-0.07	75193	448.9 -> 98.9	56.0	43.3	64.9

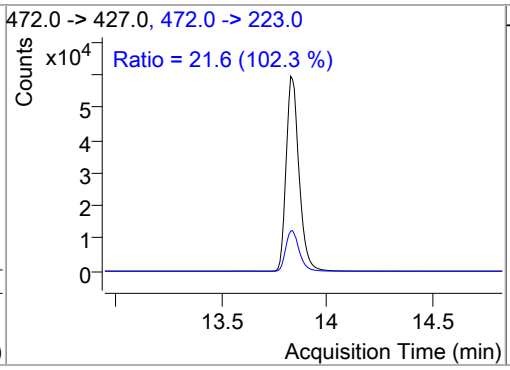


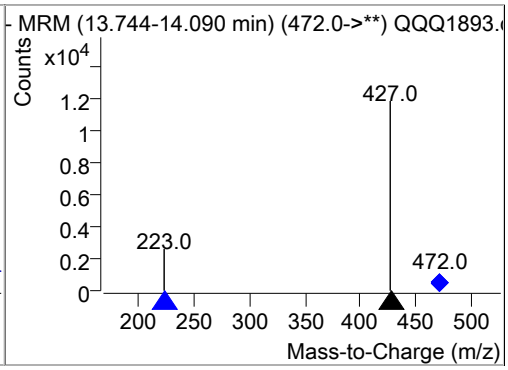




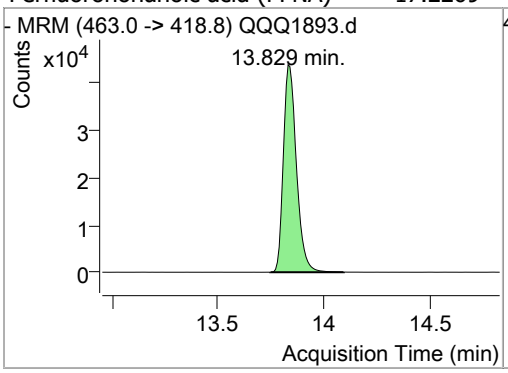
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	16.8897	13.83	-0.08	249707	472.0 -> 223.0	21.6	16.9	25.4

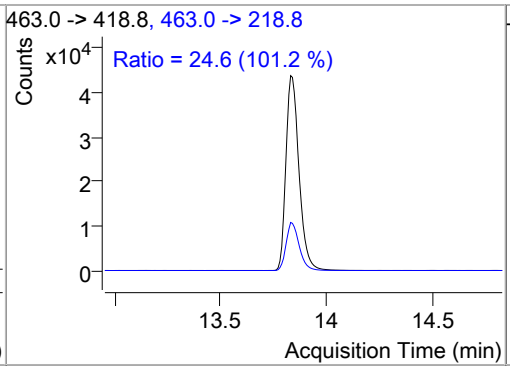


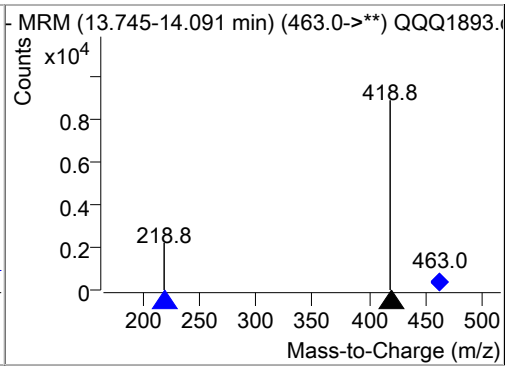




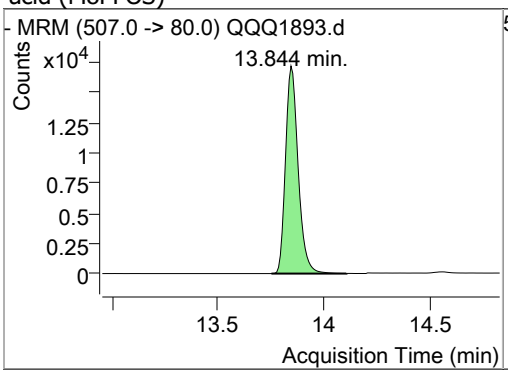
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	17.2269	13.83	-0.08	187125	463.0 -> 218.8	24.6	19.4	29.1

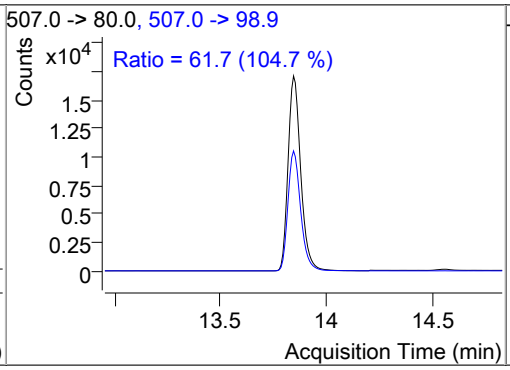


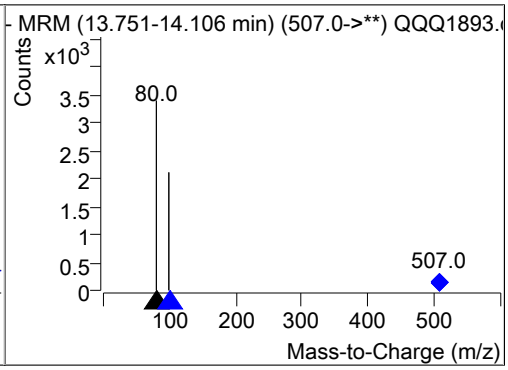




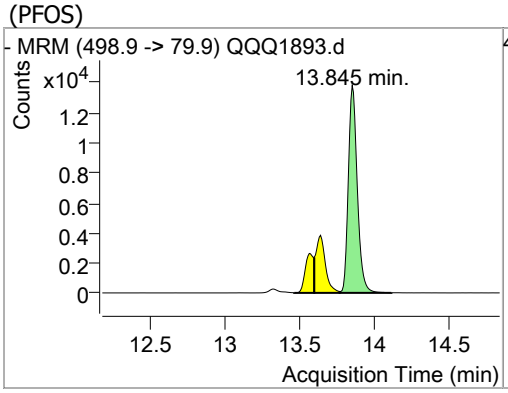
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	17.5035	13.84	-0.07	71004	507.0 -> 98.9	61.7	47.2	70.8

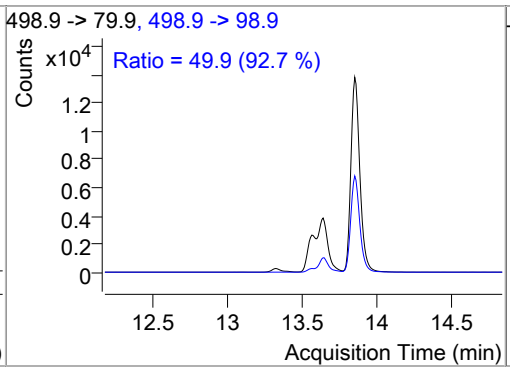


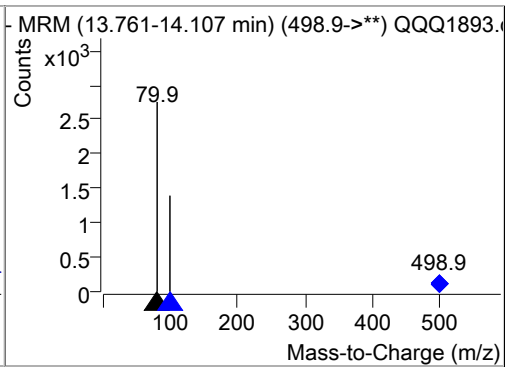




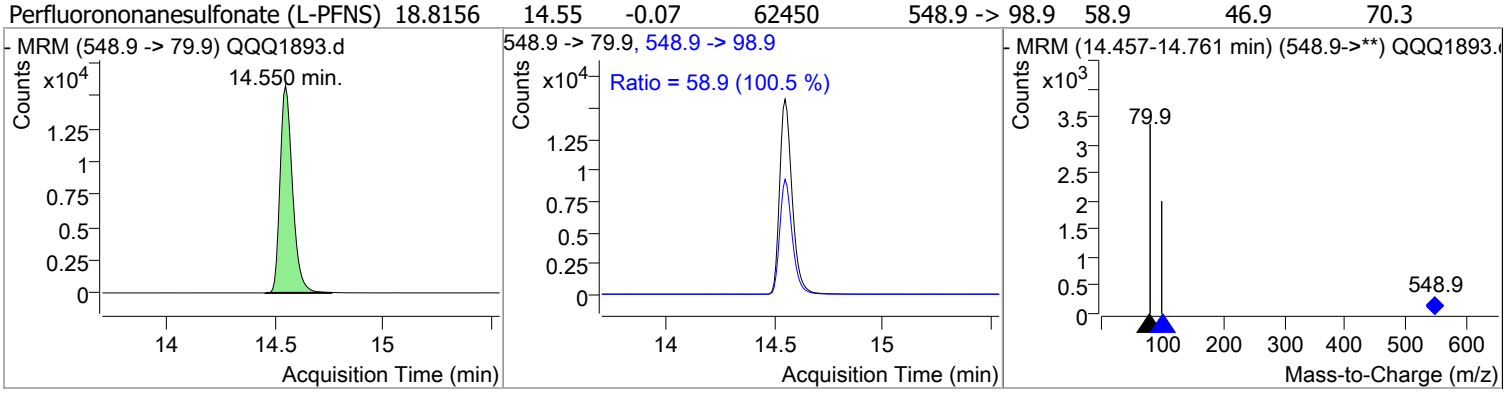
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	12.9576	13.84	-0.07	57393	498.9 -> 98.9	49.9	43.1	64.6



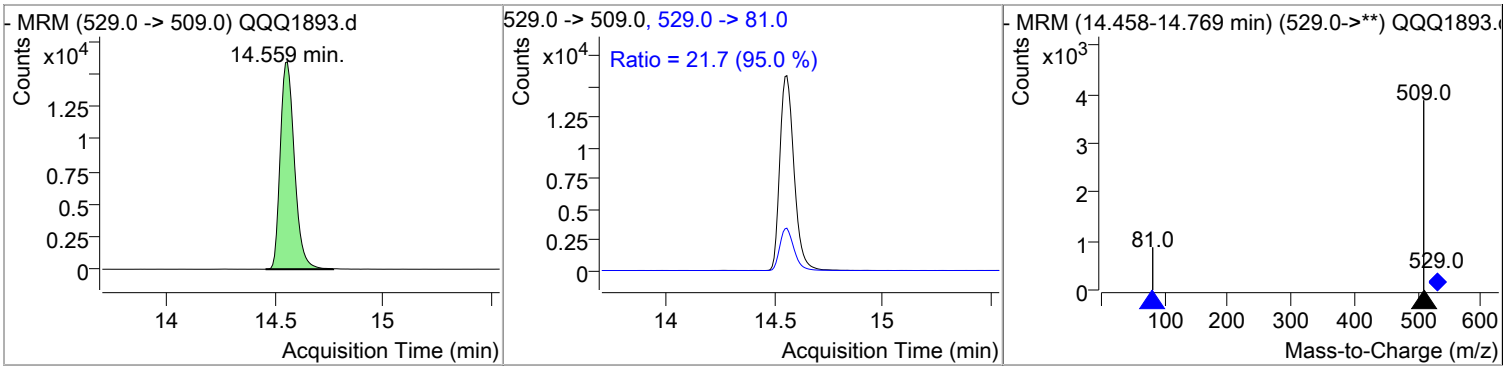




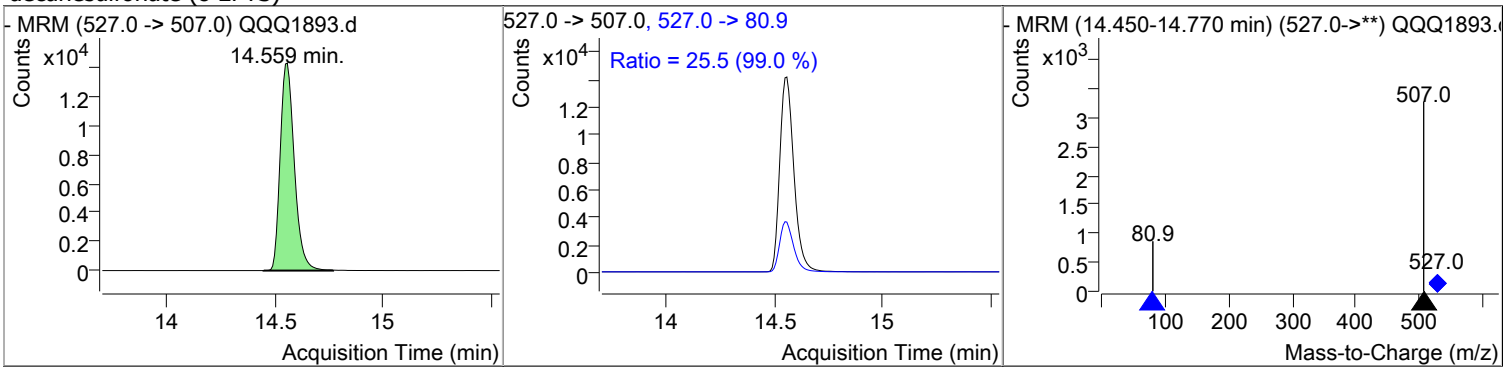
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	18.8156	14.55	-0.07	62450	548.9 -> 98.9	58.9	46.9	70.3



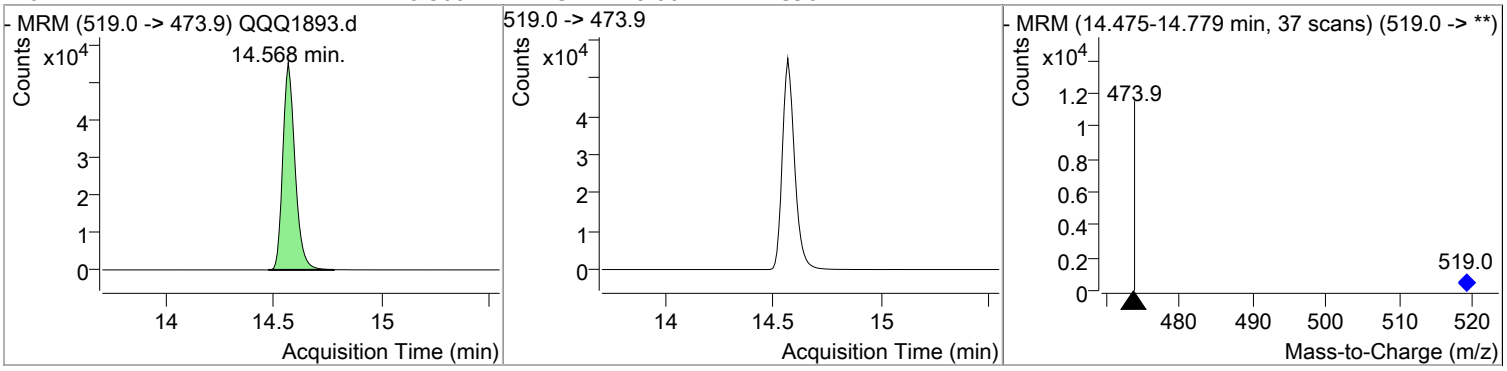
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	19.2867	14.56	-0.06	72010	529.0 -> 81.0	21.7	18.3	27.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	19.2558	14.56	-0.06	64033	527.0 -> 80.9	25.5	20.6	30.9

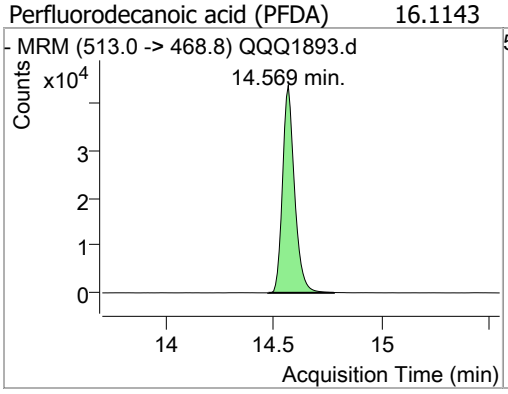


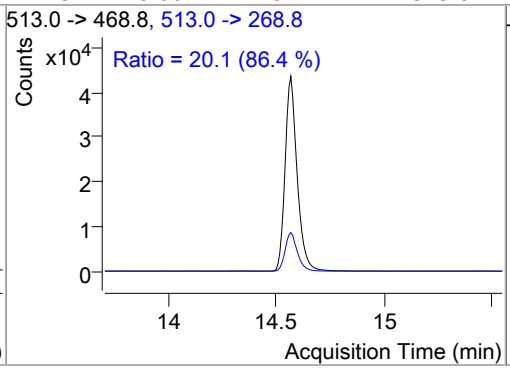
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	18.3602	14.57	-0.06	215982				

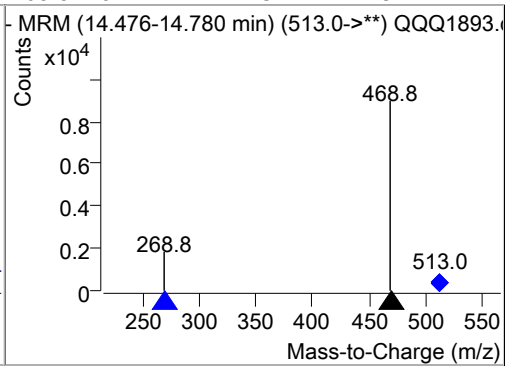


Quantitation Results Report (Not Reviewed)

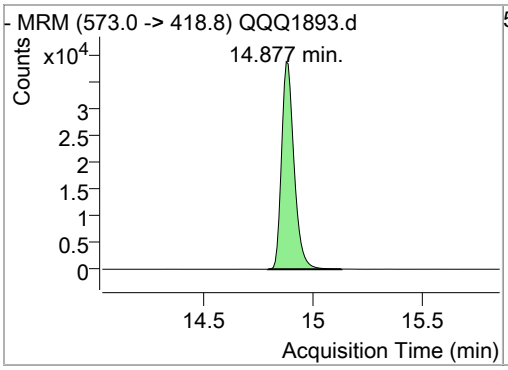
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	16.1143	14.57	-0.06	167221	513.0 -> 268.8	20.1	17.5	29.1

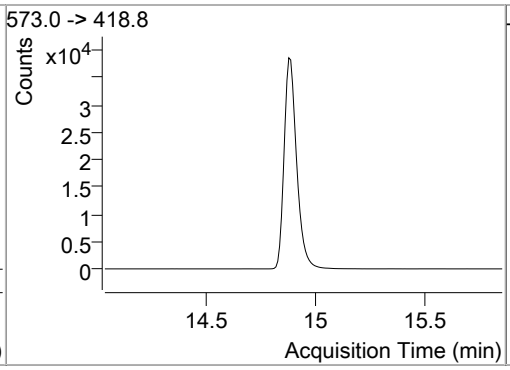


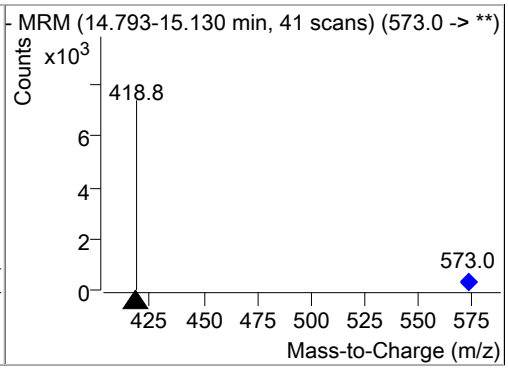




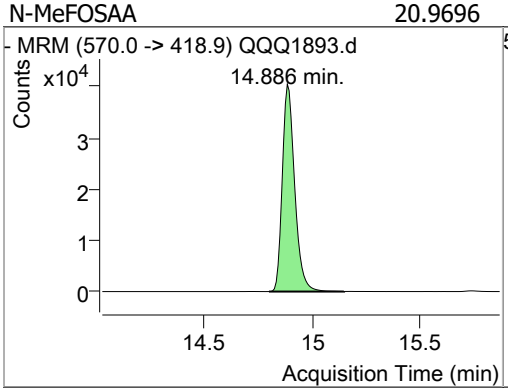
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	21.3012	14.88	-0.06	153678				

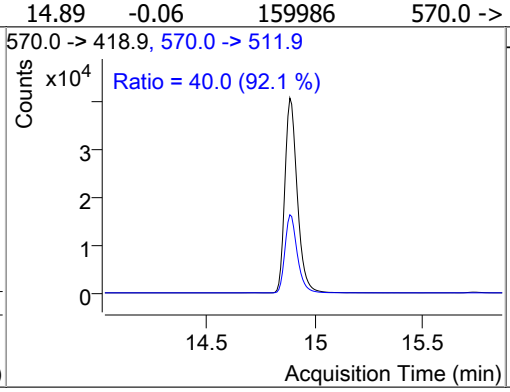


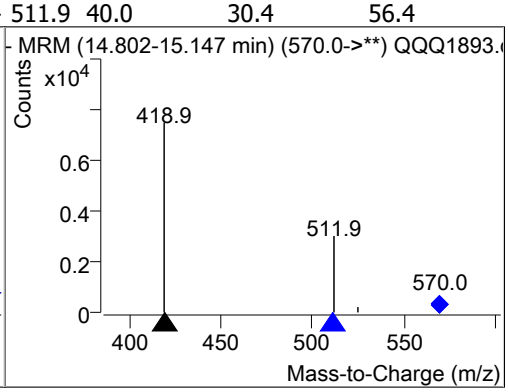




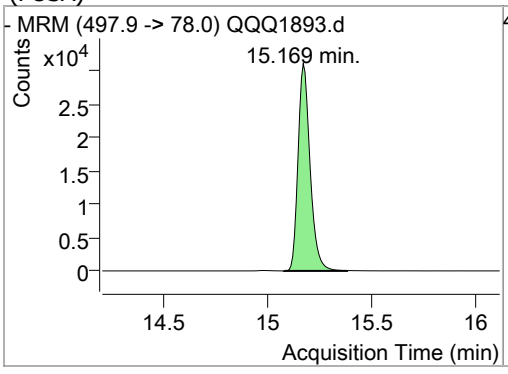
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	20.9696	14.89	-0.06	159986	570.0 -> 511.9	40.0	30.4	56.4

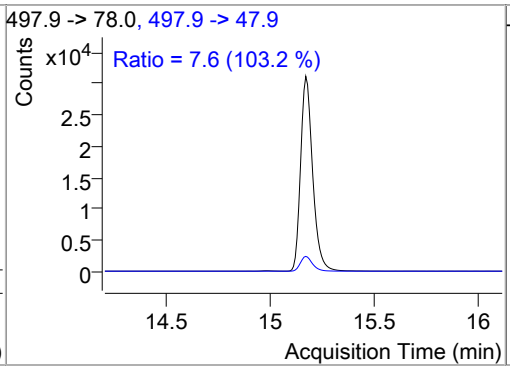


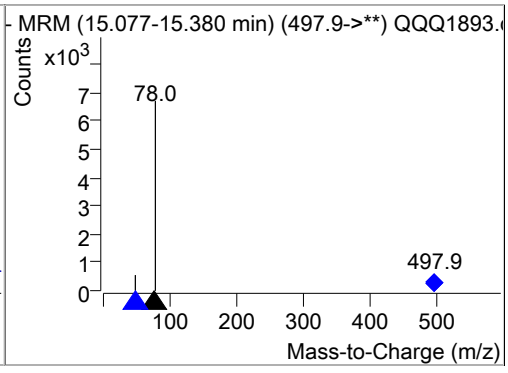




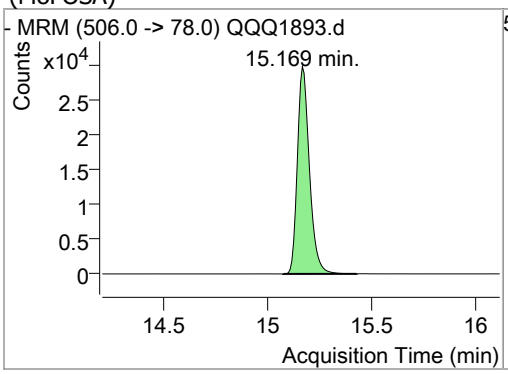
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	19.4671	15.17	-0.02	124297	497.9 -> 47.9	7.6	5.9	8.8

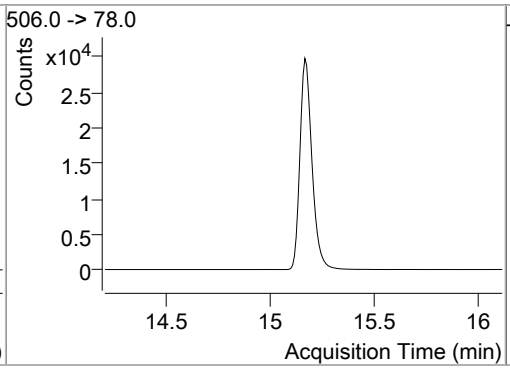


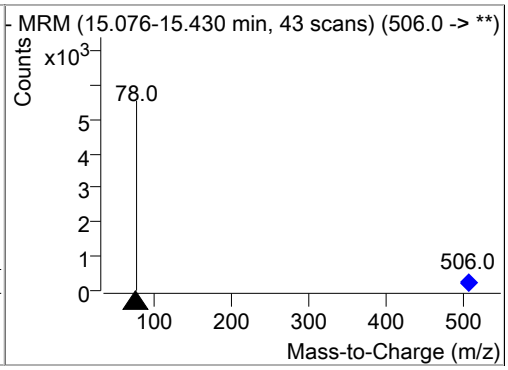




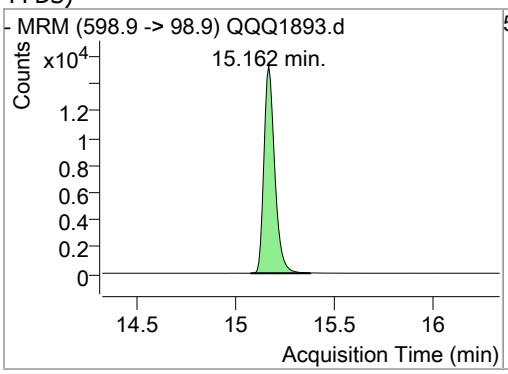
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	19.5373	15.17	-0.03	119743				

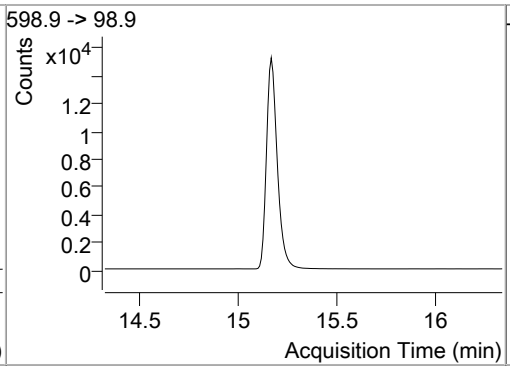


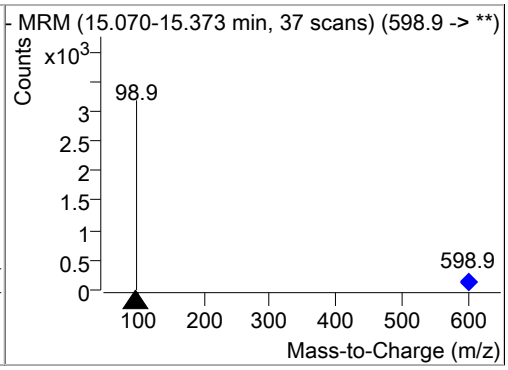




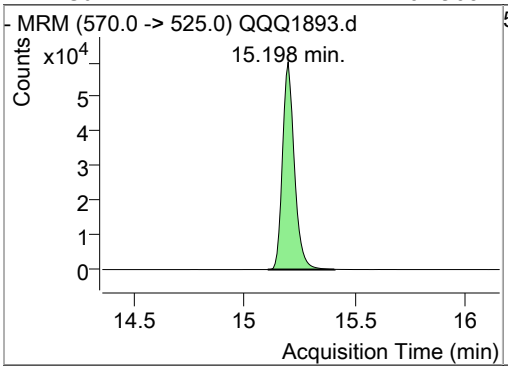
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	18.8608	15.16	-0.05	57923				

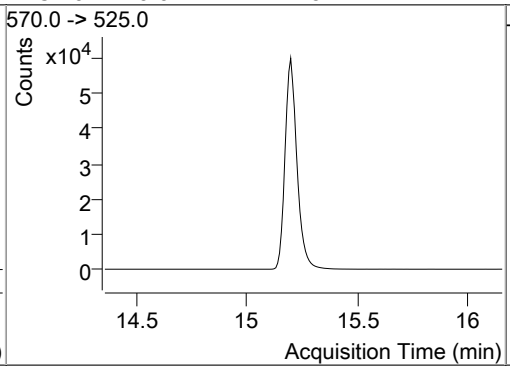


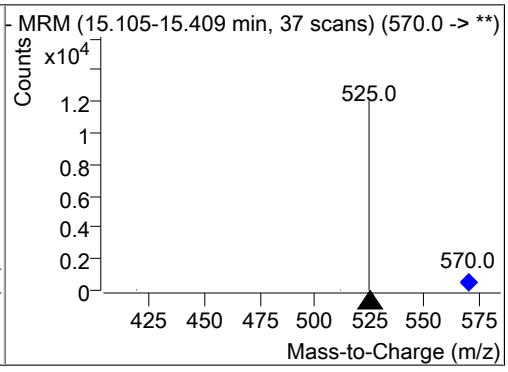




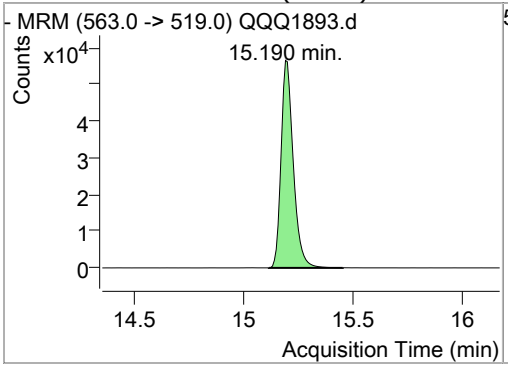
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	16.7960	15.20	-0.04	224787				

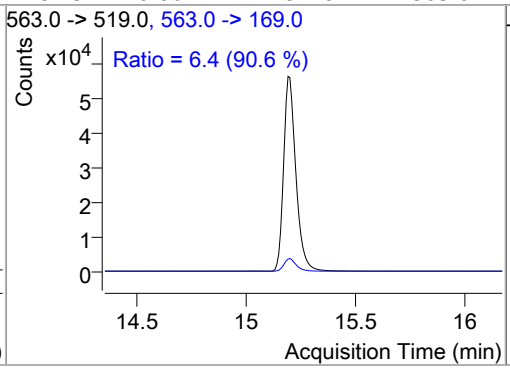


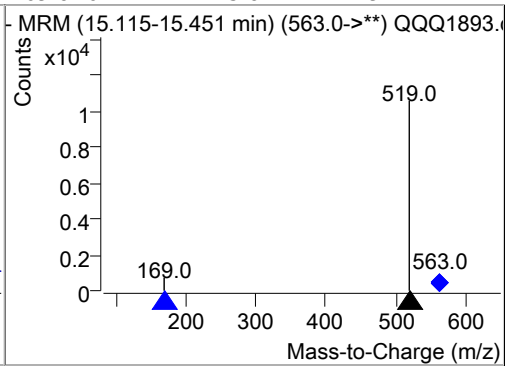




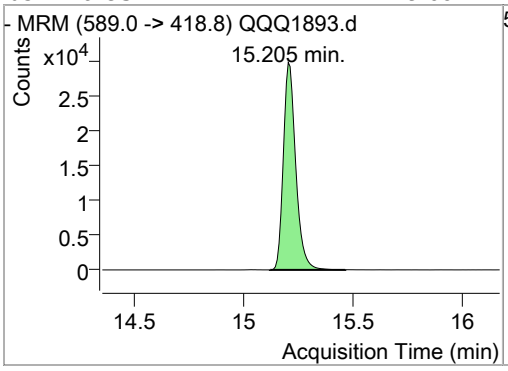
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	17.5858	15.19	-0.06	218448	563.0 -> 169.0	6.4	5.0	9.2

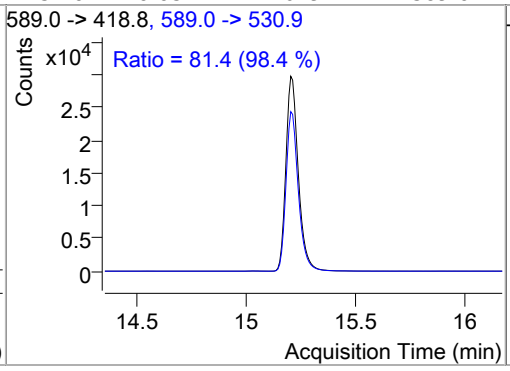


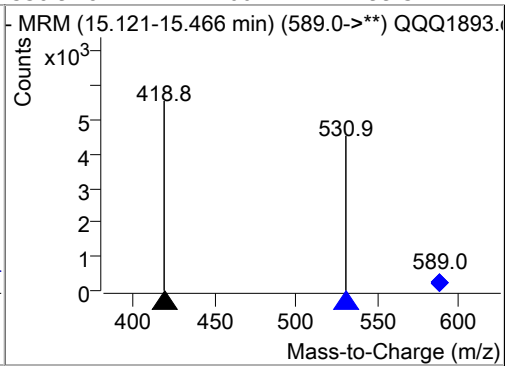




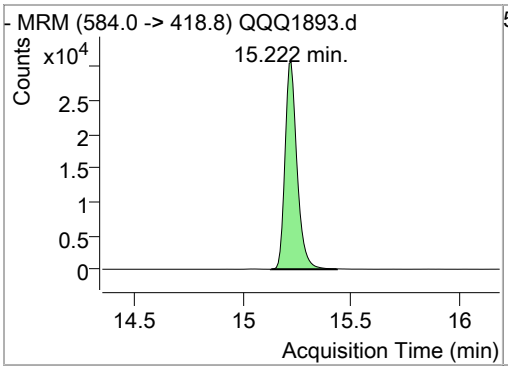
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	19.0814	15.20	-0.05	116791	589.0 -> 530.9	81.4	66.2	99.3

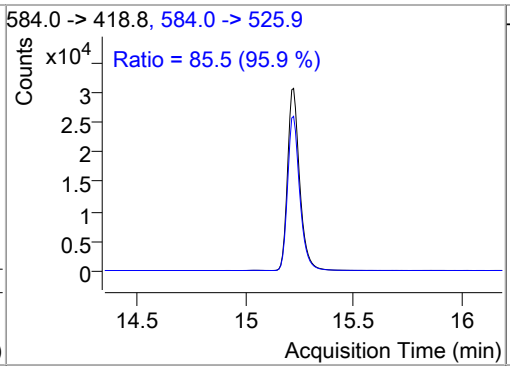


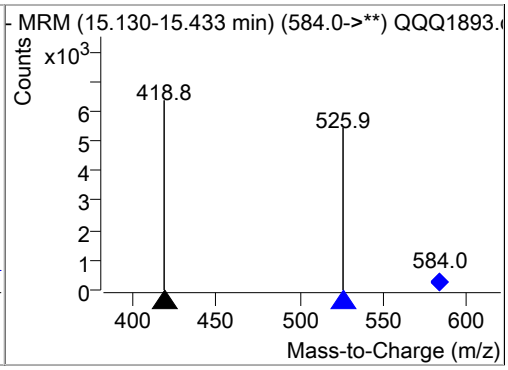




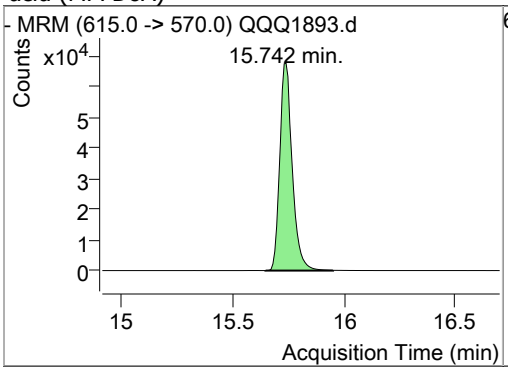
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	19.5348	15.22	-0.04	118120	584.0 -> 525.9	85.5	71.3	107.0

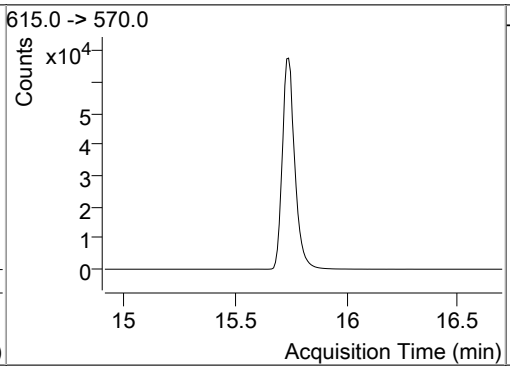


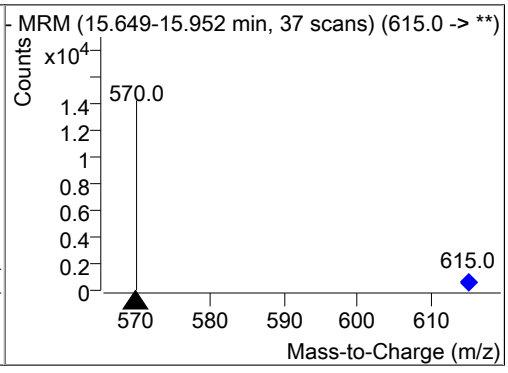




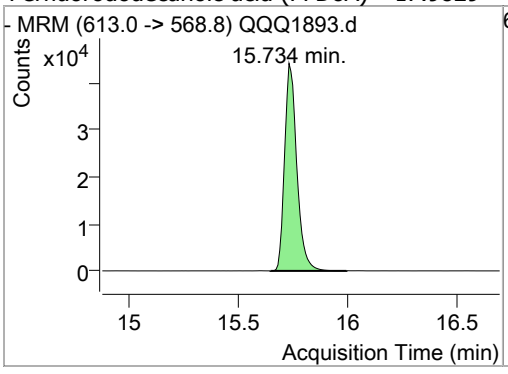
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	19.1077	15.74	-0.03	262921				

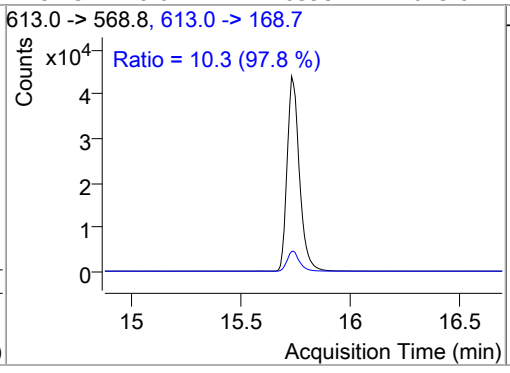


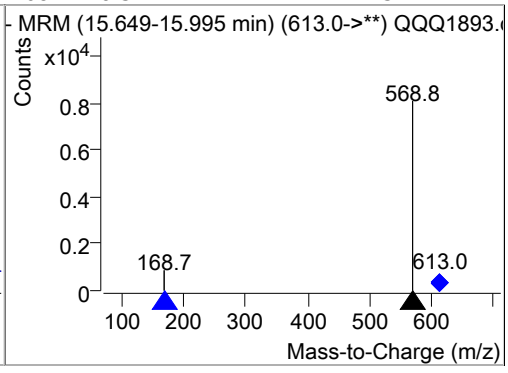




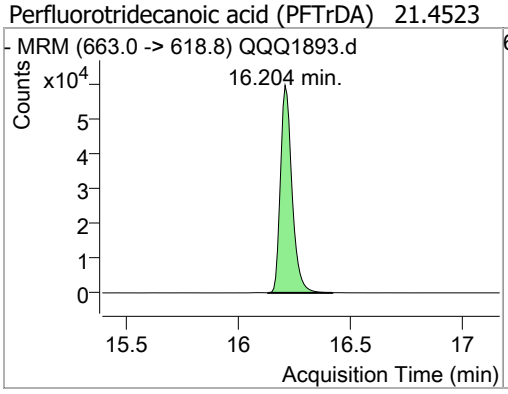
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	17.9829	15.73	-0.04	170595	613.0 -> 168.7	10.3	7.4	13.7

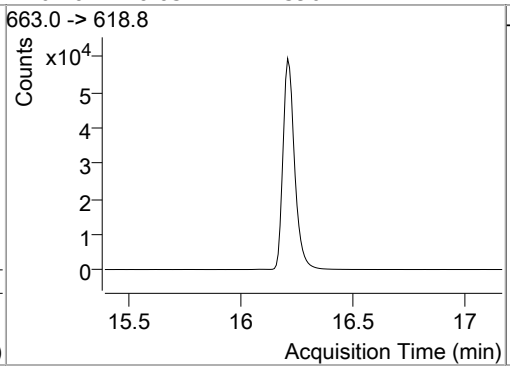


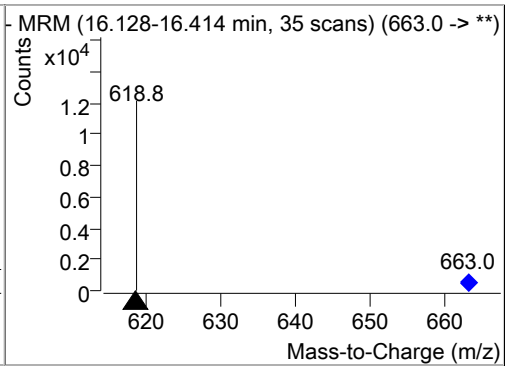




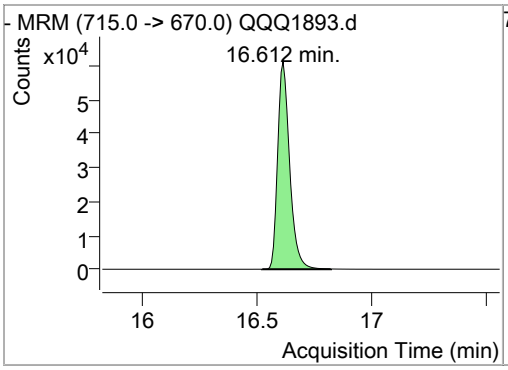
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	21.4523	16.20	-0.03	213964				

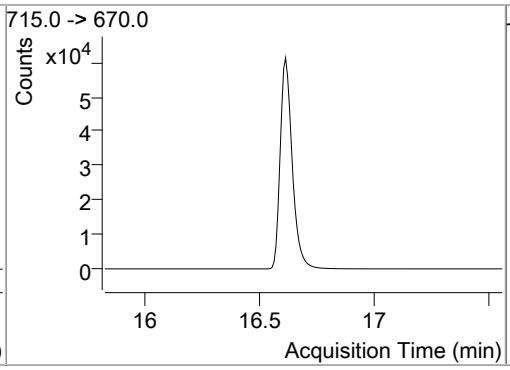


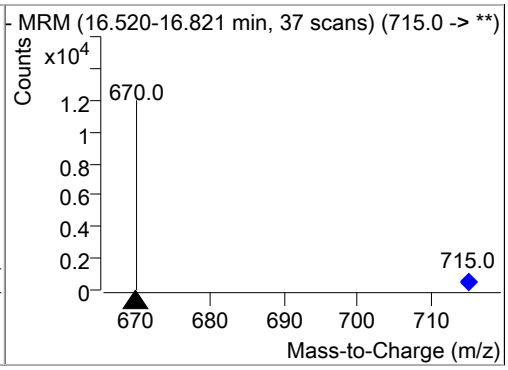




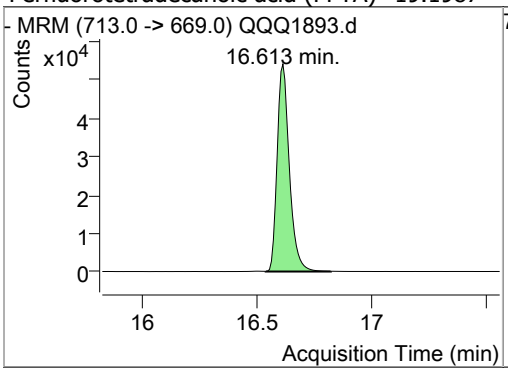
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	19.7579	16.61	-0.03	221954				

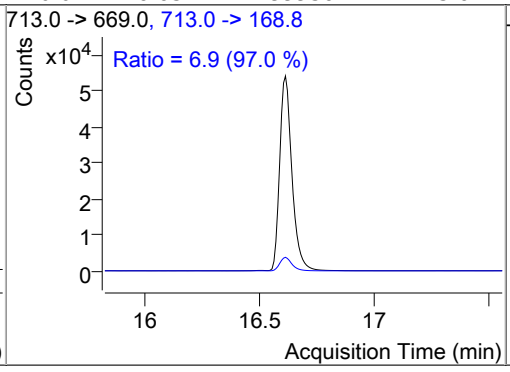


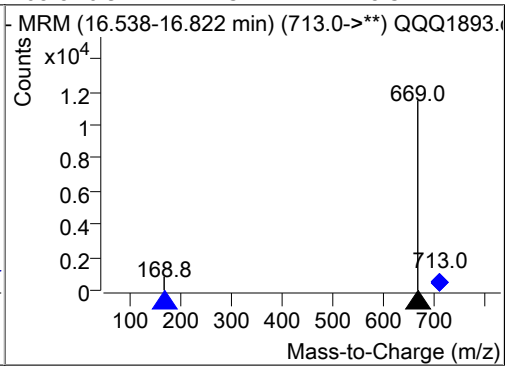




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	19.1987	16.61	-0.03	199930	713.0 -> 168.8	6.9	5.7	8.5







SECOND-SOURCE CALIBRATION VERIFICATION

EPA 537m

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YI90019 **Laboratory ID:** Y9I2721-SCV1

Sequence: Y9I2721 **Standard ID:** Y19I346

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DIFF	QC LIMIT
Perfluorobutanesulfonic acid (PFBS)	4.42	4.61	4.3	30.00
Perfluorohexanoic acid (PFHxA)	5.00	5.27	5.4	30.00
Perfluoroheptanoic acid (PFHpA)	5.00	5.07	1.3	30.00
Perfluorohexanesulfonic acid (PFHxS)	3.70	3.87	4.6	30.00
Perfluorooctanoic acid (PFOA)	5.00	5.20	4.0	30.00
Perfluorooctanesulfonic acid (PFOS)	3.65	3.79	3.9	30.00
Perfluorononanoic acid (PFNA)	4.80	5.04	4.9	30.00
Perfluorodecanoic acid (PFDA)	5.00	4.96	-0.9	30.00
Perfluoroundecanoic acid (PFUnA)	5.00	4.84	-3.1	30.00
Perfluorododecanoic acid (PFDoA)	5.00	4.95	-1.1	30.00
Perfluorotridecanoic acid (PFTrDA)	5.00	5.16	3.2	30.00
Perfluorotetradecanoic acid (PFTA)	5.00	4.84	-3.3	30.00
N-MeFOSAA	5.00	5.14	2.8	30.00
N-EtFOSAA	5.00	5.16	3.2	30.00
Perfluoropentanoic acid (PFPeA)	5.00	5.16	3.3	30.00
Perfluoro-1-octanesulfonamide (FOSA)	5.00	5.21	4.2	30.00
Perfluoro-1-heptanesulfonic acid (PFHpS)	4.98	5.29	6.3	30.00
Perfluoro-1-decanesulfonic acid (PFDS)	4.82	5.03	4.3	30.00
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	4.75	4.58	-3.5	30.00
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	4.80	5.40	12.4	30.00
Perfluoro-n-butanoic acid (PFBA)	5.00	5.21	4.2	30.00
M3PFBS	4.64	4.85	4.5	30.00
M5PFHxA	5.00	5.23	4.7	30.00
M4PFHpA	5.00	5.22	4.3	30.00
M3PFHxS	4.73	4.91	3.9	30.00
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.00	5.44	8.8	30.00
M6PFDA	5.00	4.66	-6.9	30.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 537m

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YI90019 **Laboratory ID:** Y9I2721-SCV1

Sequence: Y9I2721 **Standard ID:** Y19I346

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DIFF	QC LIMIT
M7PFUdA	5.00	4.90	-2.1	30.00
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.00	5.07	1.3	30.00
M2PFTeDA	5.00	5.03	0.7	30.00
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.00	5.18	3.7	30.00
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.78	5.06	5.9	30.00
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	5.00	5.22	4.4	30.00
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.00	5.18	3.6	30.00
d3-N-MeFOSAA	5.00	5.22	4.4	30.00
d5-N-EtFOSAA	5.00	5.32	6.5	30.00
M2-6:2 FTS	4.74	4.92	3.8	30.00
M2-8:2 FTS	4.79	5.53	15.4	30.00
M9PFNA	5.00	5.33	6.7	30.00

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Data File	QQQ1894.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 4:46:03 PM
Sample Name	SEQ-SCV1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
Ref Library			

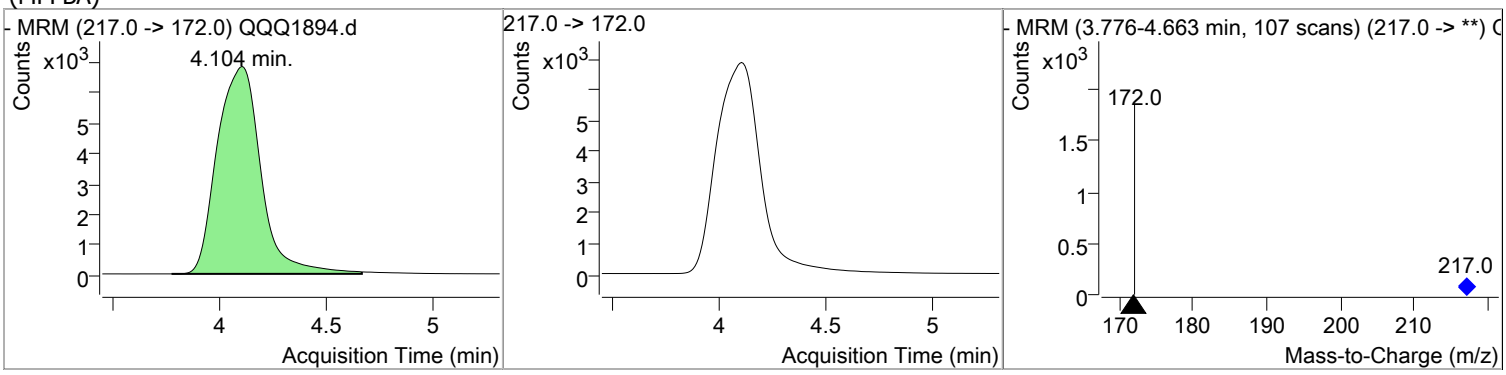
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.958	417.0 -> 372.0	218686	10.0000	ng/ml	-0.075
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.104	217.0 -> 172.0	96823	5.1840	ng/ml	-0.083
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.84%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.056	268.0 -> 223.0	145837	5.2179	ng/ml	-0.058
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.18%		
M3PFBS	8.768	302.0 -> 79.9	38664	4.8505	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.50%		
M2-4-2FTS	10.208	329.0 -> 309.0	50149	4.5730	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.73%		
M5PFHxA	10.353	318.0 -> 273.0	147254	5.2343	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.34%		
M4PFHpA	11.852	367.0 -> 322.0	31887	5.2173	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.17%		
M3PFHxS	11.974	402.0 -> 80.0	27406	4.9149	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.15%		
M2-6-2FTS	12.904	429.0 -> 409.0	31821	4.9199	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.20%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.958	421.0 -> 376.0	82959	5.4419	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 54.42%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	83465	5.3325	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 53.33%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	21738	5.0618	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.62%		
M2-8-2FTS	14.559	529.0 -> 509.0	28758	5.5265	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 55.26%		
M6PFDA	14.568	519.0 -> 473.9	57979	4.6555	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.55%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	39857	5.2184	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.18%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.177	506.0 -> 78.0	33612	5.1801	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.80%		
M7PFUdA	15.198	570.0 -> 525.0	69379	4.8966	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.97%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	34494	5.3233	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 53.23%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	73802	5.0663	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.66%		
M2PFTeDA	16.620	715.0 -> 670.0	59859	5.0332	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.33%		

Target Compounds **QValue**

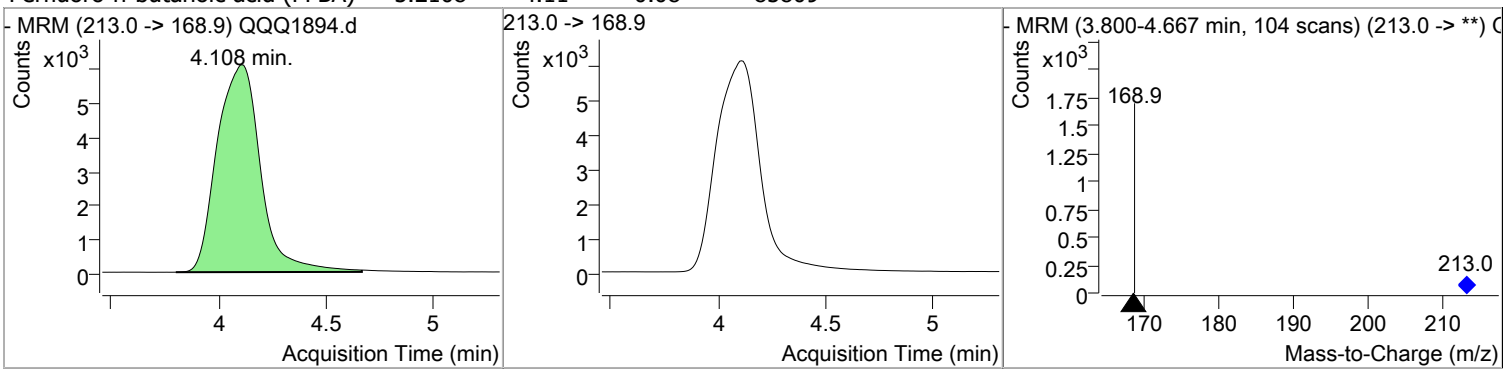
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	85809	5.2108	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.057	263.0 -> 219.0	126674	5.1625	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.771	298.9 -> 79.9	33120	4.6100	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.209	327.0 -> 307.0	43069	4.7524	ng/ml		100
Perfluorohexanoic acid (PFHxA)	10.355	313.0 -> 268.9	127961	5.2722	ng/ml		100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.650	348.9 -> 79.9	30524	4.8583	ng/ml		99
Perfluoroheptanoic acid (PFHpA)	11.853	363.0 -> 318.8	90576	5.0654	ng/ml		99
Perfluorohexanesulfonic acid (PFHxS)	11.976	398.9 -> 79.9	20563	3.8690	ng/ml		100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.905	427.0 -> 407.0	30003	4.5822	ng/ml		99
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	70360	5.2011	ng/ml		99
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.006	448.9 -> 80.0	20836	5.2914	ng/ml		100
Perfluorononanoic acid (PFNA)	13.837	463.0 -> 418.8	57909	5.0357	ng/ml		100
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	17786	3.7931	ng/ml		96
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	16936	4.8200	ng/ml		97
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	25036	5.3969	ng/ml		96
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	54441	4.9554	ng/ml	#	87
N-MeFOSAA	14.895	570.0 -> 418.9	41529	5.1415	ng/ml		95
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	35226	5.2112	ng/ml		100
Perfluoro-1-decanesulfonate (L-PFDS)	15.162	598.9 -> 98.9	16343	5.0267	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	63684	4.8426	ng/ml		100
N-EtFOSAA	15.222	584.0 -> 418.8	33036	5.1607	ng/ml		98
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	49672	4.9458	ng/ml		99
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	54502	5.1615	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	53307	4.8352	ng/ml		100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

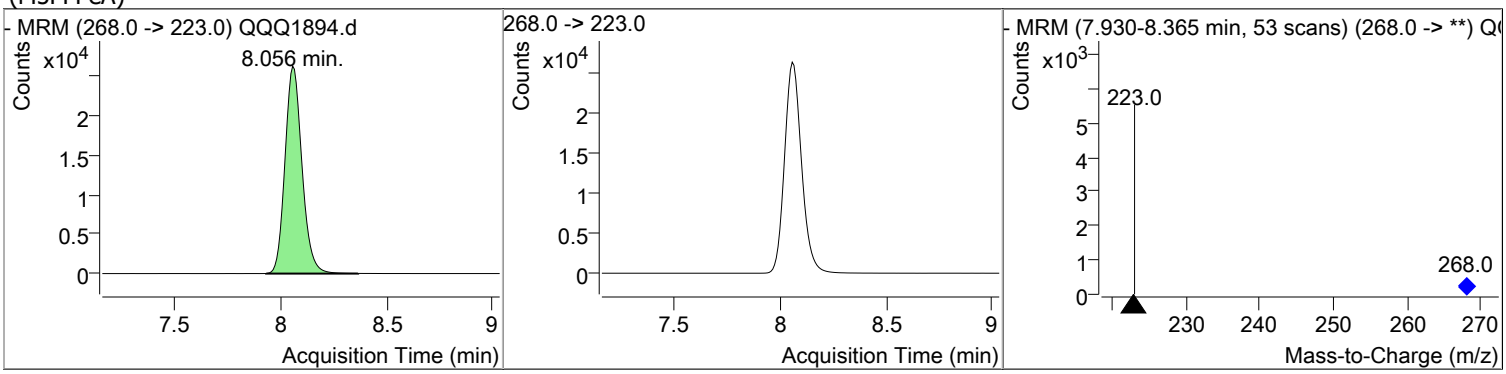
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.1840	4.10	-0.08	96823				



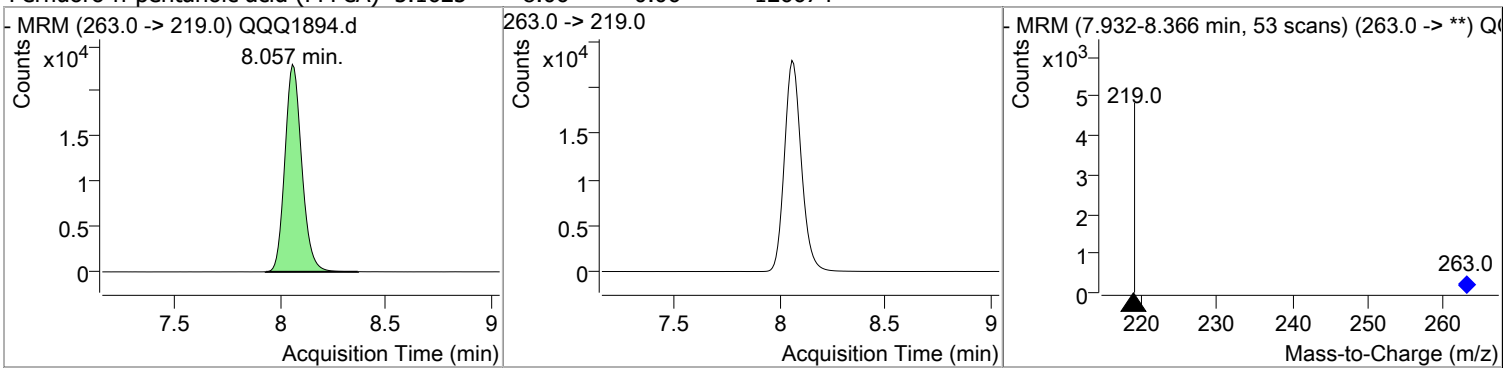
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	5.2108	4.11	-0.08	85809				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.2179	8.06	-0.06	145837				

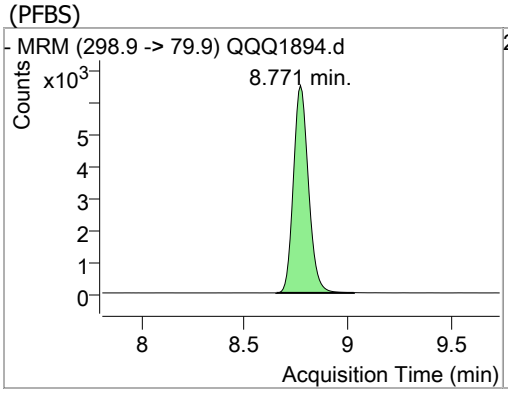


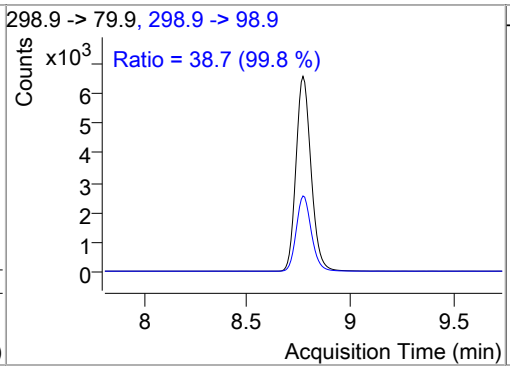
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	5.1625	8.06	-0.06	126674				

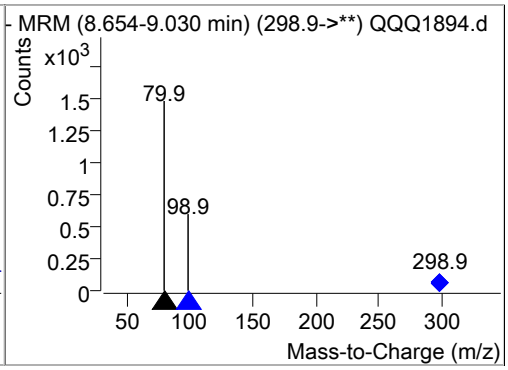


Quantitation Results Report (Not Reviewed)

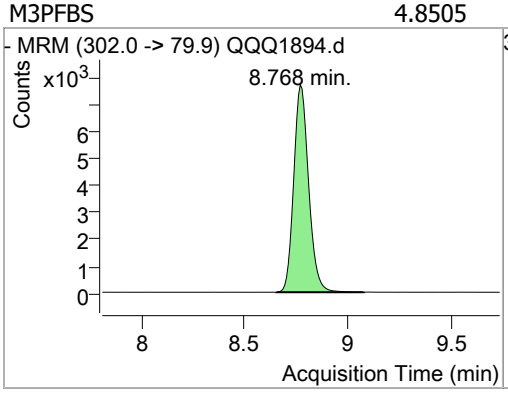
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.6100	8.77	-0.04	33120	298.9 -> 98.9	38.7	31.0	46.5

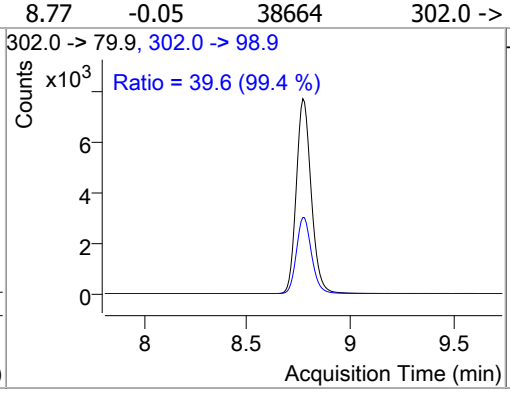


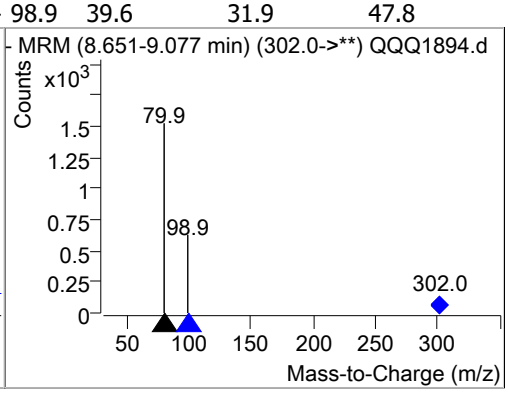




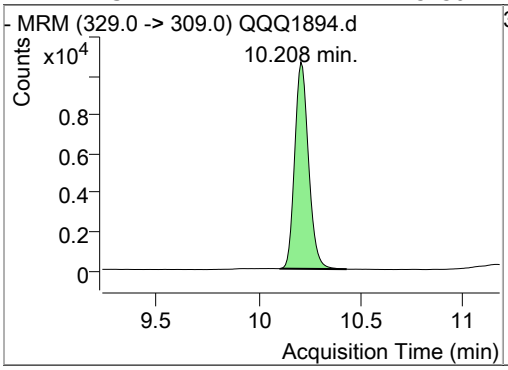
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.8505	8.77	-0.05	38664	302.0 -> 98.9	39.6	31.9	47.8

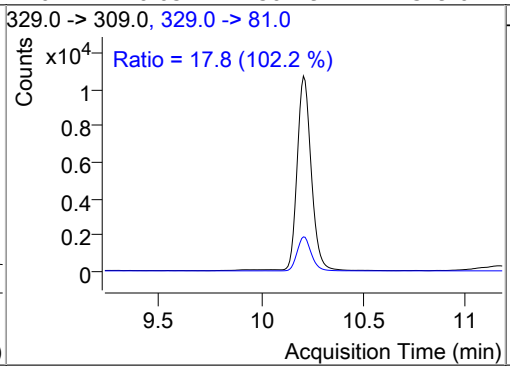


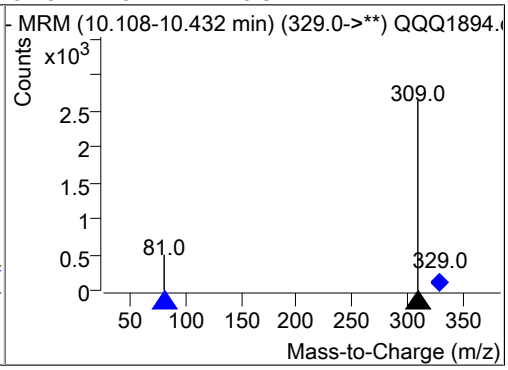




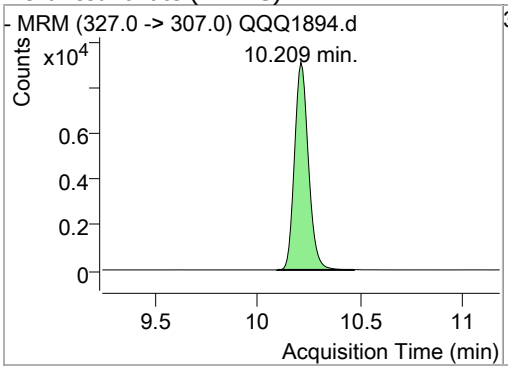
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.5730	10.21	-0.05	50149	329.0 -> 81.0	17.8	10.5	24.4

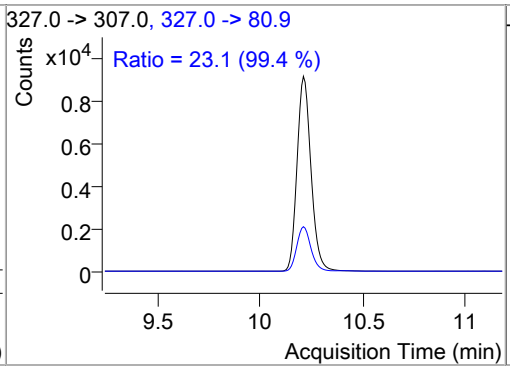


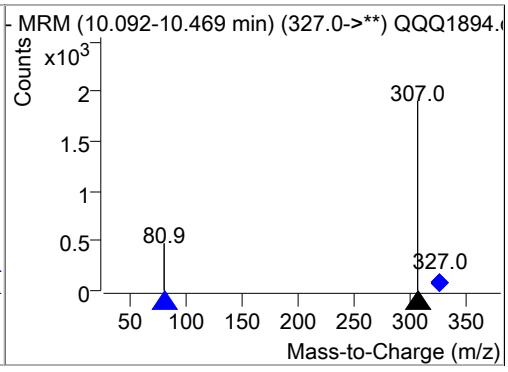




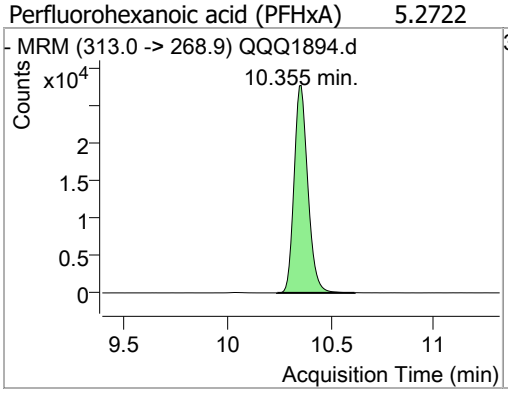
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.7524	10.21	-0.05	43069	327.0 -> 80.9	23.1	13.9	32.5

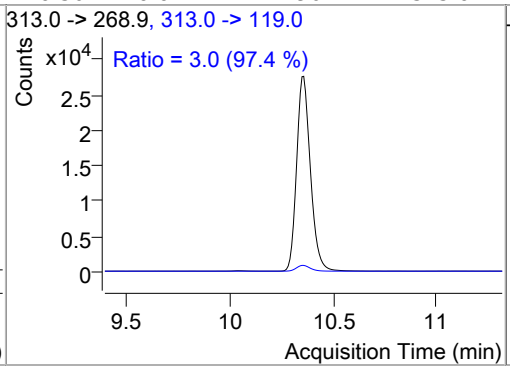


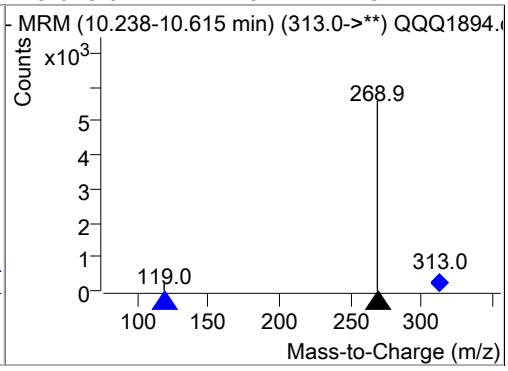




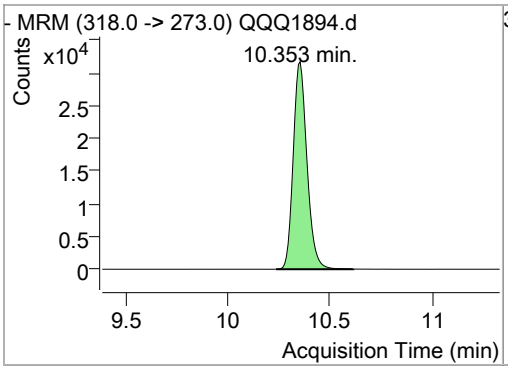
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	5.2722	10.36	-0.04	127961	313.0 -> 119.0	3.0	2.5	3.7

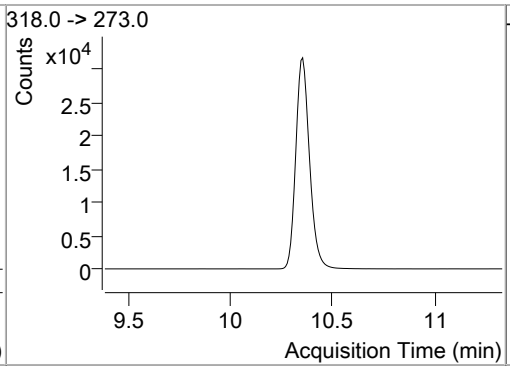


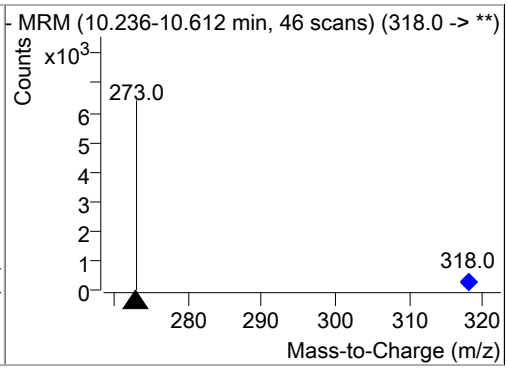




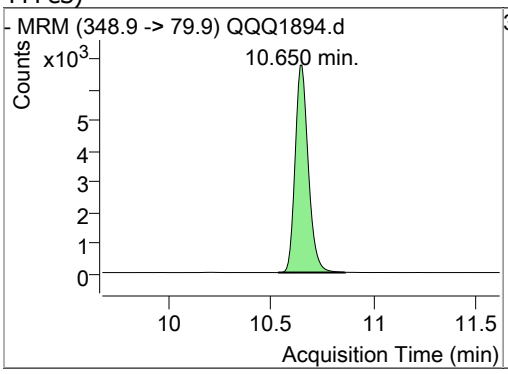
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	5.2343	10.35	-0.05	147254				

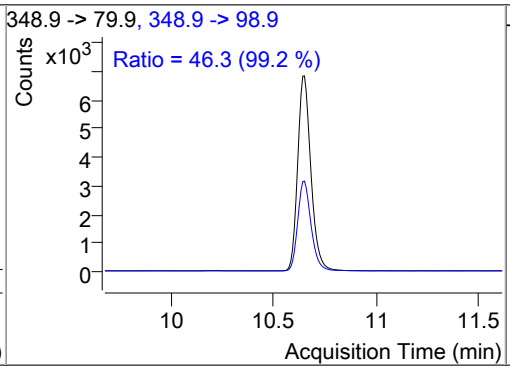


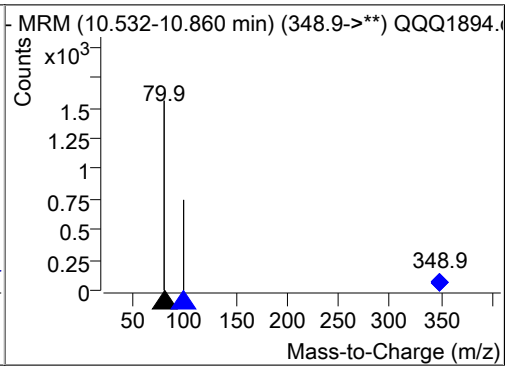




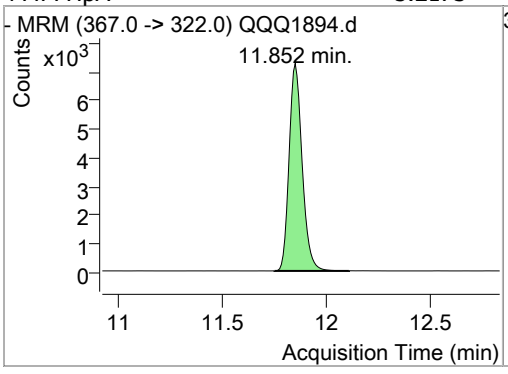
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.8583	10.65	-0.05	30524	348.9 -> 98.9	46.3	37.3	56.0

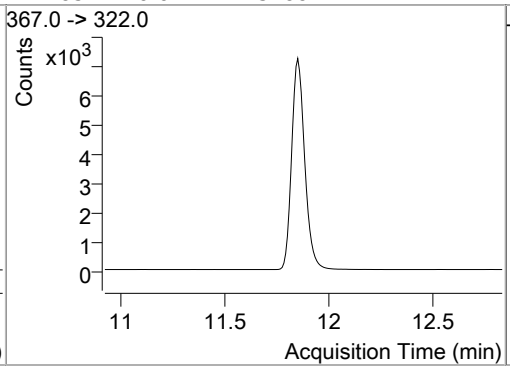


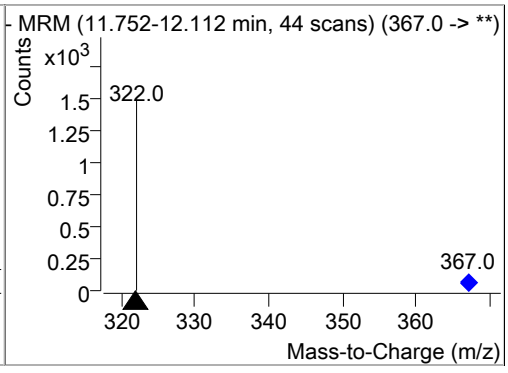




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	5.2173	11.85	-0.07	31887				

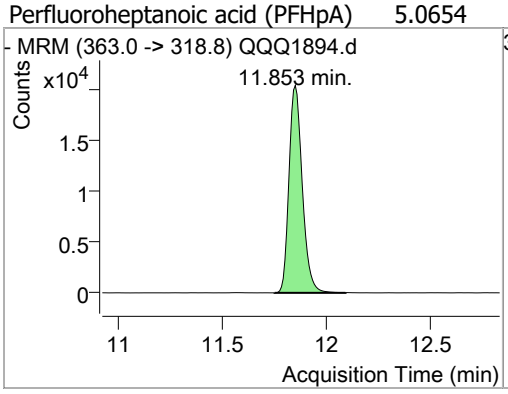


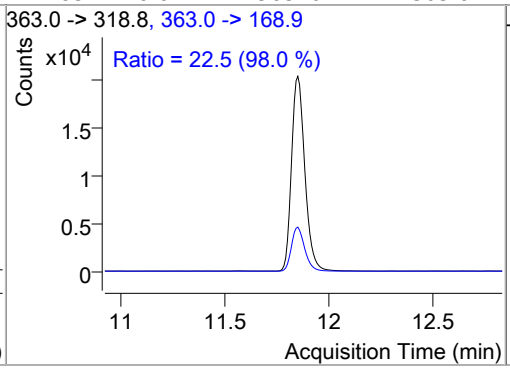


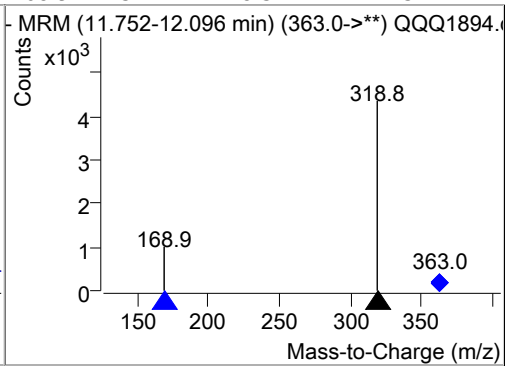


Quantitation Results Report (Not Reviewed)

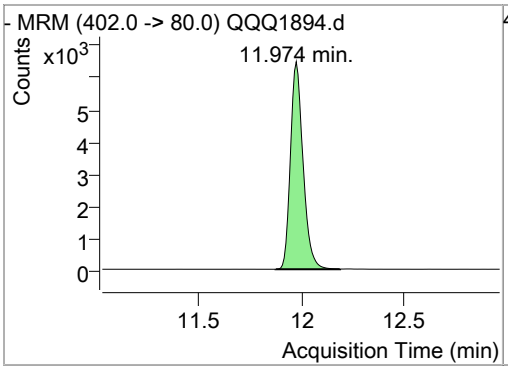
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	5.0654	11.85	-0.07	90576	363.0 -> 168.9	22.5	18.3	27.5

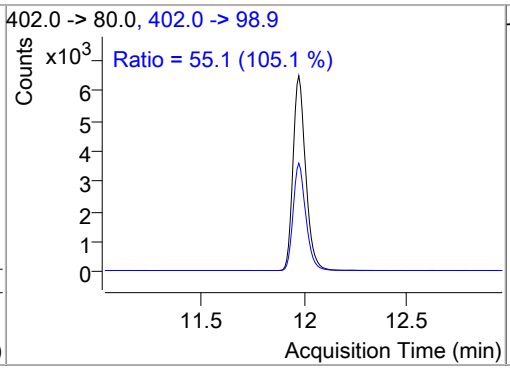


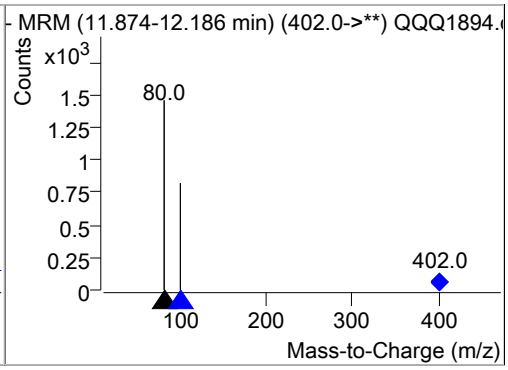




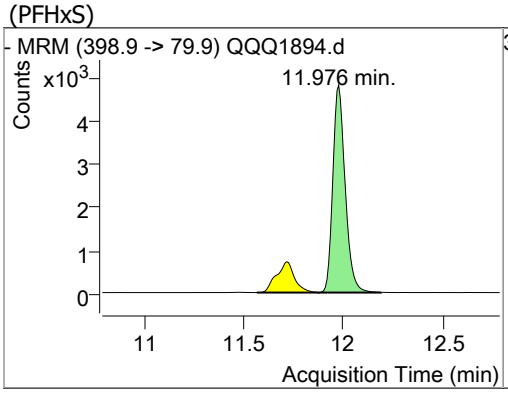
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.9149	11.97	-0.07	27406	402.0 -> 98.9	55.1	42.0	62.9

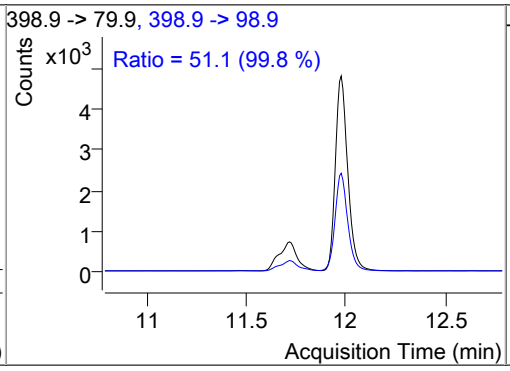


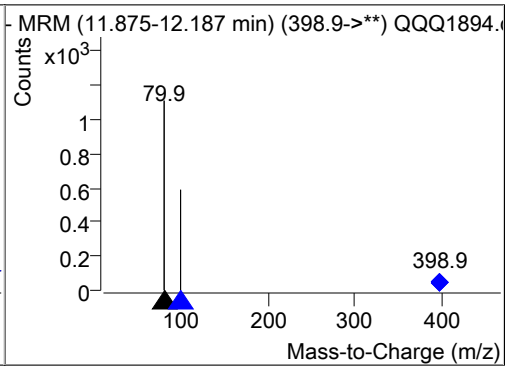




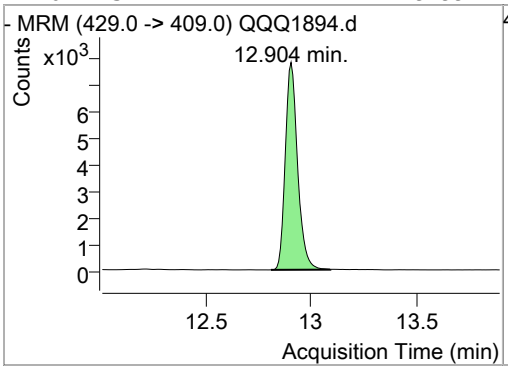
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.8690	11.98	-0.07	20563	398.9 -> 98.9	51.1	41.0	61.5

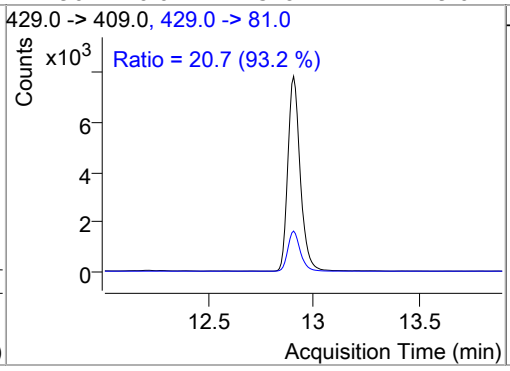


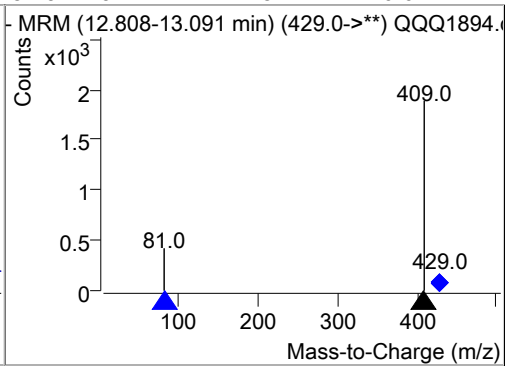




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.9199	12.90	-0.07	31821	429.0 -> 81.0	20.7	17.8	26.6

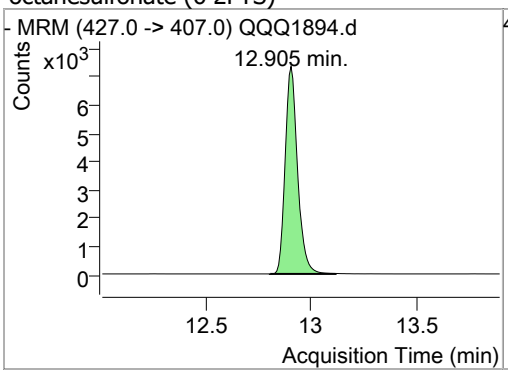


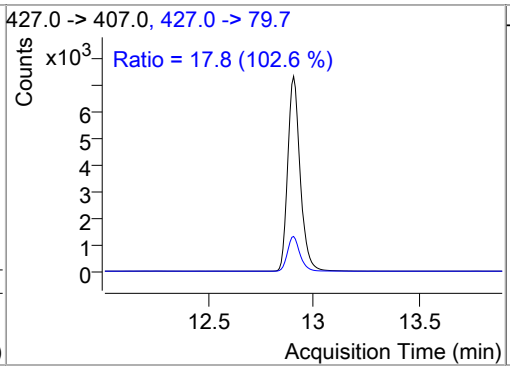


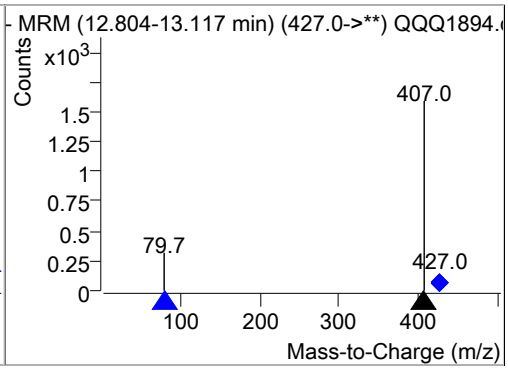


Quantitation Results Report (Not Reviewed)

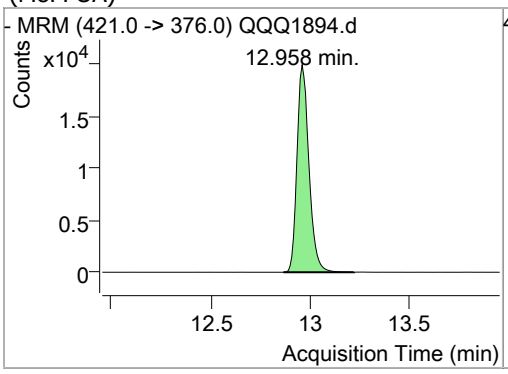
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.5822	12.90	-0.07	30003	427.0 -> 79.7	17.8	13.9	20.8

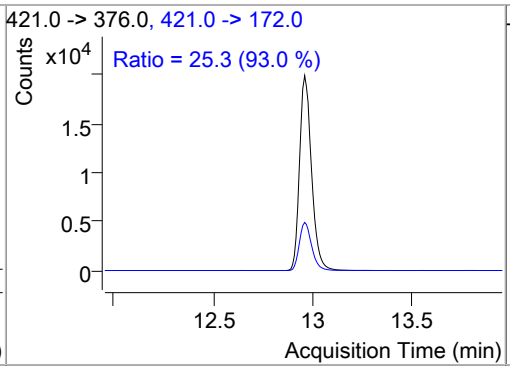


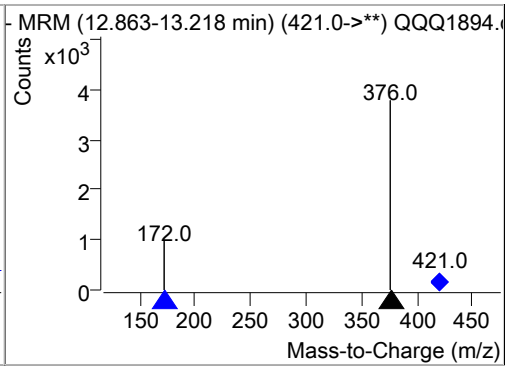




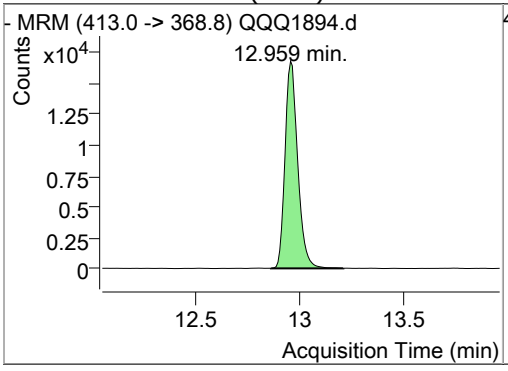
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.4419	12.96	-0.07	82959	421.0 -> 172.0	25.3	21.7	32.6

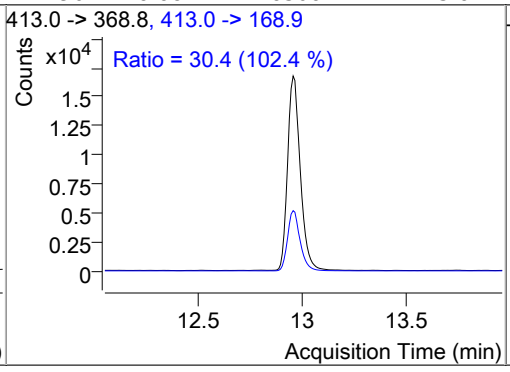


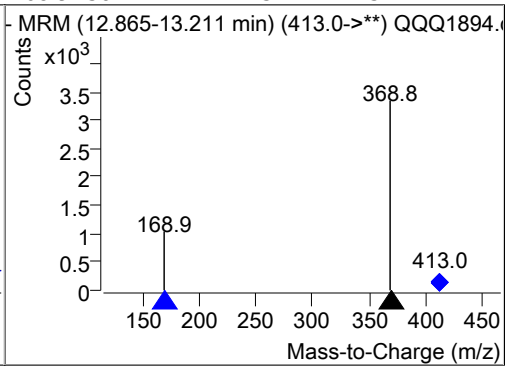




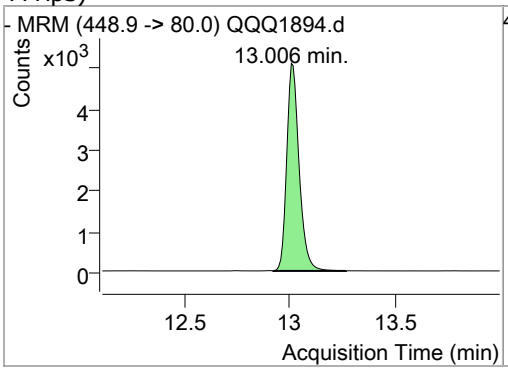
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	5.2011	12.96	-0.08	70360	413.0 -> 168.9	30.4	22.3	37.2

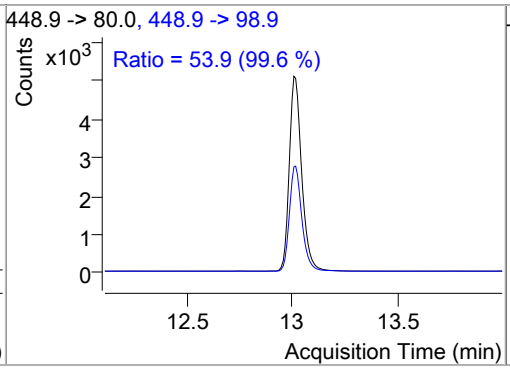


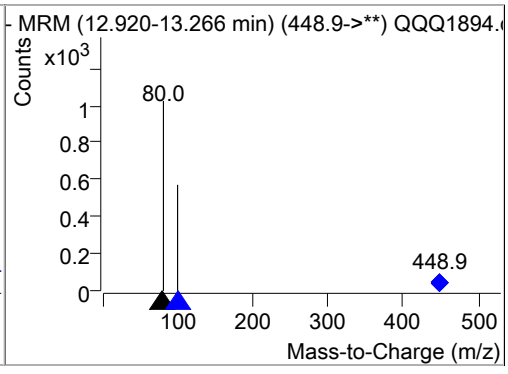




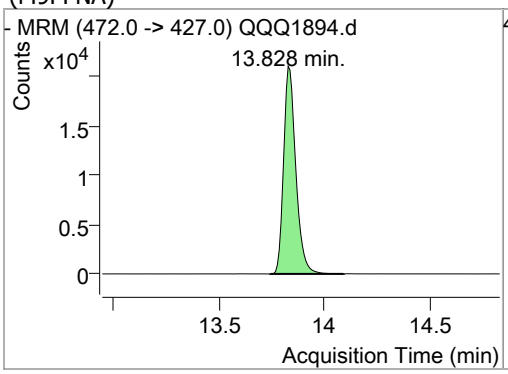
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.2914	13.01	-0.08	20836	448.9 -> 98.9	53.9	43.3	64.9

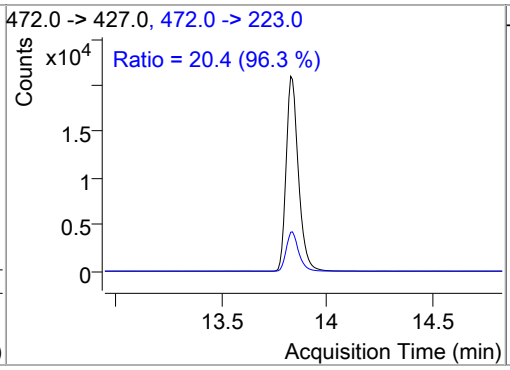


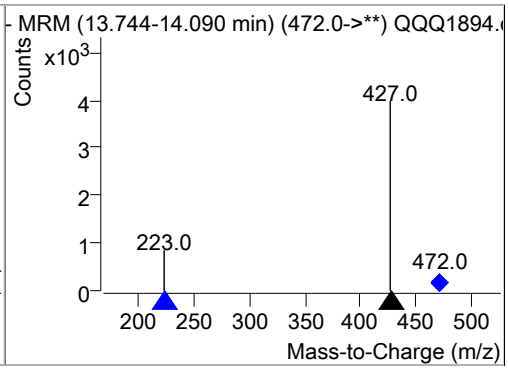




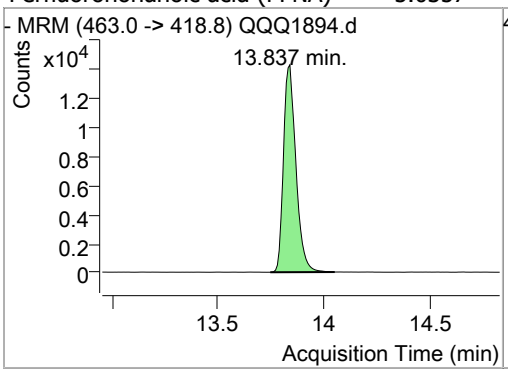
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	5.3325	13.83	-0.08	83465	472.0 -> 223.0	20.4	16.9	25.4

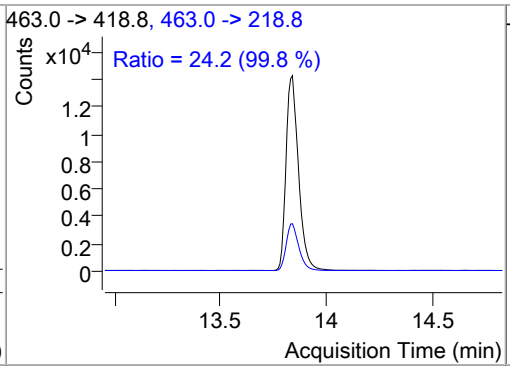


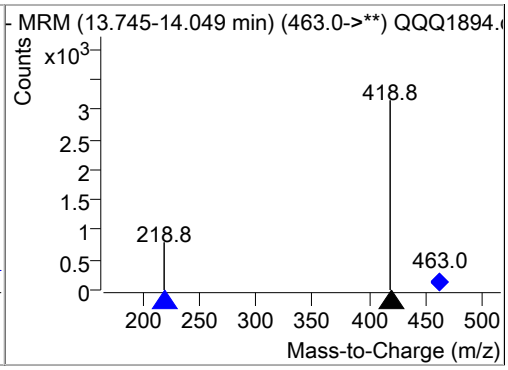




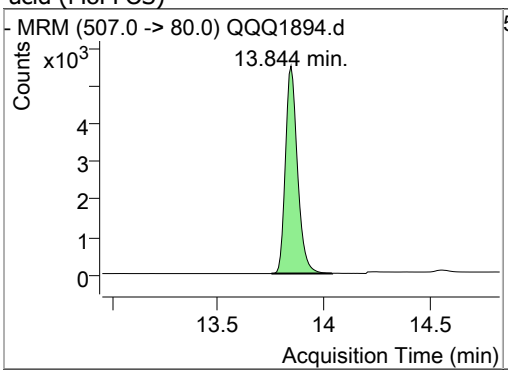
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	5.0357	13.84	-0.07	57909	463.0 -> 218.8	24.2	19.4	29.1

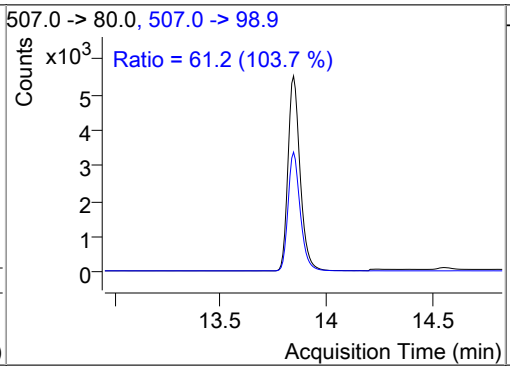


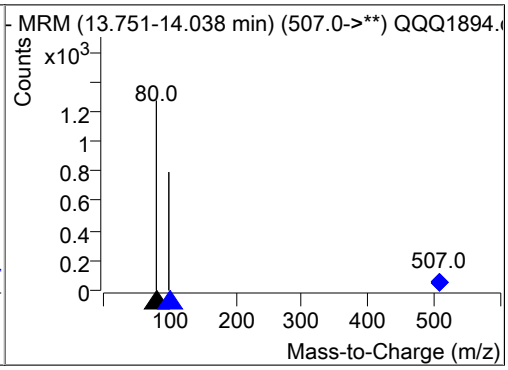




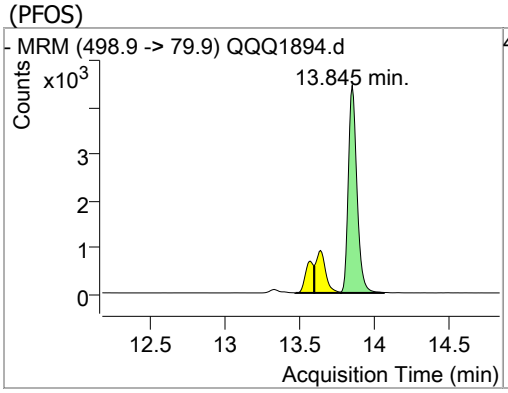
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	5.0618	13.84	-0.07	21738	507.0 -> 98.9	61.2	47.2	70.8

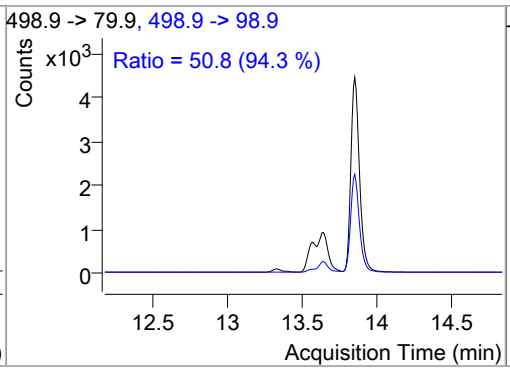


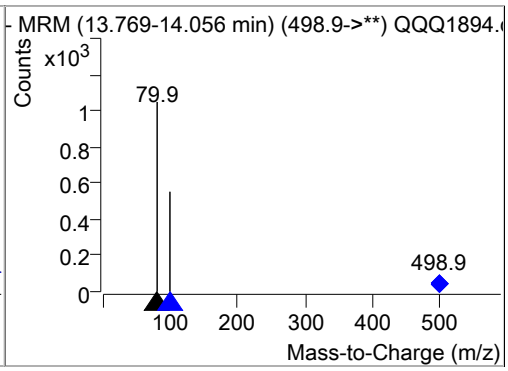




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.7931	13.84	-0.07	17786	498.9 -> 98.9	50.8	43.1	64.6

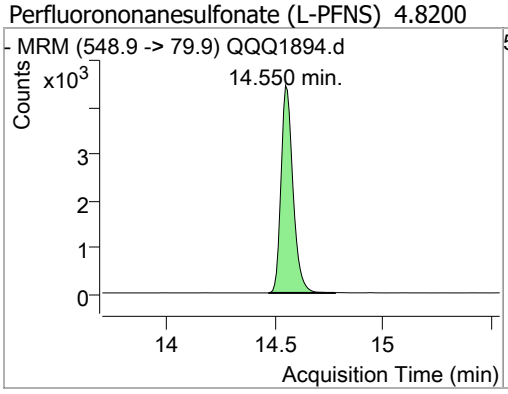


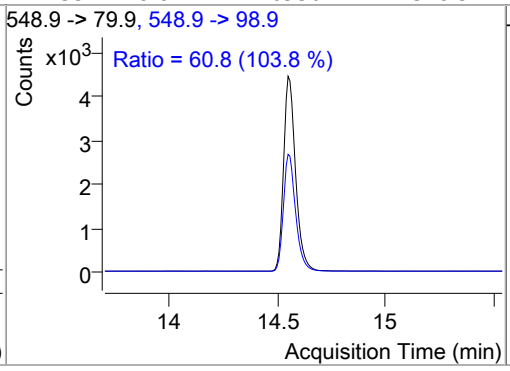


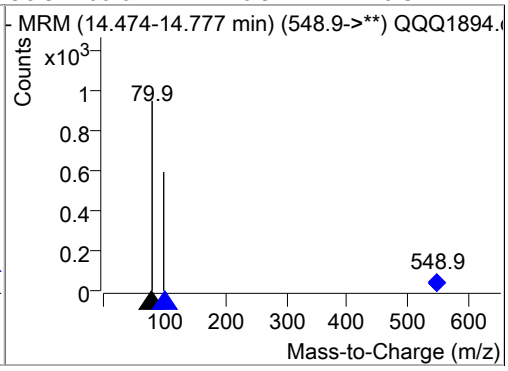


Quantitation Results Report (Not Reviewed)

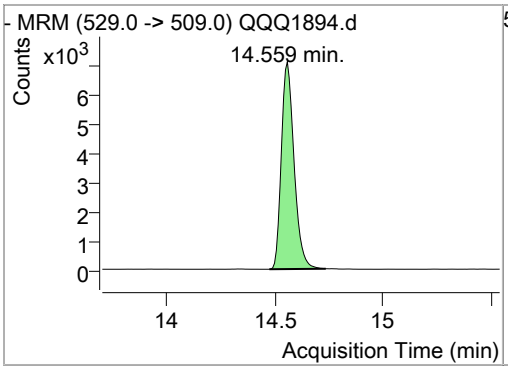
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.8200	14.55	-0.07	16936	548.9 -> 98.9	60.8	46.9	70.3

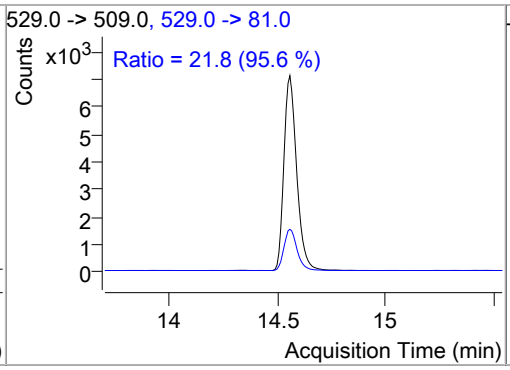


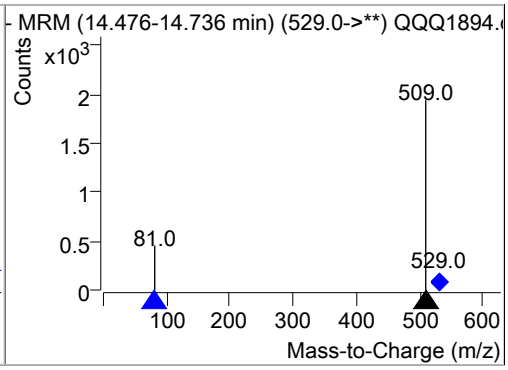




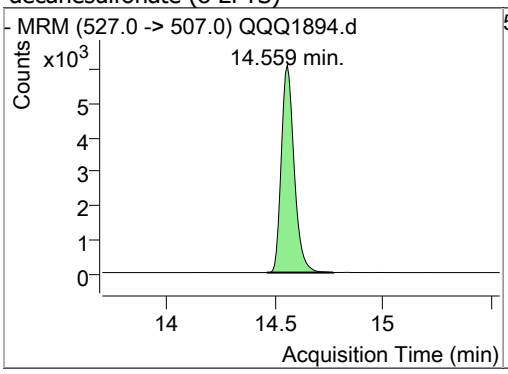
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.5265	14.56	-0.06	28758	529.0 -> 81.0	21.8	18.3	27.4

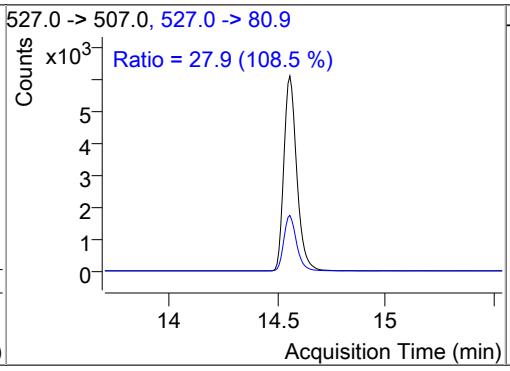


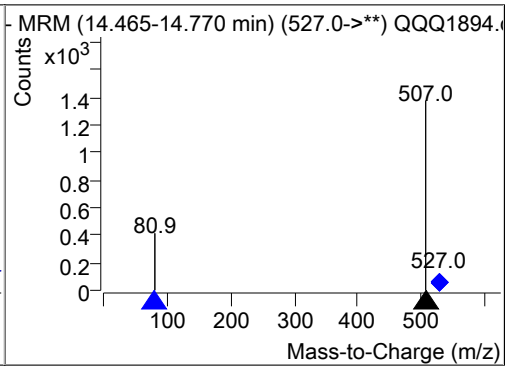




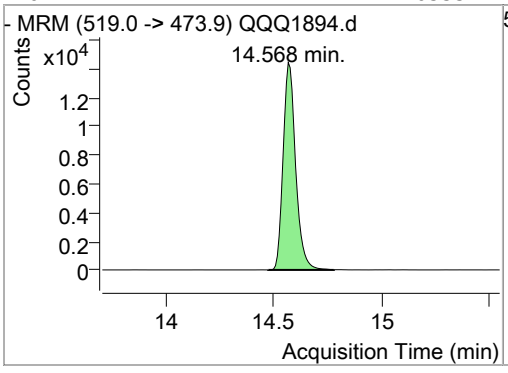
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	5.3969	14.56	-0.06	25036	527.0 -> 80.9	27.9	20.6	30.9

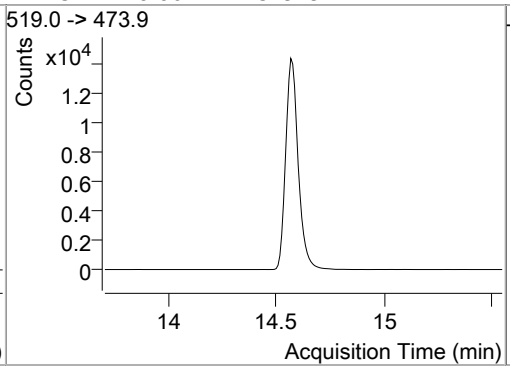


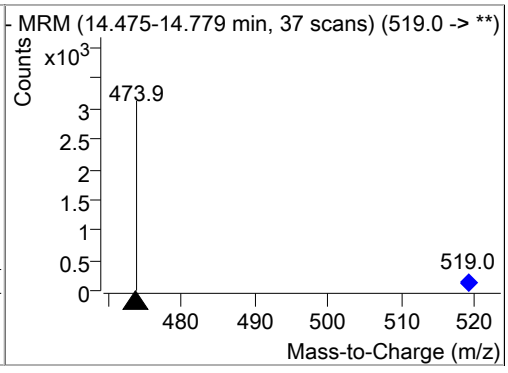




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	4.6555	14.57	-0.06	57979				

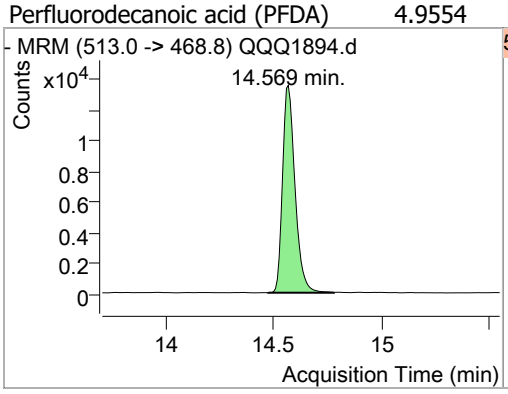


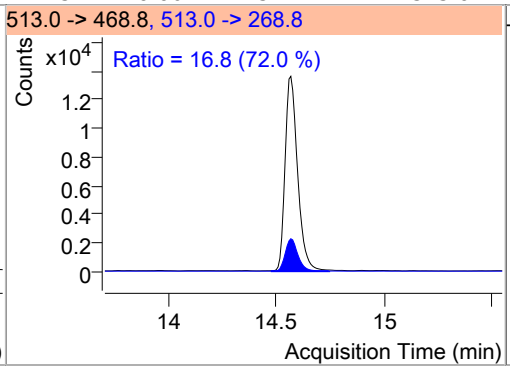


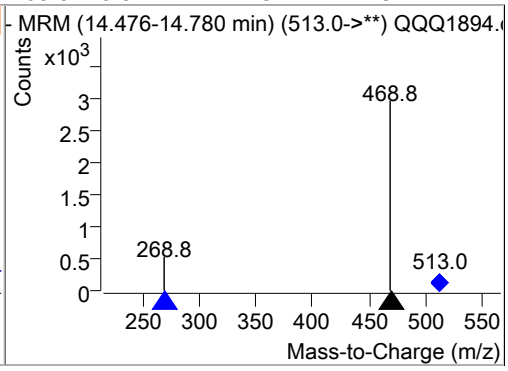


Quantitation Results Report (Not Reviewed)

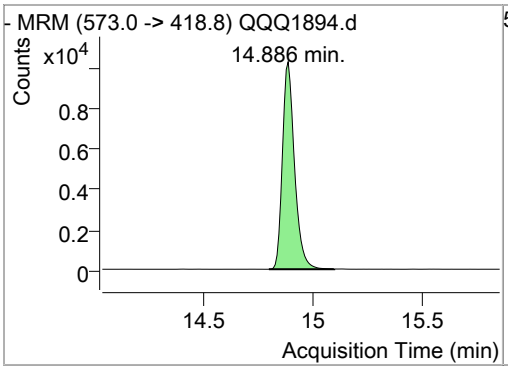
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.9554	14.57	-0.06	54441	513.0 -> 268.8	16.8	17.5	29.1

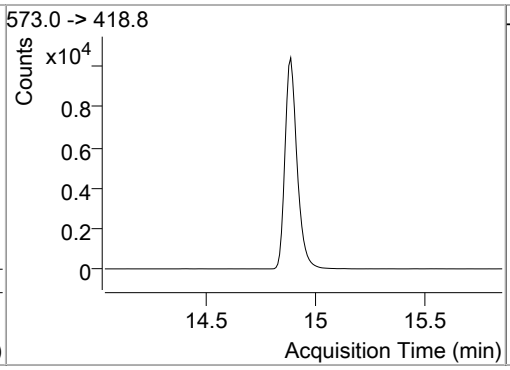


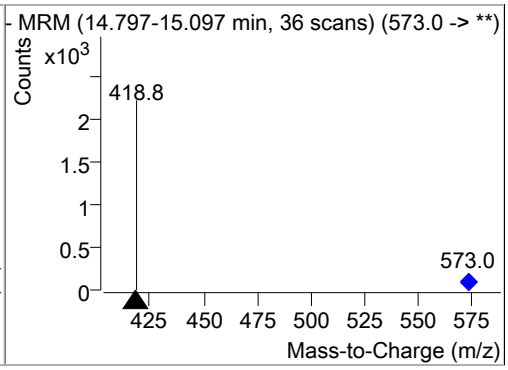




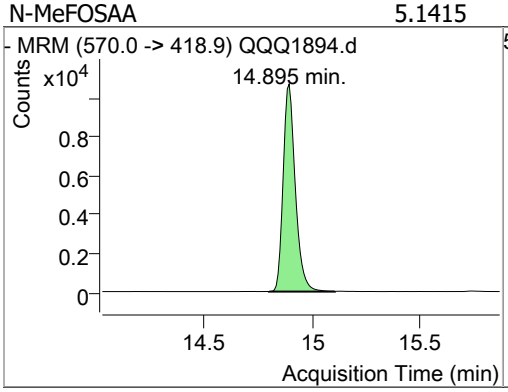
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.2184	14.89	-0.05	39857				

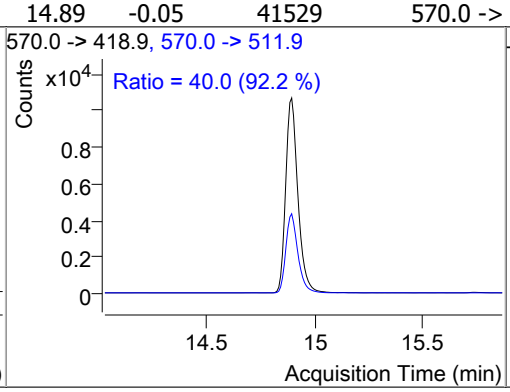


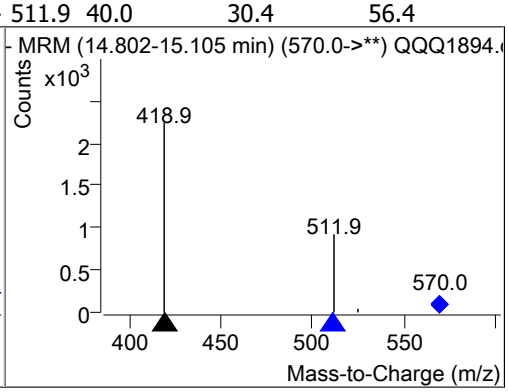




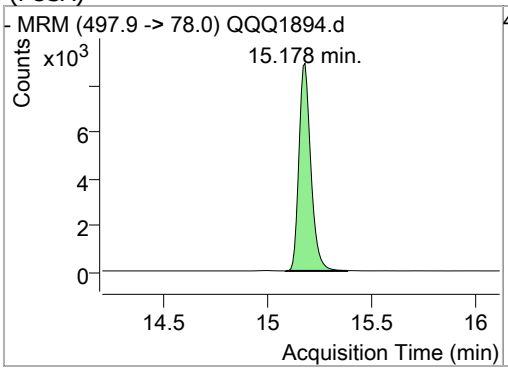
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	5.1415	14.89	-0.05	41529	570.0 -> 511.9	40.0	30.4	56.4

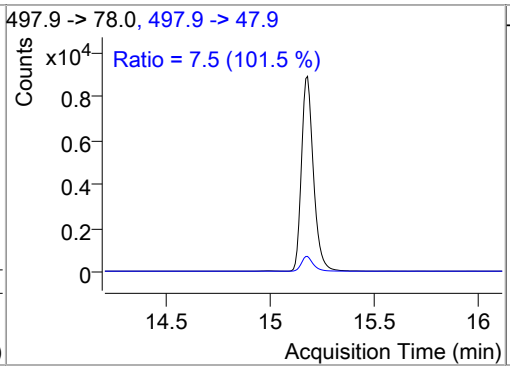


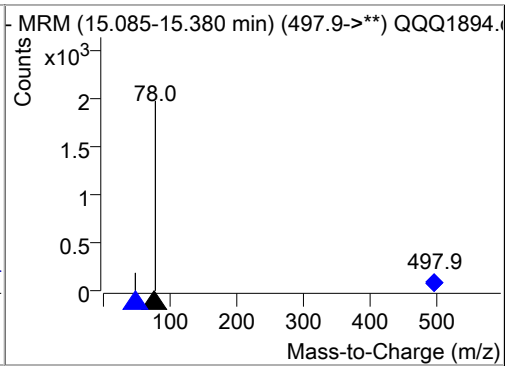




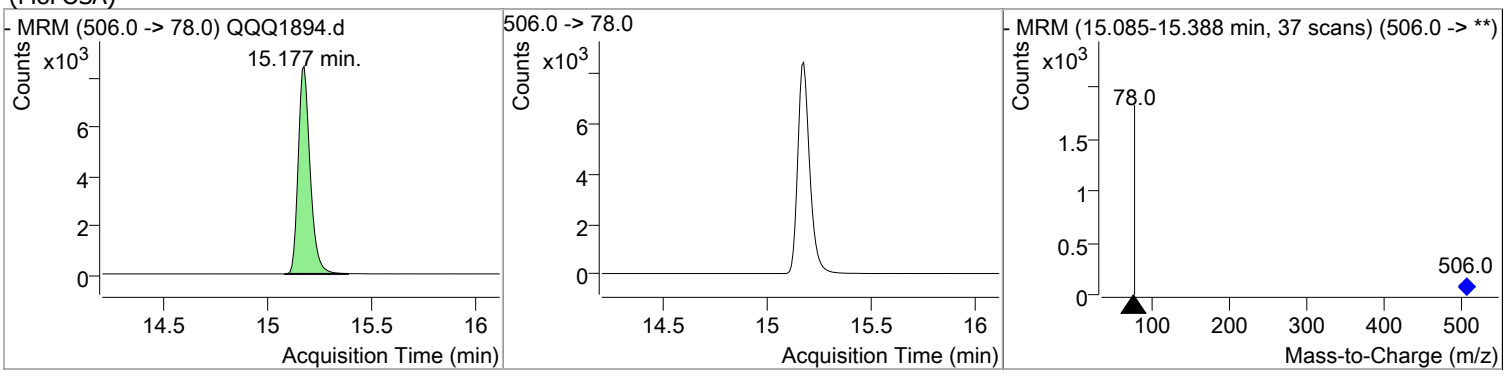
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	5.2112	15.18	-0.01	35226	497.9 -> 47.9	7.5	5.9	8.8



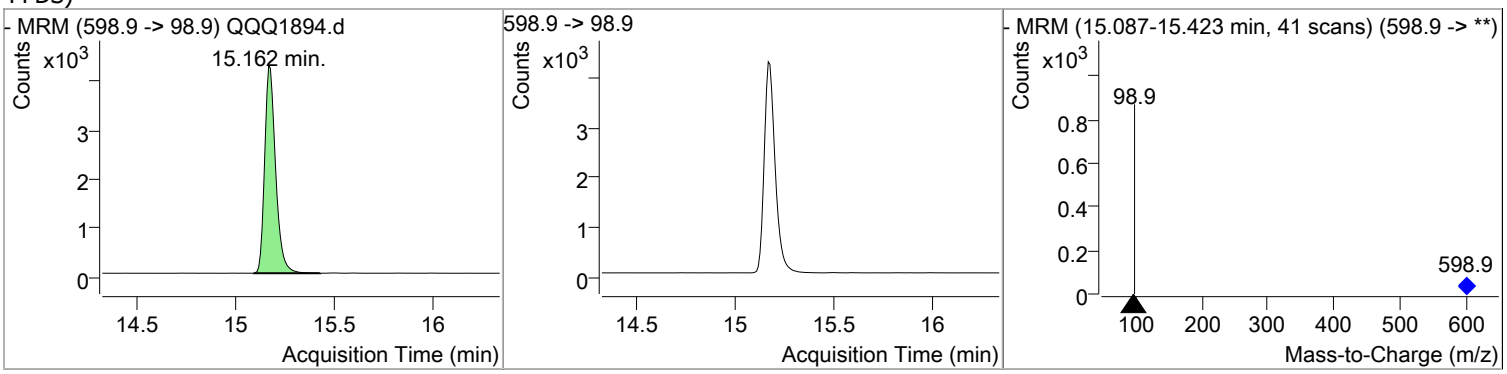




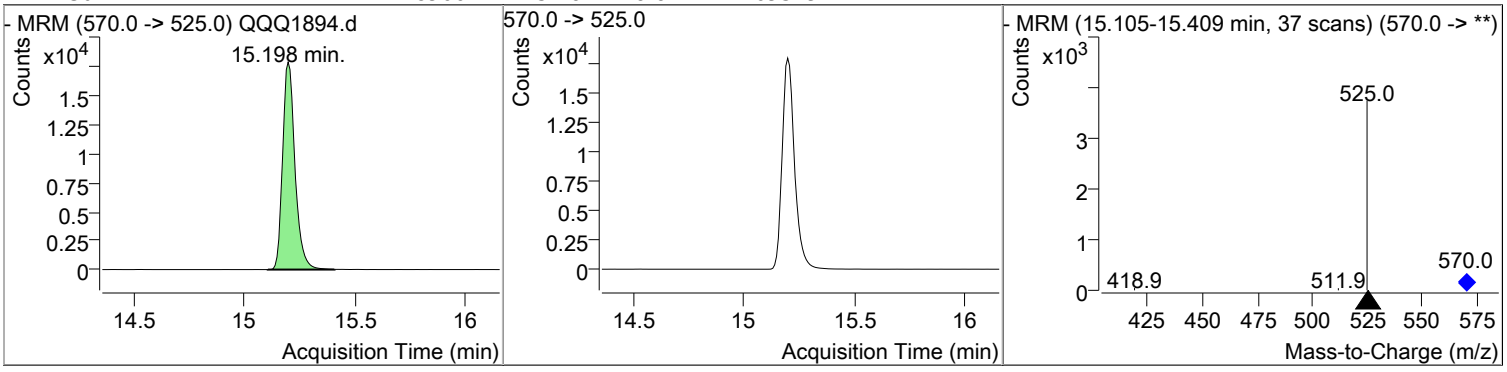
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.1801	15.18	-0.02	33612				



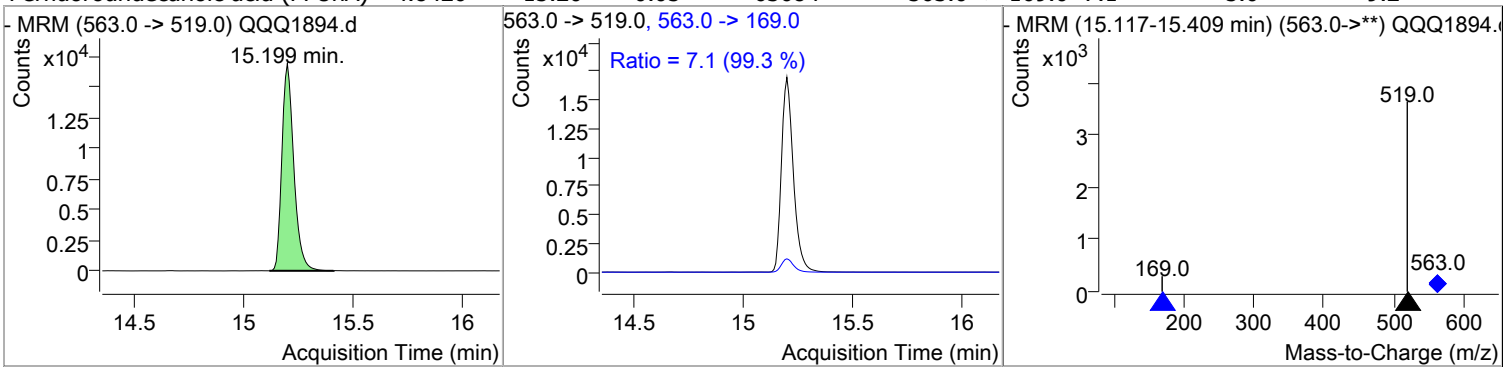
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	5.0267	15.16	-0.05	16343				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	4.8966	15.20	-0.04	69379				

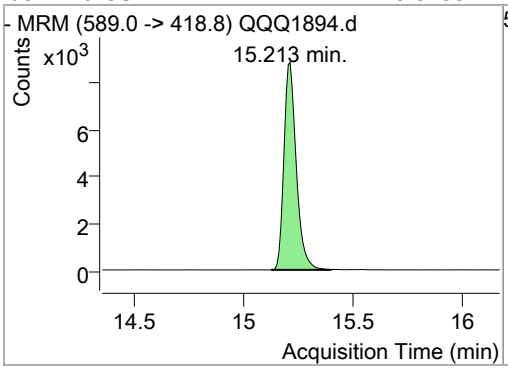


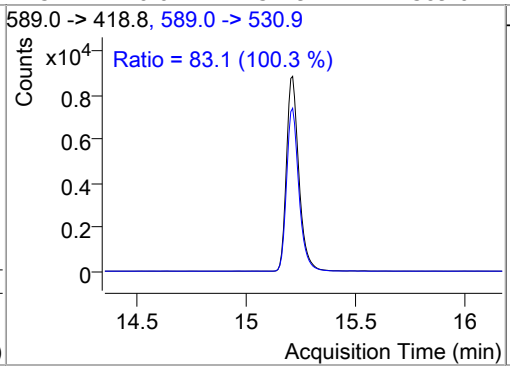
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.8426	15.20	-0.05	63684	563.0 -> 169.0	7.1	5.0	9.2

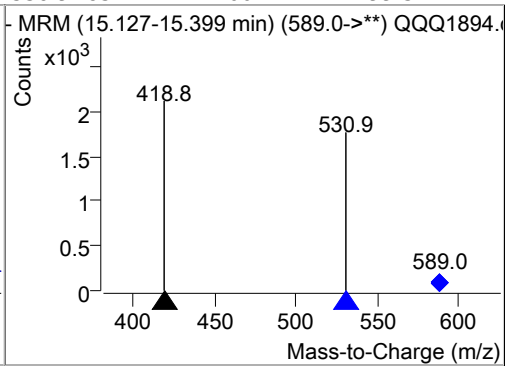


Quantitation Results Report (Not Reviewed)

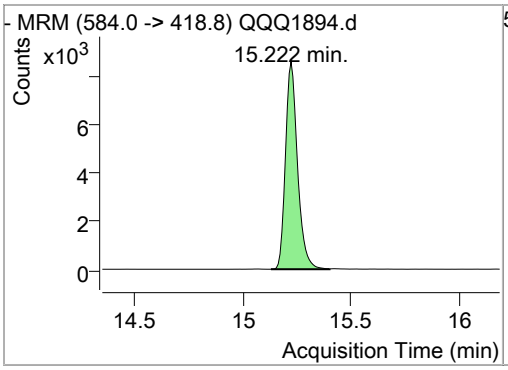
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.3233	15.21	-0.04	34494	589.0 -> 530.9	83.1	66.2	99.3

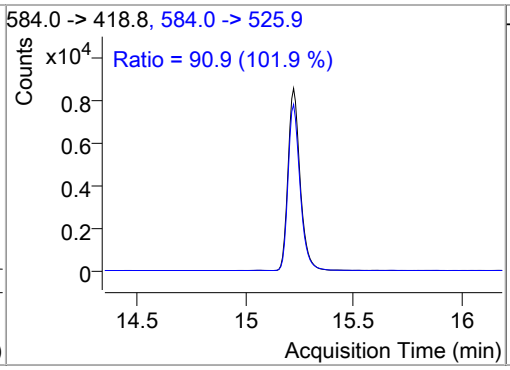


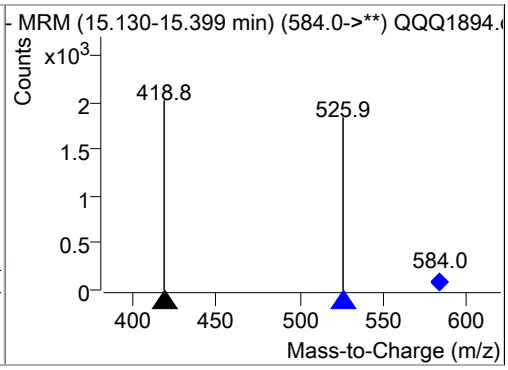




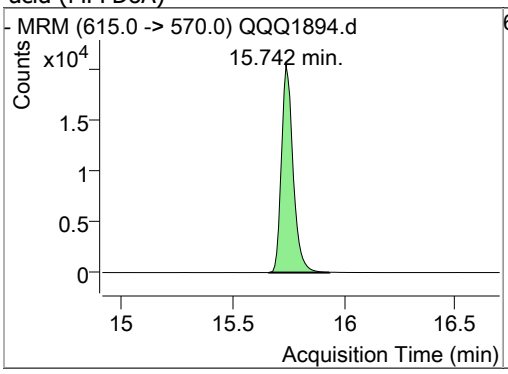
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	5.1607	15.22	-0.04	33036	584.0 -> 525.9	90.9	71.3	107.0

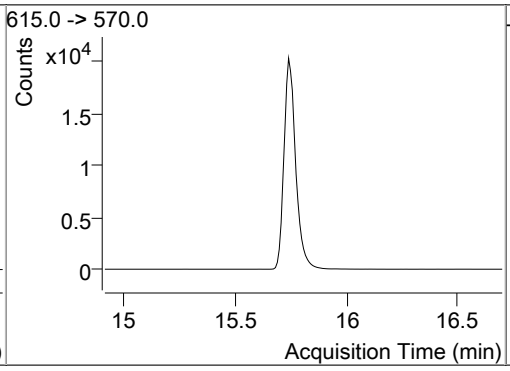


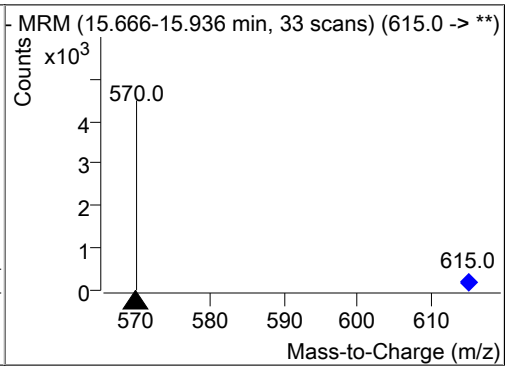




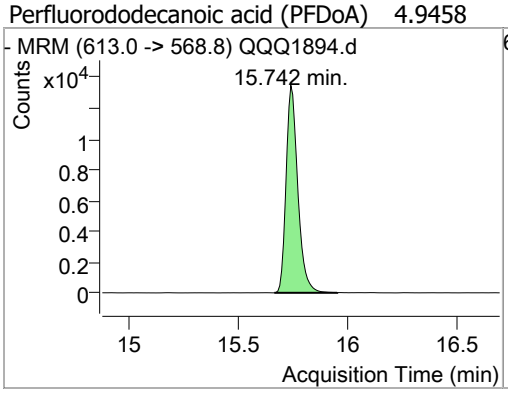
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.0663	15.74	-0.03	73802				

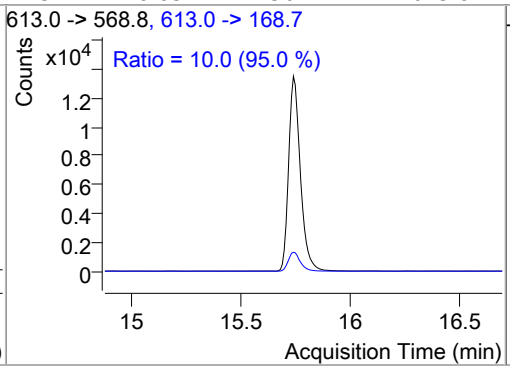


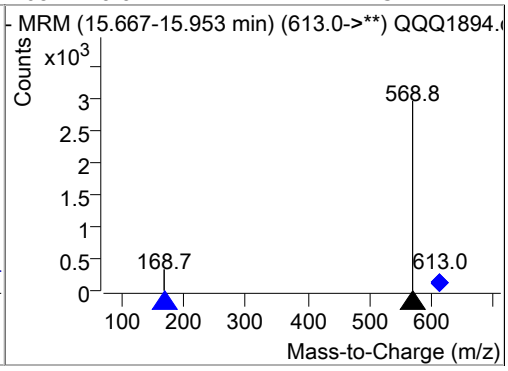




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.9458	15.74	-0.03	49672	613.0 -> 168.7	10.0	7.4	13.7

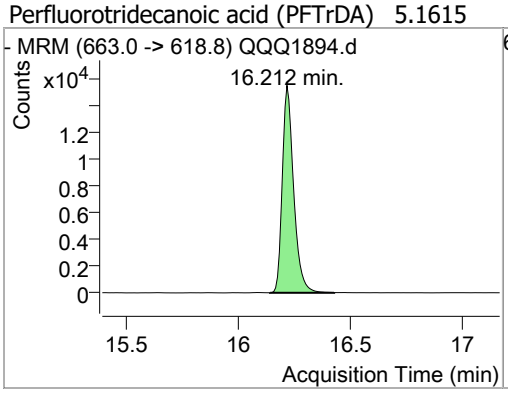


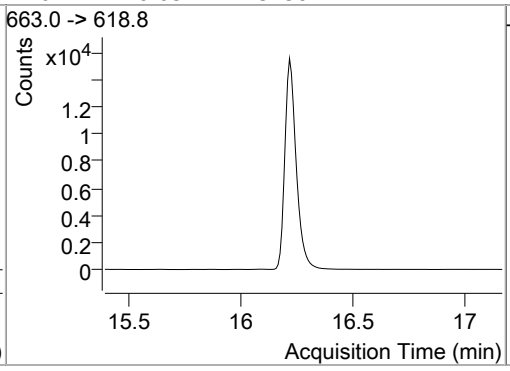


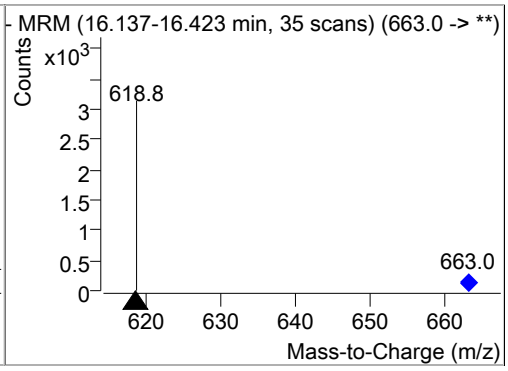


Quantitation Results Report (Not Reviewed)

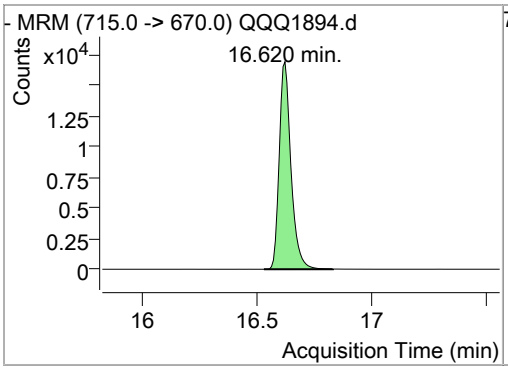
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	5.1615	16.21	-0.03	54502				

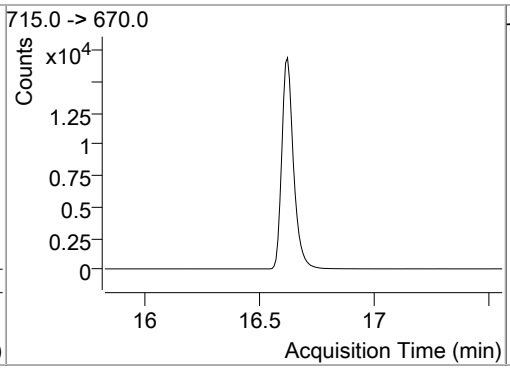


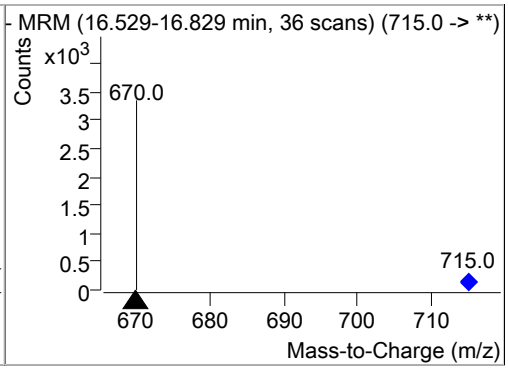




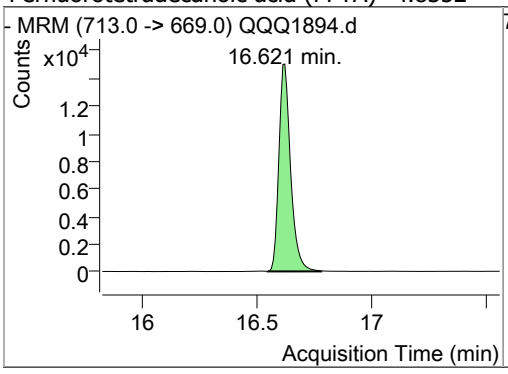
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	5.0332	16.62	-0.02	59859				

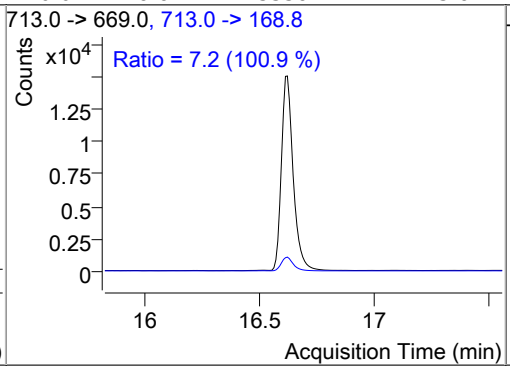


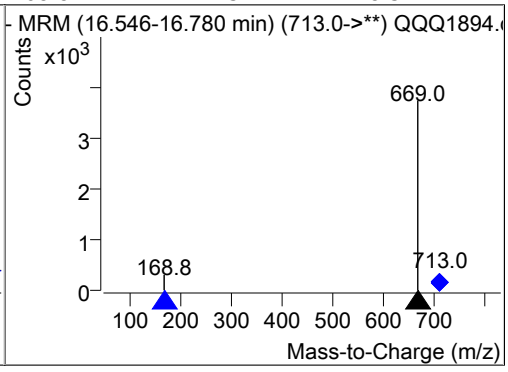




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.8352	16.62	-0.02	53307	713.0 -> 168.8	7.2	5.7	8.5







FORM VII

CONTINUING CALIBRATION CHECK

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	LCQQQ	Calibration:	YI90019
Lab File ID:	QQQ1895.d	Calibration Date:	09/27/19 12:03
Sequence:	Y9I2721	Injection Date:	09/26/19
Lab Sample ID:	Y9I2721-CCV1	Injection Time:	17:12

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	Q	4.80	5.18	0.24826	0.2302366		8.0	30
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	4.75	4.33	0.2993209	0.2730829		-8.8	30
N-EtFOSAA	A	5.00	4.82	0.2927228	0.2821358		-3.6	30
N-MeFOSAA	A	5.00	4.86	0.3693488	0.3587693		-2.9	30
Perfluoro-1-decanesulfonic acid (PFDS)	A	4.82	4.71	0.1486088	0.1452541		-2.3	30
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	4.98	4.85	0.1801378	0.1753536		-2.7	30
Perfluoro-1-octanesulfonamide (FOSA)	A	5.00	4.87	0.3091035	0.3010604		-2.6	30
Perfluorobutanesulfonic acid (PFBS)	A	4.42	4.34	0.3283685	0.3228582		-1.7	30
Perfluorodecanoic acid (PFDA)	A	5.00	4.55	0.5023701	0.4568449		-9.1	30
Perfluorododecanoic acid (PFDoA)	A	5.00	4.60	0.4592504	0.422439		-8.0	30
Perfluoroheptanoic acid (PFHpA)	A	5.00	4.95	0.8176638	0.8102012		-0.9	30
Perfluorohexanesulfonic acid (PFHxS)	A	3.70	3.62	0.2430381	0.2380448		-2.1	30
Perfluorohexanoic acid (PFHxA)	A	5.00	4.88	1.109852	1.082143		-2.5	30
Perfluoro-n-butanoic acid (PFBA)	A	5.00	4.89	0.7530296	0.7361711		-2.2	30
Perfluorononanoic acid (PFNA)	A	4.80	4.91	0.5258608	0.5382386		2.4	30
Perfluorooctanesulfonic acid (PFOS)	A	3.65	3.40	0.2135379	0.1996745		-6.5	30
Perfluorooctanoic acid (PFOA)	A	5.00	5.00	0.6186046	0.6183075		-0.05	30
Perfluoropentanoic acid (PFPeA)	A	5.00	4.90	1.122031	1.100696		-1.9	30
Perfluorotetradecanoic acid (PFTA)	A	5.00	4.69	0.5041394	0.4732081		-6.1	30
Perfluorotridecanoic acid (PFTrDA)	A	5.00	4.84	0.4828499	0.4677149		-3.1	30
Perfluoroundecanoic acid (PFUnA)	A	5.00	4.76	0.6013559	0.572294		-4.8	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Data File	QQQ1895.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	9/26/2019 5:12:59 PM
Sample Name	SEQ-CCV1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-09-25_ICAL.batch.bin	Last Calib Update	9/27/2019 11:14:35 AM
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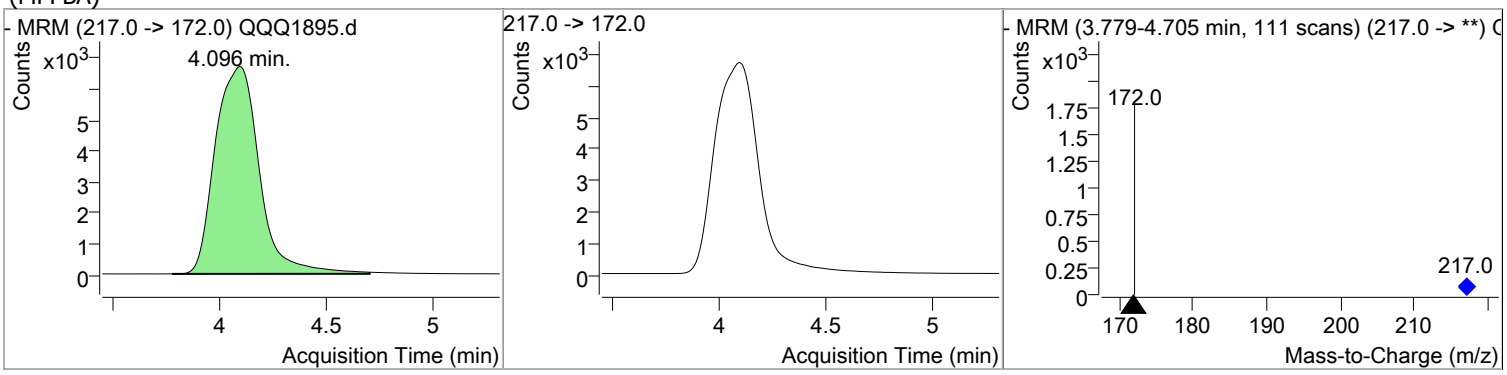
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.967	417.0 -> 372.0	231832	10.0000	ng/ml	-0.067
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.096	217.0 -> 172.0	96188	4.8579	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.58%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	145892	4.9239	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.24%		
M3PFBS	8.743	302.0 -> 79.9	38722	4.5823	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.82%		
M2-4-2FTS	10.183	329.0 -> 309.0	51118	4.3971	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 43.97%		
M5PFHxA	10.328	318.0 -> 273.0	146217	4.9027	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.03%		
M4PFHpA	11.852	367.0 -> 322.0	31166	4.8102	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.10%		
M3PFHxS	11.974	402.0 -> 80.0	27218	4.6045	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.04%		
M2-6-2FTS	12.904	429.0 -> 409.0	31132	4.5404	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.40%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.966	421.0 -> 376.0	81218	5.0256	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.26%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.845	472.0 -> 427.0	78798	4.7488	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.49%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.852	507.0 -> 80.0	20925	4.5961	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.96%		
M2-8-2FTS	14.567	529.0 -> 509.0	27899	4.9881	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.88%		
M6PFDA	14.577	519.0 -> 473.9	64935	4.9184	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.18%		
d3-N-MeFOSAA	14.894	573.0 -> 418.8	39128	4.8324	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.32%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	33938	4.9338	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.34%		
M7PFUdA	15.206	570.0 -> 525.0	70600	4.7003	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.00%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	33501	4.8768	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.77%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.750	615.0 -> 570.0	69303	4.4876	ng/ml	-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 44.88%		
M2PFTeDA	16.621	715.0 -> 670.0	60848	4.8262	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.26%		

Target Compounds **QValue**

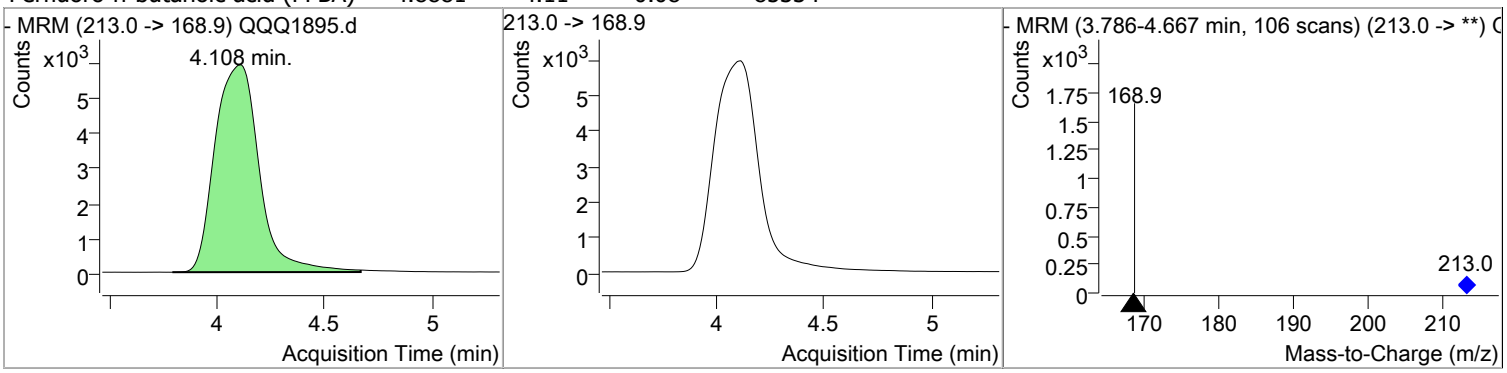
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.108	213.0 -> 168.9	85334	4.8881	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.040	263.0 -> 219.0	127588	4.9049	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	33083	4.3438	ng/ml	99
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	42947	4.4703	ng/ml	100
Perfluorohexanoic acid (PFHxA)	10.330	313.0 -> 268.9	125438	4.8752	ng/ml	99
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	30040	4.5102	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.853	363.0 -> 318.8	93915	4.9544	ng/ml	96
Perfluorohexanesulfonic acid (PFHxS)	11.976	398.9 -> 79.9	20419	3.6240	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.905	427.0 -> 407.0	30072	4.3323	ng/ml	100
Perfluorooctanoic acid (PFOA)	12.967	413.0 -> 368.8	71672	4.9976	ng/ml	98
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.014	448.9 -> 80.0	20245	4.8498	ng/ml	95
Perfluorononanoic acid (PFNA)	13.846	463.0 -> 418.8	59895	4.9130	ng/ml	97
Perfluorooctanesulfonic acid (PFOS)	13.853	498.9 -> 79.9	16896	3.3989	ng/ml	96
Perfluorononanesulfonate (L-PFNS)	14.567	548.9 -> 79.9	17960	4.8215	ng/ml	98
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.568	527.0 -> 507.0	25621	5.1824	ng/ml	98
Perfluorodecanoic acid (PFDA)	14.578	513.0 -> 468.8	52956	4.5469	ng/ml	90
N-MeFOSAA	14.903	570.0 -> 418.9	41587	4.8568	ng/ml	97
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	34898	4.8699	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	16231	4.7091	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	66338	4.7584	ng/ml	99
N-EtFOSAA	15.231	584.0 -> 418.8	32704	4.8192	ng/ml	95
Perfluorododecanoic acid (PFDoA)	15.750	613.0 -> 568.8	48967	4.5992	ng/ml	99
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	54216	4.8433	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	54852	4.6932	ng/ml	100

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

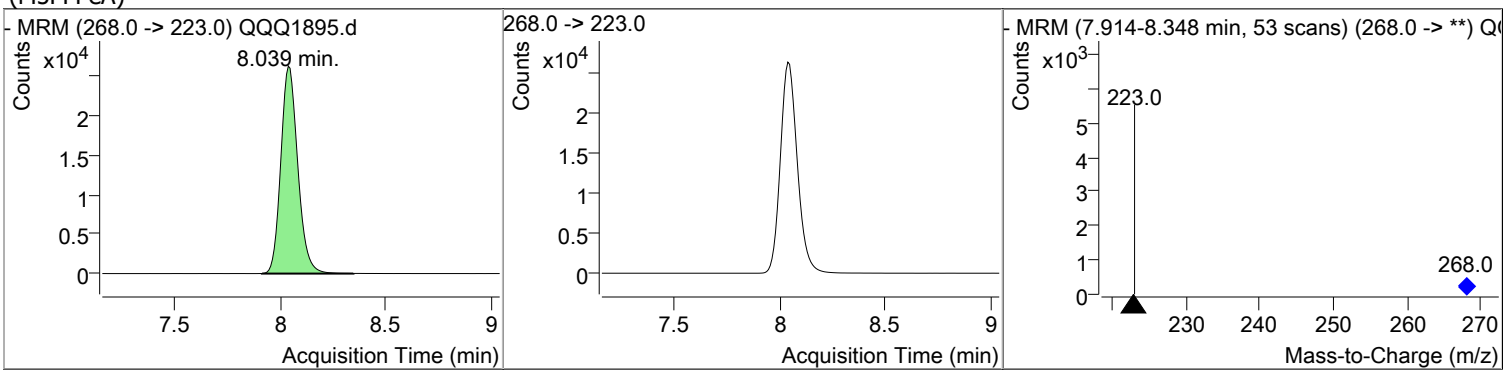
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.8579	4.10	-0.09	96188				



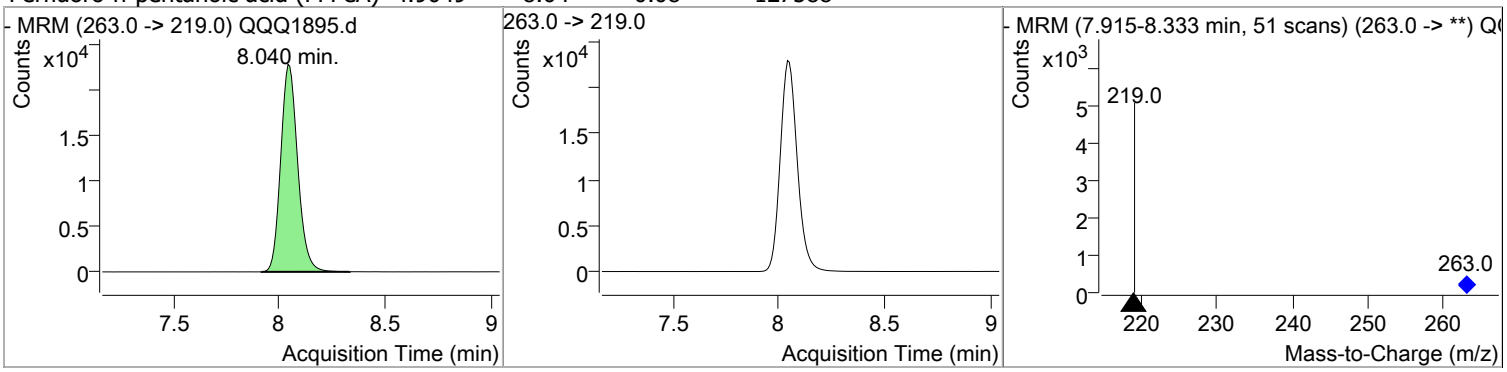
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	4.8881	4.11	-0.08	85334				



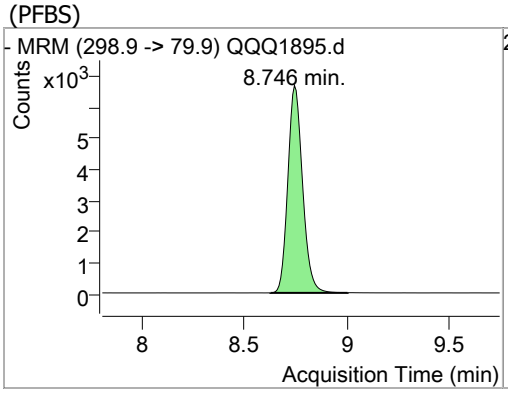
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.9239	8.04	-0.08	145892				

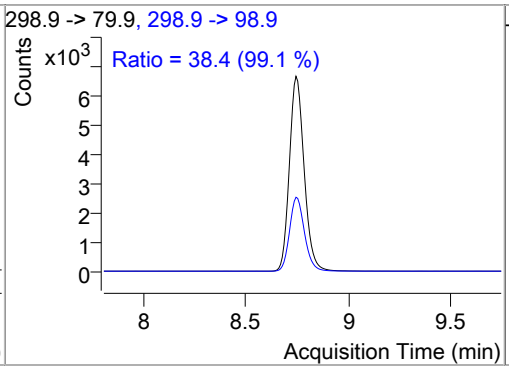


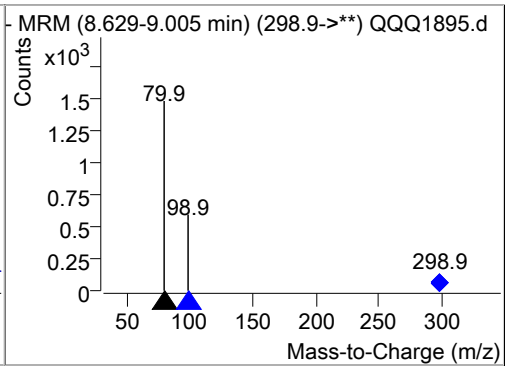
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.9049	8.04	-0.08	127588				



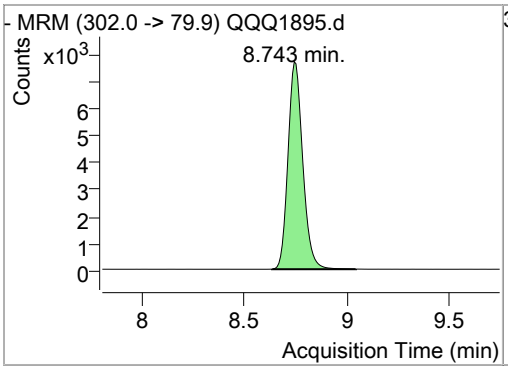
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.3438	8.75	-0.07	33083	298.9 -> 98.9	38.4	31.0	46.5

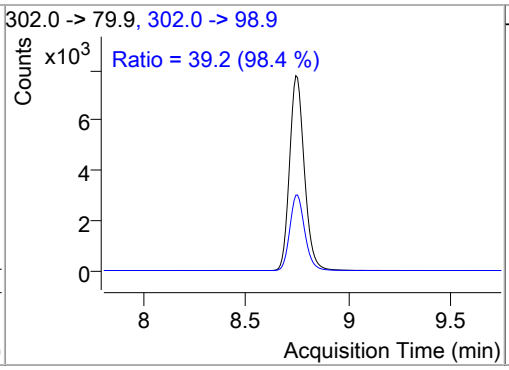


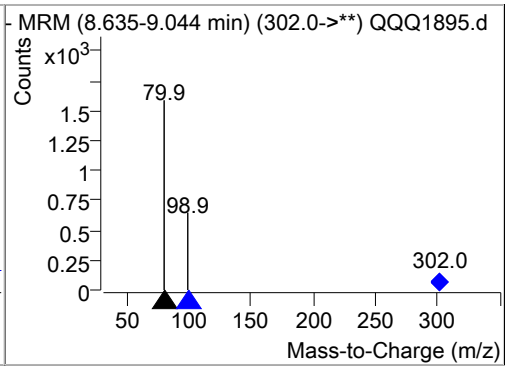




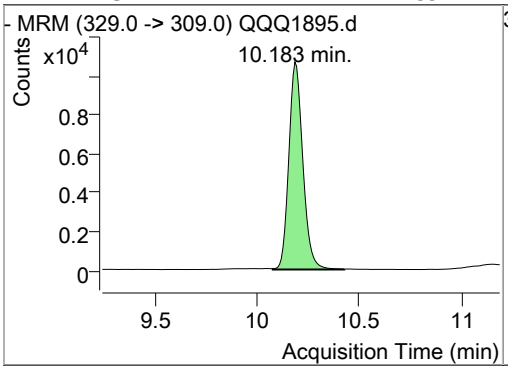
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.5823	8.74	-0.08	38722	302.0 -> 98.9	39.2	31.9	47.8

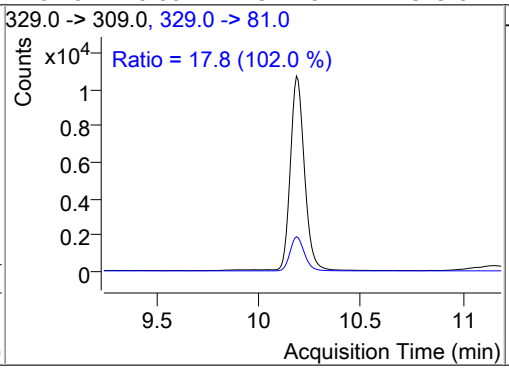


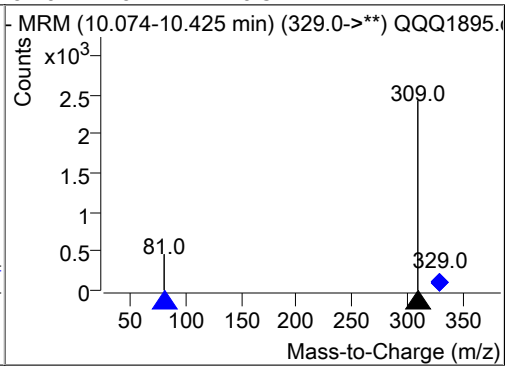




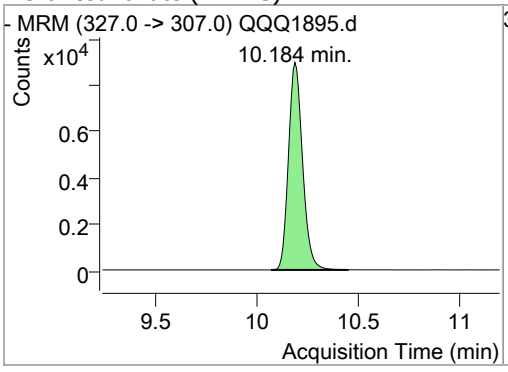
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.3971	10.18	-0.08	51118	329.0 -> 81.0	17.8	10.5	24.4

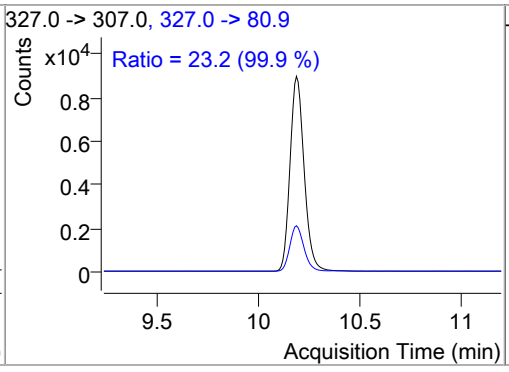


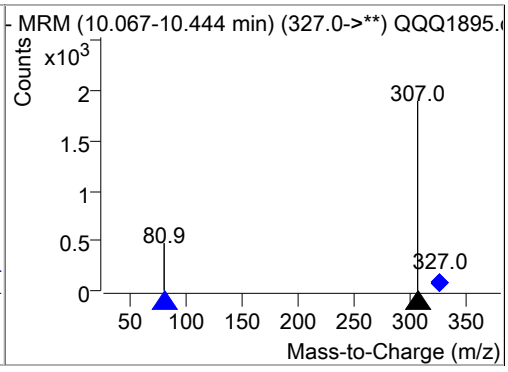




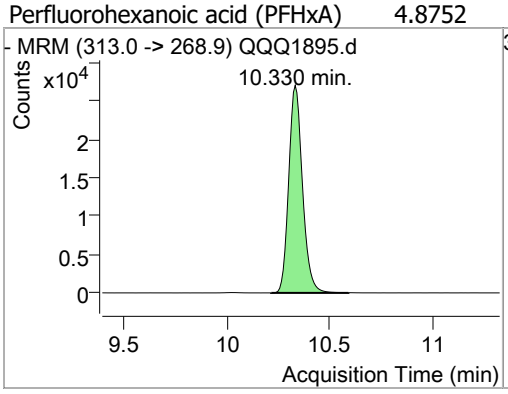
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.4703	10.18	-0.08	42947	327.0 -> 80.9	23.2	13.9	32.5

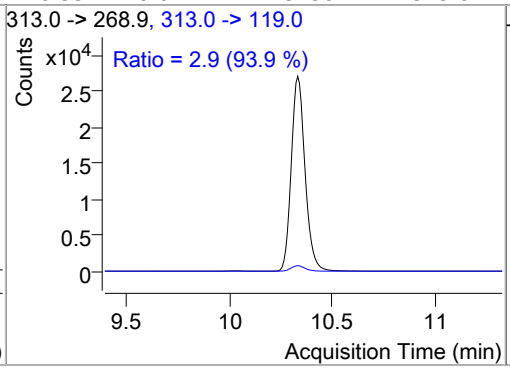


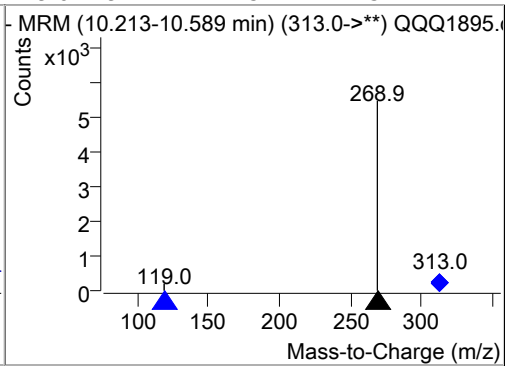




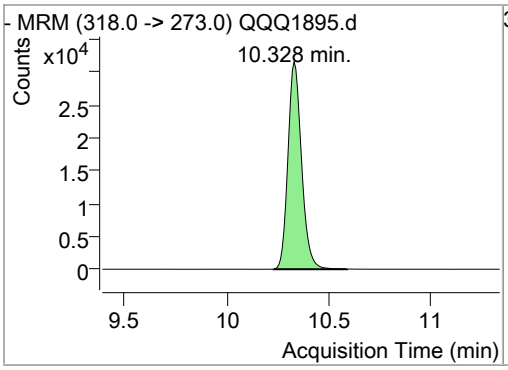
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.8752	10.33	-0.07	125438	313.0 -> 119.0	2.9	2.5	3.7

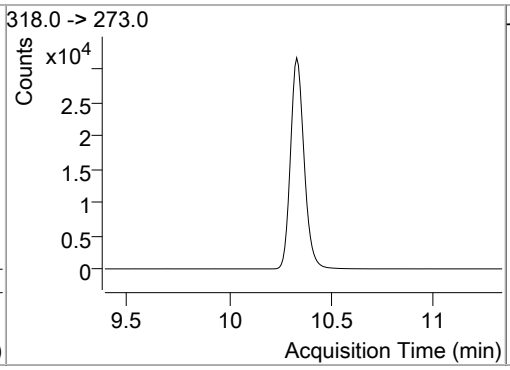


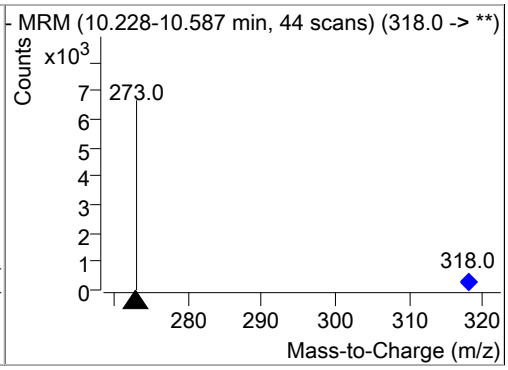




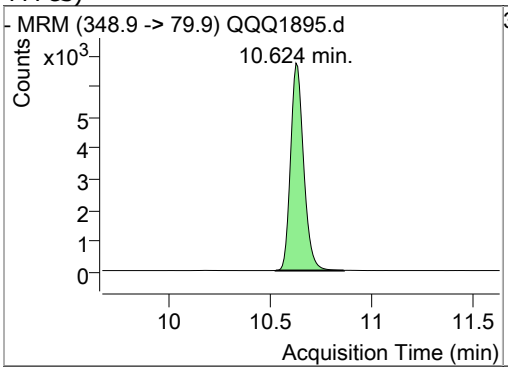
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	4.9027	10.33	-0.08	146217				

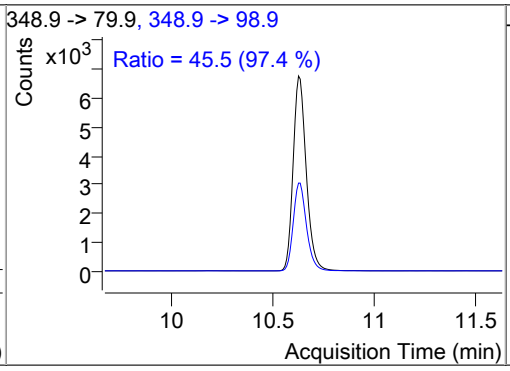


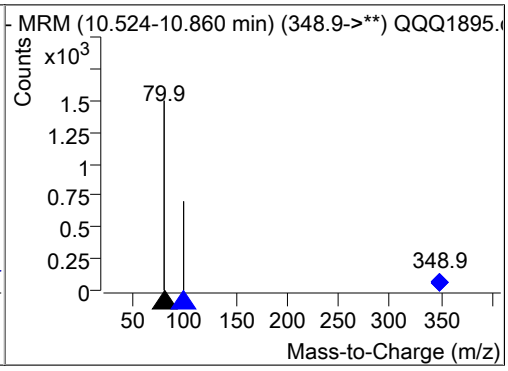




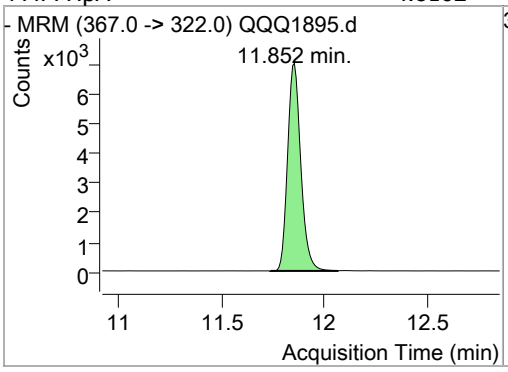
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.5102	10.62	-0.08	30040	348.9 -> 98.9	45.5	37.3	56.0

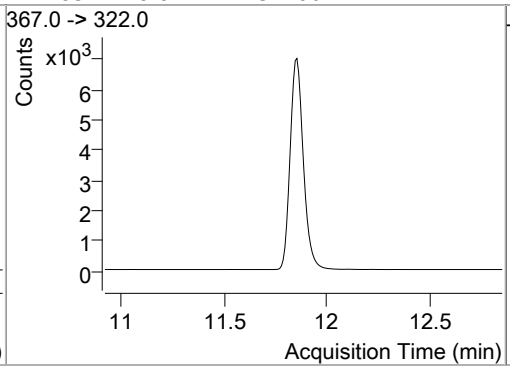


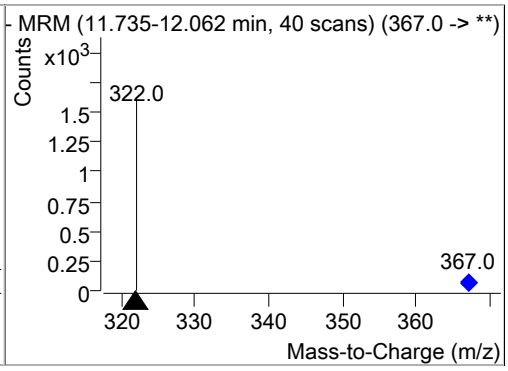




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	4.8102	11.85	-0.07	31166				

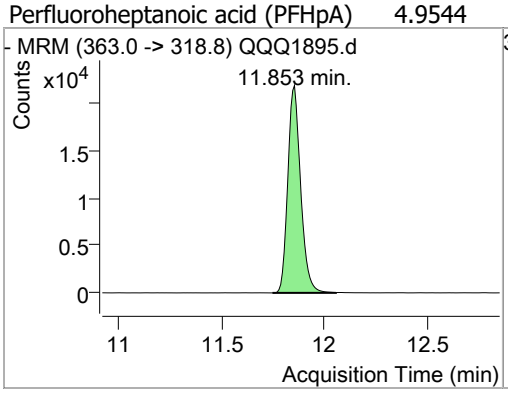


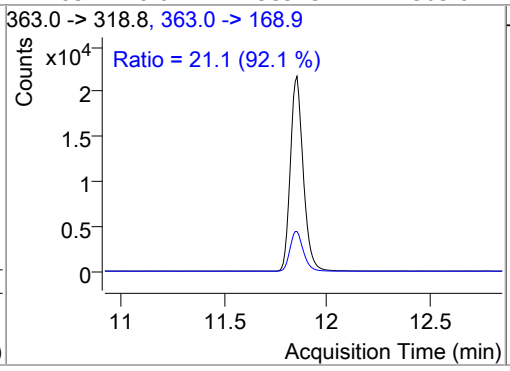


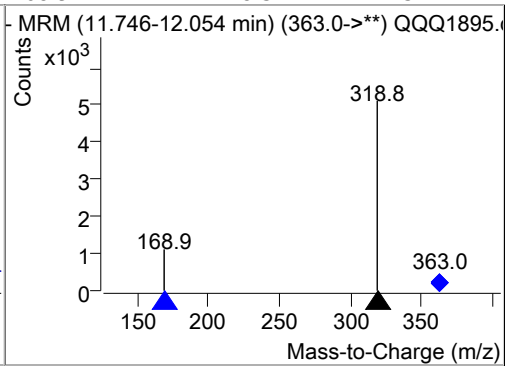


Quantitation Results Report (Not Reviewed)

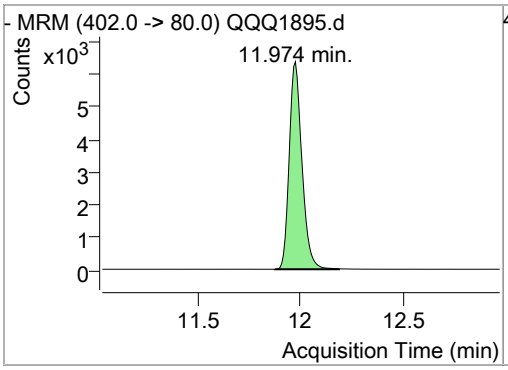
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	4.9544	11.85	-0.07	93915	363.0 -> 168.9	21.1	18.3	27.5

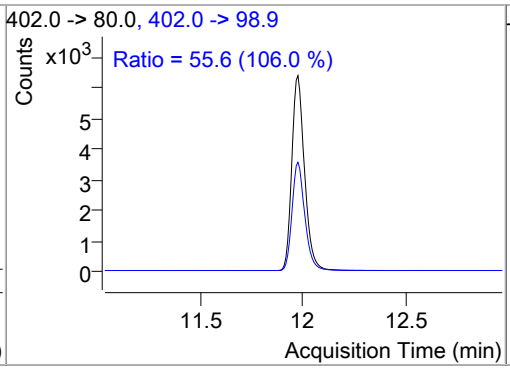


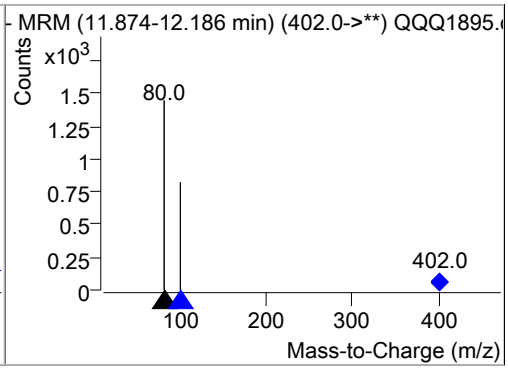




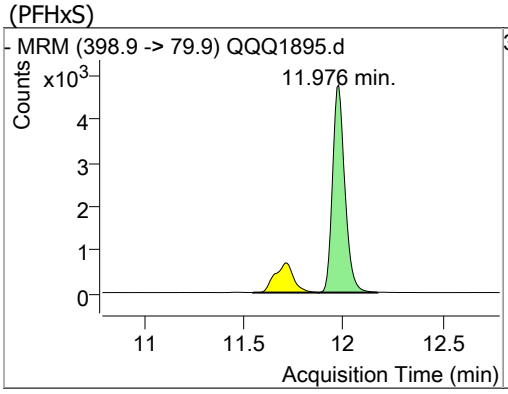
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.6045	11.97	-0.07	27218	402.0 -> 98.9	55.6	42.0	62.9

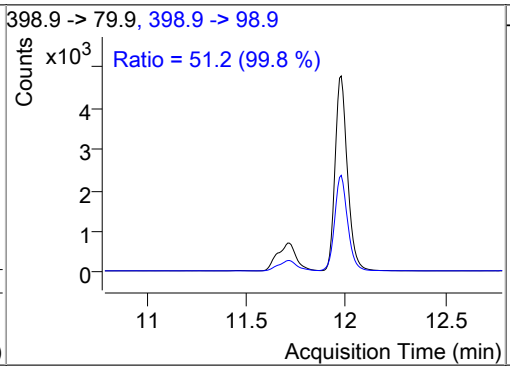


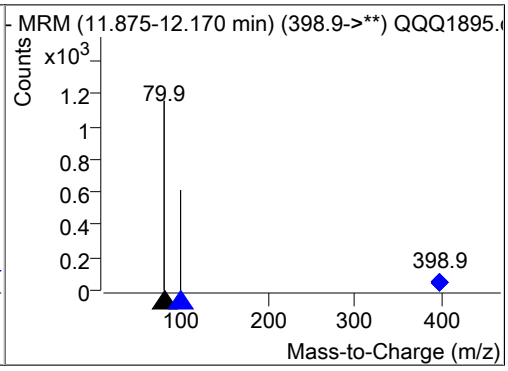




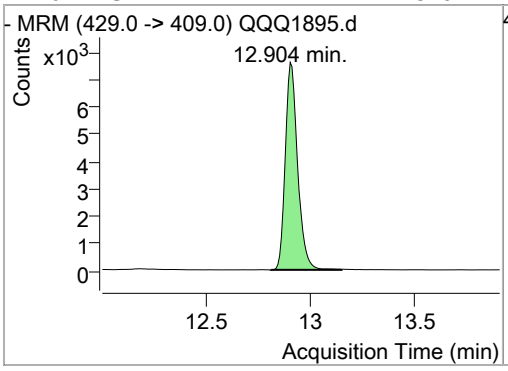
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.6240	11.98	-0.07	20419	398.9 -> 98.9	51.2	41.0	61.5

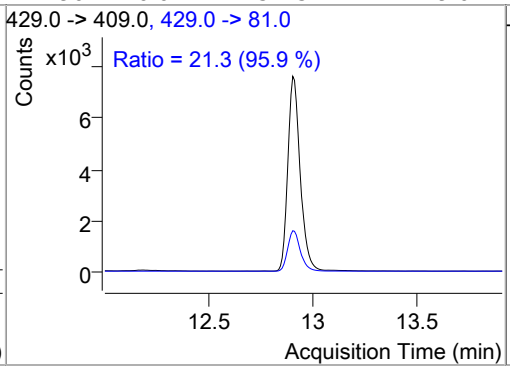


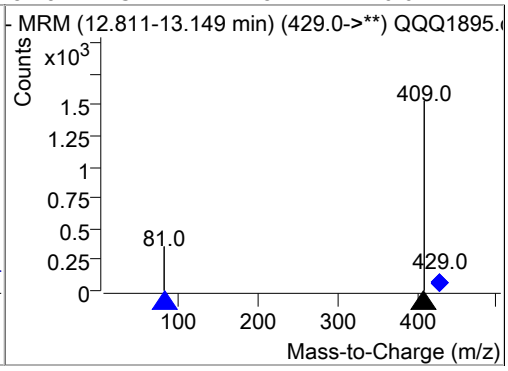




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.5404	12.90	-0.07	31132	429.0 -> 81.0	21.3	17.8	26.6

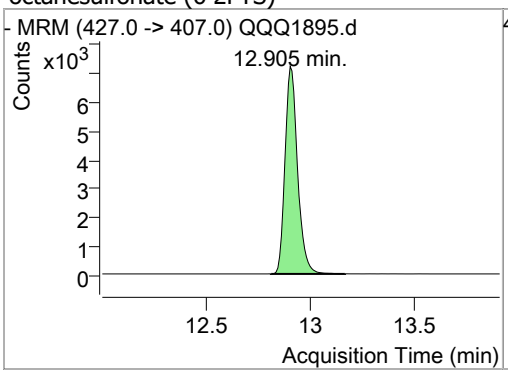


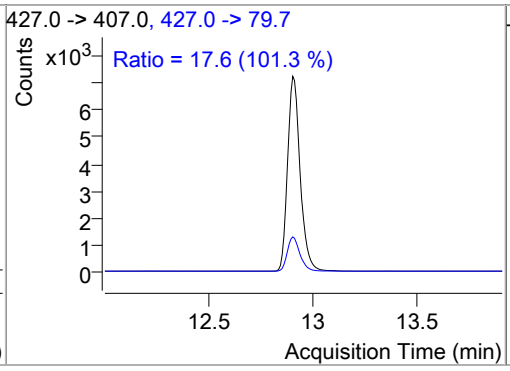


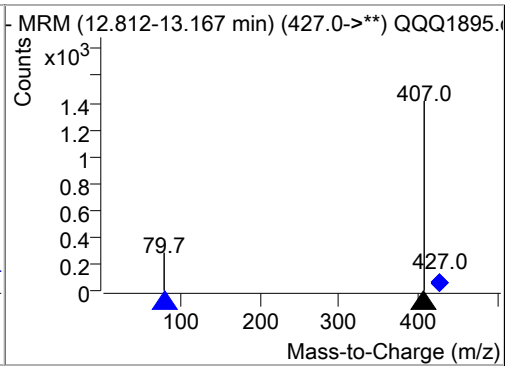


Quantitation Results Report (Not Reviewed)

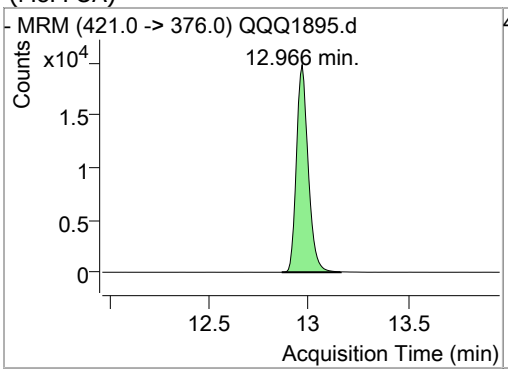
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.3323	12.90	-0.07	30072	427.0 -> 79.7	17.6	13.9	20.8

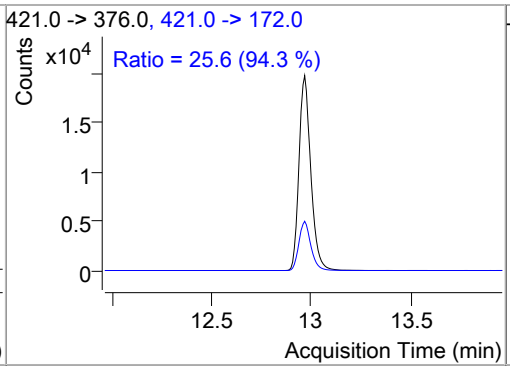


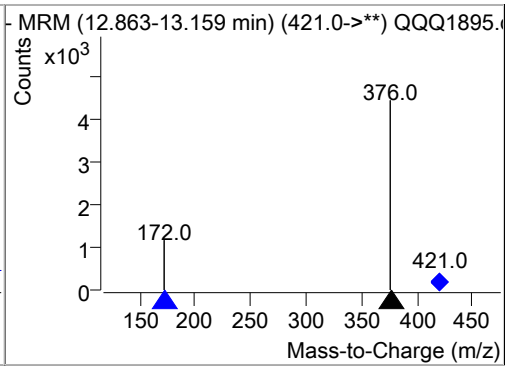




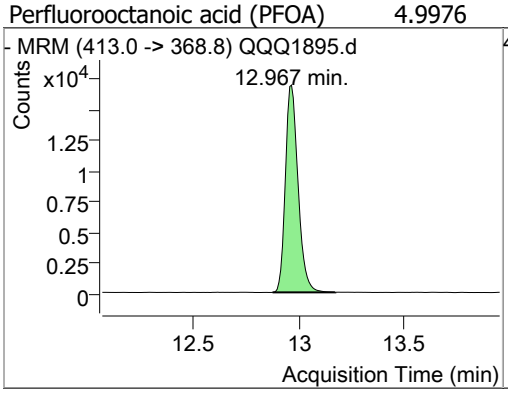
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.0256	12.97	-0.06	81218	421.0 -> 172.0	25.6	21.7	32.6

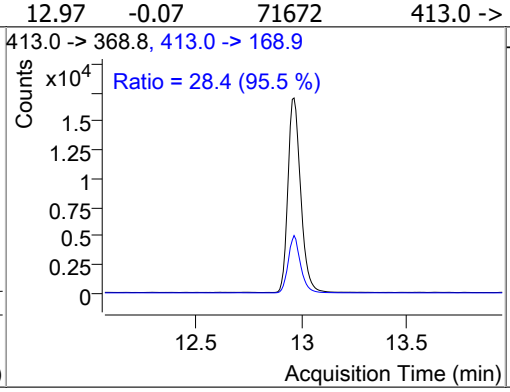


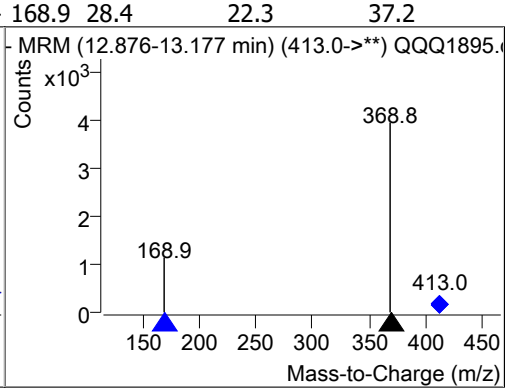




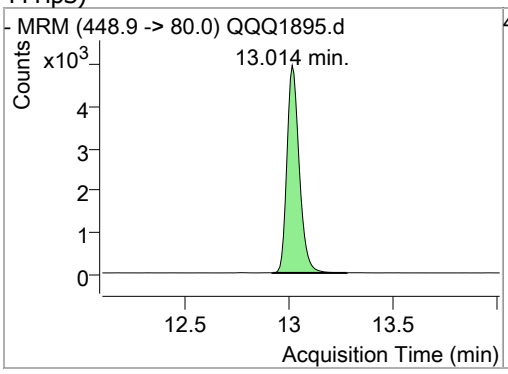
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.9976	12.97	-0.07	71672	413.0 -> 168.9	28.4	22.3	37.2

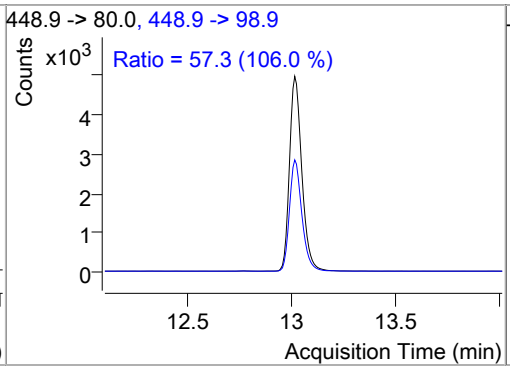


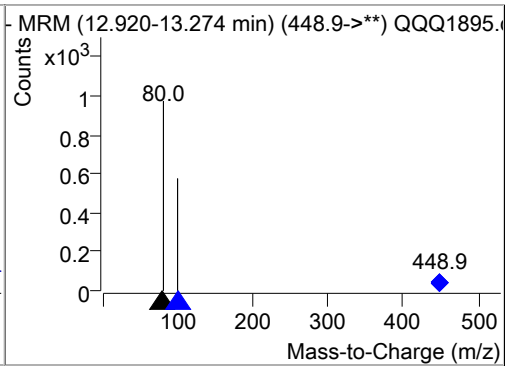




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	4.8498	13.01	-0.07	20245	448.9 -> 98.9	57.3	43.3	64.9

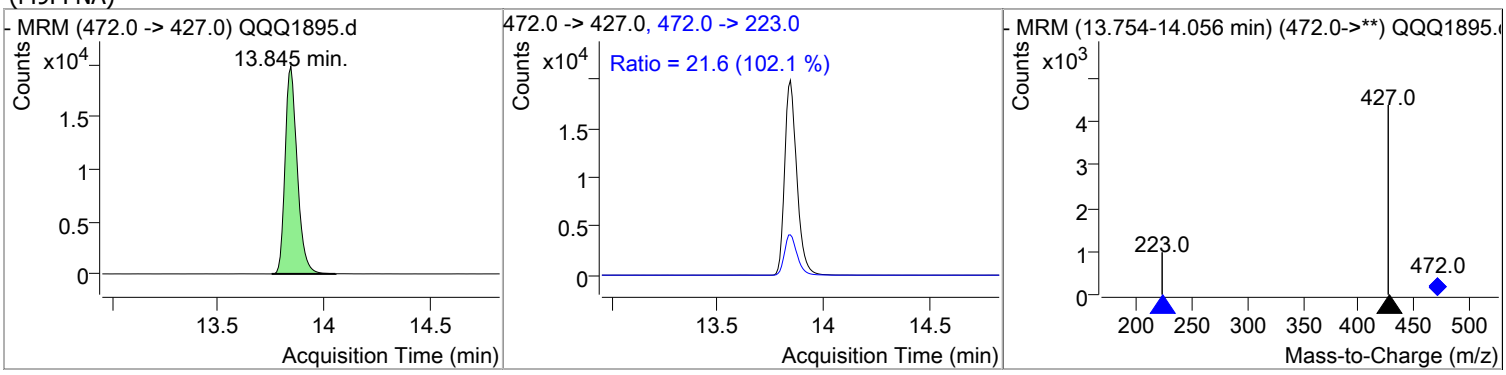




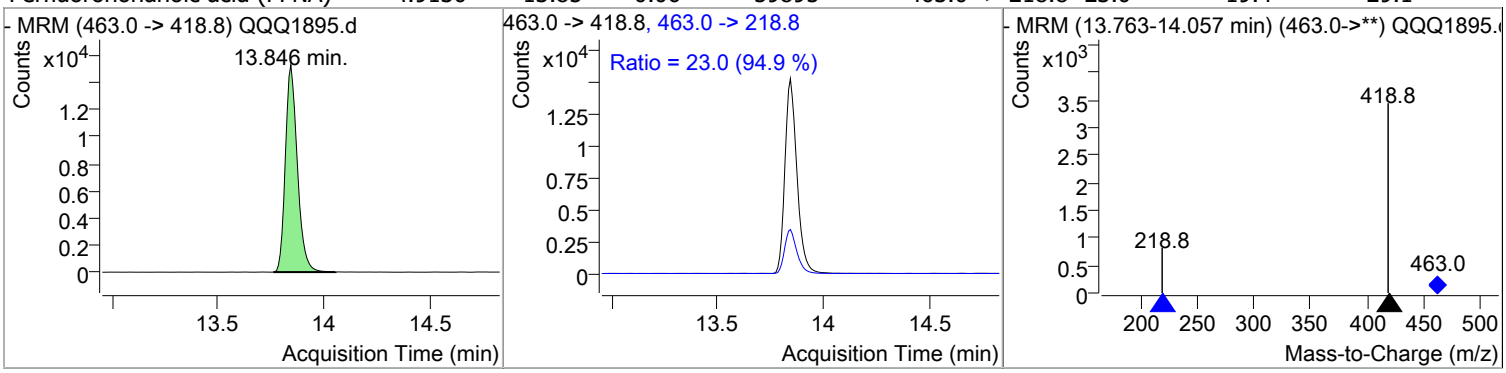


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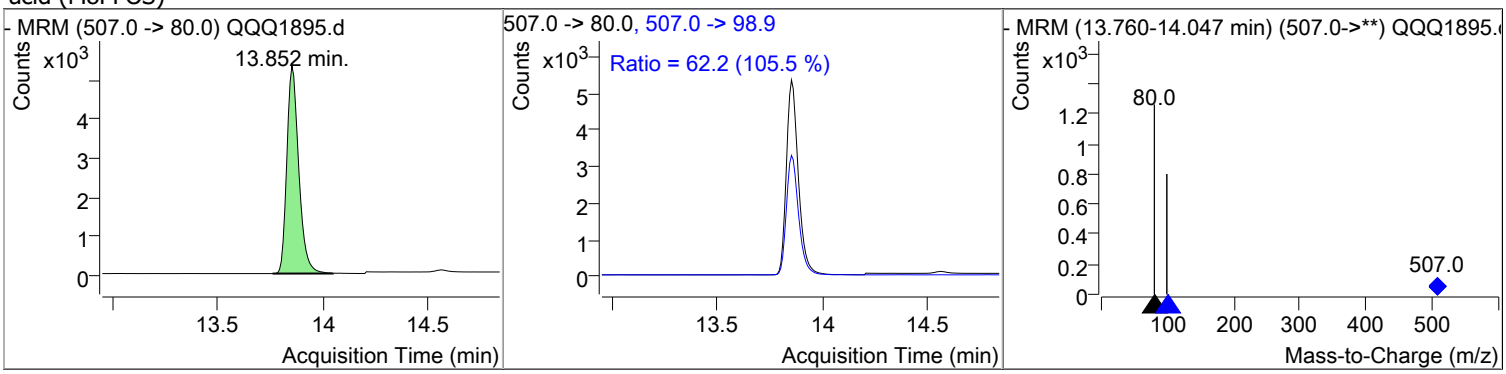
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	4.7488	13.85	-0.06	78798	472.0 -> 223.0	21.6	16.9	25.4



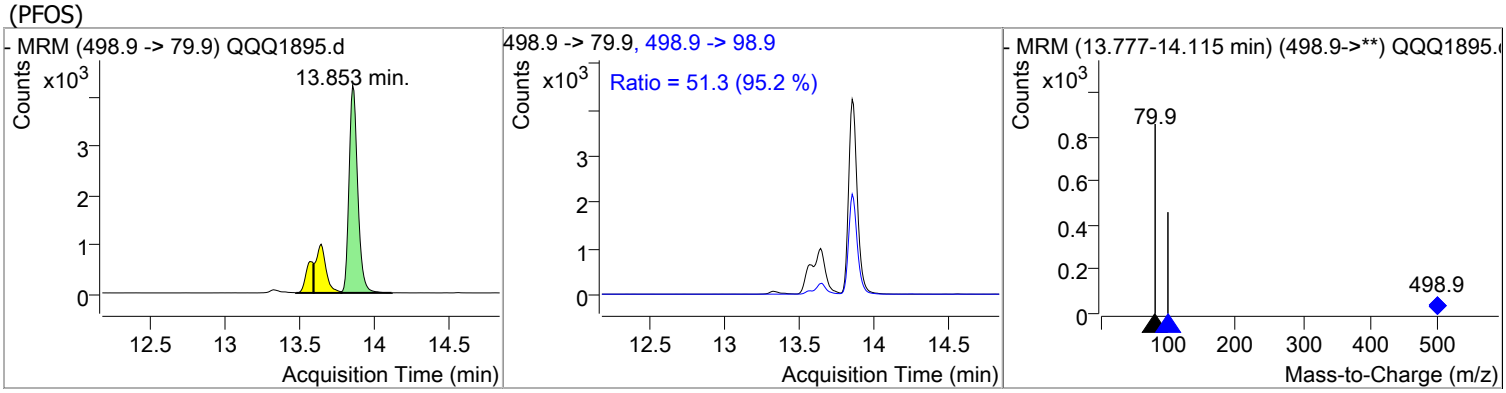
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	4.9130	13.85	-0.06	59895	463.0 -> 218.8	23.0	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.5961	13.85	-0.06	20925	507.0 -> 98.9	62.2	47.2	70.8

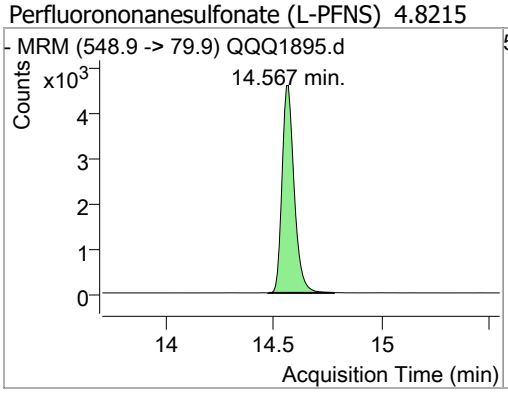


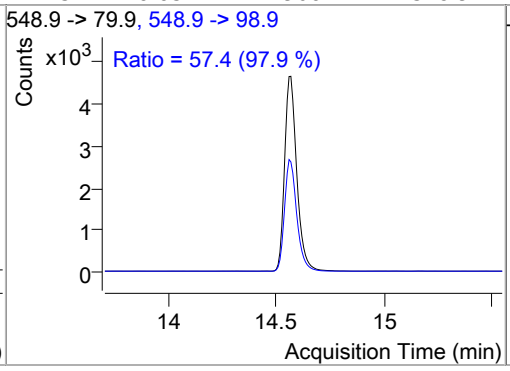
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.3989	13.85	-0.06	16896	498.9 -> 98.9	51.3	43.1	64.6

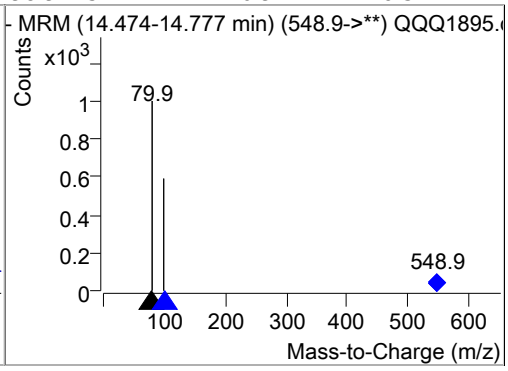


Quantitation Results Report (Not Reviewed)

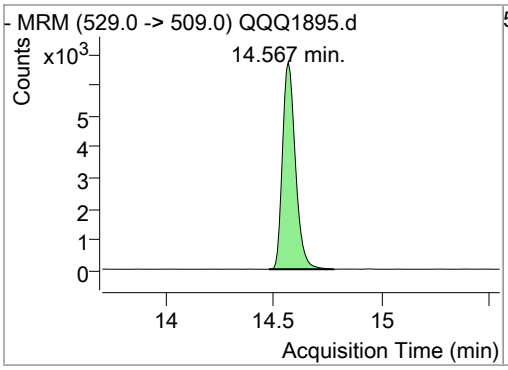
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.8215	14.57	-0.05	17960	548.9 -> 98.9	57.4	46.9	70.3

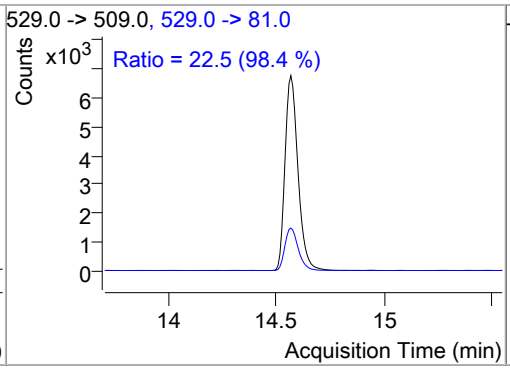


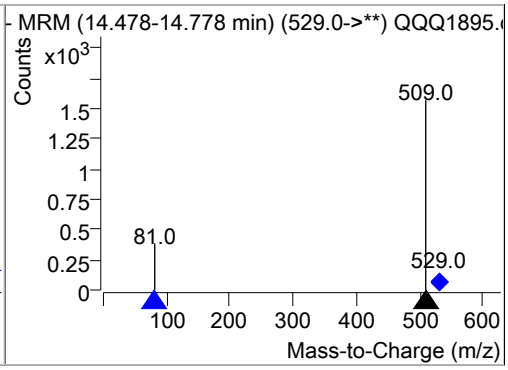




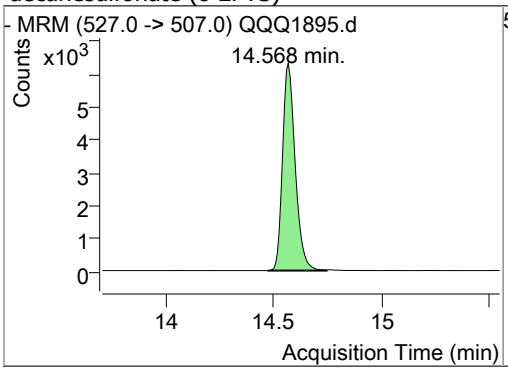
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.9881	14.57	-0.05	27899	529.0 -> 81.0	22.5	18.3	27.4

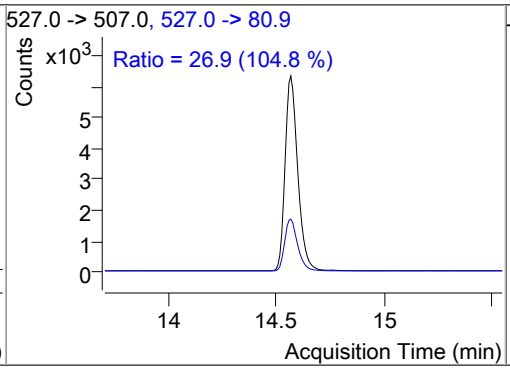


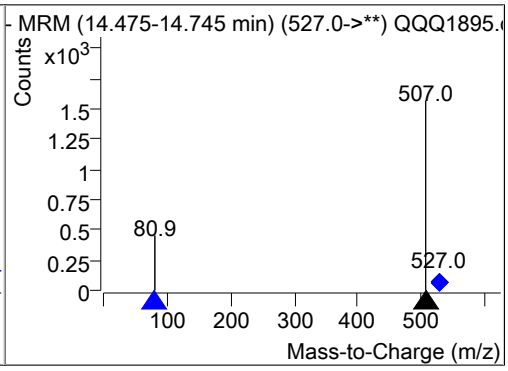




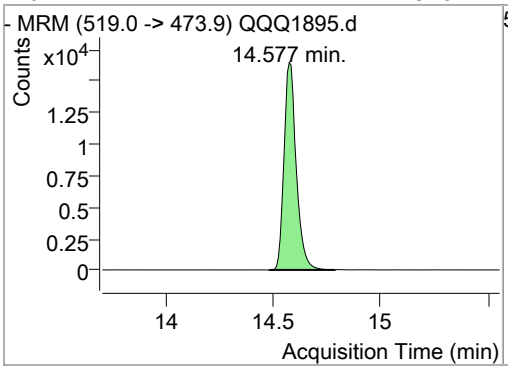
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	5.1824	14.57	-0.05	25621	527.0 -> 80.9	26.9	20.6	30.9

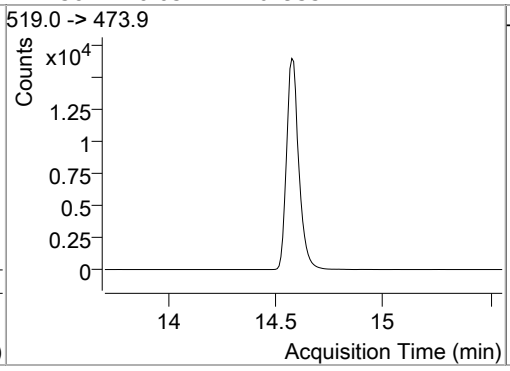


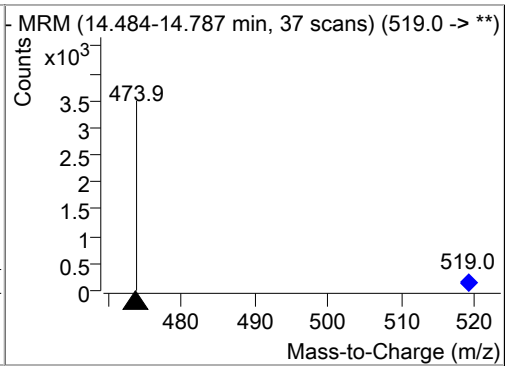




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	4.9184	14.58	-0.05	64935				

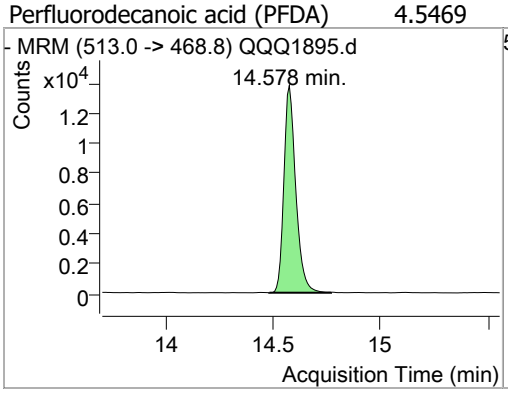


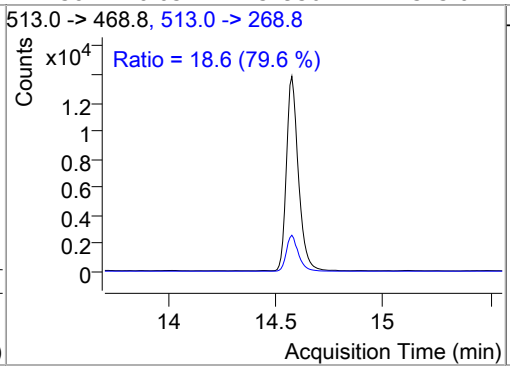


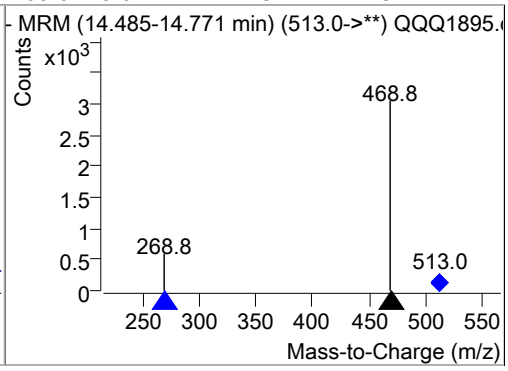


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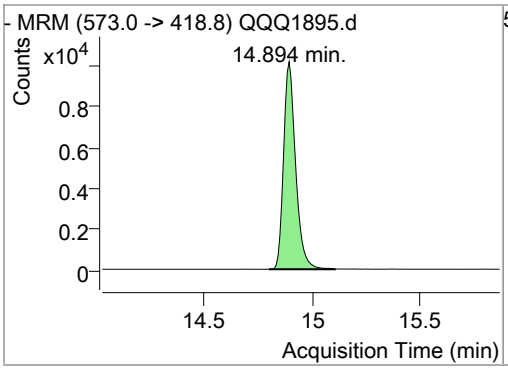
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.5469	14.58	-0.05	52956	513.0 -> 268.8	18.6	17.5	29.1

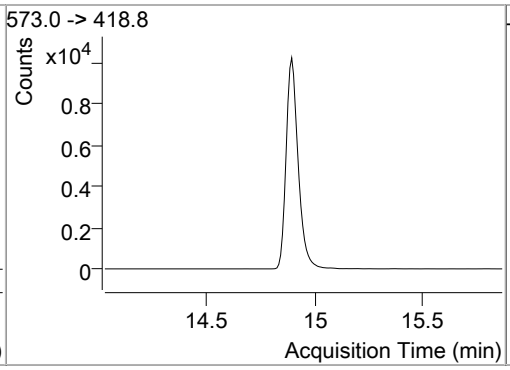


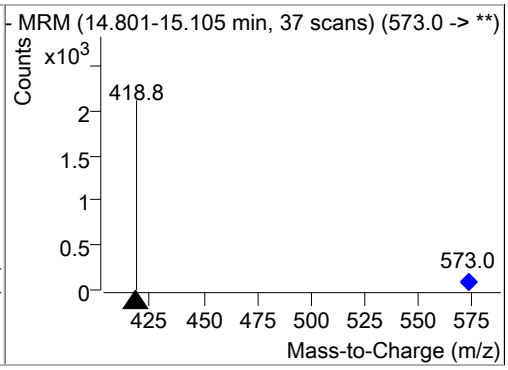




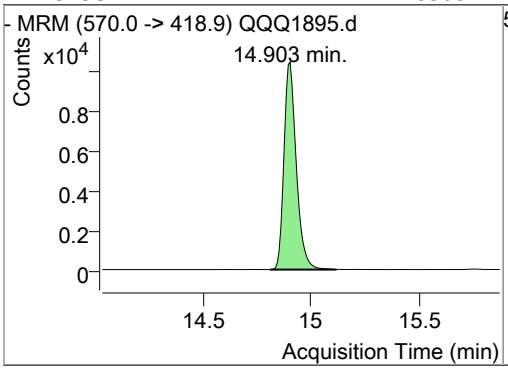
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.8324	14.89	-0.04	39128				

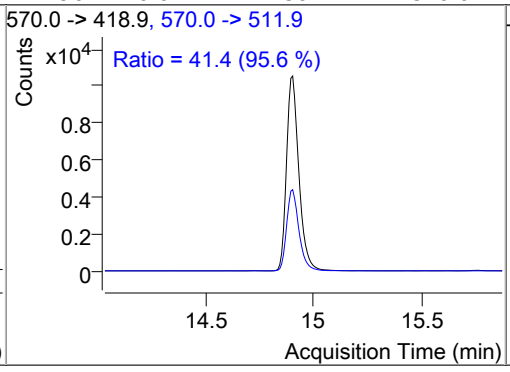


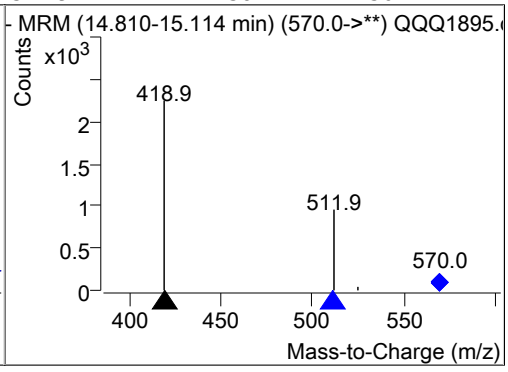




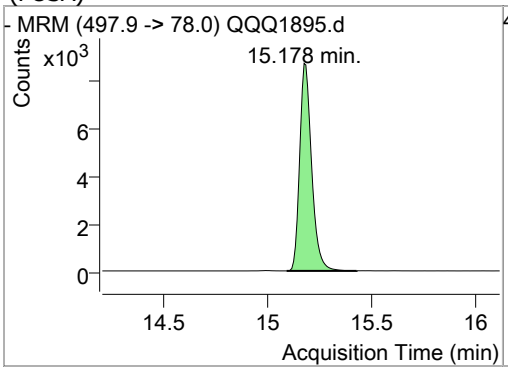
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.8568	14.90	-0.04	41587	570.0 -> 511.9	41.4	30.4	56.4

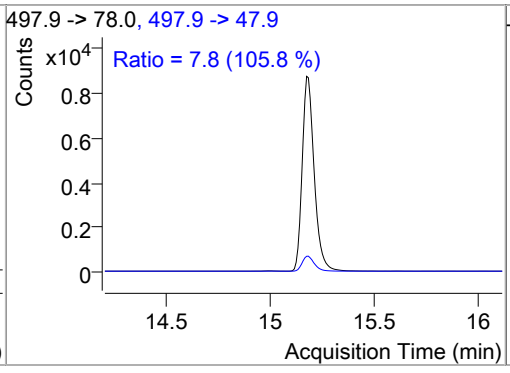


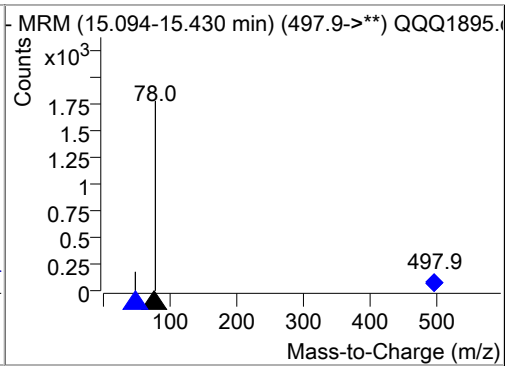




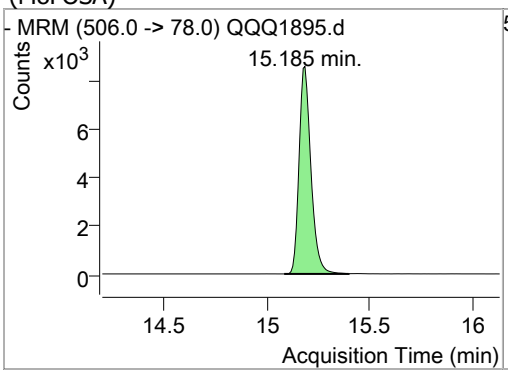
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	4.8699	15.18	-0.01	34898	497.9 -> 47.9	7.8	5.9	8.8

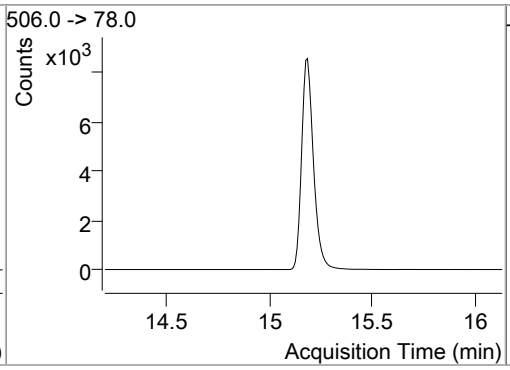


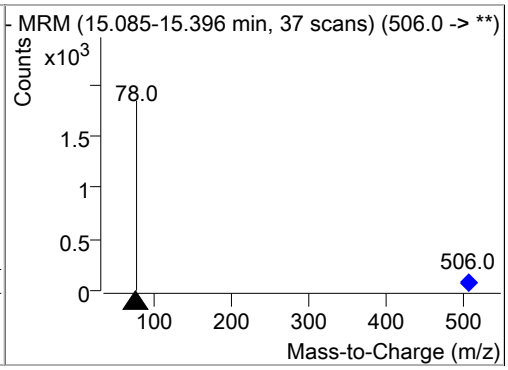




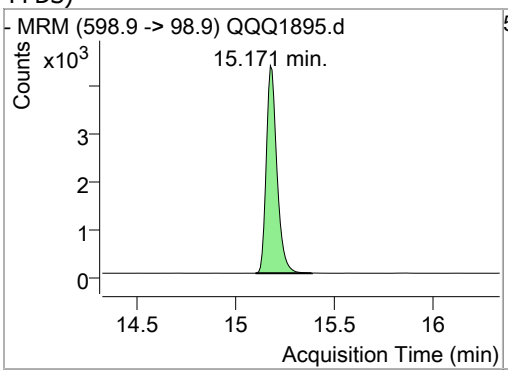
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.9338	15.19	-0.01	33938				

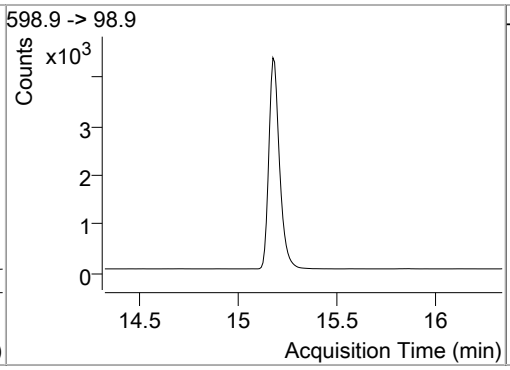


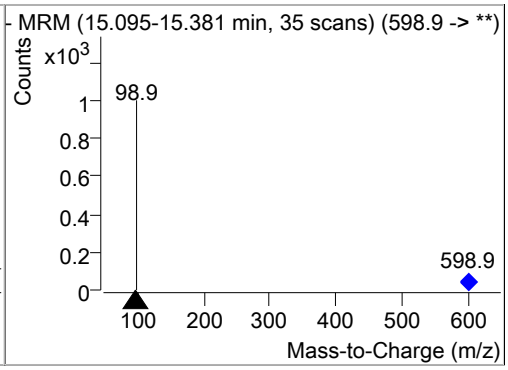




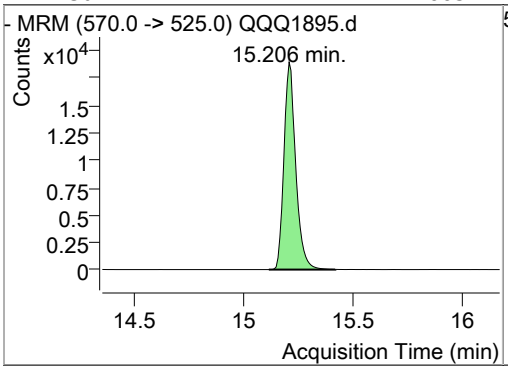
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.7091	15.17	-0.04	16231				

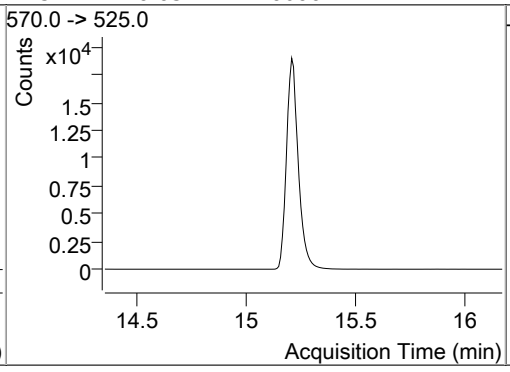


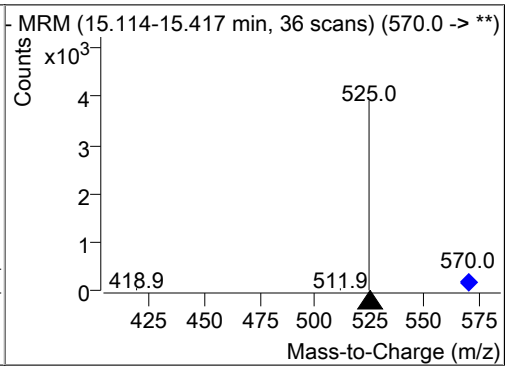




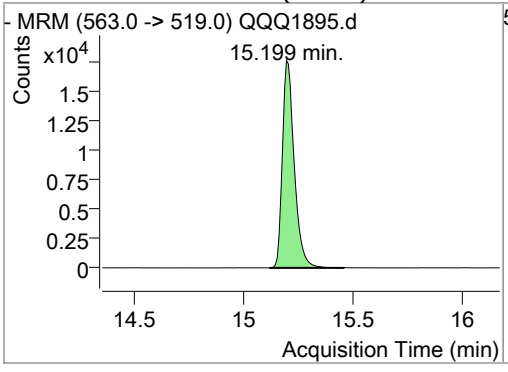
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	4.7003	15.21	-0.03	70600				

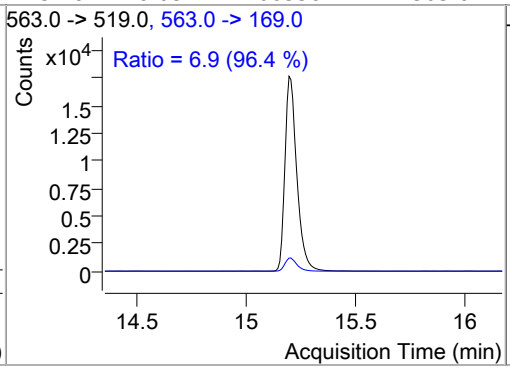


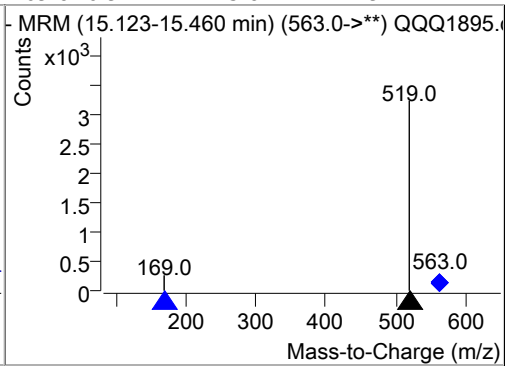




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.7584	15.20	-0.05	66338	563.0 -> 169.0	6.9	5.0	9.2

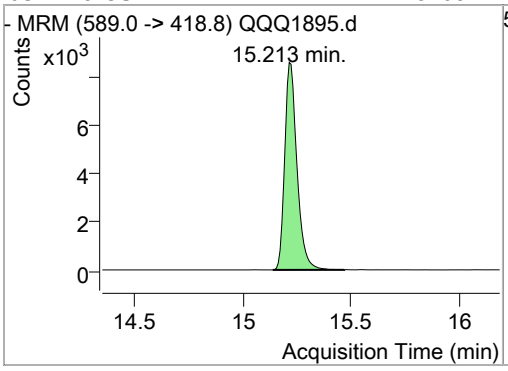


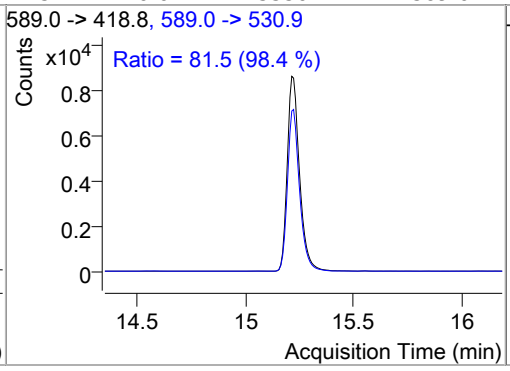


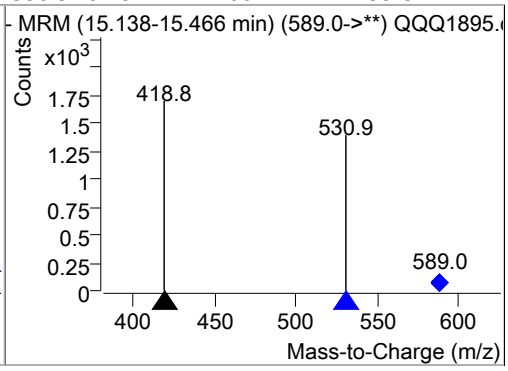


Quantitation Results Report (Not Reviewed)

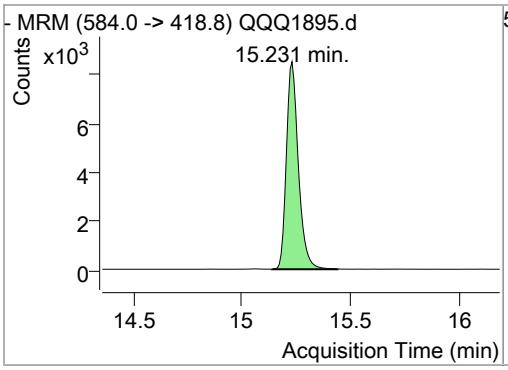
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.8768	15.21	-0.04	33501	589.0 -> 530.9	81.5	66.2	99.3

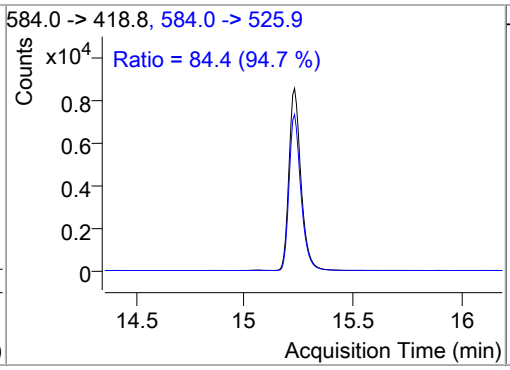


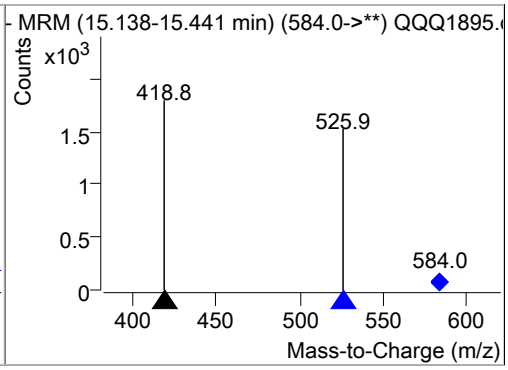




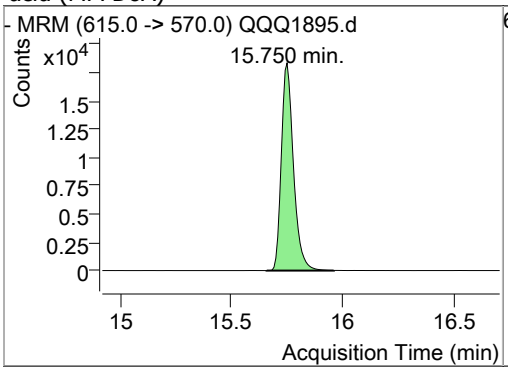
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.8192	15.23	-0.03	32704	584.0 -> 525.9	84.4	71.3	107.0

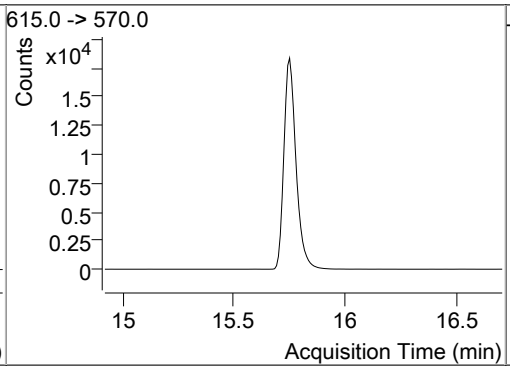


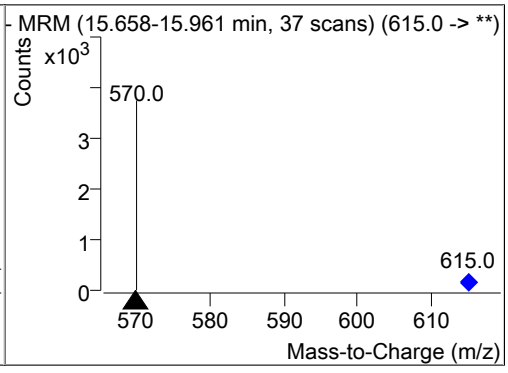




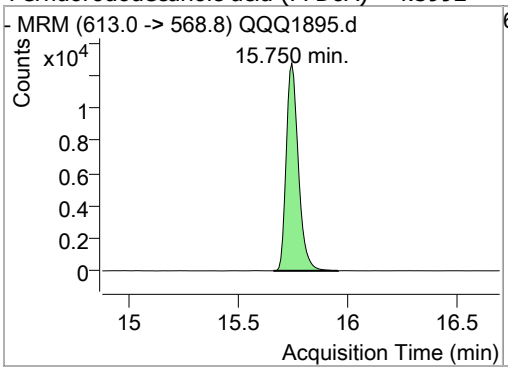
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.4876	15.75	-0.03	69303				

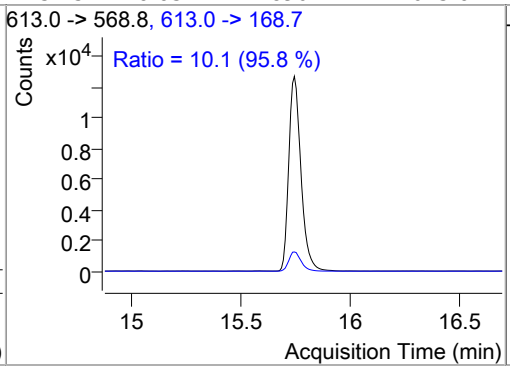


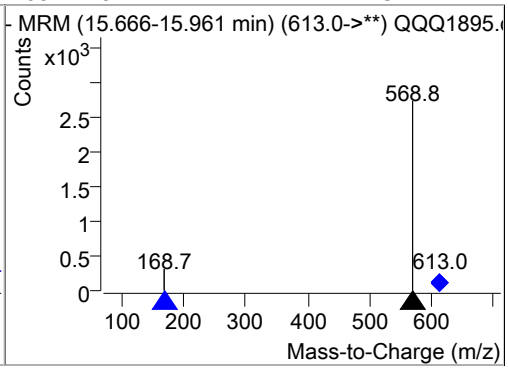




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.5992	15.75	-0.03	48967	613.0 -> 168.7	10.1	7.4	13.7

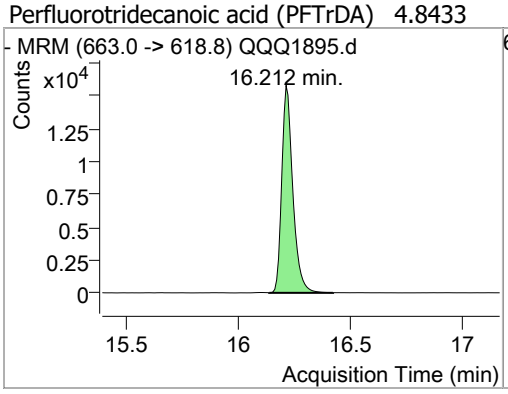


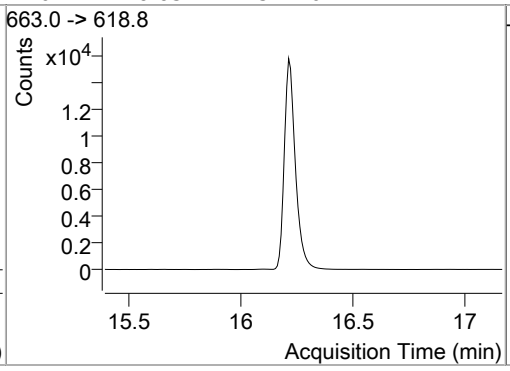


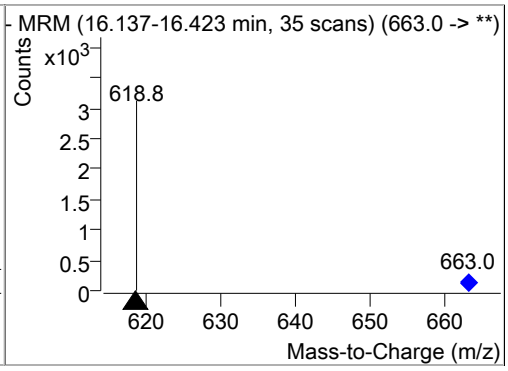


Quantitation Results Report (Not Reviewed)

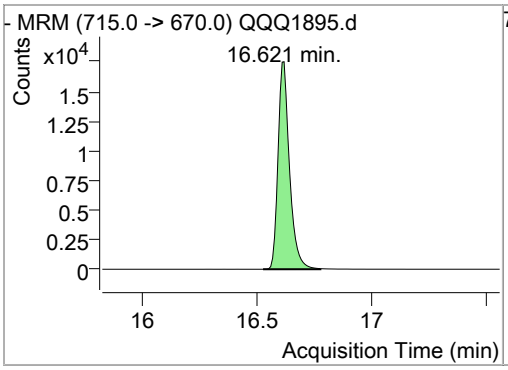
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	4.8433	16.21	-0.03	54216				

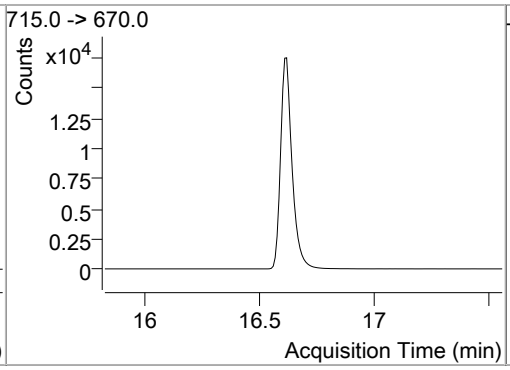


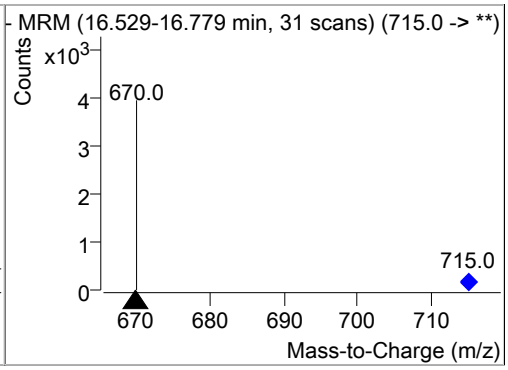




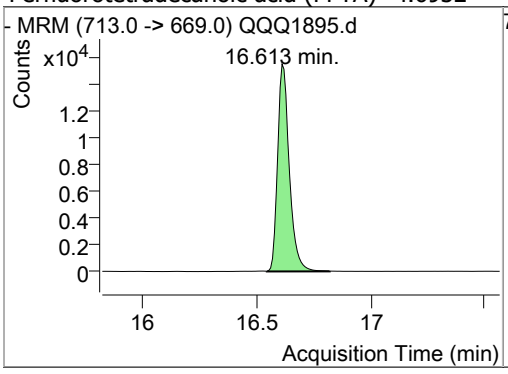
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	4.8262	16.62	-0.02	60848				

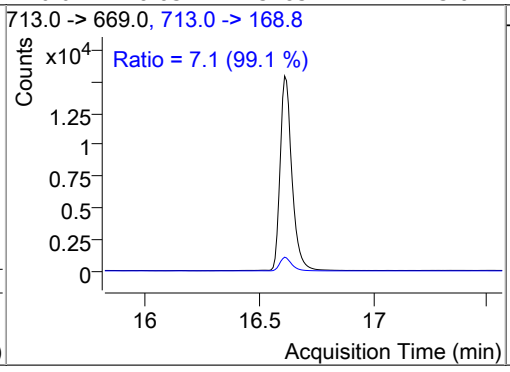


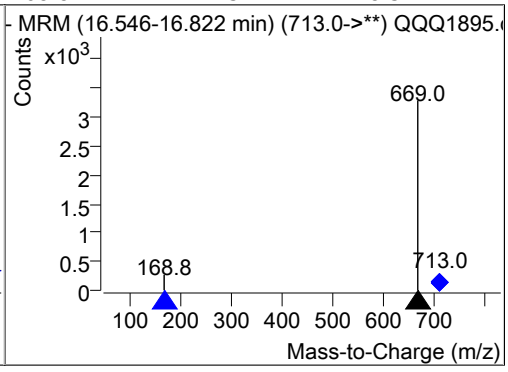




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.6932	16.61	-0.03	54852	713.0 -> 168.8	7.1	5.7	8.5







FORM VII

CONTINUING CALIBRATION CHECK

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	LCQQQ	Calibration:	YI90019
Lab File ID:	QQQ1966.d	Calibration Date:	09/27/19 12:03
Sequence:	Y9J0727	Injection Date:	10/04/19
Lab Sample ID:	Y9J0727-CCV1	Injection Time:	15:38

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	Q	4.80	6.03	0.24826	0.262746		25.7	30
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	4.75	5.18	0.2993209	0.3267334		9.2	30
N-EtFOSAA	A	5.00	5.46	0.2927228	0.3199149		9.3	30
N-MeFOSAA	A	5.00	5.38	0.3693488	0.3977311		7.7	30
Perfluoro-1-decanesulfonic acid (PFDS)	A	4.82	5.19	0.1486088	0.1601187		7.7	30
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	4.98	5.27	0.1801378	0.1906637		5.8	30
Perfluoro-1-octanesulfonamide (FOSA)	A	5.00	5.30	0.3091035	0.327729		6.0	30
Perfluorobutanesulfonic acid (PFBS)	A	4.42	4.68	0.3283685	0.3479024		5.9	30
Perfluorodecanoic acid (PFDA)	A	5.00	5.09	0.5023701	0.5113873		1.8	30
Perfluorododecanoic acid (PFDoA)	A	5.00	5.54	0.4592504	0.5087284		10.8	30
Perfluoroheptanoic acid (PFHpA)	A	5.00	5.45	0.8176638	0.891181		9.0	30
Perfluorohexanesulfonic acid (PFHxS)	A	3.70	3.92	0.2430381	0.2573687		5.9	30
Perfluorohexanoic acid (PFHxA)	A	5.00	5.05	1.109852	1.120174		0.9	30
Perfluoro-n-butanoic acid (PFBA)	A	5.00	5.40	0.7530296	0.8129998		8.0	30
Perfluorononanoic acid (PFNA)	A	4.80	5.49	0.5258608	0.6019114		14.5	30
Perfluorooctanesulfonic acid (PFOS)	A	3.65	3.77	0.2135379	0.2213761		3.7	30
Perfluorooctanoic acid (PFOA)	A	5.00	5.37	0.6186046	0.6638899		7.3	30
Perfluoropentanoic acid (PFPeA)	A	5.00	5.21	1.122031	1.169253		4.2	30
Perfluorotetradecanoic acid (PFTA)	A	5.00	5.26	0.5041394	0.5302513		5.2	30
Perfluorotridecanoic acid (PFTrDA)	A	5.00	5.33	0.4828499	0.5149511		6.6	30
Perfluoroundecanoic acid (PFUnA)	A	5.00	4.92	0.6013559	0.591829		-1.6	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Data File	QQQ1966.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 3:38:13 PM
Sample Name	SEQ-CCV1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

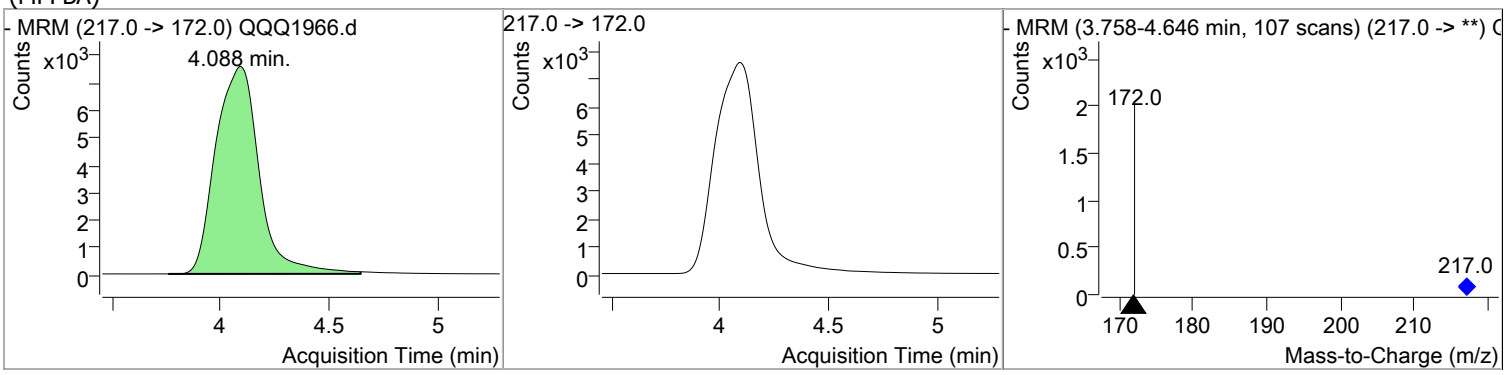
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.940	417.0 -> 372.0	234864	10.0000	ng/ml	-0.094
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.088	217.0 -> 172.0	105785	5.2737	ng/ml	-0.100
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.74%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	155613	5.1841	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.84%		
M3PFBS	8.743	302.0 -> 79.9	41493	4.8468	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.47%		
M2-4-2FTS	10.174	329.0 -> 309.0	59608	5.0611	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.61%		
M5PFHxA	10.320	318.0 -> 273.0	152979	5.0632	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.63%		
M4PFHpA	11.827	367.0 -> 322.0	39115	5.9591	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 59.59%		
M3PFHxS	11.957	402.0 -> 80.0	29721	4.9629	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.63%		
M2-6-2FTS	12.887	429.0 -> 409.0	39026	5.6181	ng/ml	-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 56.18%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.939	421.0 -> 376.0	90312	5.5161	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 55.16%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.820	472.0 -> 427.0	91474	5.4416	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 54.42%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	23623	5.1217	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.22%		
M2-8-2FTS	14.550	529.0 -> 509.0	33241	6.0186	ng/ml	-0.068
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 60.19%		
M6PFDA	14.568	519.0 -> 473.9	70601	5.2785	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.78%		
d3-N-MeFOSAA	14.877	573.0 -> 418.8	45796	5.5828	ng/ml	-0.060
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 55.83%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.177	506.0 -> 78.0	37587	5.3937	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 53.94%		
M7PFUdA	15.190	570.0 -> 525.0	77077	5.0652	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.65%		
d5-N-EtFOSAA	15.205	589.0 -> 418.8	38003	5.4608	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 54.61%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	84956	5.4302	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 54.30%		
M2PFTeDA	16.621	715.0 -> 670.0	71213	5.5754	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 55.75%		

Target Compounds	QValue

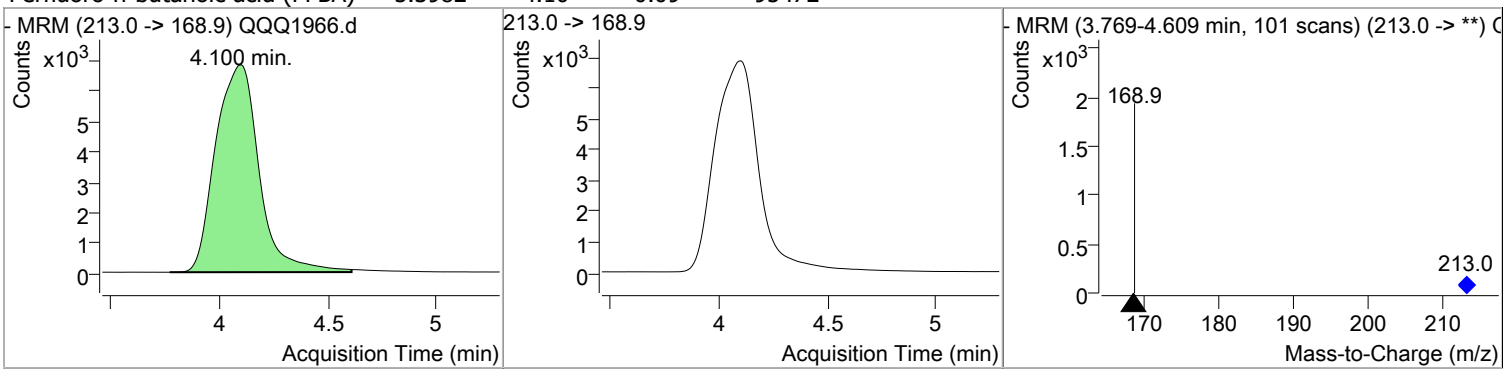
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.100	213.0 -> 168.9	95472	5.3982	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.040	263.0 -> 219.0	137308	5.2104	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	36116	4.6807	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.176	327.0 -> 307.0	50495	5.1881	ng/ml	100
Perfluorohexanoic acid (PFHxA)	10.322	313.0 -> 268.9	131544	5.0465	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.616	348.9 -> 79.9	33086	4.9033	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.828	363.0 -> 318.8	104653	5.4496	ng/ml	96
Perfluorohexanesulfonic acid (PFHxS)	11.951	398.9 -> 79.9	22365	3.9182	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	36451	5.1834	ng/ml	98
Perfluorooctanoic acid (PFOA)	12.941	413.0 -> 368.8	77962	5.3660	ng/ml	99
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	22300	5.2733	ng/ml	97
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	67856	5.4942	ng/ml	98
Perfluorooctanesulfonic acid (PFOS)	13.836	498.9 -> 79.9	18978	3.7683	ng/ml	99
Perfluorononanesulfonate (L-PFNS)	14.542	548.9 -> 79.9	19354	5.1284	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.551	527.0 -> 507.0	29621	6.0343	ng/ml	98
Perfluorodecanoic acid (PFDA)	14.560	513.0 -> 468.8	60053	5.0897	ng/ml	89
N-MeFOSAA	14.886	570.0 -> 418.9	46706	5.3842	ng/ml	96
Perfluoro-1-octanesulfonamide (FOSA)	15.178	497.9 -> 78.0	38486	5.3013	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.162	598.9 -> 98.9	18126	5.1910	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.190	563.0 -> 519.0	69500	4.9208	ng/ml	99
N-EtFOSAA	15.214	584.0 -> 418.8	37568	5.4645	ng/ml	97
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	59741	5.5387	ng/ml	98
Perfluorotridecanoic acid (PFTrDA)	16.204	663.0 -> 618.8	60472	5.3324	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	62269	5.2590	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

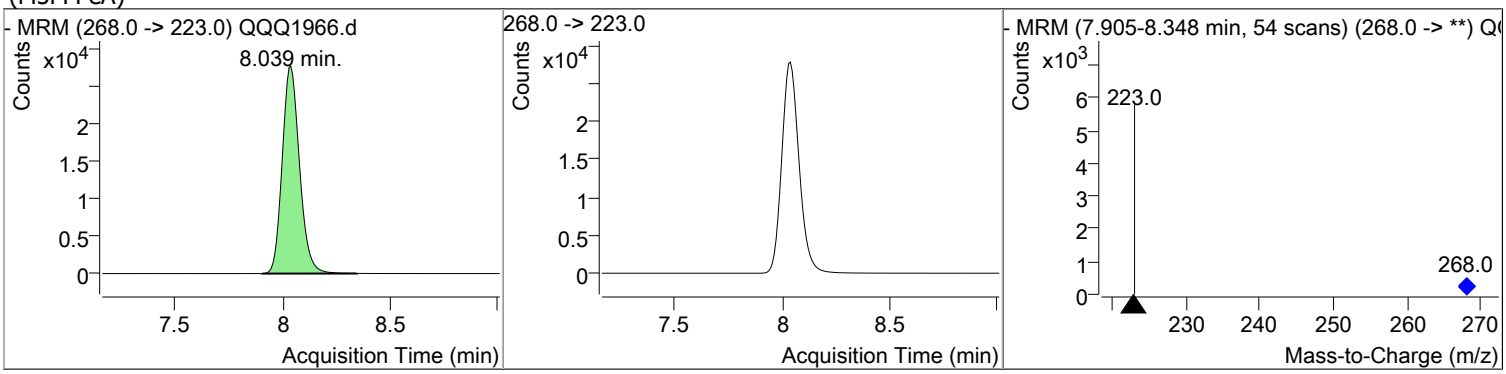
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.2737	4.09	-0.10	105785				



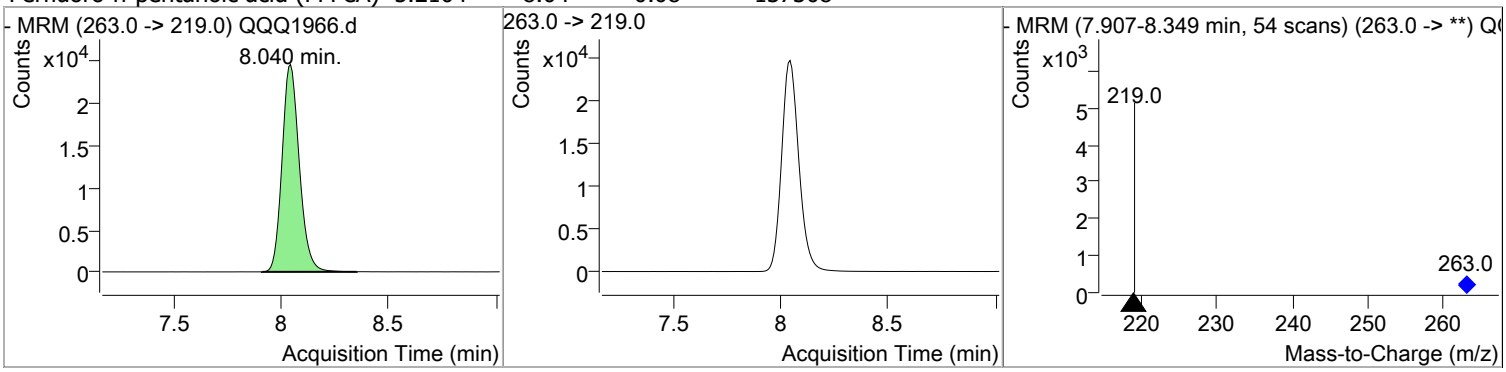
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	5.3982	4.10	-0.09	95472				



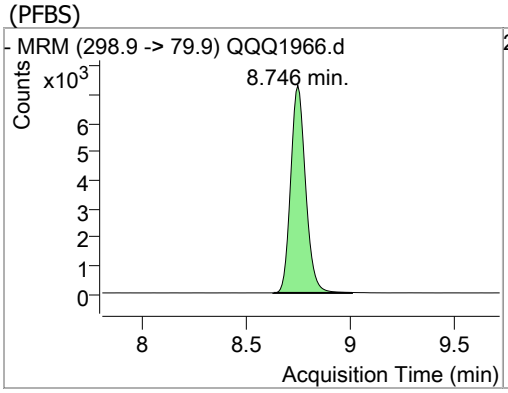
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.1841	8.04	-0.08	155613				

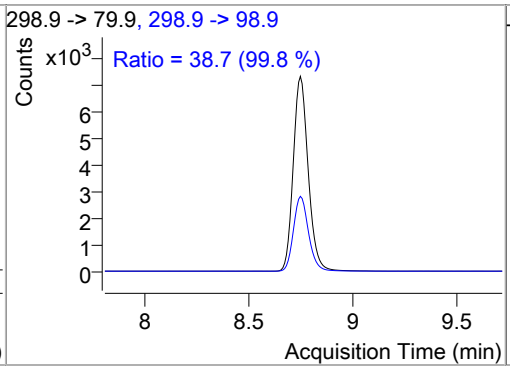


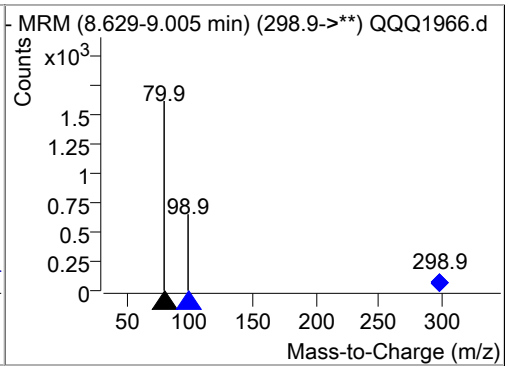
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	5.2104	8.04	-0.08	137308				



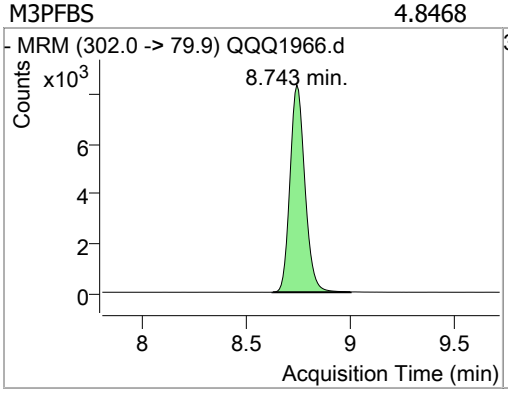
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.6807	8.75	-0.07	36116	298.9 -> 98.9	38.7	31.0	46.5

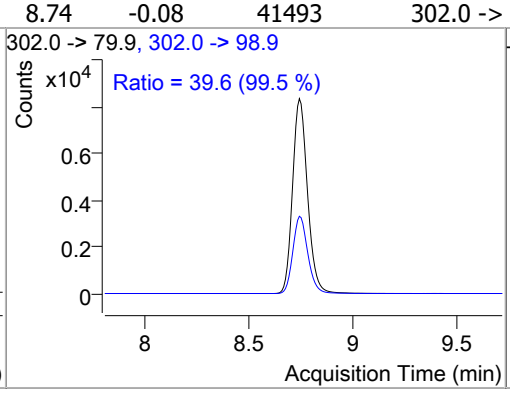


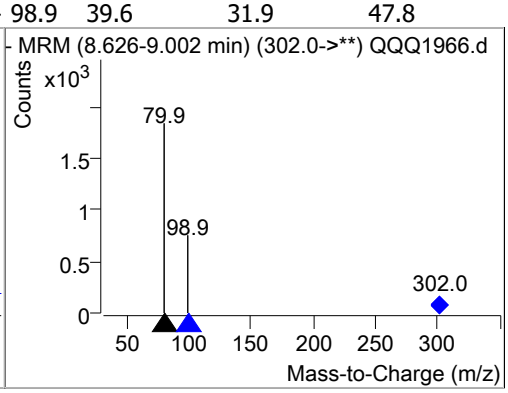




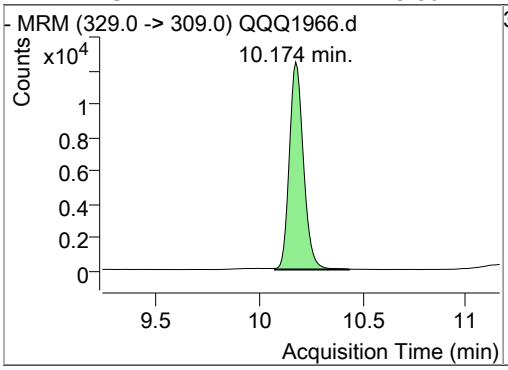
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.8468	8.74	-0.08	41493	302.0 -> 98.9	39.6	31.9	47.8

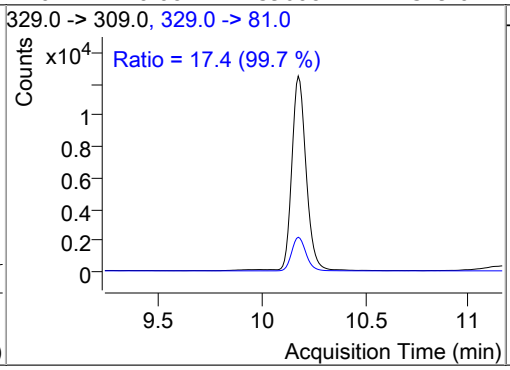


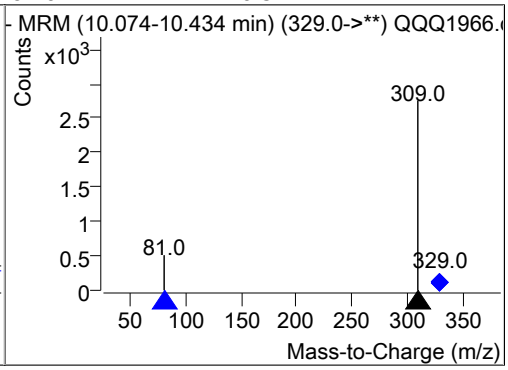




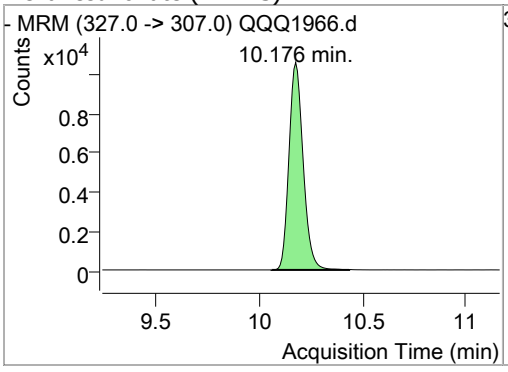
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	5.0611	10.17	-0.08	59608	329.0 -> 81.0	17.4	10.5	24.4

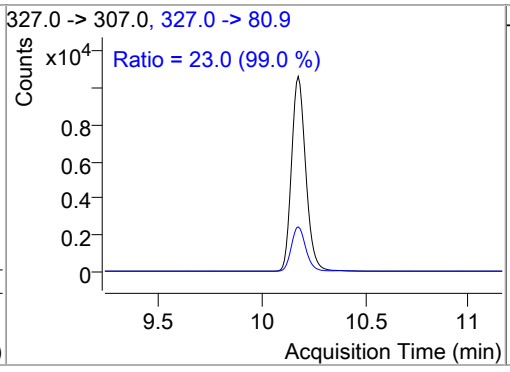


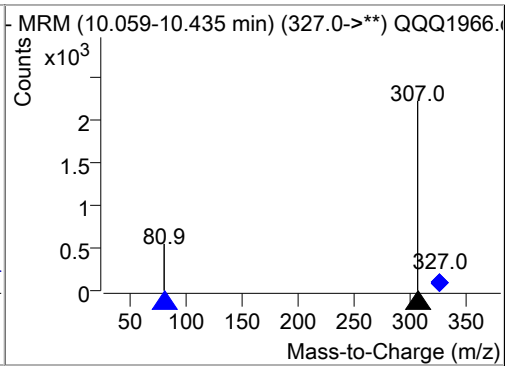




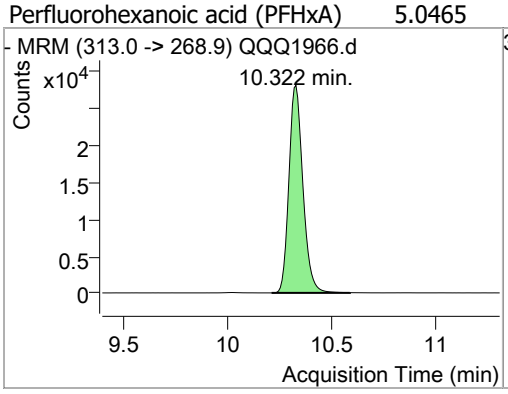
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	5.1881	10.18	-0.08	50495	327.0 -> 80.9	23.0	13.9	32.5

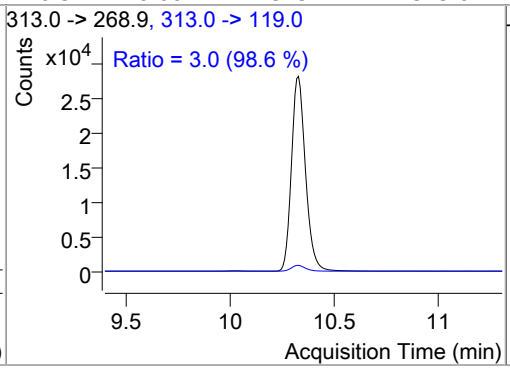


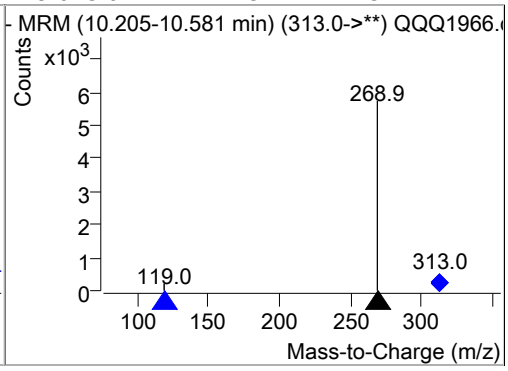




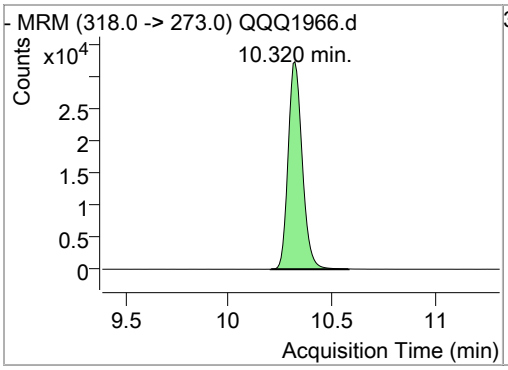
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	5.0465	10.32	-0.08	131544	313.0 -> 119.0	3.0	2.5	3.7

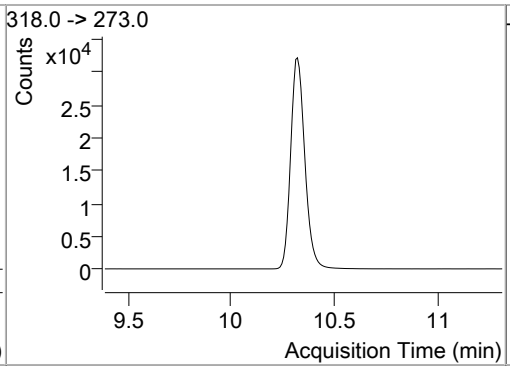


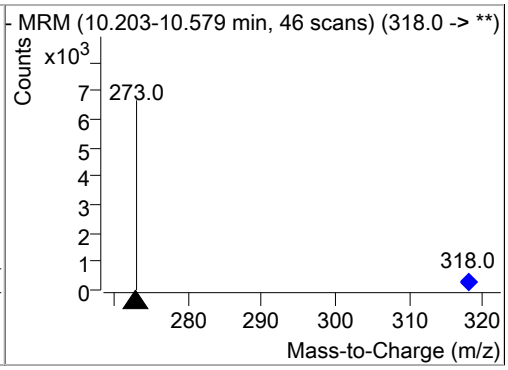




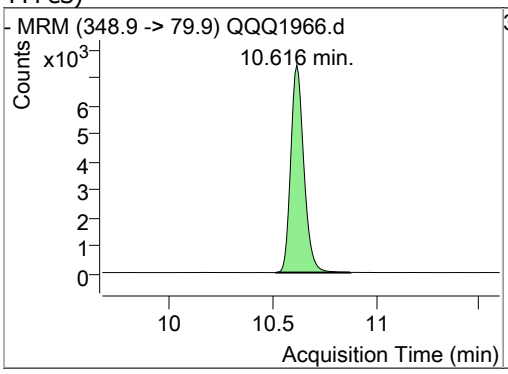
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	5.0632	10.32	-0.08	152979				

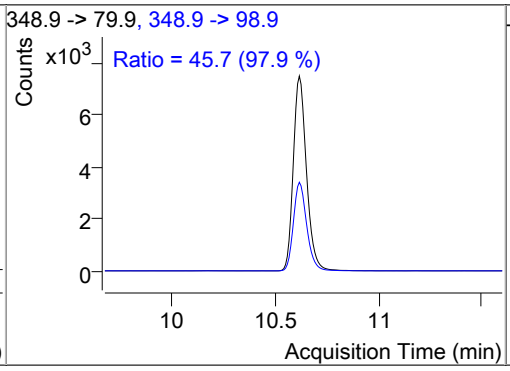


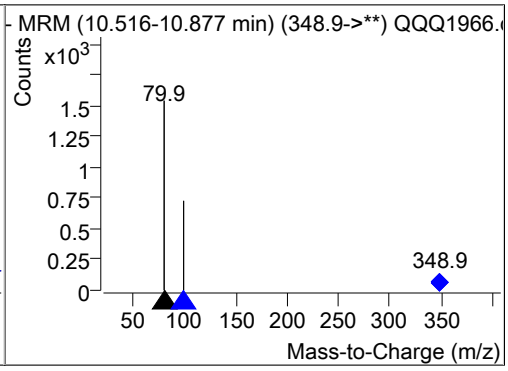




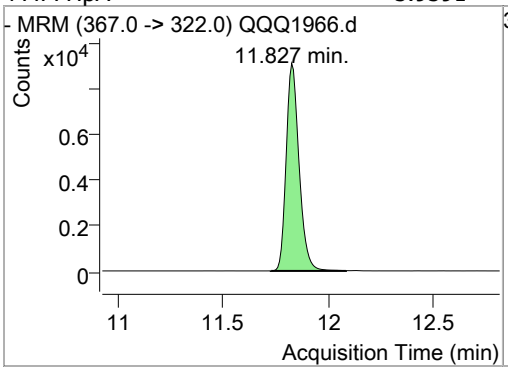
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.9033	10.62	-0.08	33086	348.9 -> 98.9	45.7	37.3	56.0

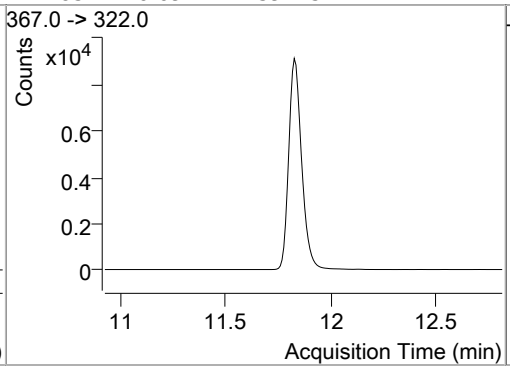


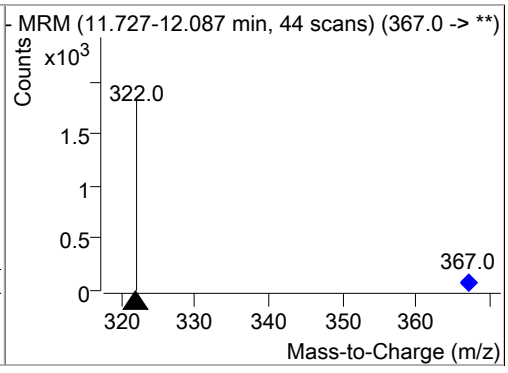




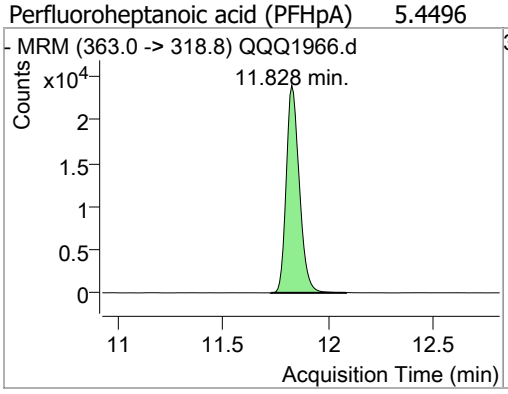
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	5.9591	11.83	-0.09	39115				

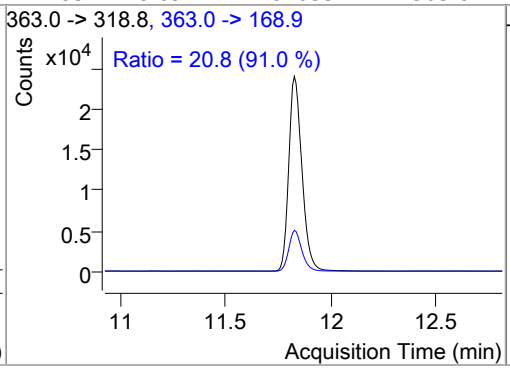


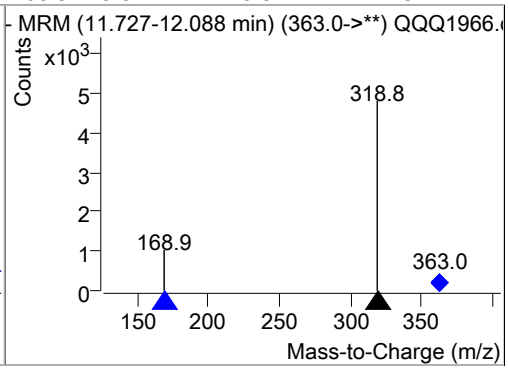




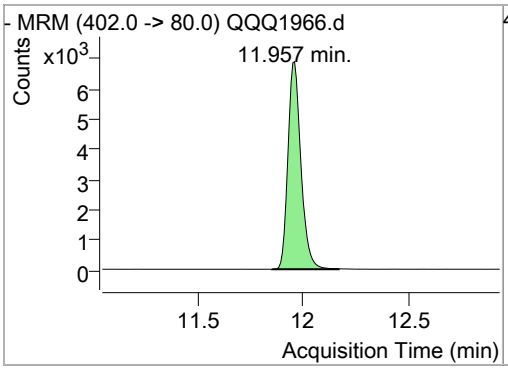
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	5.4496	11.83	-0.09	104653	363.0 -> 168.9	20.8	18.3	27.5

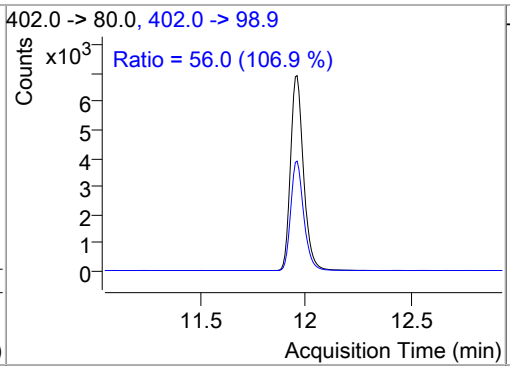


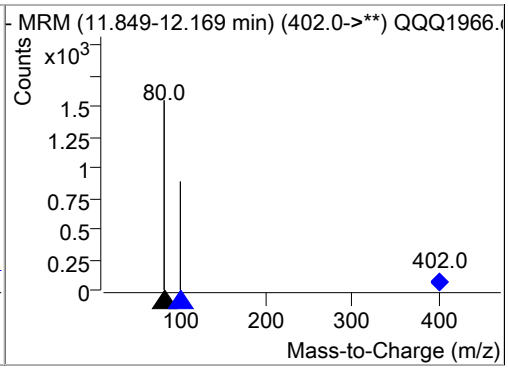




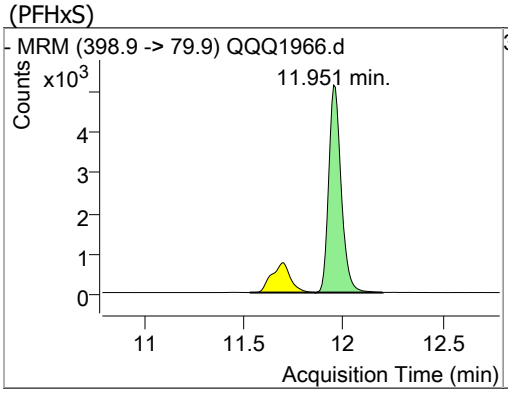
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.9629	11.96	-0.09	29721	402.0 -> 98.9	56.0	42.0	62.9

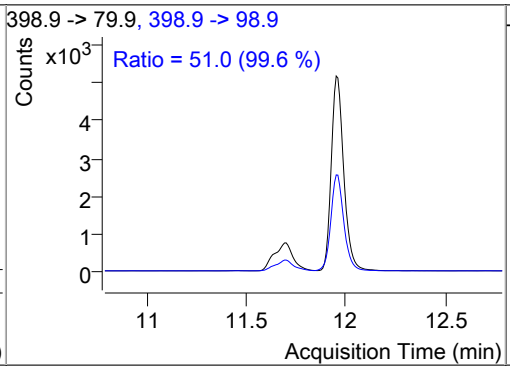


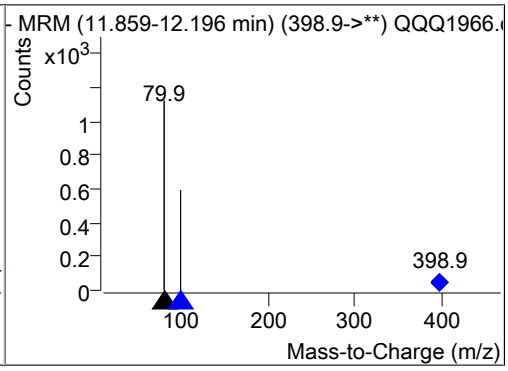




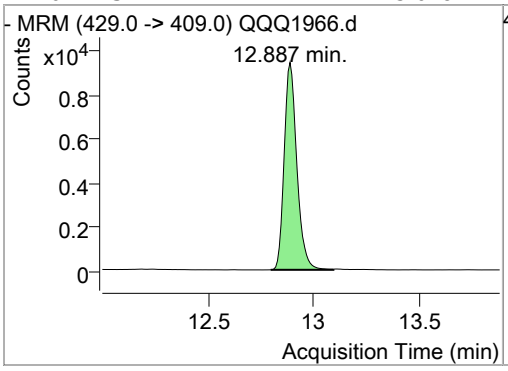
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.9182	11.95	-0.09	22365	398.9 -> 98.9	51.0	41.0	61.5

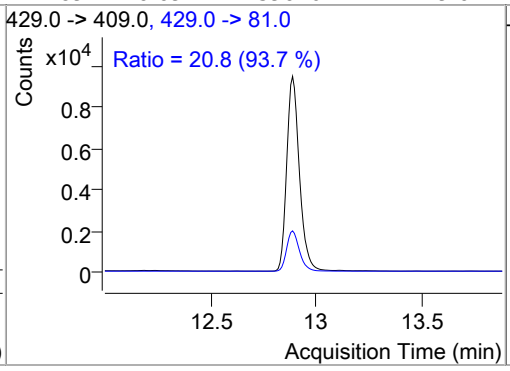


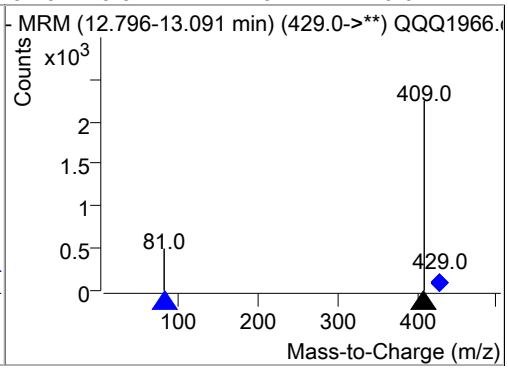




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	5.6181	12.89	-0.09	39026	429.0 -> 81.0	20.8	17.8	26.6

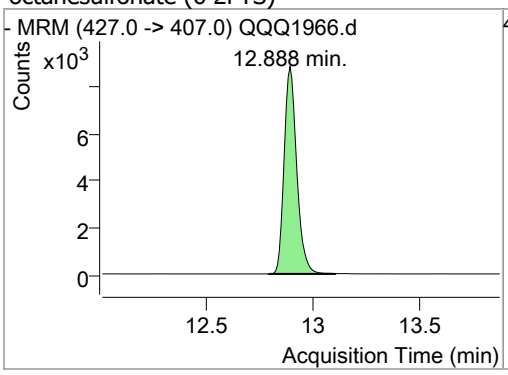


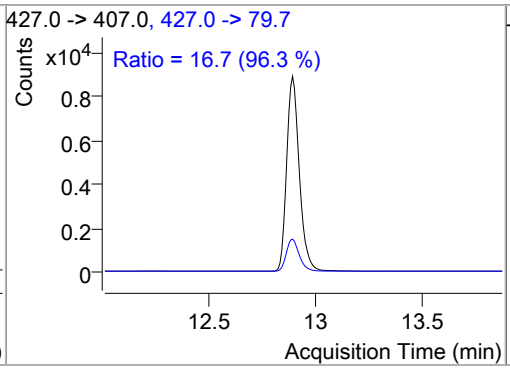


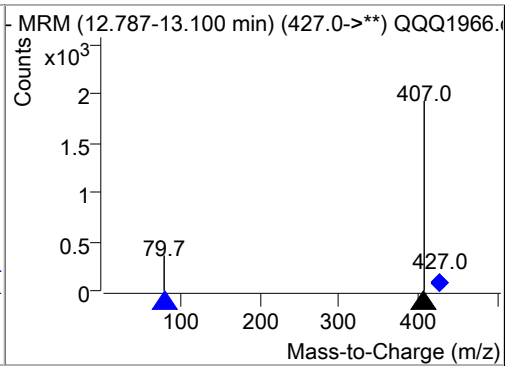


Quantitation Results Report (Not Reviewed)

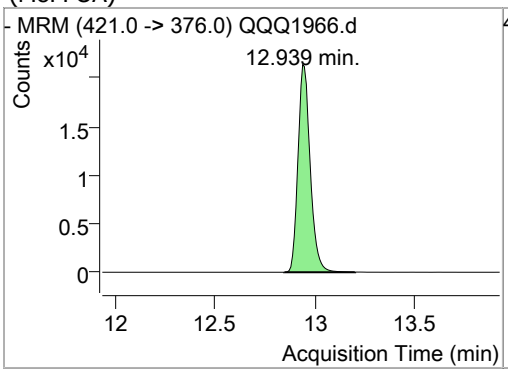
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	5.1834	12.89	-0.09	36451	427.0 -> 79.7	16.7	13.9	20.8

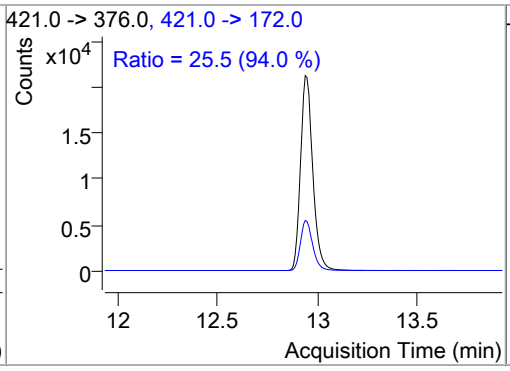


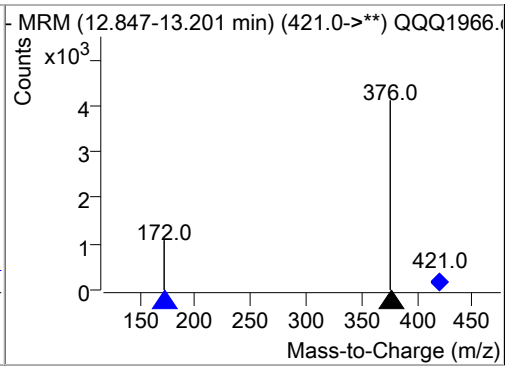




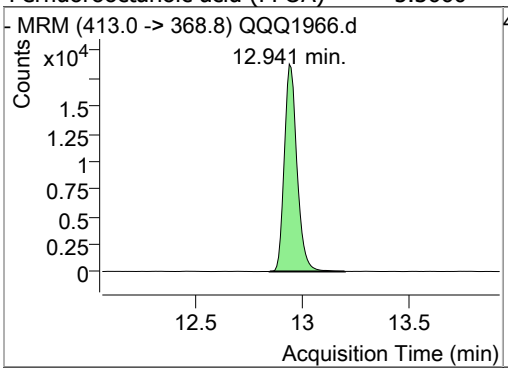
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	5.5161	12.94	-0.09	90312	421.0 -> 172.0	25.5	21.7	32.6

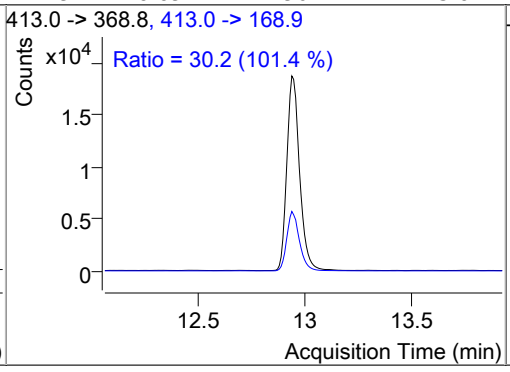


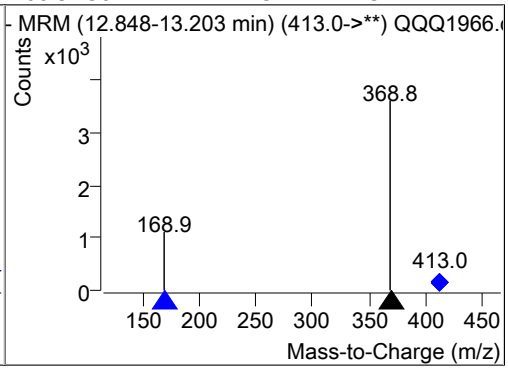




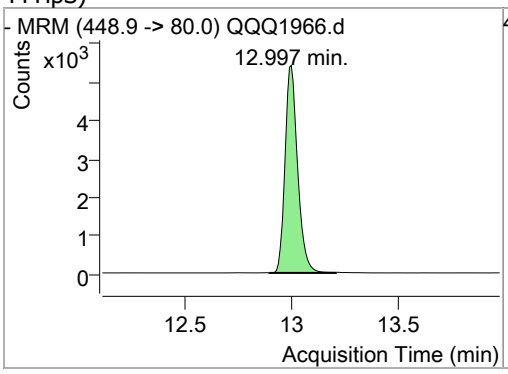
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	5.3660	12.94	-0.09	77962	413.0 -> 168.9	30.2	22.3	37.2

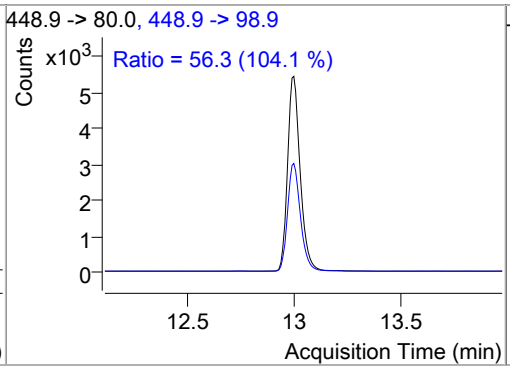


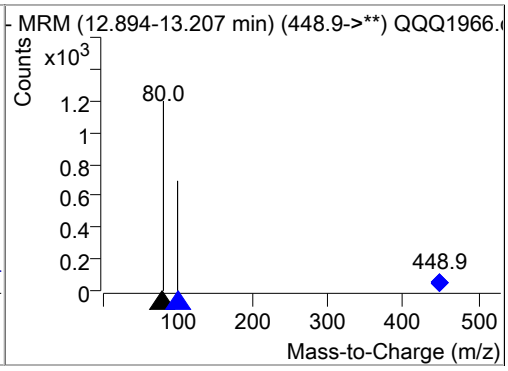




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.2733	13.00	-0.08	22300	448.9 -> 98.9	56.3	43.3	64.9

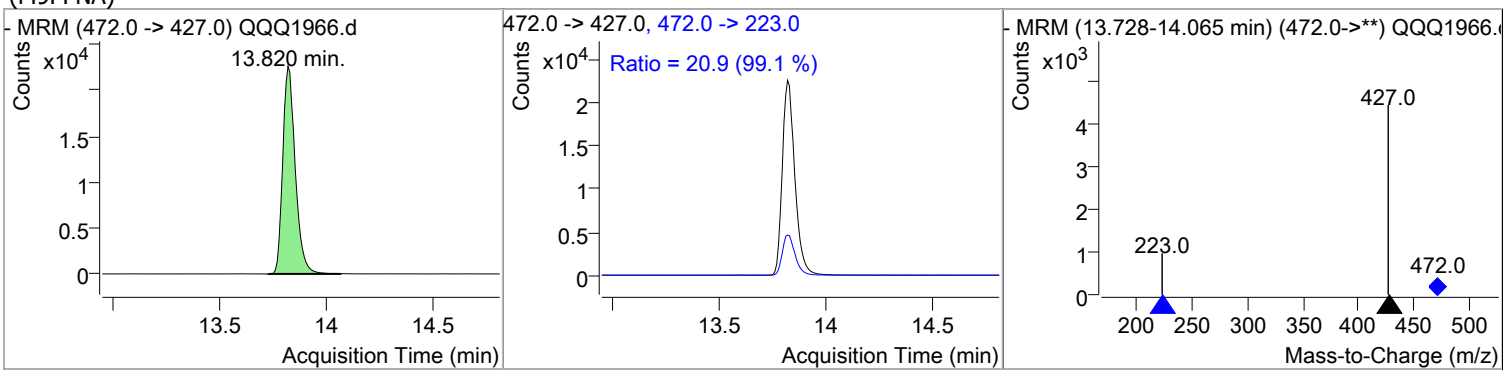




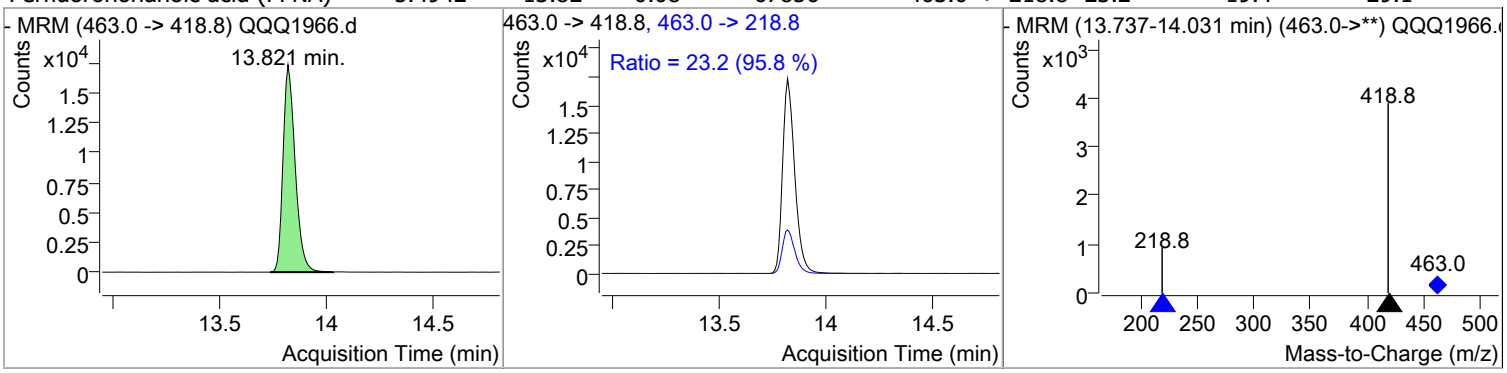


Quantitation Results Report (Not Reviewed)

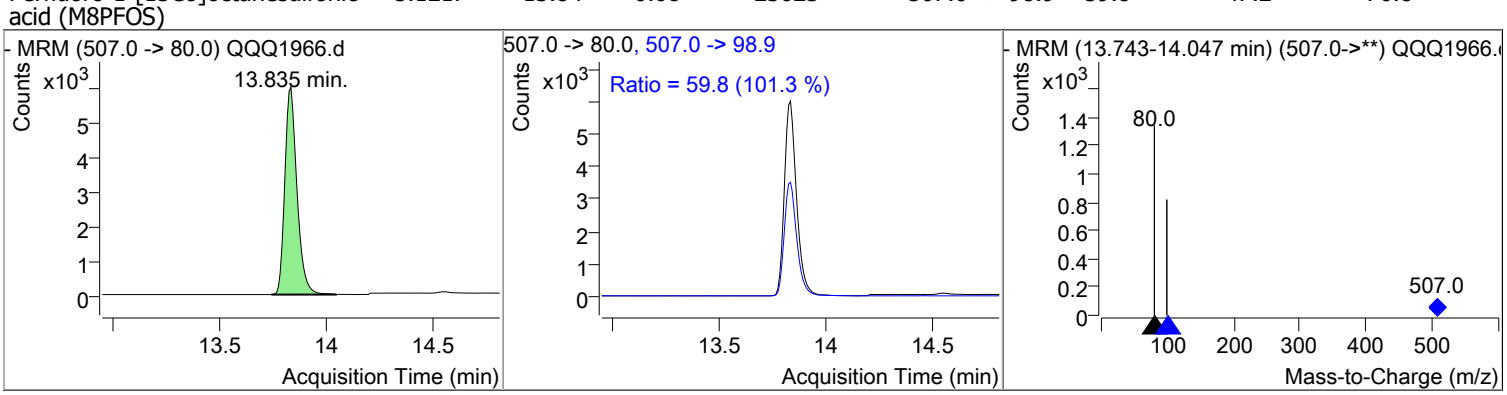
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	5.4416	13.82	-0.08	91474	472.0 -> 223.0	20.9	16.9	25.4



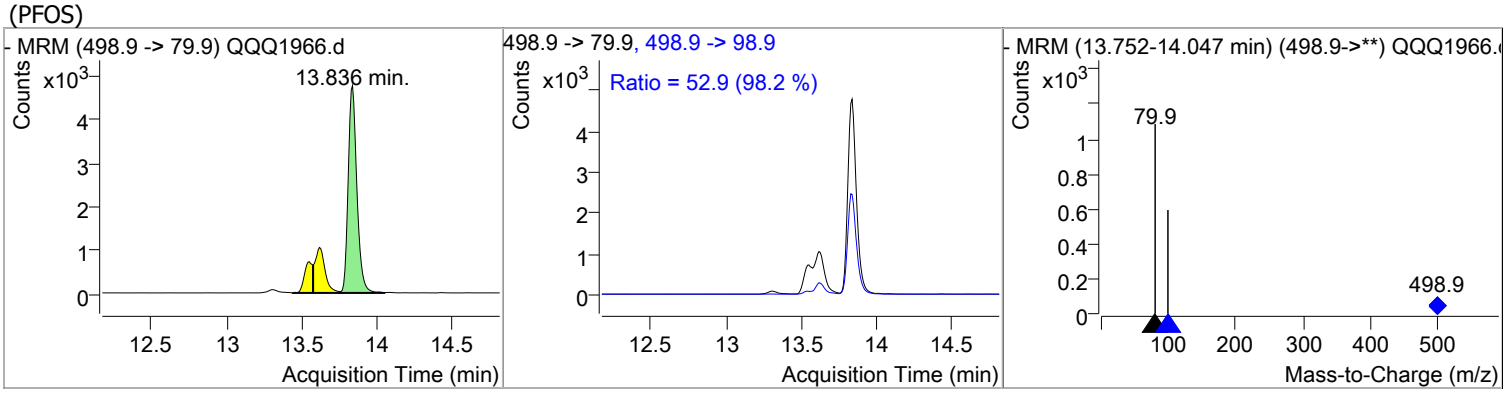
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	5.4942	13.82	-0.08	67856	463.0 -> 218.8	23.2	19.4	29.1



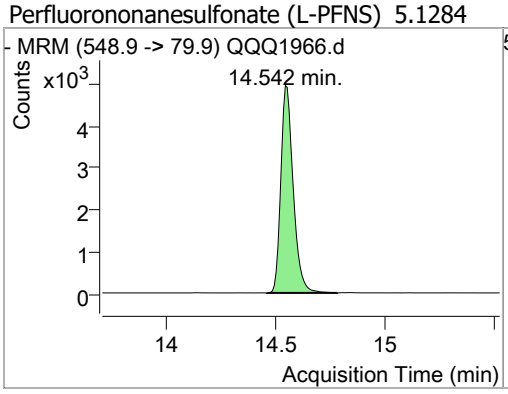
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	5.1217	13.84	-0.08	23623	507.0 -> 98.9	59.8	47.2	70.8

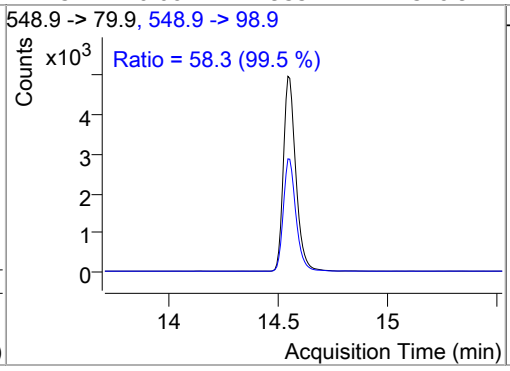


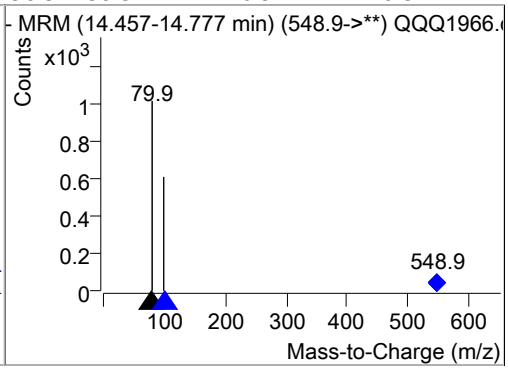
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.7683	13.84	-0.08	18978	498.9 -> 98.9	52.9	43.1	64.6



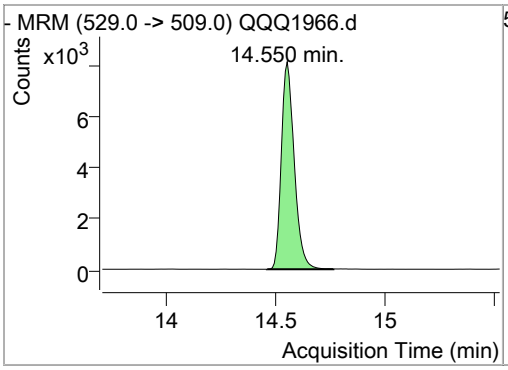
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	5.1284	14.54	-0.08	19354	548.9 -> 98.9	58.3	46.9	70.3

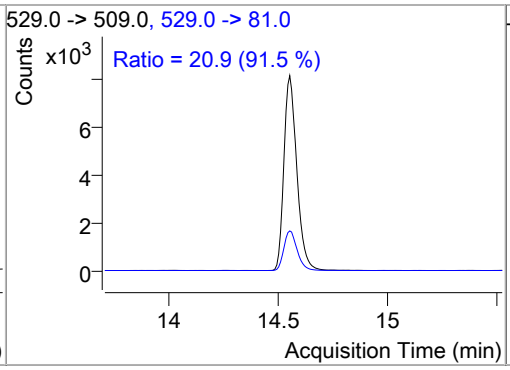


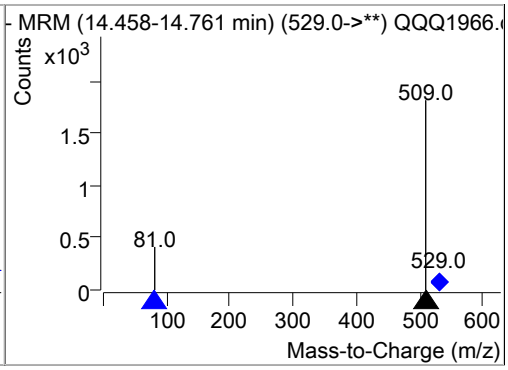




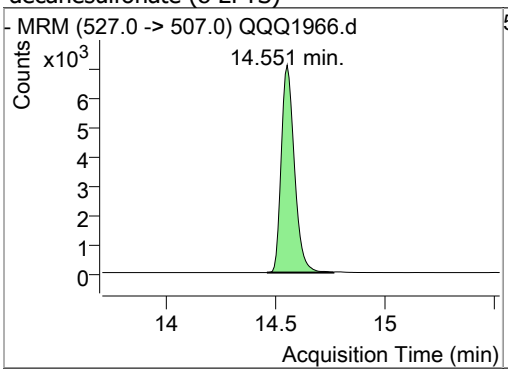
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	6.0186	14.55	-0.07	33241	529.0 -> 81.0	20.9	18.3	27.4

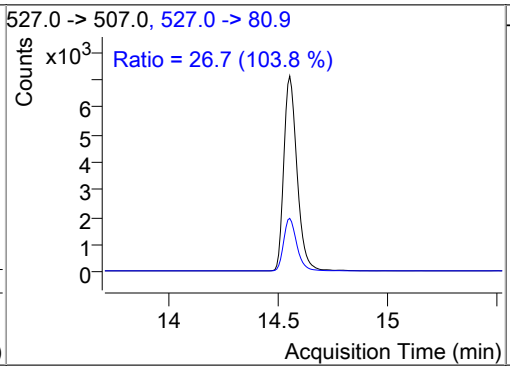


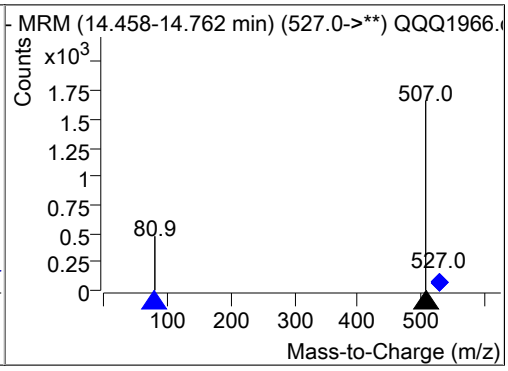




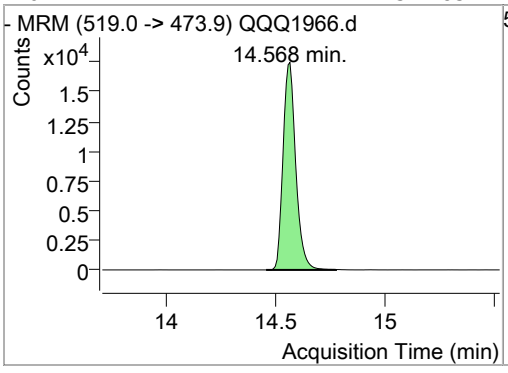
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	6.0343	14.55	-0.07	29621	527.0 -> 80.9	26.7	20.6	30.9

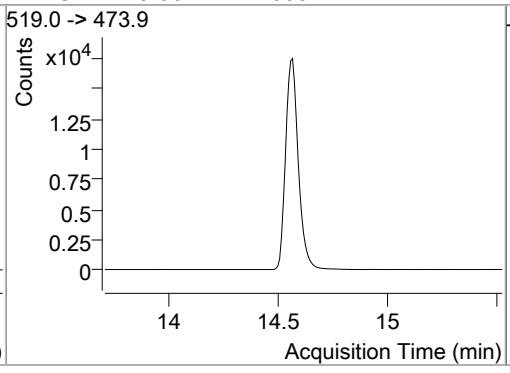


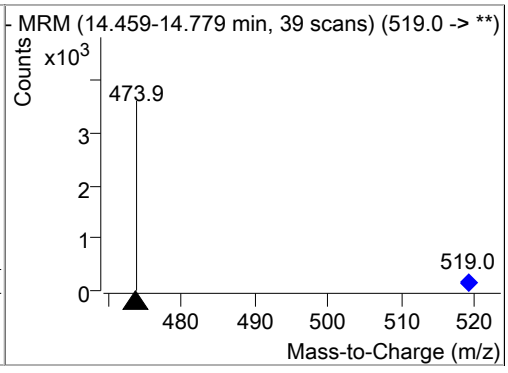




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	5.2785	14.57	-0.06	70601				

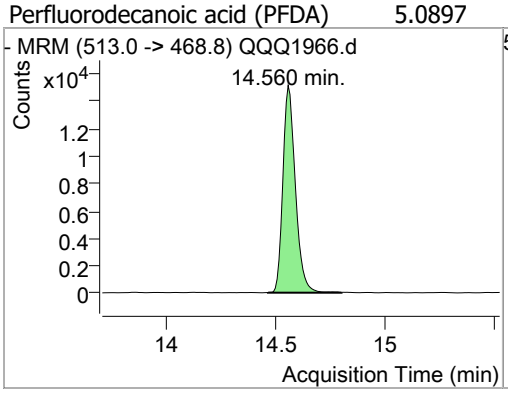


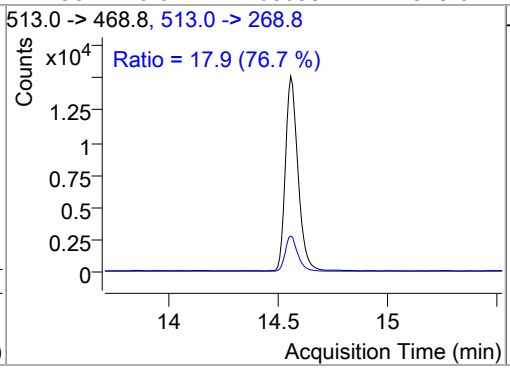


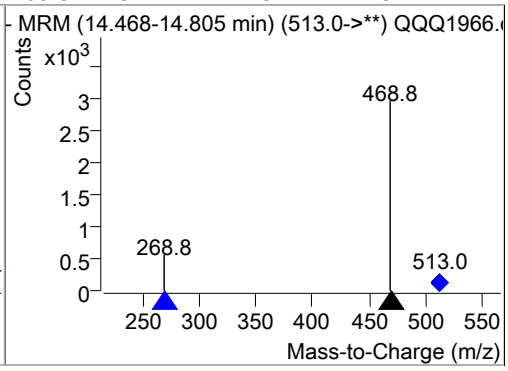


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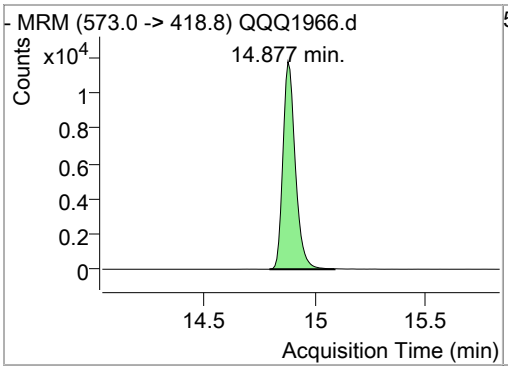
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	5.0897	14.56	-0.07	60053	513.0 -> 268.8	17.9	17.5	29.1

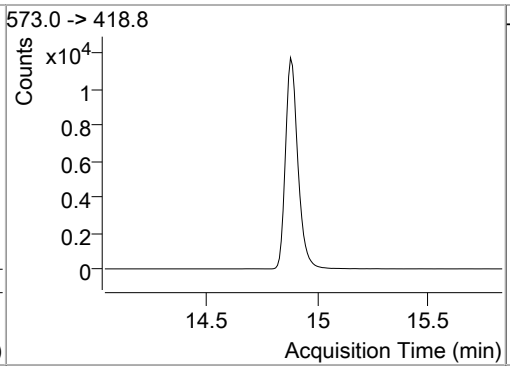


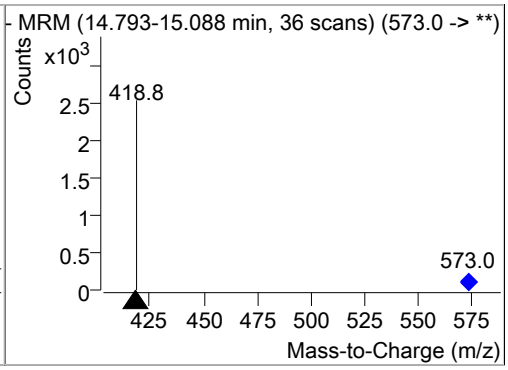




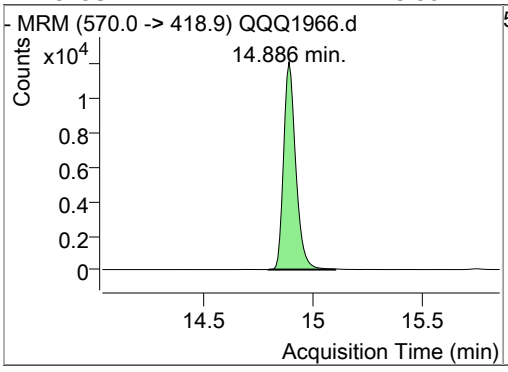
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.5828	14.88	-0.06	45796				

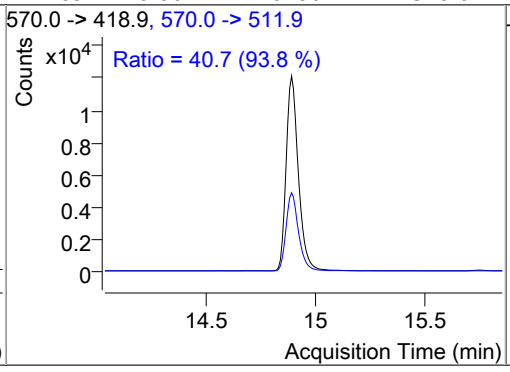


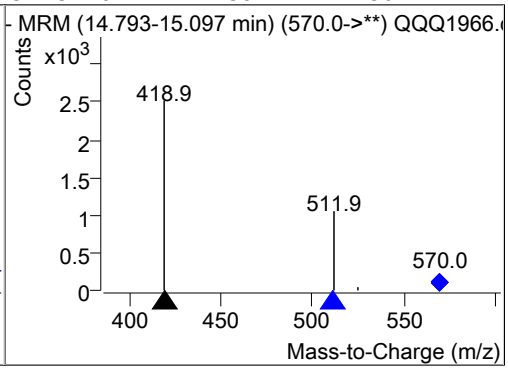




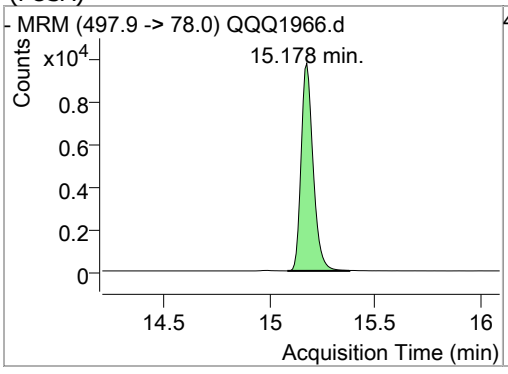
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	5.3842	14.89	-0.06	46706	570.0 -> 511.9	40.7	30.4	56.4

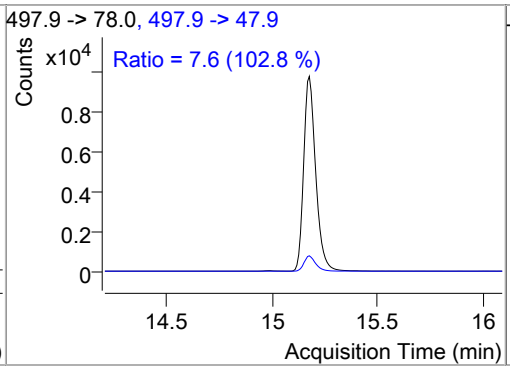


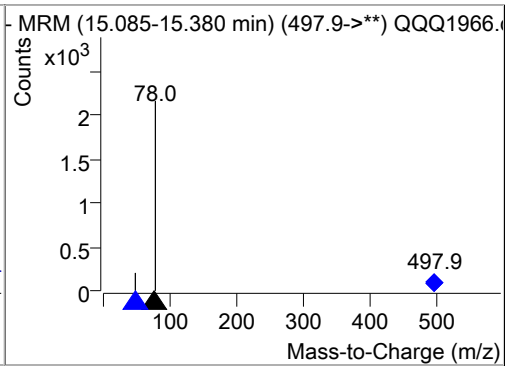




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	5.3013	15.18	-0.01	38486	497.9 -> 47.9	7.6	5.9	8.8

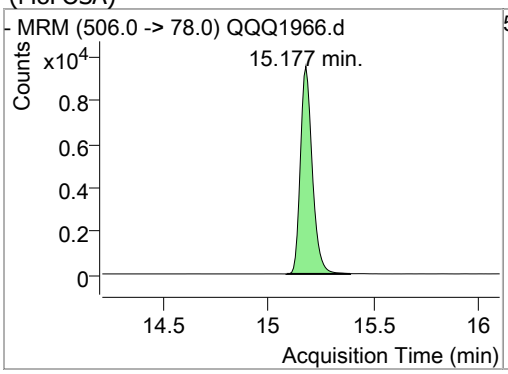


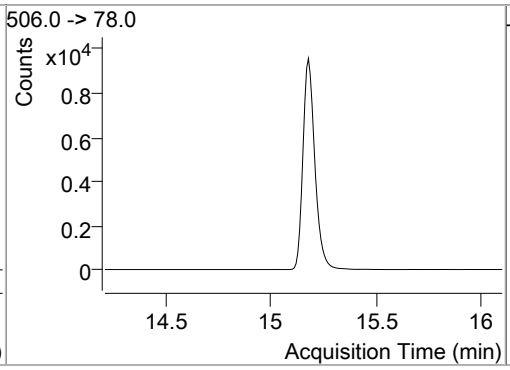


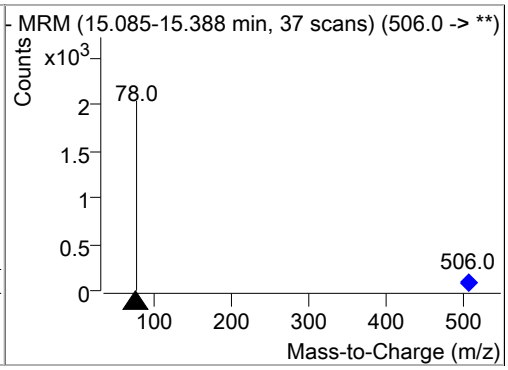


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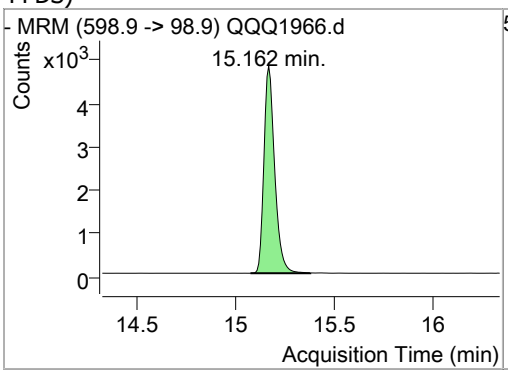
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.3937	15.18	-0.02	37587				

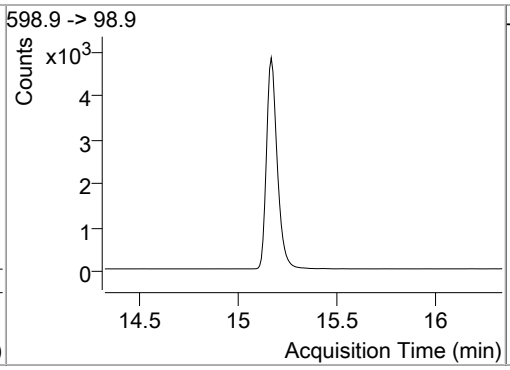


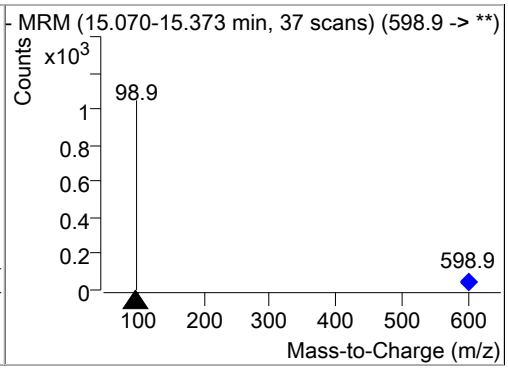




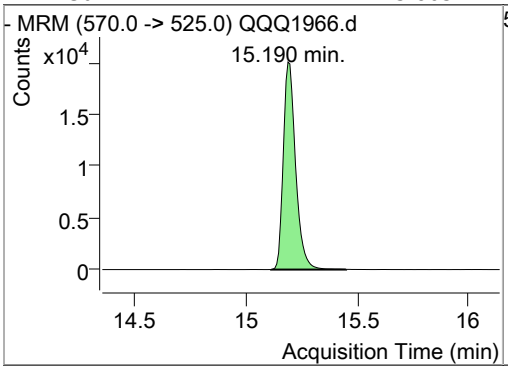
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	5.1910	15.16	-0.05	18126				

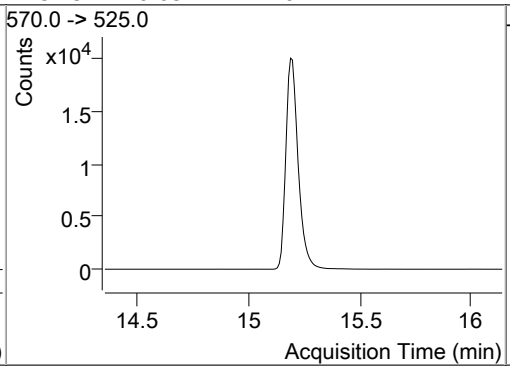


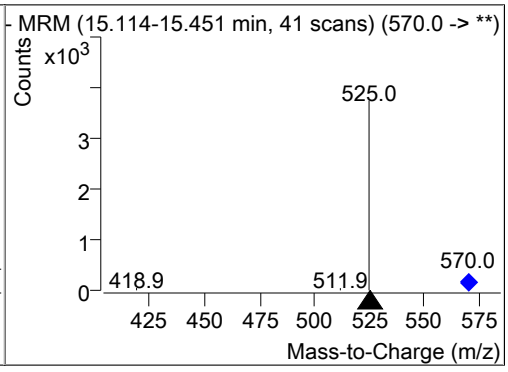




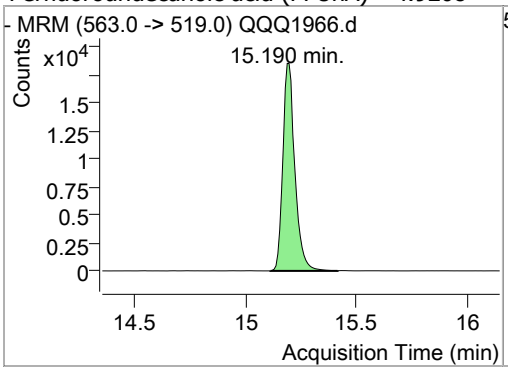
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	5.0652	15.19	-0.05	77077				

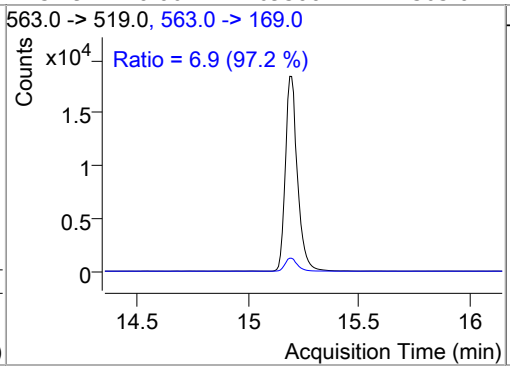


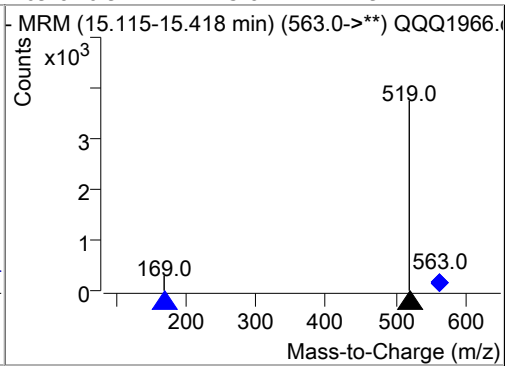




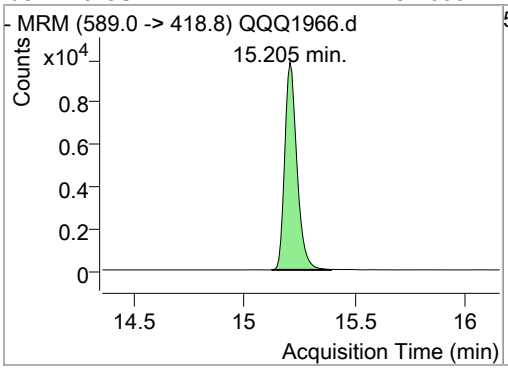
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.9208	15.19	-0.06	69500	563.0 -> 169.0	6.9	5.0	9.2

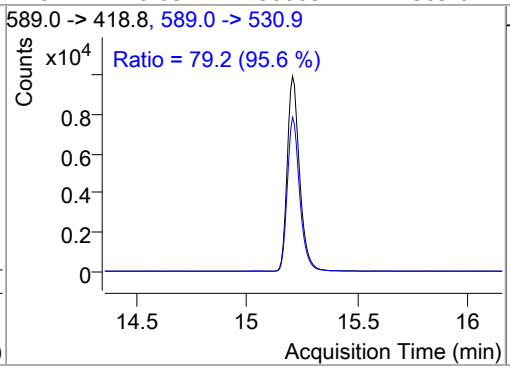


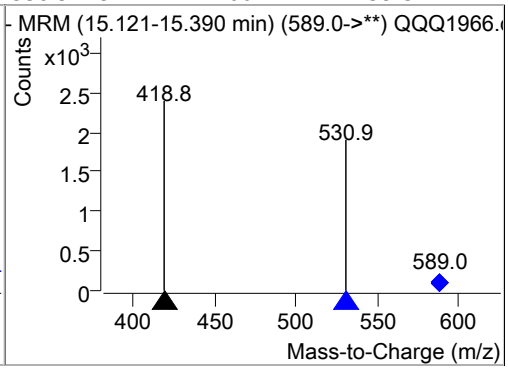




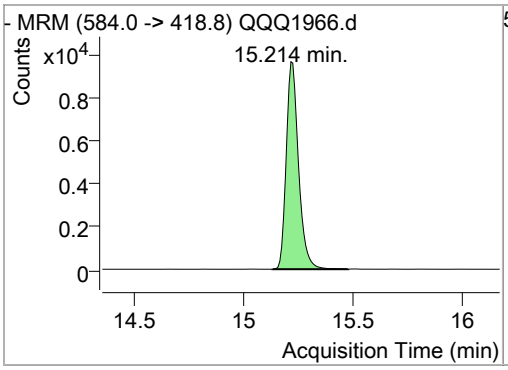
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	5.4608	15.21	-0.05	38003	589.0 -> 530.9	79.2	66.2	99.3

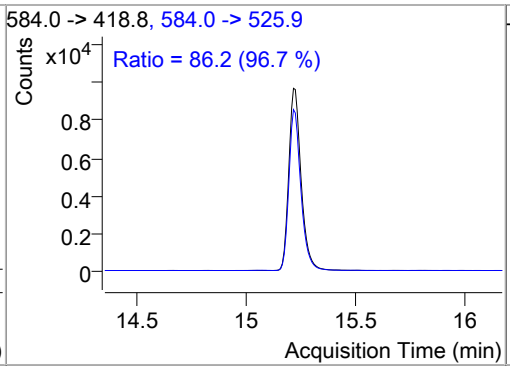


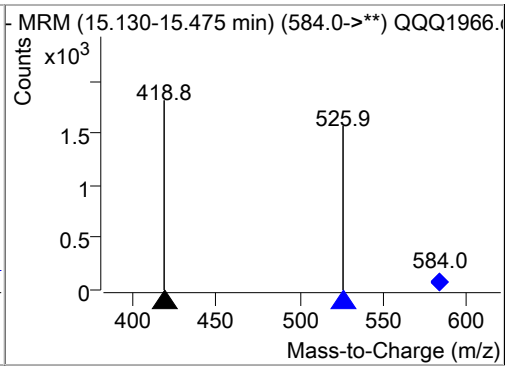




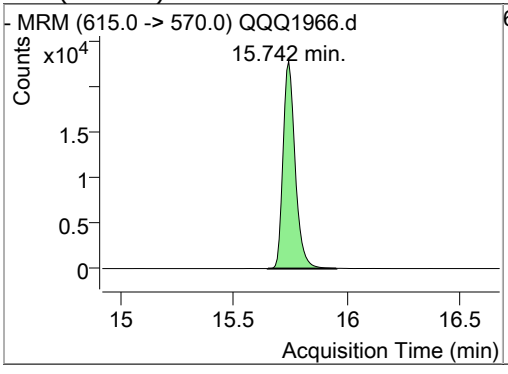
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	5.4645	15.21	-0.05	37568	584.0 -> 525.9	86.2	71.3	107.0

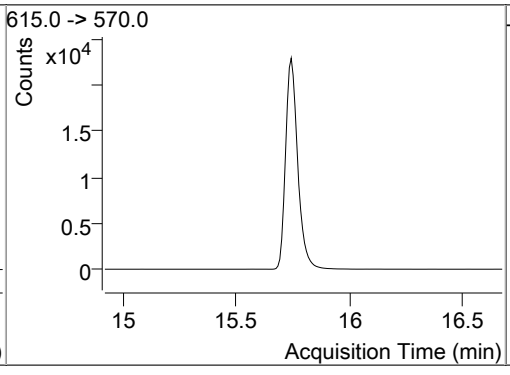


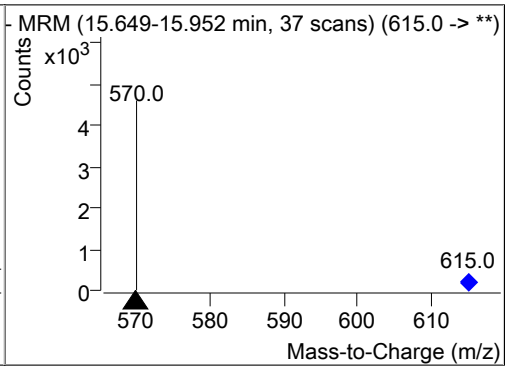




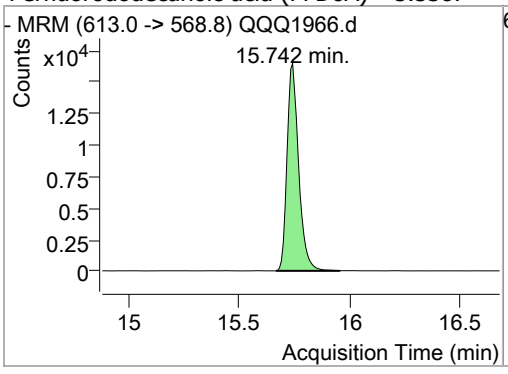
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.4302	15.74	-0.03	84956				

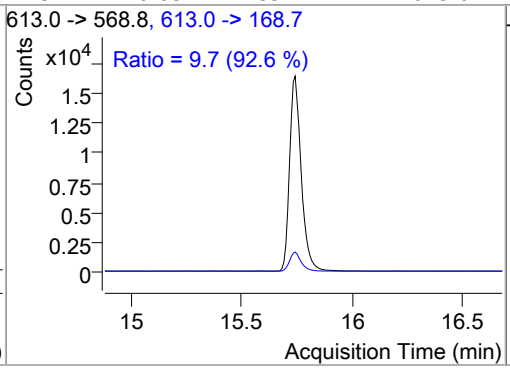


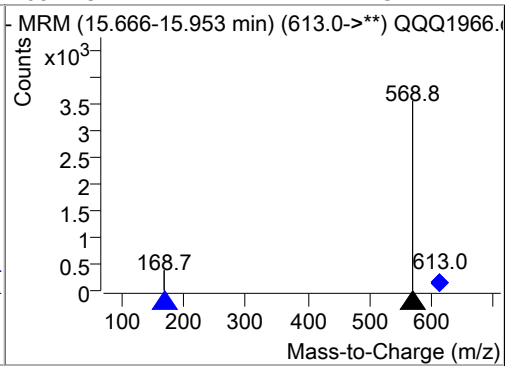




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	5.5387	15.74	-0.03	59741	613.0 -> 168.7	9.7	7.4	13.7

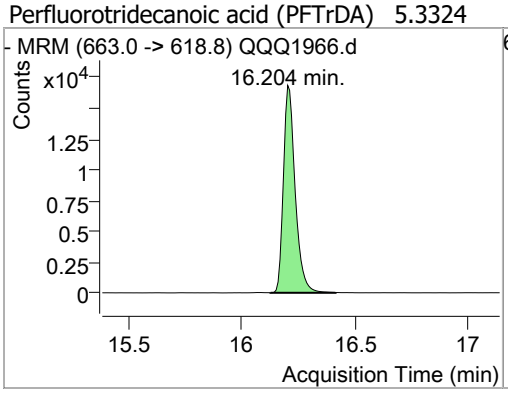


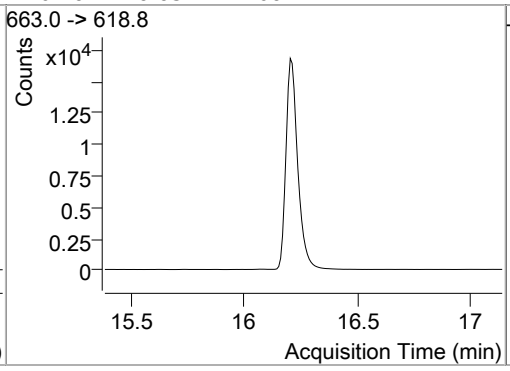


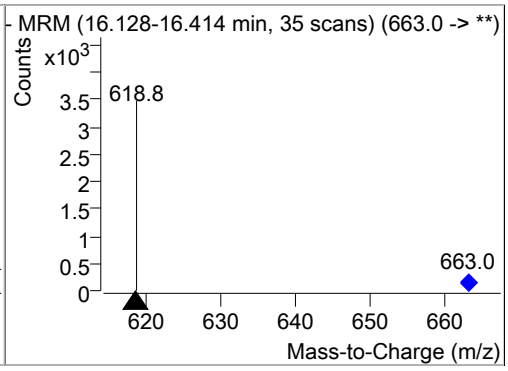


Quantitation Results Report (Not Reviewed)

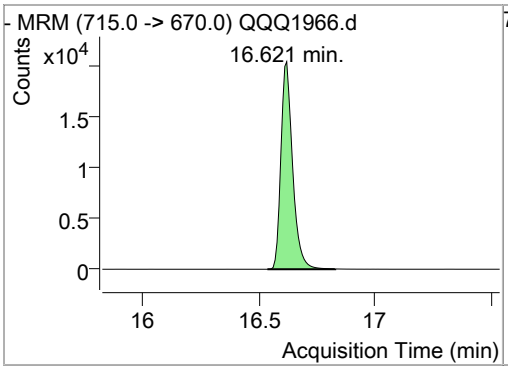
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	5.3324	16.20	-0.03	60472				

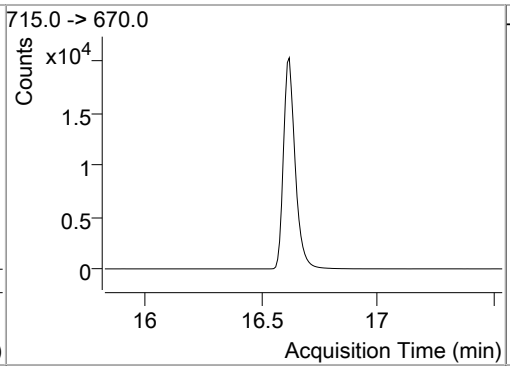


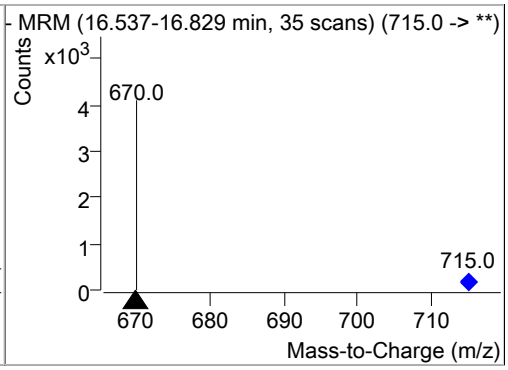




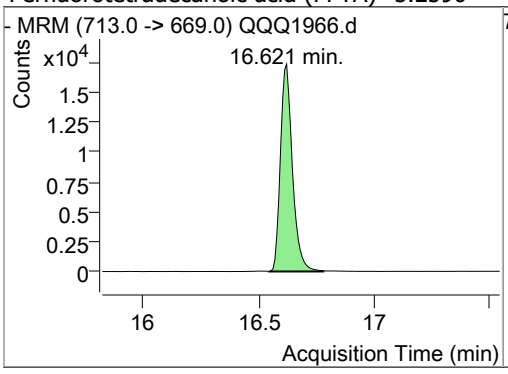
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	5.5754	16.62	-0.02	71213				

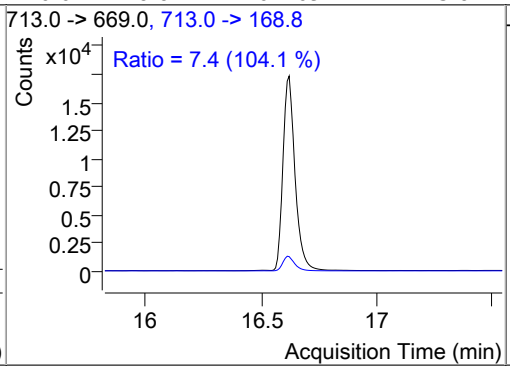


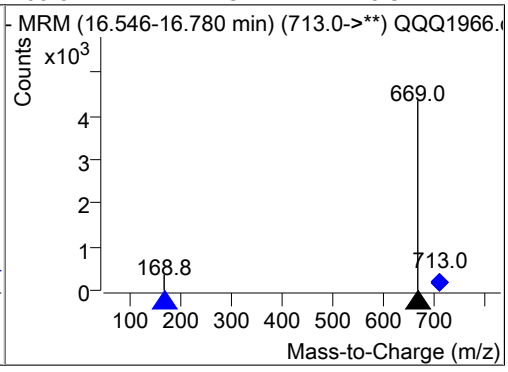




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	5.2590	16.62	-0.02	62269	713.0 -> 168.8	7.4	5.7	8.5







FORM VII

CONTINUING CALIBRATION CHECK

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	LCQQQ	Calibration:	YI90019
Lab File ID:	QQQ1977.d	Calibration Date:	09/27/19 12:03
Sequence:	Y9J0727	Injection Date:	10/04/19
Lab Sample ID:	Y9J0727-CCV2	Injection Time:	20:43

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	Q	4.80	4.78	0.24826	0.2146134		-0.4	30
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	4.75	4.39	0.2993209	0.2768649		-7.5	30
N-EtFOSAA	A	5.00	4.63	0.2927228	0.271329		-7.3	30
N-MeFOSAA	A	5.00	4.70	0.3693488	0.3471847		-6.0	30
Perfluoro-1-decanesulfonic acid (PFDS)	A	4.82	4.53	0.1486088	0.1396521		-6.0	30
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	4.98	4.74	0.1801378	0.1713438		-4.9	30
Perfluoro-1-octanesulfonamide (FOSA)	A	5.00	4.68	0.3091035	0.2893756		-6.4	30
Perfluorobutanesulfonic acid (PFBS)	A	4.42	4.22	0.3283685	0.3133528		-4.6	30
Perfluorodecanoic acid (PFDA)	A	5.00	4.53	0.5023701	0.455264		-9.4	30
Perfluorododecanoic acid (PFDoA)	A	5.00	4.62	0.4592504	0.4241879		-7.6	30
Perfluoroheptanoic acid (PFHpA)	A	5.00	4.92	0.8176638	0.8045964		-1.6	30
Perfluorohexanesulfonic acid (PFHxS)	A	3.70	3.58	0.2430381	0.2352471		-3.2	30
Perfluorohexanoic acid (PFHxA)	A	5.00	4.60	1.109852	1.02176		-7.9	30
Perfluoro-n-butanoic acid (PFBA)	A	5.00	4.96	0.7530296	0.7463898		-0.9	30
Perfluorononanoic acid (PFNA)	A	4.80	4.26	0.5258608	0.4663708		-11.3	30
Perfluorooctanesulfonic acid (PFOS)	A	3.65	3.39	0.2135379	0.1993165		-6.7	30
Perfluorooctanoic acid (PFOA)	A	5.00	4.80	0.6186046	0.5937083		-4.0	30
Perfluoropentanoic acid (PFPeA)	A	5.00	4.83	1.122031	1.084588		-3.3	30
Perfluorotetradecanoic acid (PFTA)	A	5.00	4.44	0.5041394	0.4478827		-11.2	30
Perfluorotridecanoic acid (PFTrDA)	A	5.00	4.63	0.4828499	0.4473361		-7.4	30
Perfluoroundecanoic acid (PFUnA)	A	5.00	4.66	0.6013559	0.5601251		-6.9	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

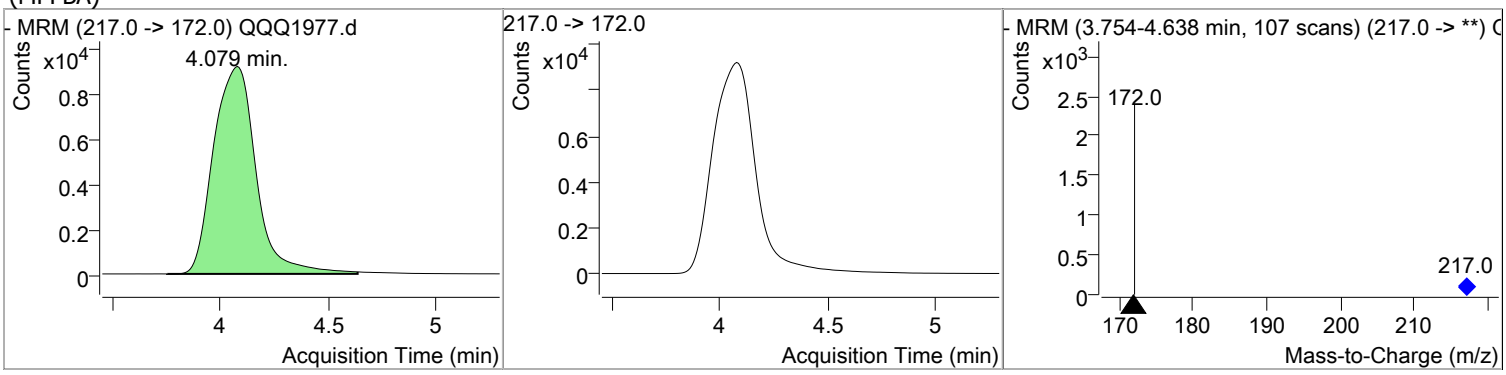
Data File	QQQ1977.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 8:43:43 PM
Sample Name	SEQ-CCV2	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.949	417.0 -> 372.0	305811	10.0000	ng/ml	-0.085
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.079	217.0 -> 172.0	125673	4.8117	ng/ml	-0.108
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.12%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	184001	4.7078	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.08%		
M3PFBS	8.752	302.0 -> 79.9	48838	4.3813	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 43.81%		
M2-4-2FTS	10.200	329.0 -> 309.0	65393	4.2642	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 42.64%		
M5PFHxA	10.336	318.0 -> 273.0	183847	4.6732	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.73%		
M4PFHpA	11.844	367.0 -> 322.0	47213	5.5241	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 55.24%		
M3PFHxS	11.966	402.0 -> 80.0	35377	4.5370	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.37%		
M2-6-2FTS	12.895	429.0 -> 409.0	42682	4.7190	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.19%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	98263	4.6094	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.09%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	102394	4.6781	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.78%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	27549	4.5872	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.87%		
M2-8-2FTS	14.559	529.0 -> 509.0	35301	4.7545	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.54%		
M6PFDA	14.568	519.0 -> 473.9	85855	4.9298	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.30%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	51504	4.8221	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.22%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	42998	4.7387	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.39%		
M7PFUdA	15.206	570.0 -> 525.0	89879	4.5362	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.36%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	43495	4.8000	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.00%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.750	615.0 -> 570.0	106784	5.2420	ng/ml	-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.42%		
M2PFTeDA	16.621	715.0 -> 670.0	77524	4.6614	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 46.61%		
Target Compounds						QValue

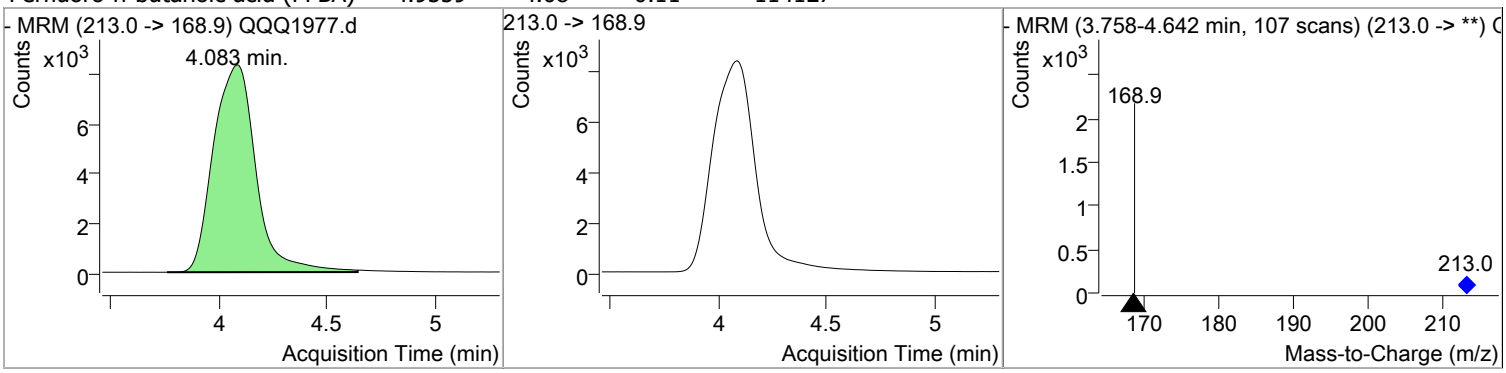
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.083	213.0 -> 168.9	114127	4.9559	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	165839	4.8331	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	42355	4.2159	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.201	327.0 -> 307.0	54545	4.3041	ng/ml	100
Perfluorohexanoic acid (PFHxA)	10.339	313.0 -> 268.9	156233	4.6031	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.641	348.9 -> 79.9	39474	4.4928	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.844	363.0 -> 318.8	123027	4.9201	ng/ml	95
Perfluorohexanesulfonic acid (PFHxS)	11.967	398.9 -> 79.9	26618	3.5814	ng/ml	99
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.896	427.0 -> 407.0	40217	4.3923	ng/ml	100
Perfluorooctanoic acid (PFOA)	12.949	413.0 -> 368.8	90781	4.7988	ng/ml	99
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	26095	4.7389	ng/ml	98
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	68458	4.2570	ng/ml	95
Perfluorooctanesulfonic acid (PFOS)	13.836	498.9 -> 79.9	22248	3.3928	ng/ml	95
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	22182	4.5143	ng/ml	97
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	31503	4.7816	ng/ml	96
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	69612	4.5312	ng/ml	92
N-MeFOSAA	14.895	570.0 -> 418.9	53086	4.7000	ng/ml	98
Perfluoro-1-octanesulfonamide (FOSA)	15.186	497.9 -> 78.0	44247	4.6809	ng/ml	99
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	20585	4.5275	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.207	563.0 -> 519.0	85646	4.6572	ng/ml	100
N-EtFOSAA	15.222	584.0 -> 418.8	41488	4.6346	ng/ml	99
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	64861	4.6183	ng/ml	99
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	68400	4.6322	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	68484	4.4421	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

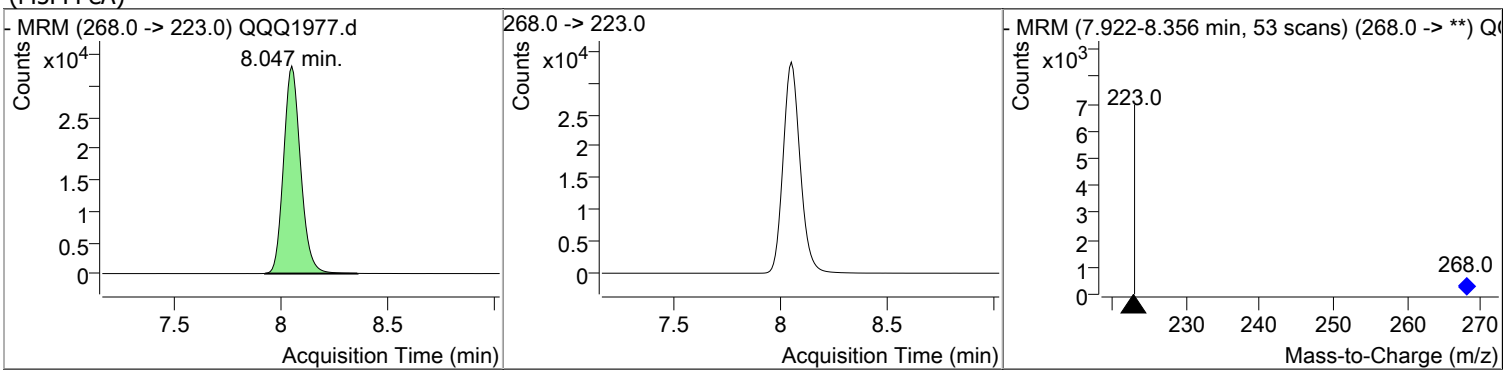
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.8117	4.08	-0.11	125673				



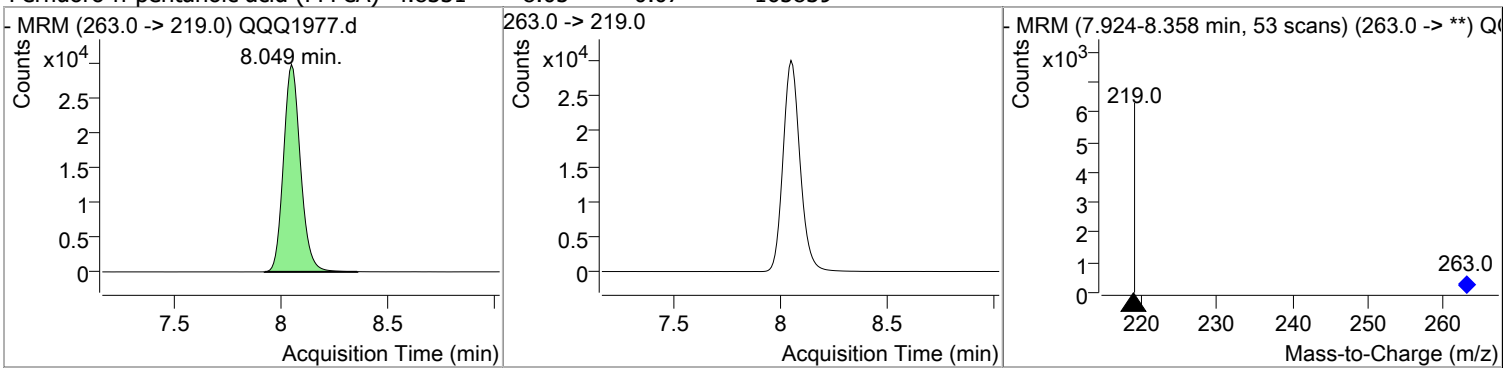
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	4.9559	4.08	-0.11	114127				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	4.7078	8.05	-0.07	184001				

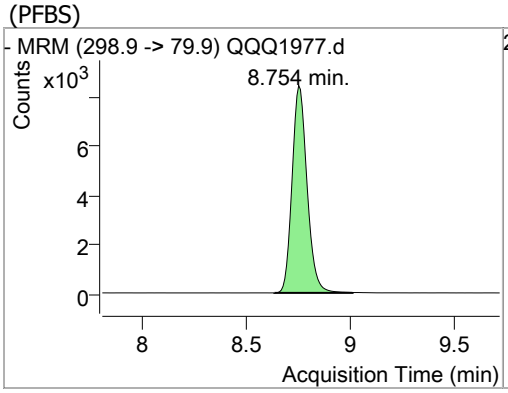


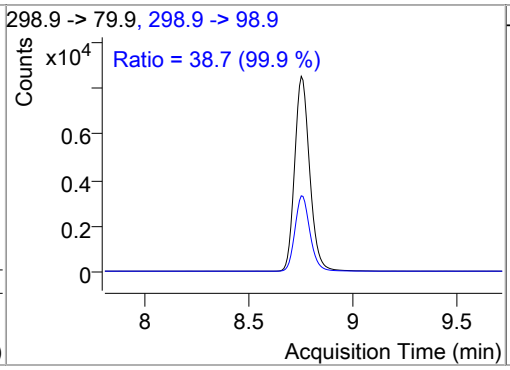
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	4.8331	8.05	-0.07	165839				

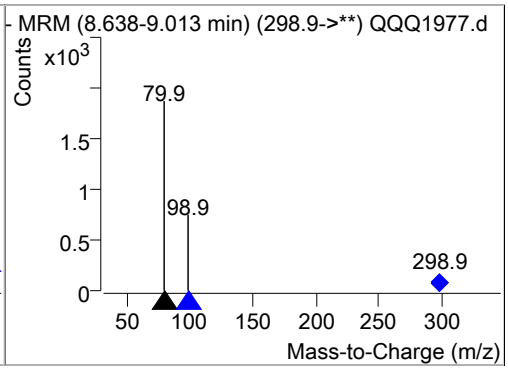


Quantitation Results Report (Not Reviewed)

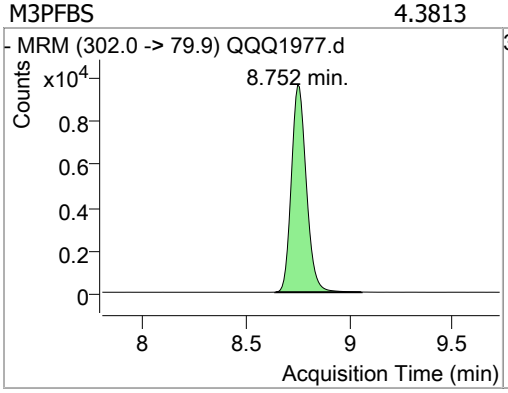
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.2159	8.75	-0.06	42355	298.9 -> 98.9	38.7	31.0	46.5

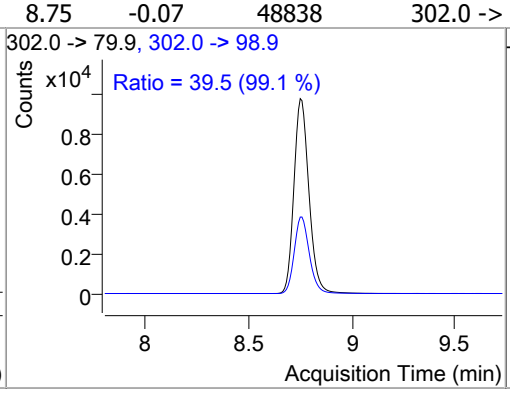


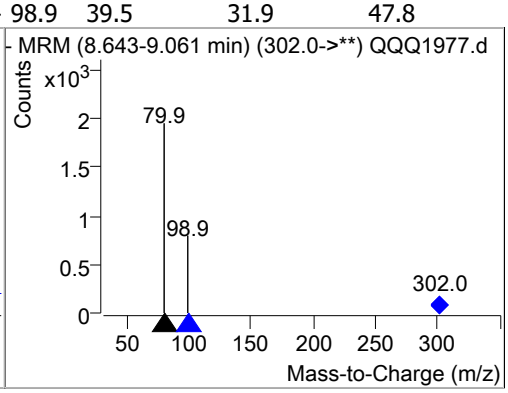




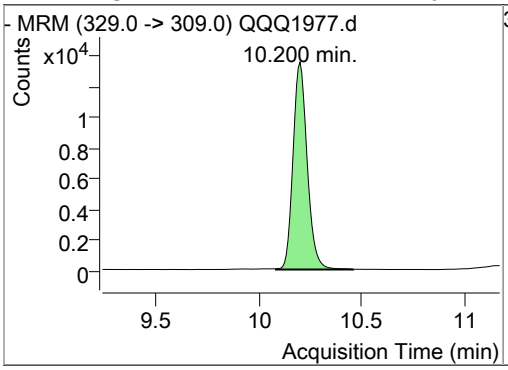
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.3813	8.75	-0.07	48838	302.0 -> 98.9	39.5	31.9	47.8

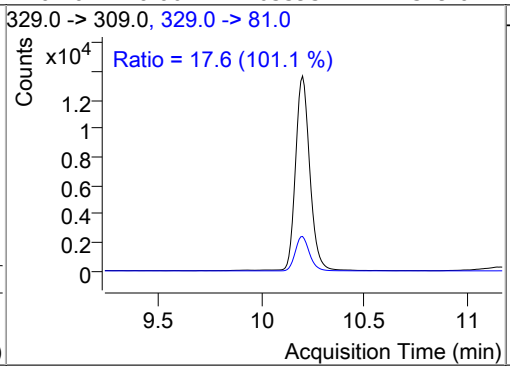


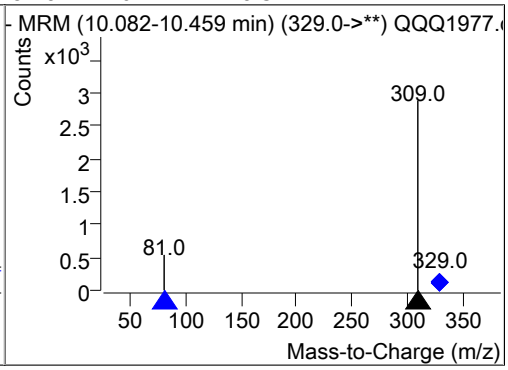




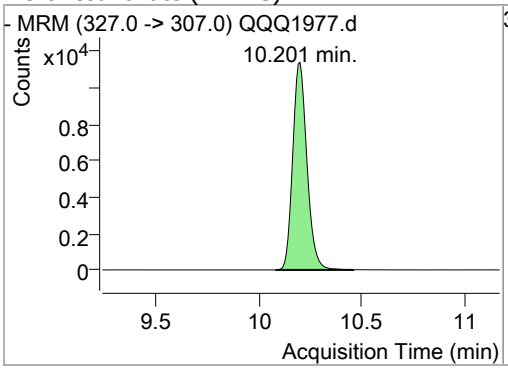
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.2642	10.20	-0.06	65393	329.0 -> 81.0	17.6	10.5	24.4

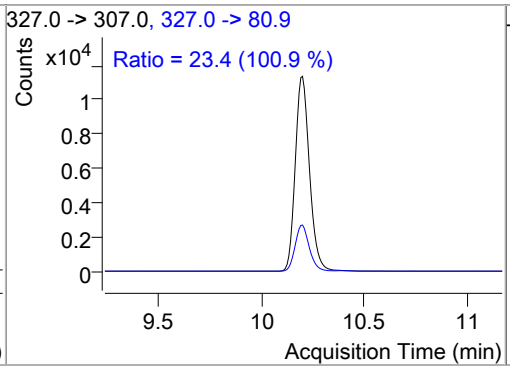


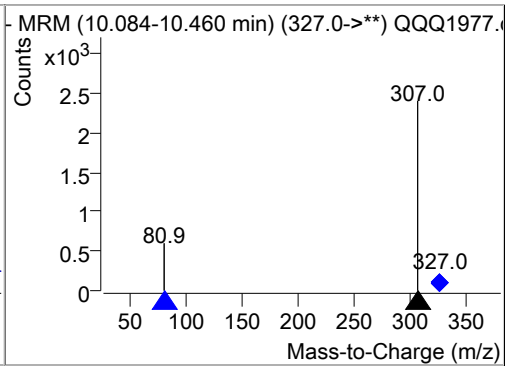




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.3041	10.20	-0.06	54545	327.0 -> 80.9	23.4	13.9	32.5

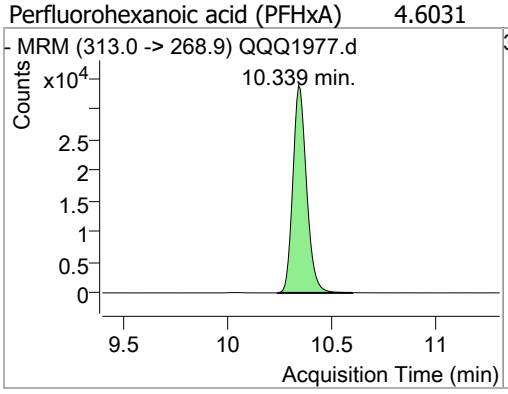


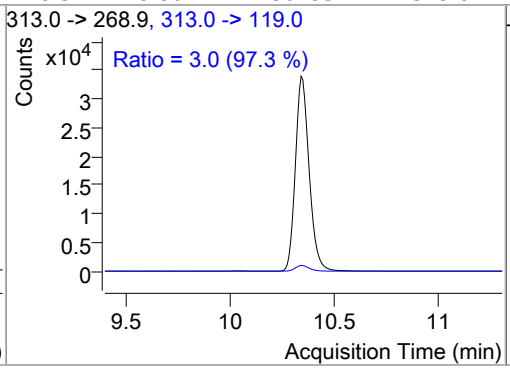


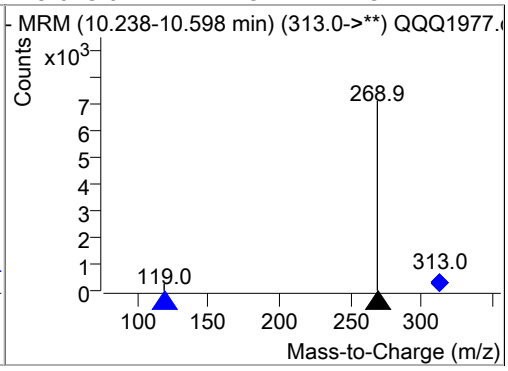


Quantitation Results Report (Not Reviewed)

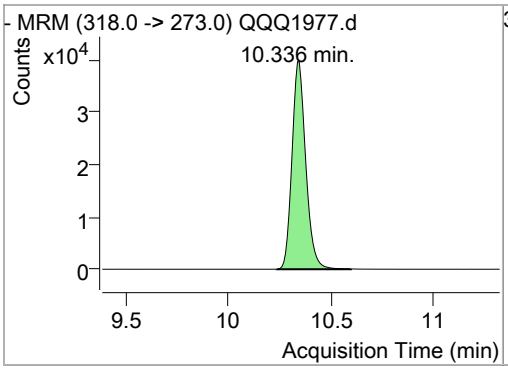
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.6031	10.34	-0.06	156233	313.0 -> 119.0	3.0	2.5	3.7

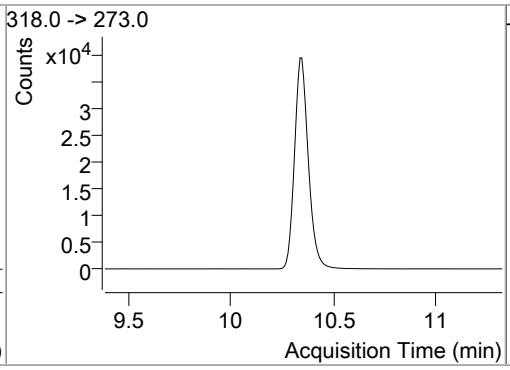


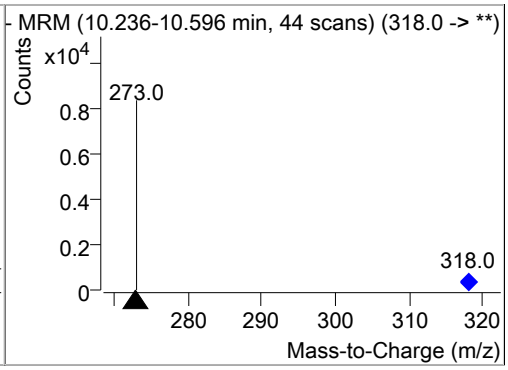




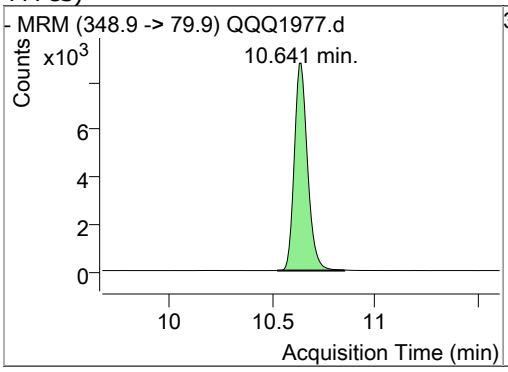
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	4.6732	10.34	-0.07	183847				

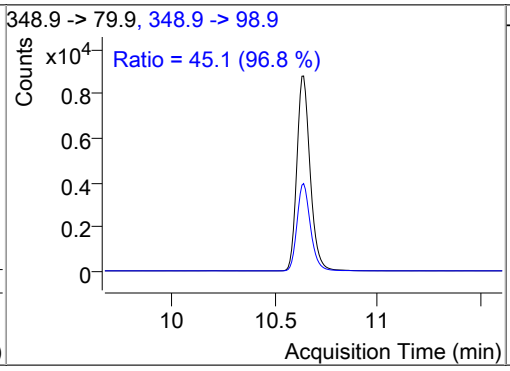


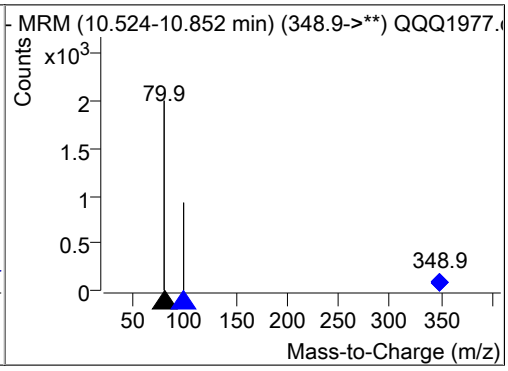




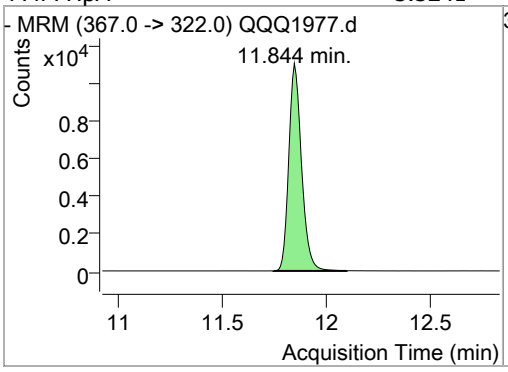
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.4928	10.64	-0.06	39474	348.9 -> 98.9	45.1	37.3	56.0

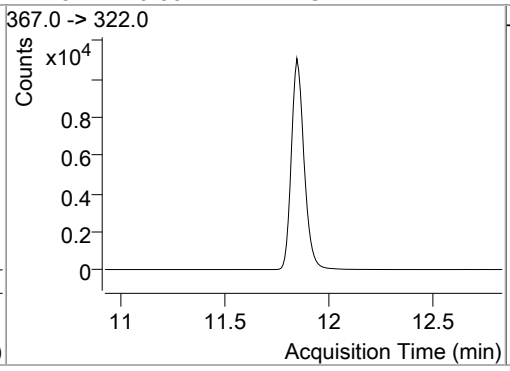


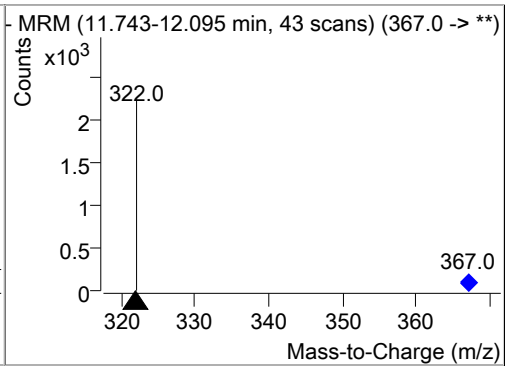




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	5.5241	11.84	-0.08	47213				

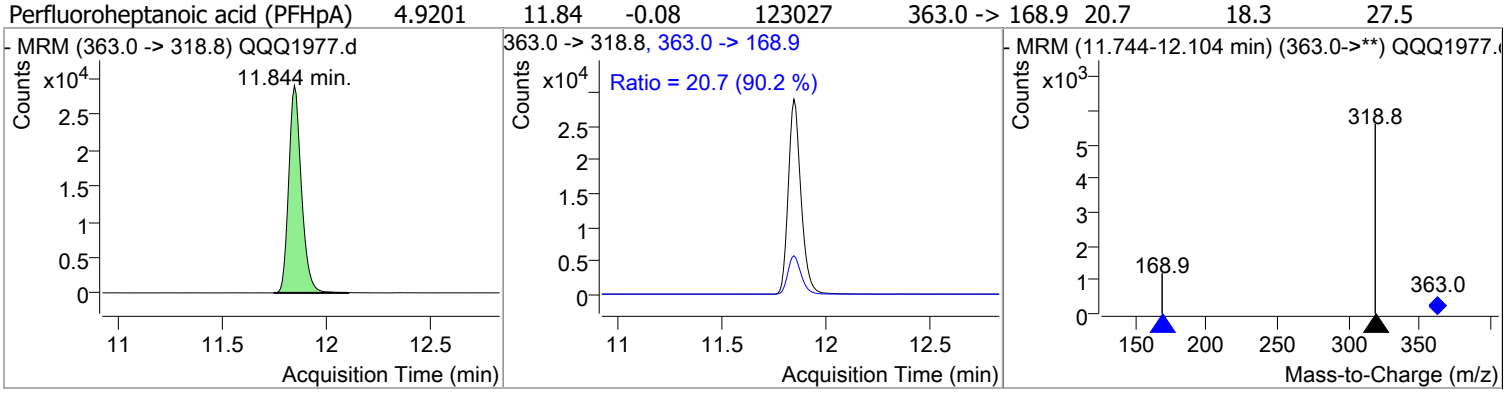




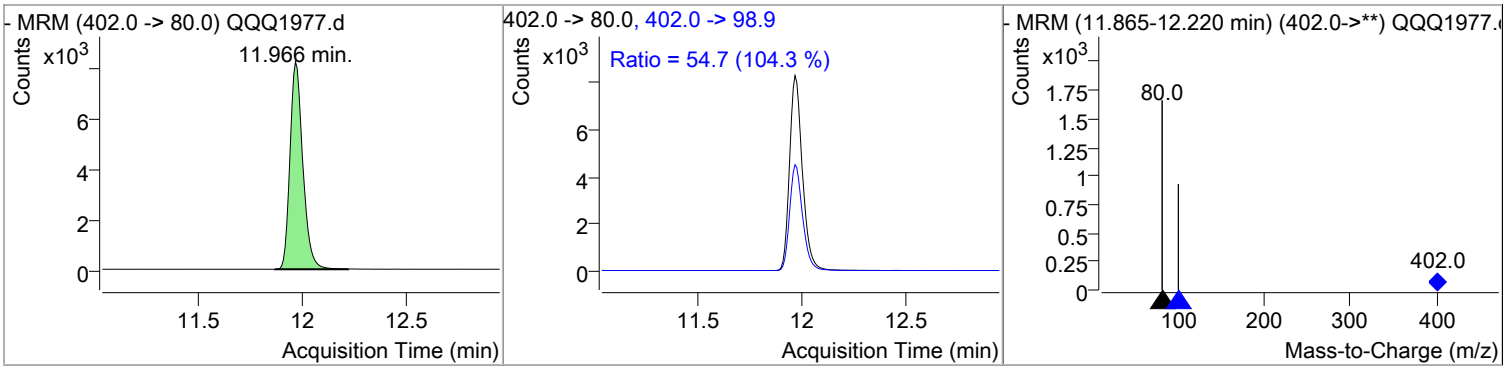


Quantitation Results Report (Not Reviewed)

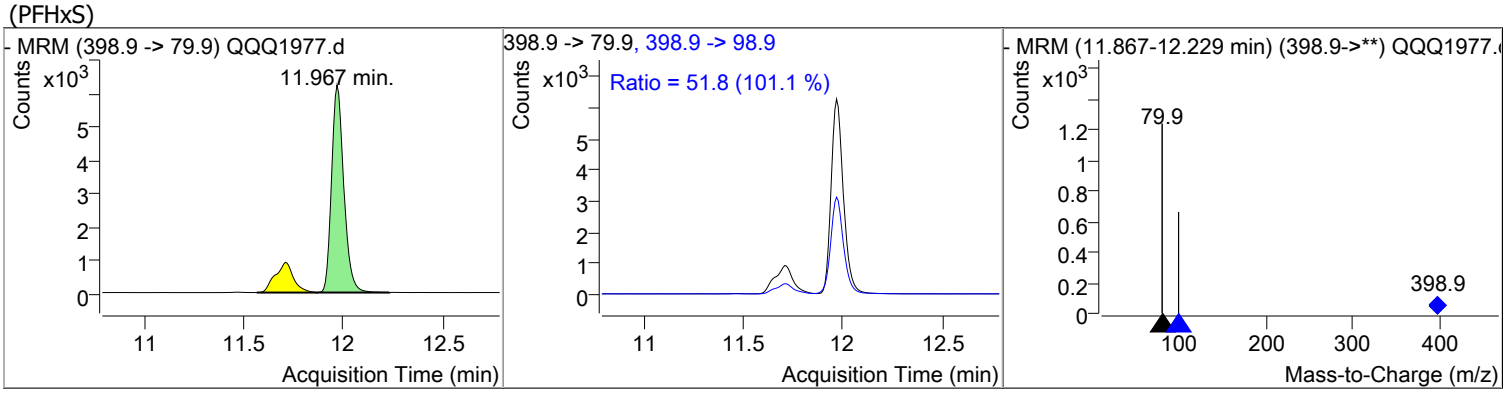
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	4.9201	11.84	-0.08	123027	363.0 -> 168.9	20.7	18.3	27.5



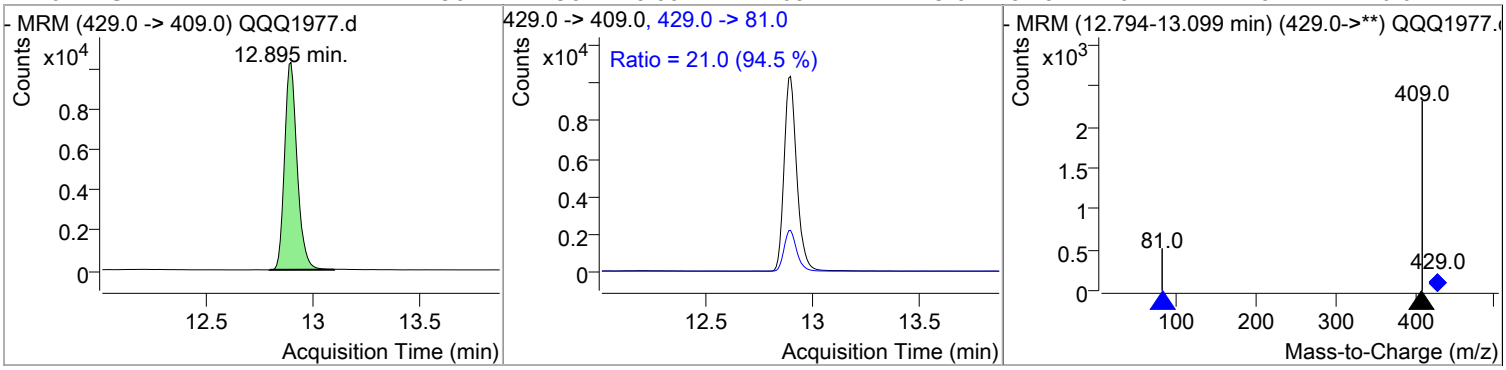
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.5370	11.97	-0.08	35377	402.0 -> 98.9	54.7	42.0	62.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.5814	11.97	-0.08	26618	398.9 -> 98.9	51.8	41.0	61.5

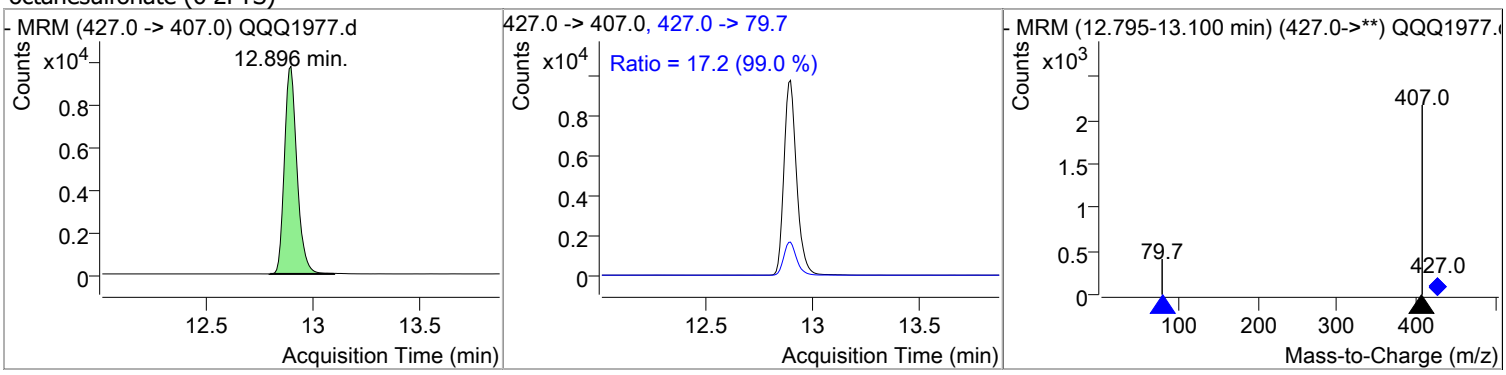


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.7190	12.90	-0.08	42682	429.0 -> 81.0	21.0	17.8	26.6

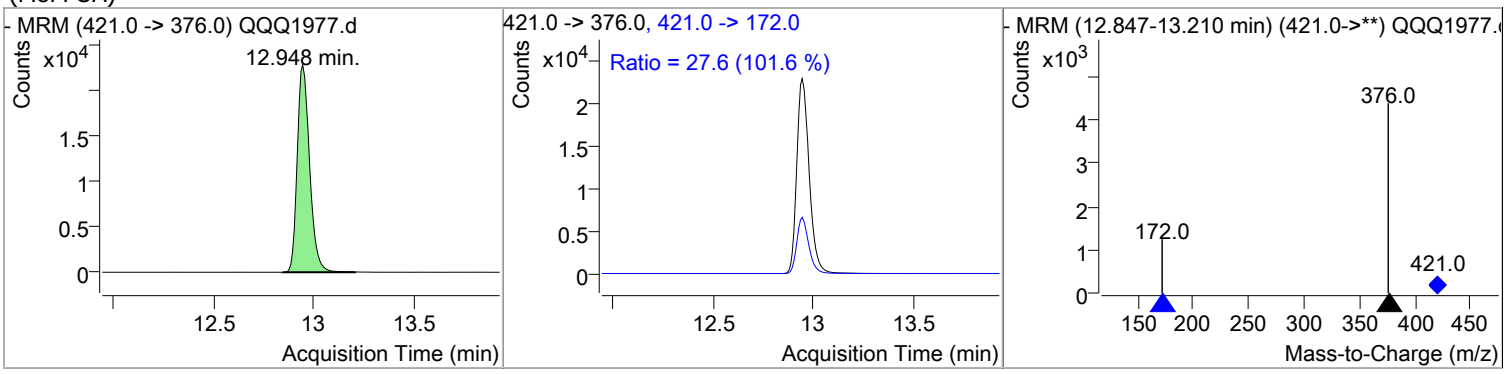


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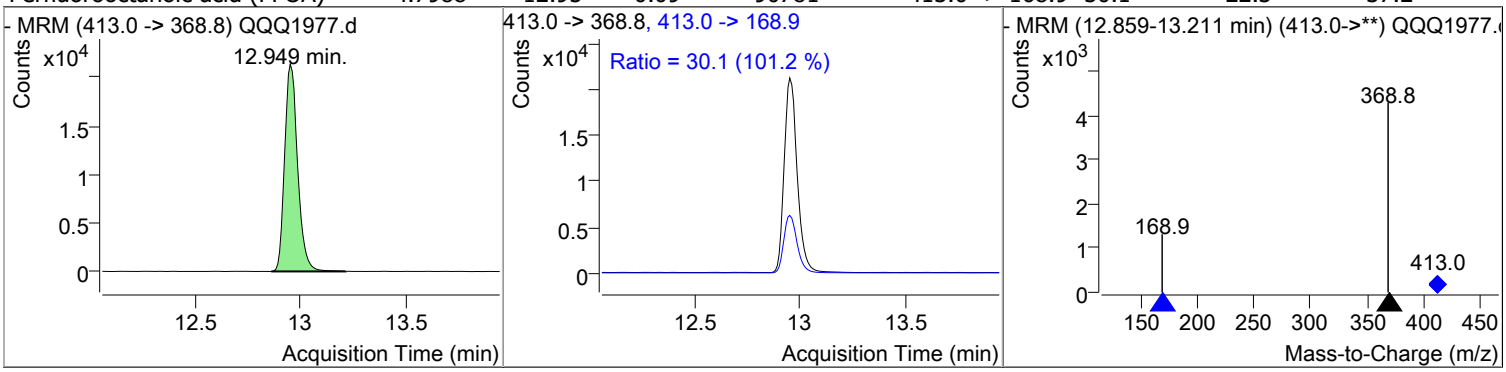
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.3923	12.90	-0.08	40217	427.0 -> 79.7	17.2	13.9	20.8



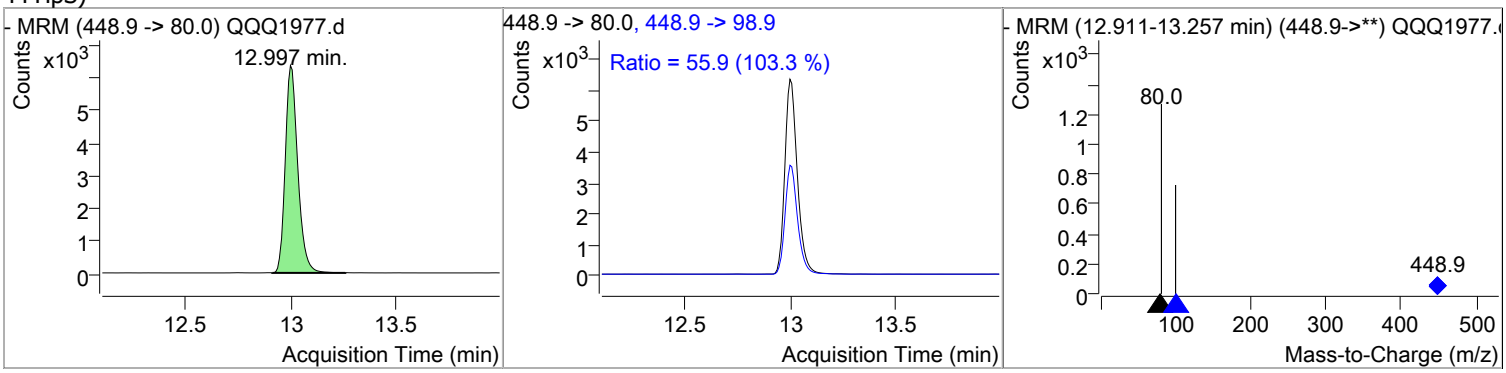
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.6094	12.95	-0.08	98263	421.0 -> 172.0	27.6	21.7	32.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.7988	12.95	-0.09	90781	413.0 -> 168.9	30.1	22.3	37.2

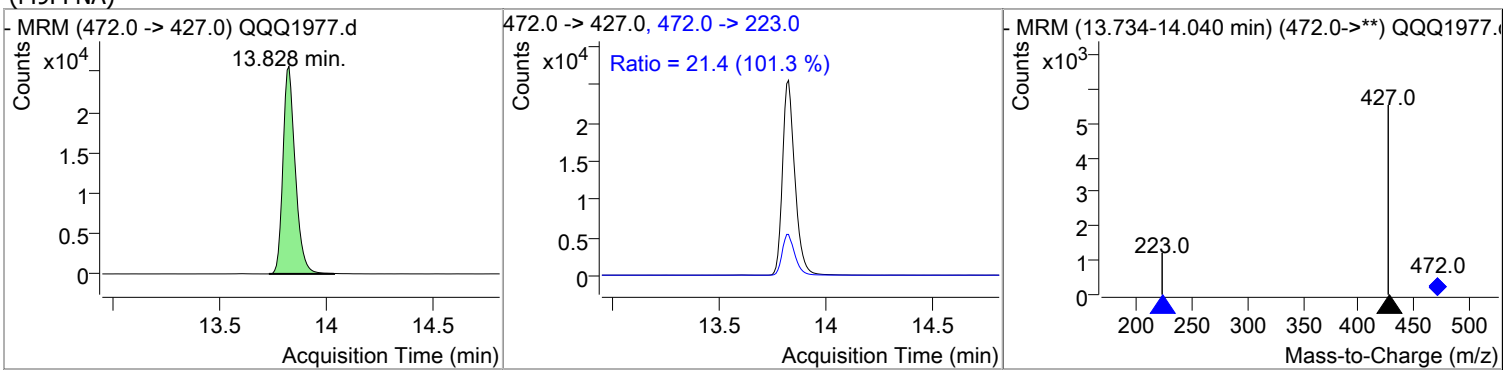


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	4.7389	13.00	-0.08	26095	448.9 -> 98.9	55.9	43.3	64.9

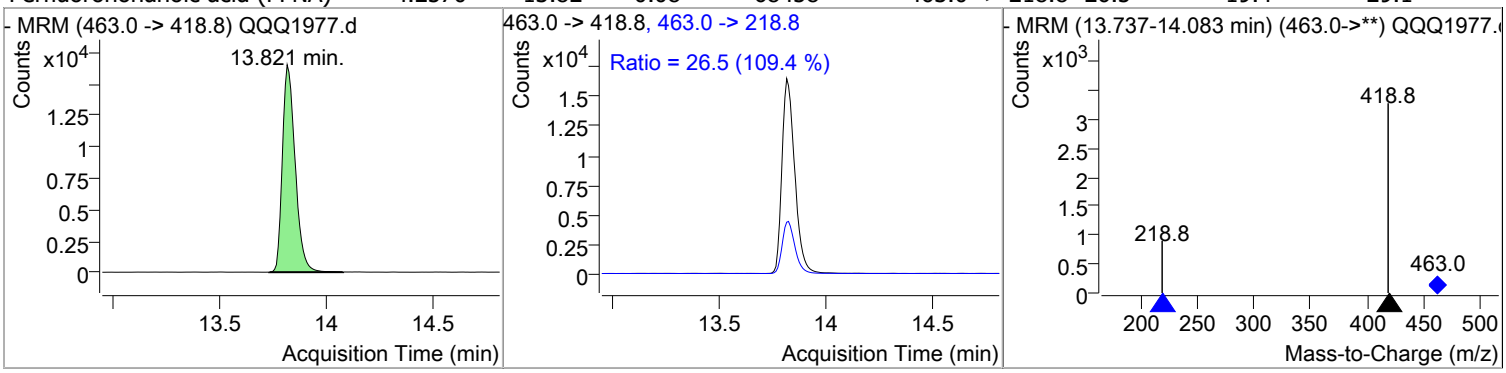


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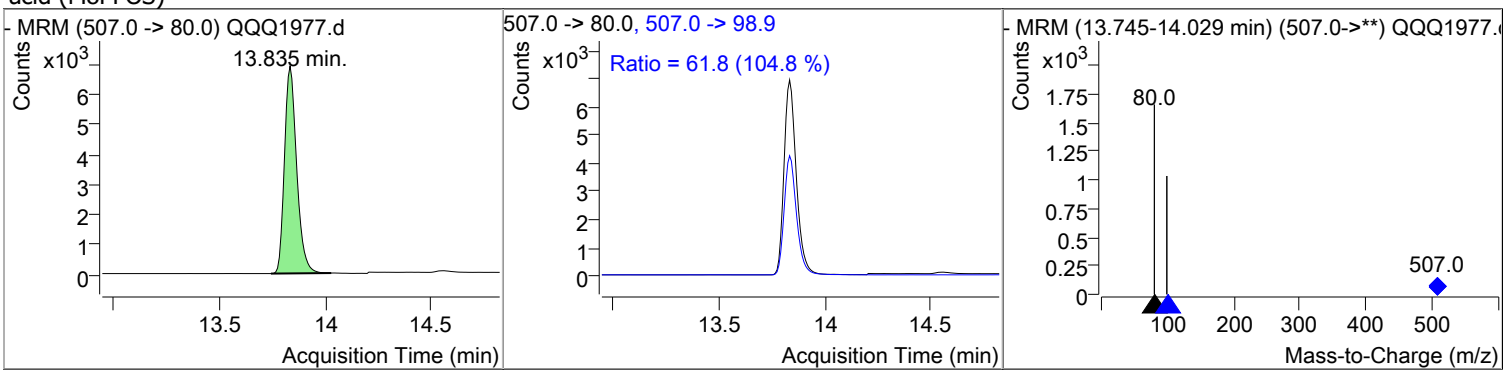
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	4.6781	13.83	-0.08	102394	472.0 -> 223.0	21.4	16.9	25.4



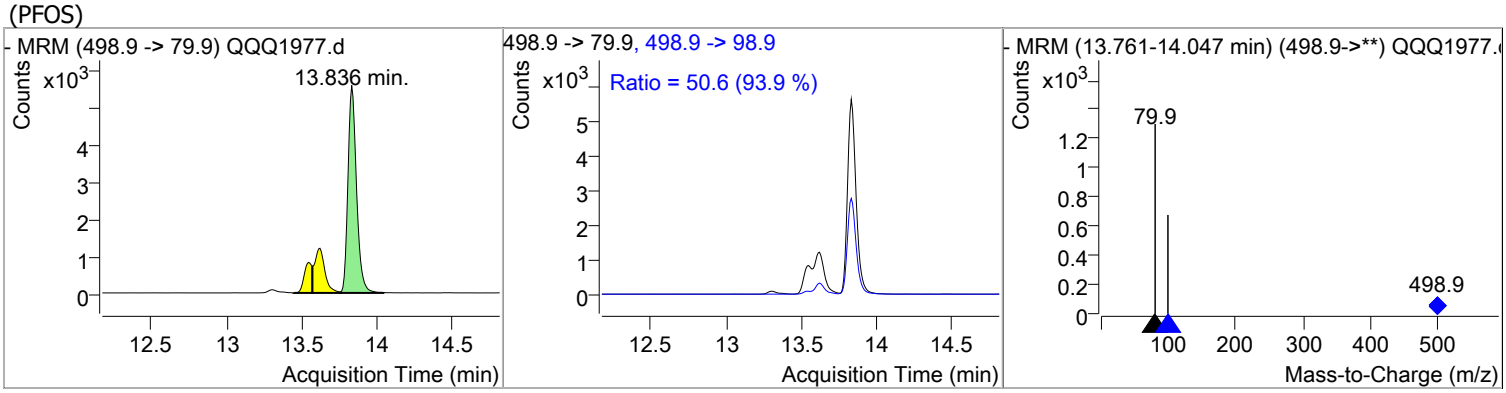
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	4.2570	13.82	-0.08	68458	463.0 -> 218.8	26.5	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.5872	13.84	-0.08	27549	507.0 -> 98.9	61.8	47.2	70.8

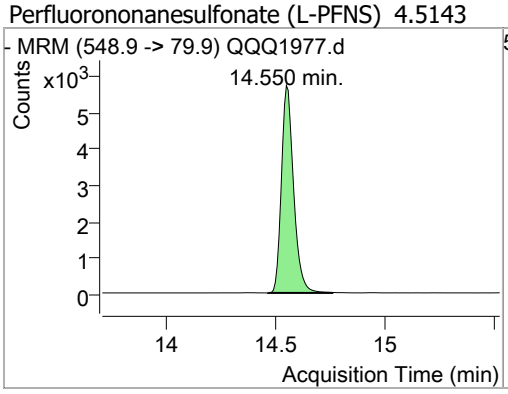


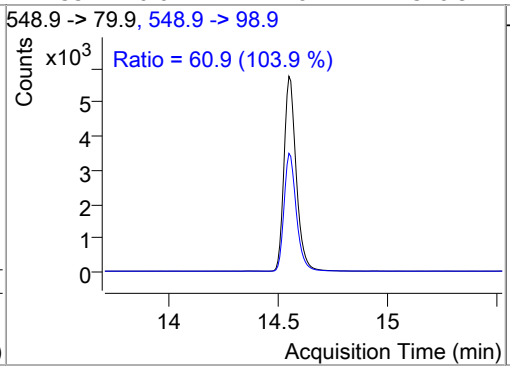
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.3928	13.84	-0.08	22248	498.9 -> 98.9	50.6	43.1	64.6

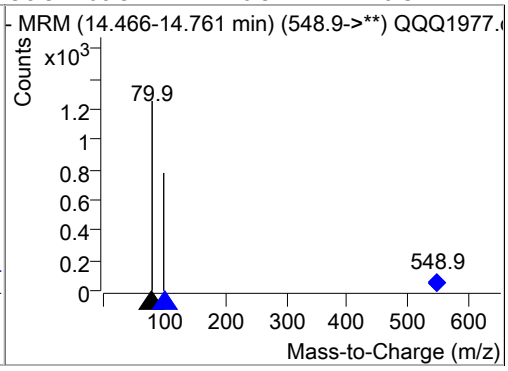


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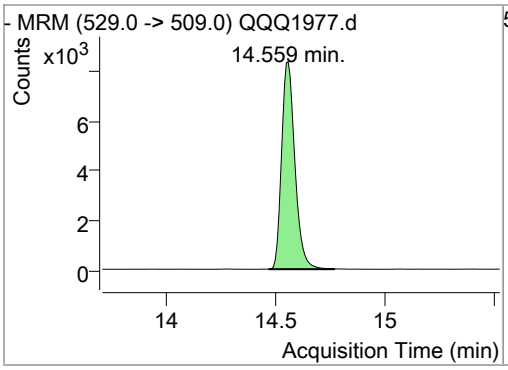
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	4.5143	14.55	-0.07	22182	548.9 -> 98.9	60.9	46.9	70.3

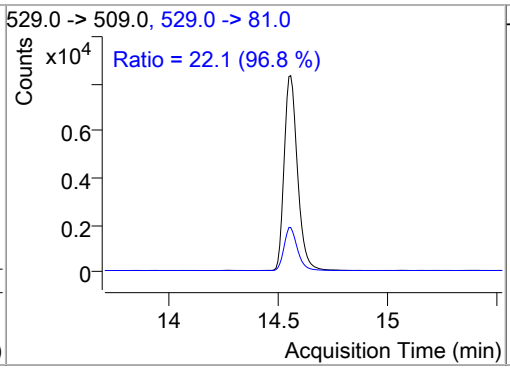


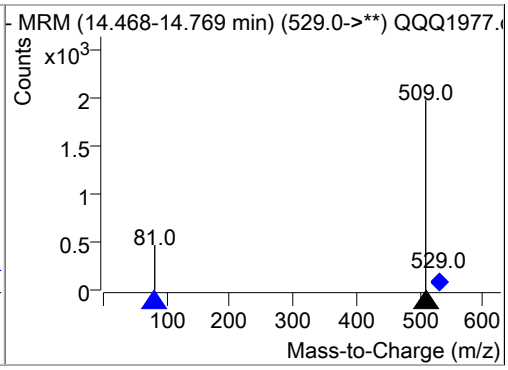




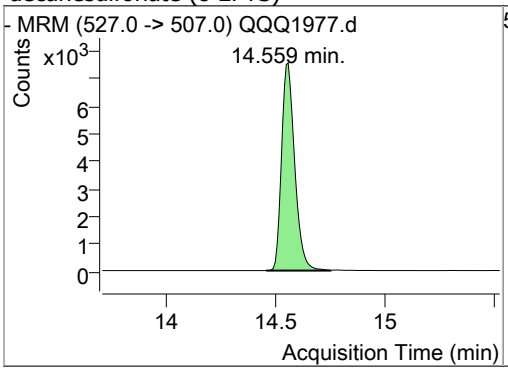
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.7545	14.56	-0.06	35301	529.0 -> 81.0	22.1	18.3	27.4

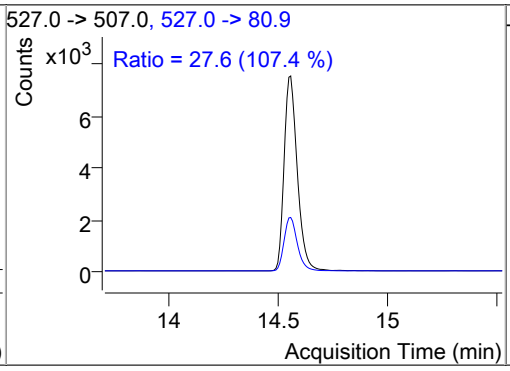


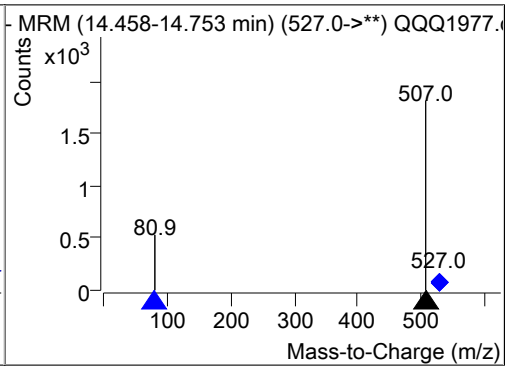




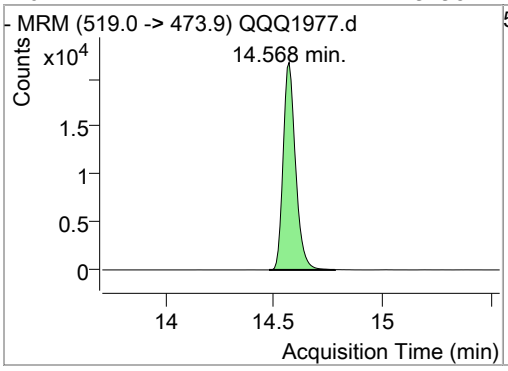
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	4.7816	14.56	-0.06	31503	527.0 -> 80.9	27.6	20.6	30.9

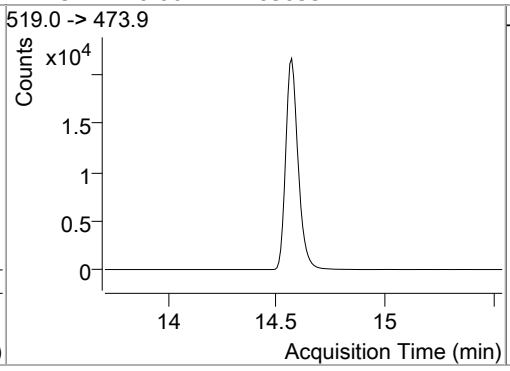


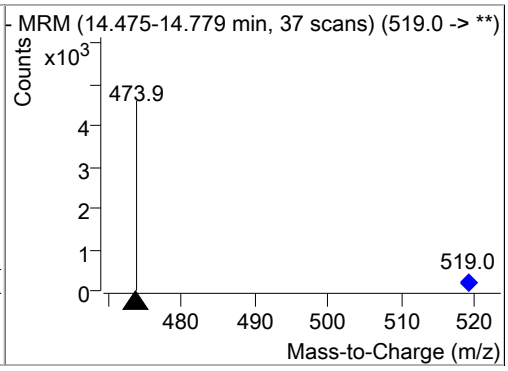




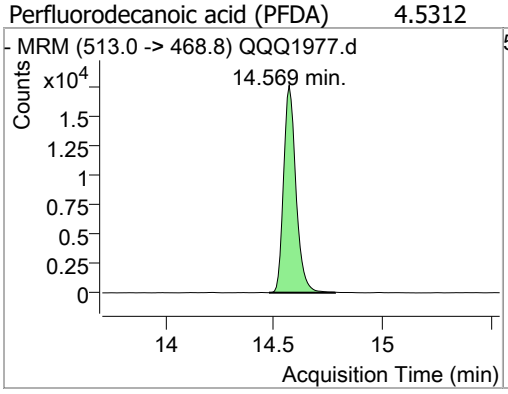
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	4.9298	14.57	-0.06	85855				

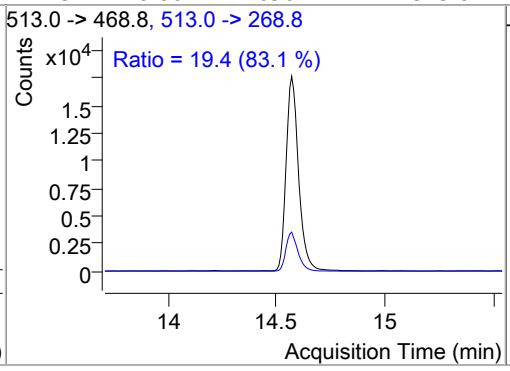


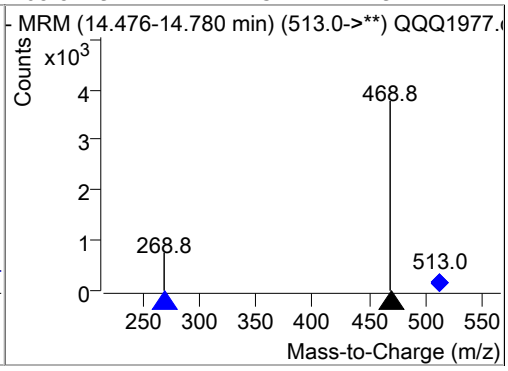




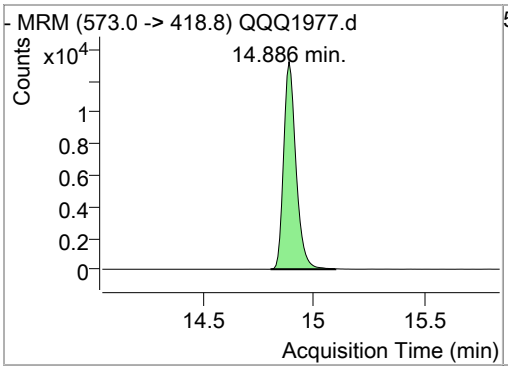
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.5312	14.57	-0.06	69612	513.0 -> 268.8	19.4	17.5	29.1

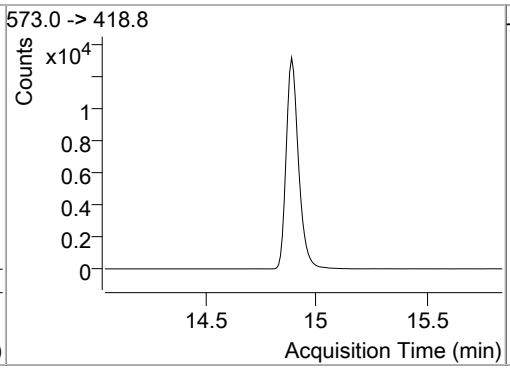


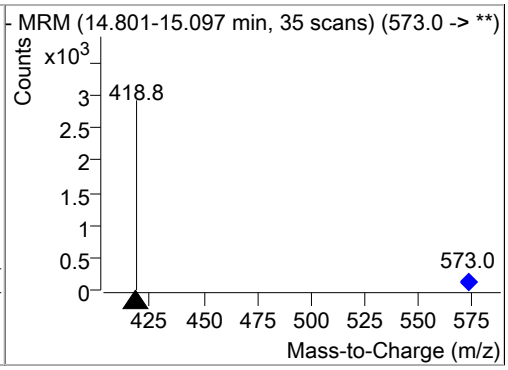




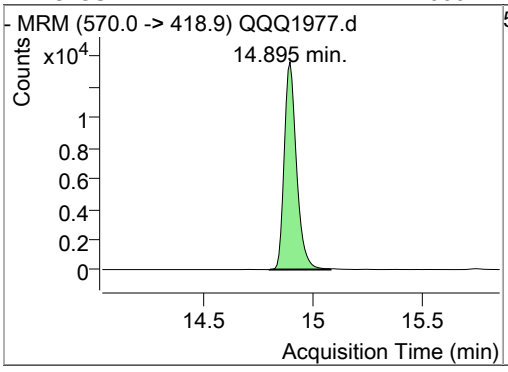
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	4.8221	14.89	-0.05	51504				

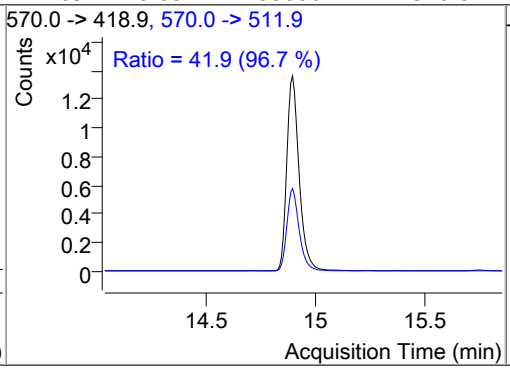


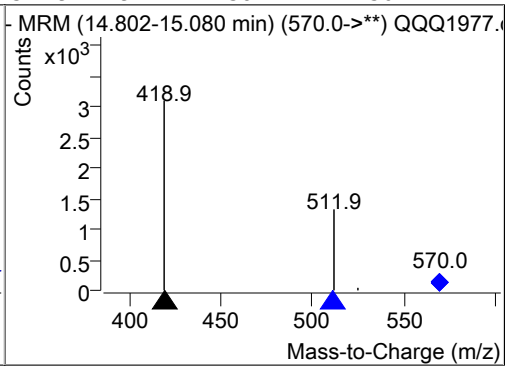




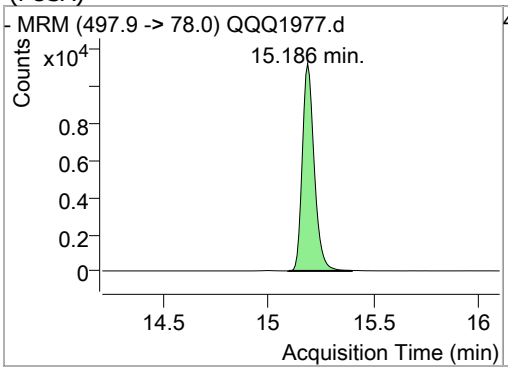
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	4.7000	14.89	-0.05	53086	570.0 -> 511.9	41.9	30.4	56.4

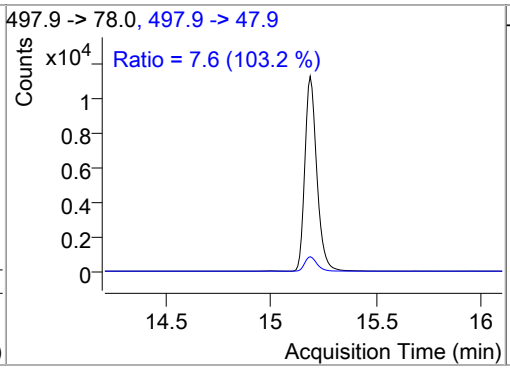


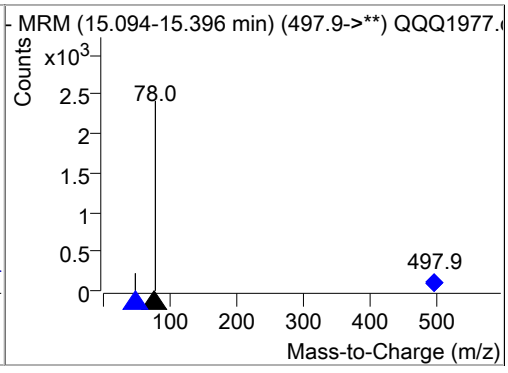




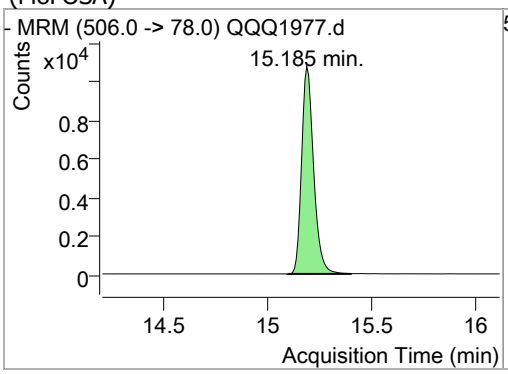
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	4.6809	15.19	0.00	44247	497.9 -> 47.9	7.6	5.9	8.8

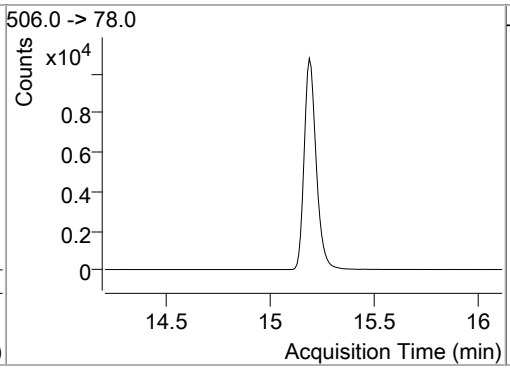


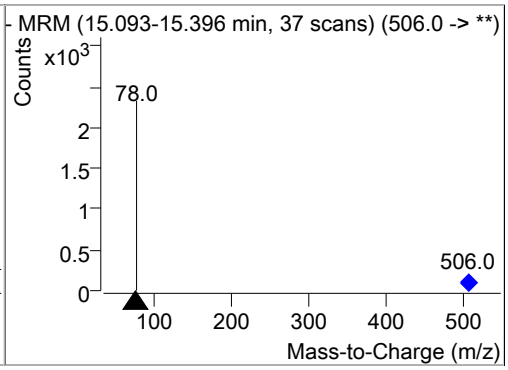




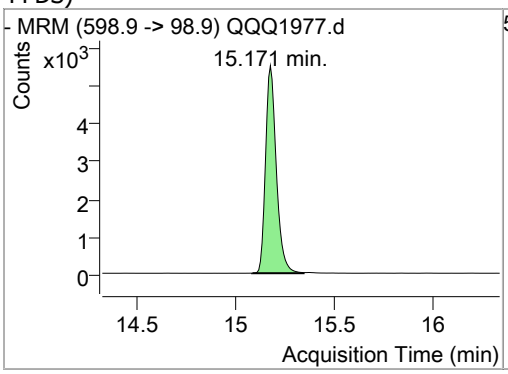
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.7387	15.19	-0.01	42998				

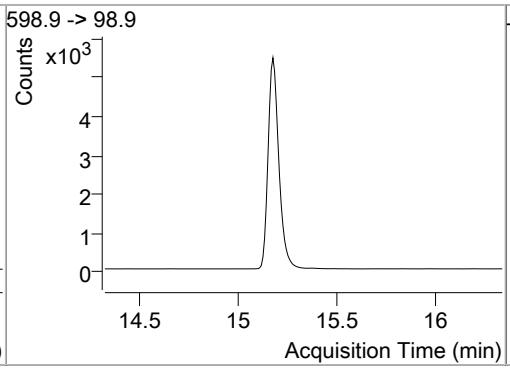


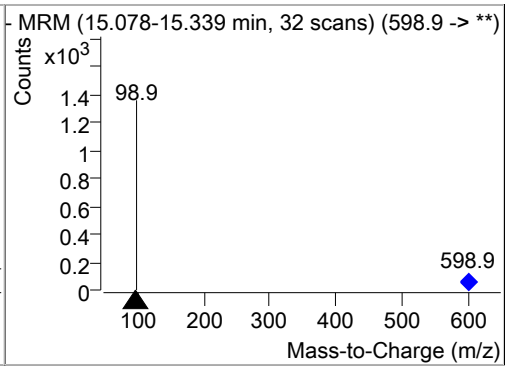




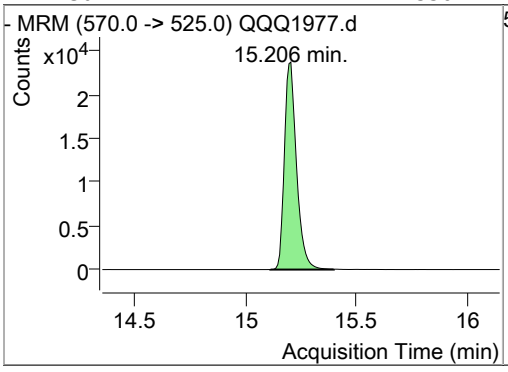
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.5275	15.17	-0.04	20585				

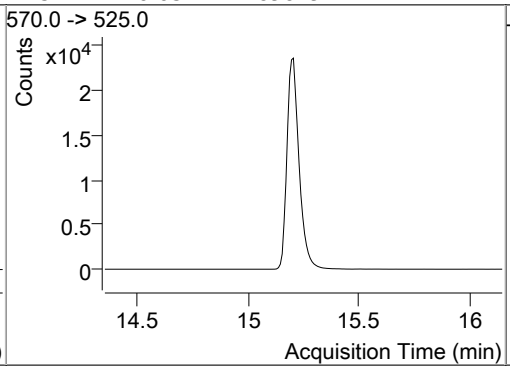


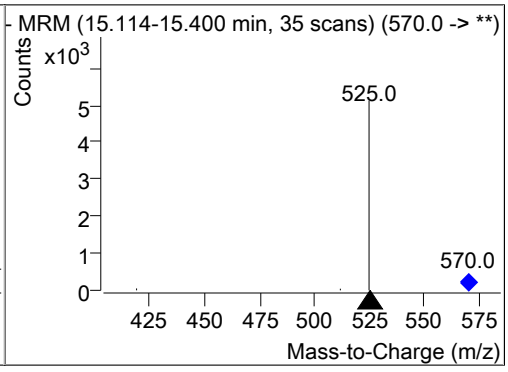




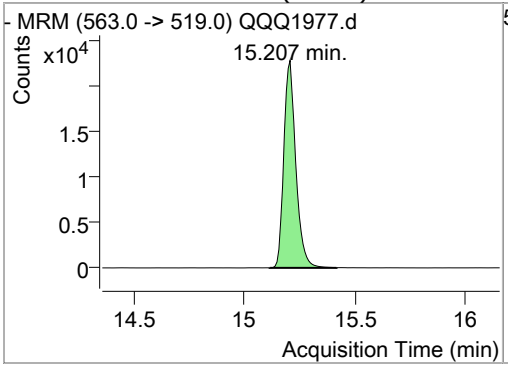
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	4.5362	15.21	-0.03	89879				

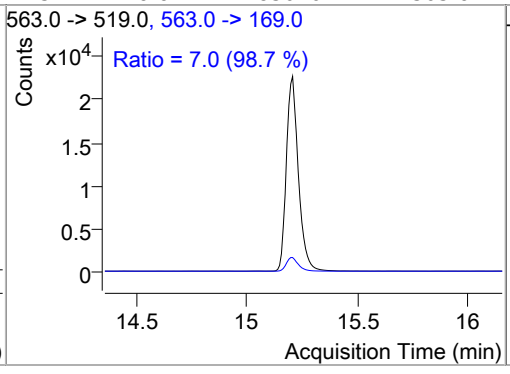


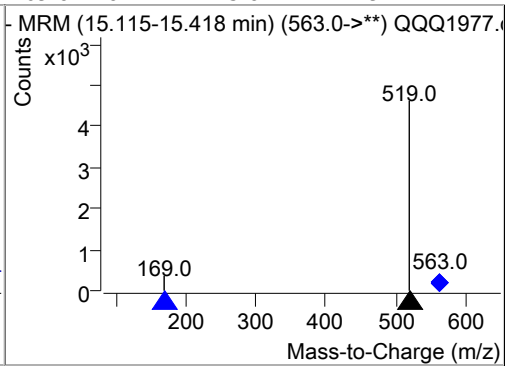




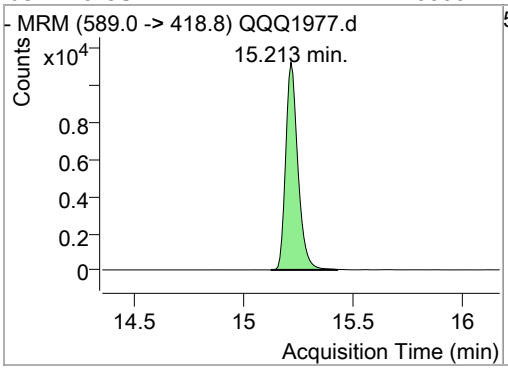
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.6572	15.21	-0.04	85646	563.0 -> 169.0	7.0	5.0	9.2

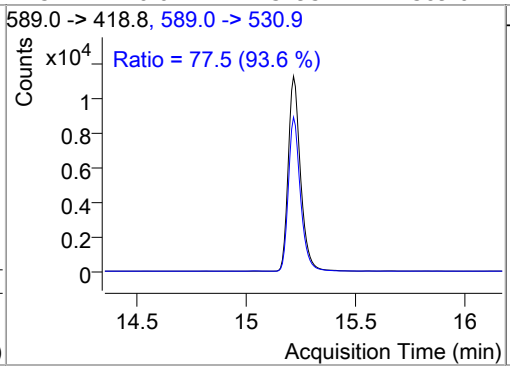


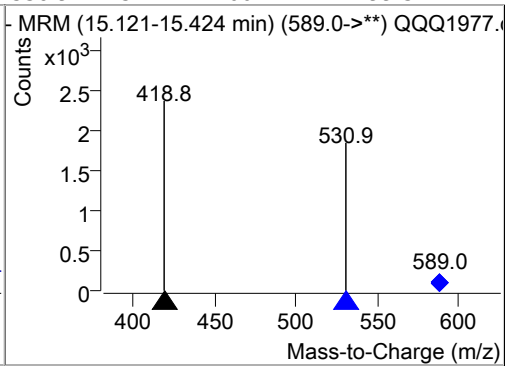




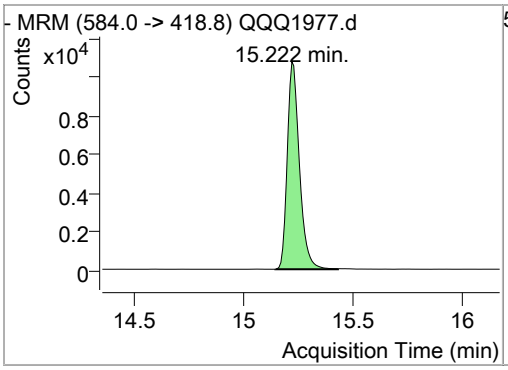
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.8000	15.21	-0.04	43495	589.0 -> 530.9	77.5	66.2	99.3

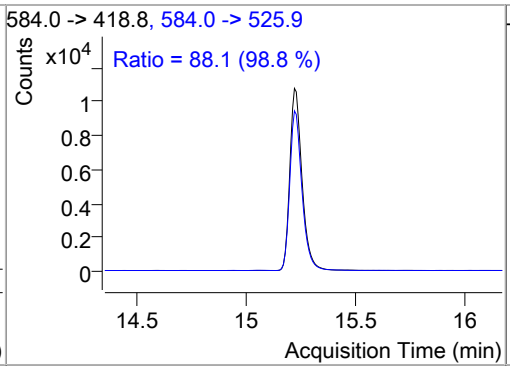


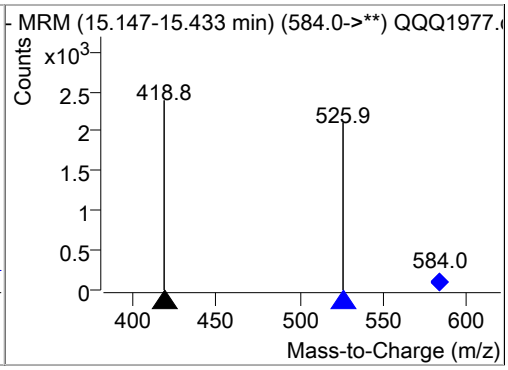




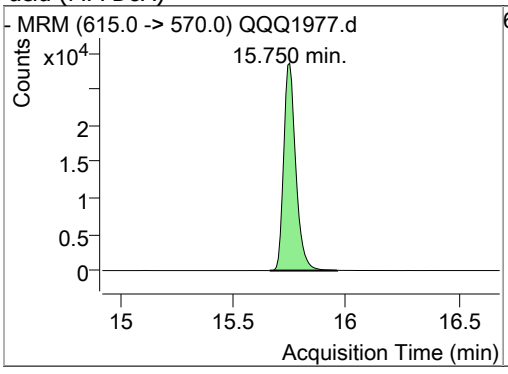
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.6346	15.22	-0.04	41488	584.0 -> 525.9	88.1	71.3	107.0

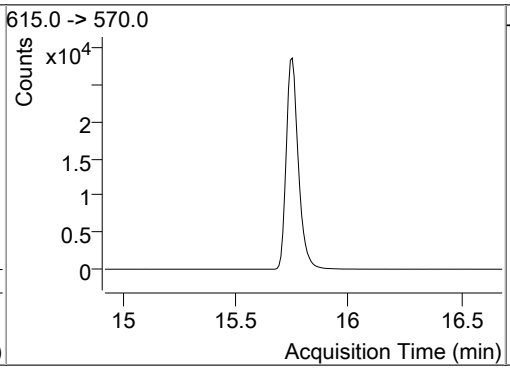


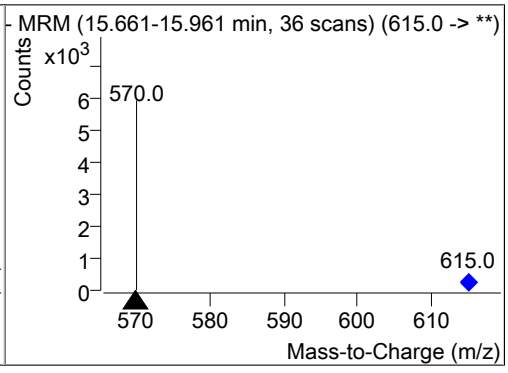




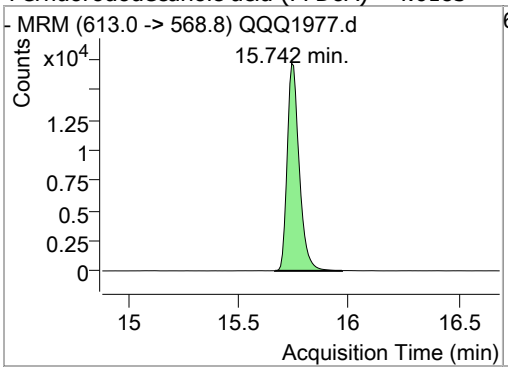
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	5.2420	15.75	-0.03	106784				

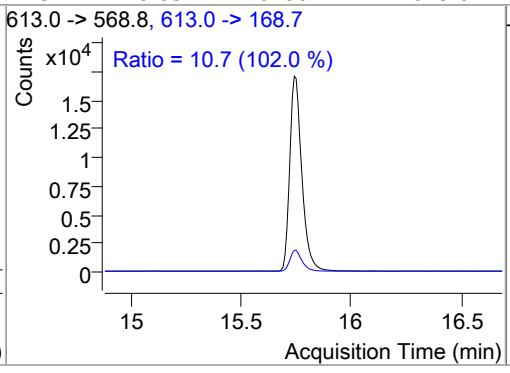


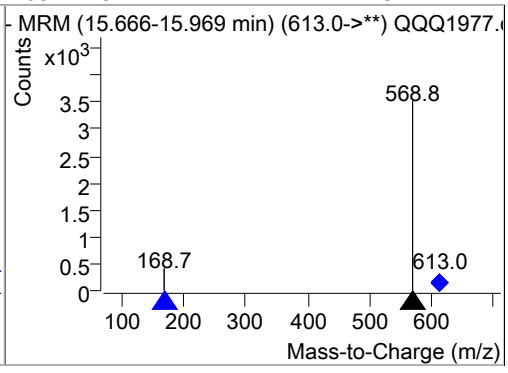




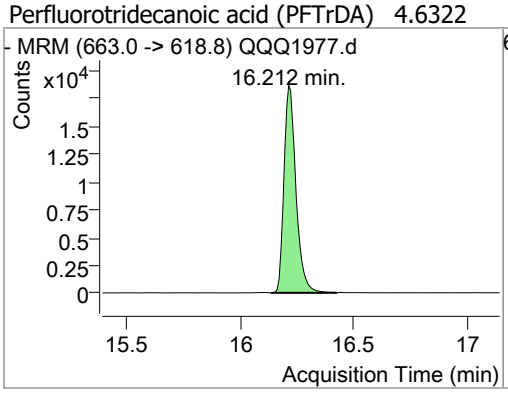
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.6183	15.74	-0.03	64861	613.0 -> 168.7	10.7	7.4	13.7

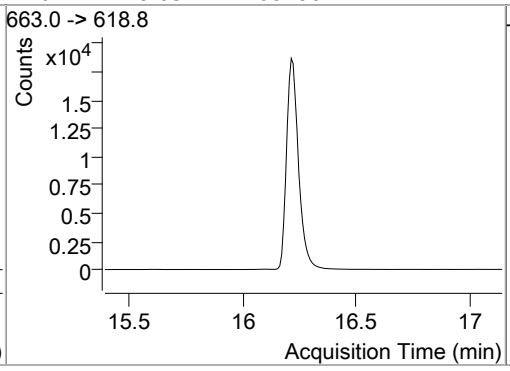


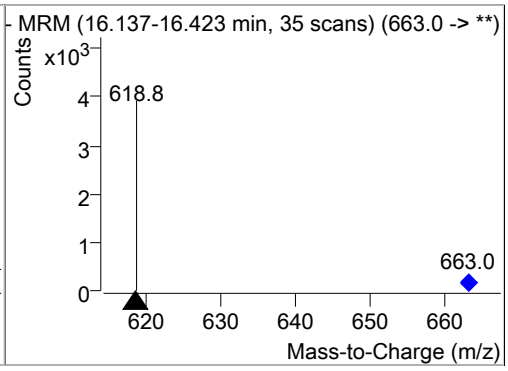




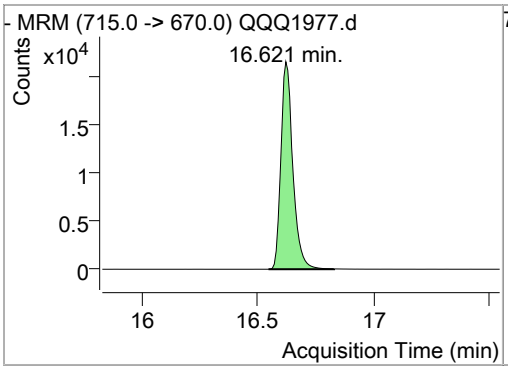
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	4.6322	16.21	-0.03	68400				

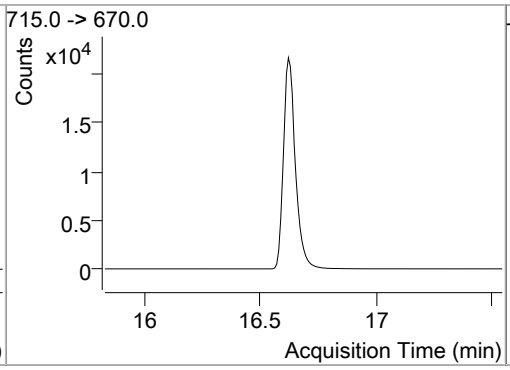


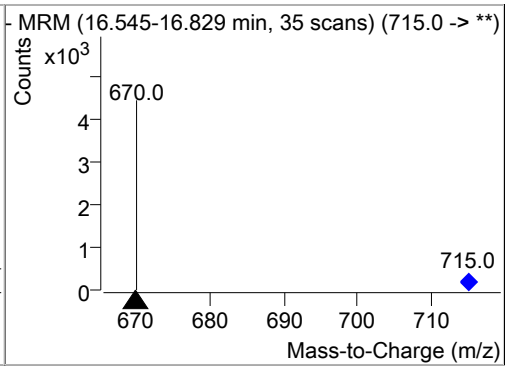




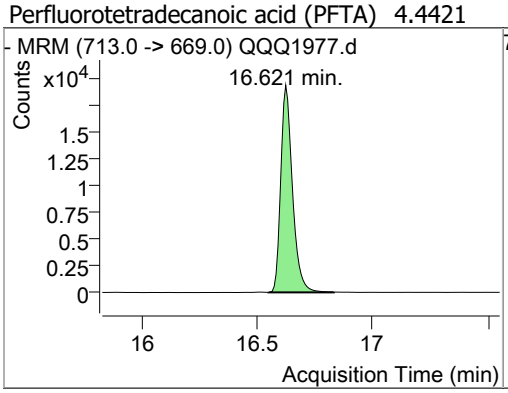
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	4.6614	16.62	-0.02	77524				

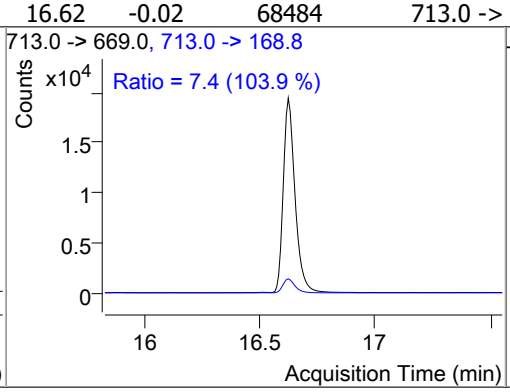


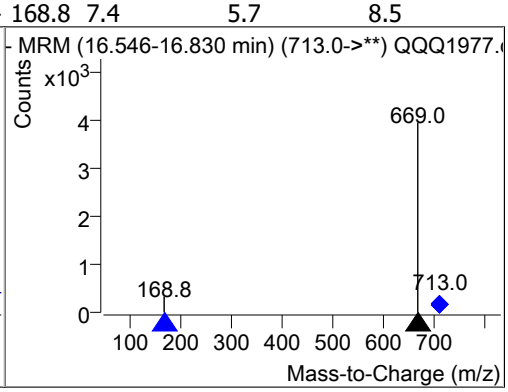




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.4421	16.62	-0.02	68484	713.0 -> 168.8	7.4	5.7	8.5







FORM VII

CONTINUING CALIBRATION CHECK

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	LCQQQ	Calibration:	YI90019
Lab File ID:	QQQ1984.d	Calibration Date:	09/27/19 12:03
Sequence:	Y9J0727	Injection Date:	10/04/19
Lab Sample ID:	Y9J0727-CCV3	Injection Time:	23:52

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	Q	4.80	5.06	0.24826	0.225452		5.4	30
1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	A	4.75	4.52	0.2993209	0.2852071		-4.7	30
N-EtFOSAA	A	5.00	4.94	0.2927228	0.2894905		-1.1	30
N-MeFOSAA	A	5.00	5.07	0.3693488	0.3743523		1.4	30
Perfluoro-1-decanesulfonic acid (PFDS)	A	4.82	4.97	0.1486088	0.153425		3.2	30
Perfluoro-1-heptanesulfonic acid (PFHpS)	A	4.98	5.23	0.1801378	0.1892539		5.1	30
Perfluoro-1-octanesulfonamide (FOSA)	A	5.00	5.00	0.3091035	0.3090326		-0.02	30
Perfluorobutanesulfonic acid (PFBS)	A	4.42	4.55	0.3283685	0.3381569		3.0	30
Perfluorodecanoic acid (PFDA)	A	5.00	4.55	0.5023701	0.4574822		-8.9	30
Perfluorododecanoic acid (PFDoA)	A	5.00	4.85	0.4592504	0.4451664		-3.1	30
Perfluoroheptanoic acid (PFHpA)	A	5.00	5.06	0.8176638	0.8279437		1.3	30
Perfluorohexanesulfonic acid (PFHxS)	A	3.70	3.87	0.2430381	0.2540833		4.5	30
Perfluorohexanoic acid (PFHxA)	A	5.00	4.99	1.109852	1.106543		-0.3	30
Perfluoro-n-butanoic acid (PFBA)	A	5.00	5.31	0.7530296	0.799957		6.2	30
Perfluorononanoic acid (PFNA)	A	4.80	5.10	0.5258608	0.5586867		6.2	30
Perfluorooctanesulfonic acid (PFOS)	A	3.65	3.63	0.2135379	0.213115		-0.2	30
Perfluorooctanoic acid (PFOA)	A	5.00	4.93	0.6186046	0.6098058		-1.4	30
Perfluoropentanoic acid (PFPeA)	A	5.00	5.05	1.122031	1.133339		1.0	30
Perfluorotetradecanoic acid (PFTA)	A	5.00	4.99	0.5041394	0.5034769		-0.1	30
Perfluorotridecanoic acid (PFTrDA)	A	5.00	5.08	0.4828499	0.4905481		1.6	30
Perfluoroundecanoic acid (PFUnA)	A	5.00	4.74	0.6013559	0.5704202		-5.1	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Results Report (Not Reviewed)

Data File	QQQ1984.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 11:52:11 PM
Sample Name	SEQ-CCV3	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.949	417.0 -> 372.0	291788	10.0000	ng/ml	-0.085
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.088	217.0 -> 172.0	129930	5.2137	ng/ml	-0.100
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.14%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.039	268.0 -> 223.0	187888	5.0382	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.38%		
M3PFBS	8.743	302.0 -> 79.9	50953	4.7907	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.91%		
M2-4-2FTS	10.183	329.0 -> 309.0	65439	4.4723	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 44.72%		
M5PFHxA	10.320	318.0 -> 273.0	187613	4.9981	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.98%		
M4PFHpA	11.835	367.0 -> 322.0	47545	5.8304	ng/ml	-0.084
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 58.30%		
M3PFHxS	11.957	402.0 -> 80.0	36290	4.8777	ng/ml	-0.085
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.78%		
M2-6-2FTS	12.887	429.0 -> 409.0	41393	4.7965	ng/ml	-0.086
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.96%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	96089	4.7240	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 47.24%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.837	472.0 -> 427.0	101608	4.8653	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.65%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	28352	4.9478	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.48%		
M2-8-2FTS	14.559	529.0 -> 509.0	35218	5.0051	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 50.05%		
M6PFDA	14.577	519.0 -> 473.9	88052	5.2989	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 52.99%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	52843	5.1853	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.85%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	44452	5.1344	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 51.34%		
M7PFUdA	15.206	570.0 -> 525.0	81140	4.2920	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 42.92%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	42880	4.9596	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 49.60%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	93564	4.8137	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 48.14%		
M2PFTeDA	16.621	715.0 -> 670.0	85455	5.3852	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 53.85%		

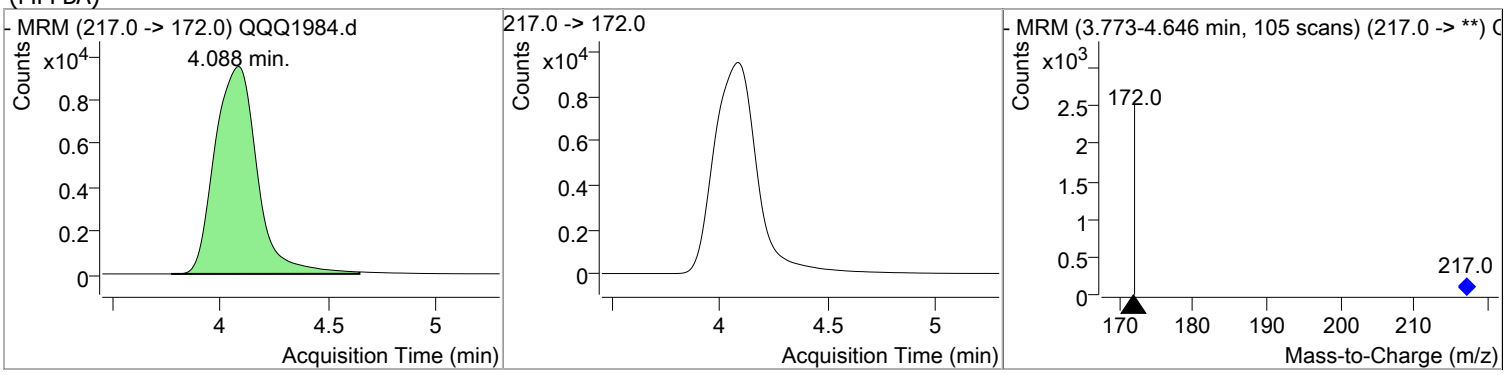
Target Compounds	QValue

Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.092	213.0 -> 168.9	116709	5.3116	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.040	263.0 -> 219.0	165347	5.0504	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.746	298.9 -> 79.9	43612	4.5496	ng/ml	99
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.184	327.0 -> 307.0	55694	4.6060	ng/ml	98
Perfluorohexanoic acid (PFHxA)	10.322	313.0 -> 268.9	161438	4.9851	ng/ml	100
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.624	348.9 -> 79.9	40457	4.8260	ng/ml	98
Perfluoroheptanoic acid (PFHpA)	11.836	363.0 -> 318.8	120792	5.0629	ng/ml	97
Perfluorohexanesulfonic acid (PFHxS)	11.959	398.9 -> 79.9	27431	3.8681	ng/ml	100
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.888	427.0 -> 407.0	39529	4.5246	ng/ml	99
Perfluorooctanoic acid (PFOA)	12.949	413.0 -> 368.8	88967	4.9289	ng/ml	98
Perfluoro-1-heptanesulfonate (L-PFHpS)	12.997	448.9 -> 80.0	27501	5.2343	ng/ml	99
Perfluorononanoic acid (PFNA)	13.837	463.0 -> 418.8	78249	5.0996	ng/ml	98
Perfluorooctanesulfonic acid (PFOS)	13.845	498.9 -> 79.9	22697	3.6277	ng/ml	97
Perfluorononanesulfonate (L-PFNS)	14.558	548.9 -> 79.9	23749	5.0654	ng/ml	100
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	31576	5.0591	ng/ml	96
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	66744	4.5532	ng/ml	93
N-MeFOSAA	14.895	570.0 -> 418.9	54616	5.0677	ng/ml	96
Perfluoro-1-octanesulfonamide (FOSA)	15.186	497.9 -> 78.0	45086	4.9989	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	21578	4.9740	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.207	563.0 -> 519.0	83221	4.7428	ng/ml	98
N-EtFOSAA	15.222	584.0 -> 418.8	42235	4.9448	ng/ml	96
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	64947	4.8467	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	71568	5.0797	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	73454	4.9934	ng/ml	100

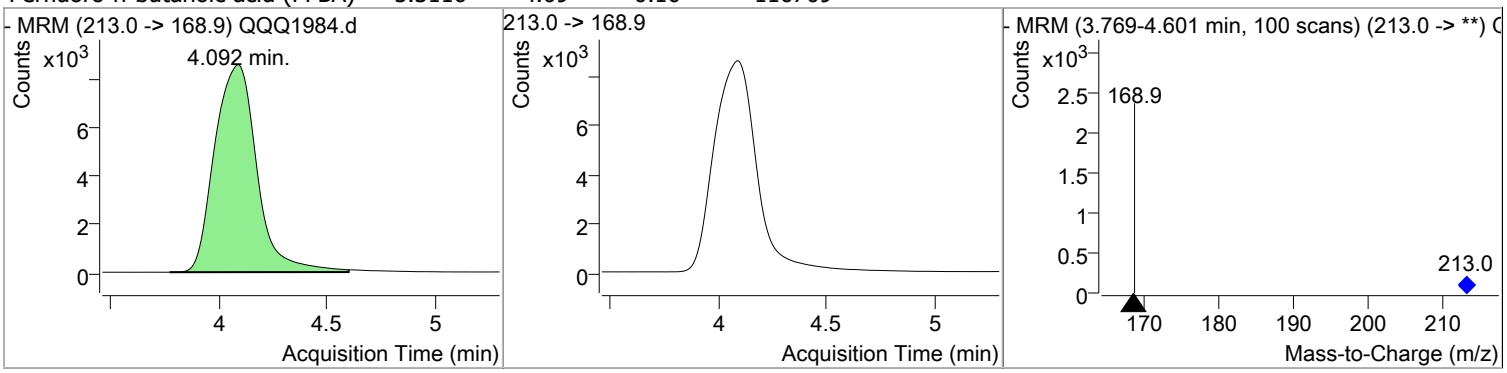
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

Quantitation Results Report (Not Reviewed)

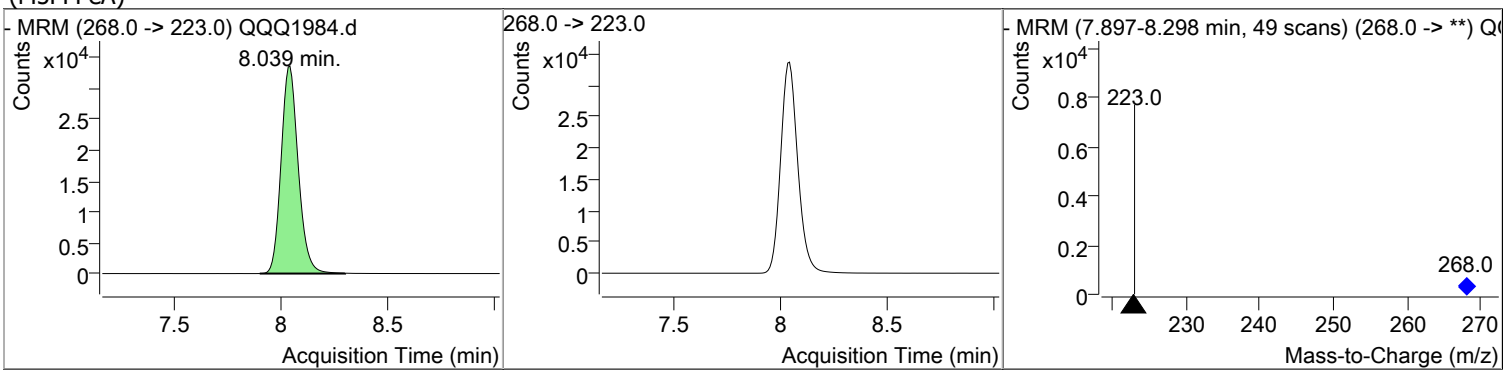
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	5.2137	4.09	-0.10	129930				



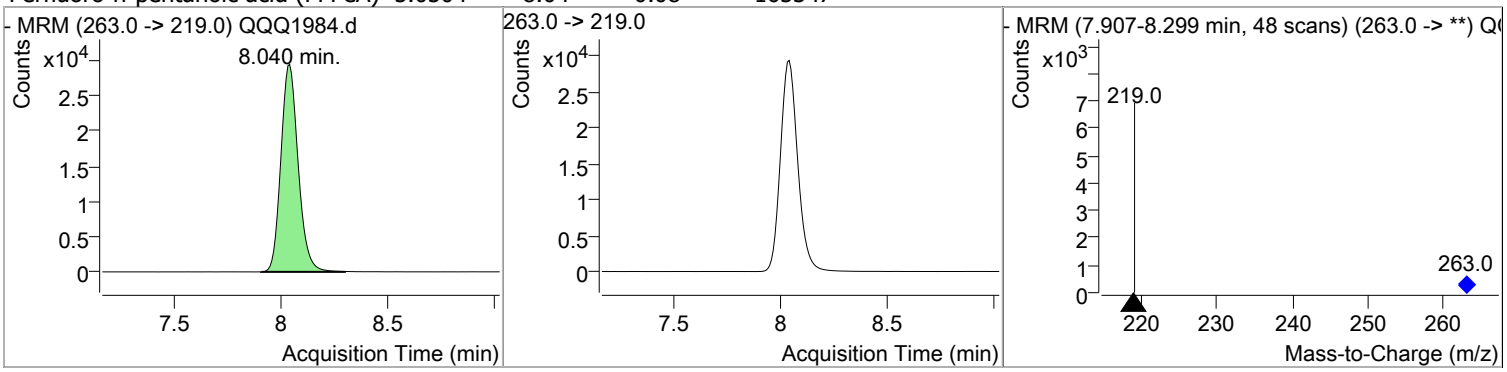
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	5.3116	4.09	-0.10	116709				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	5.0382	8.04	-0.08	187888				

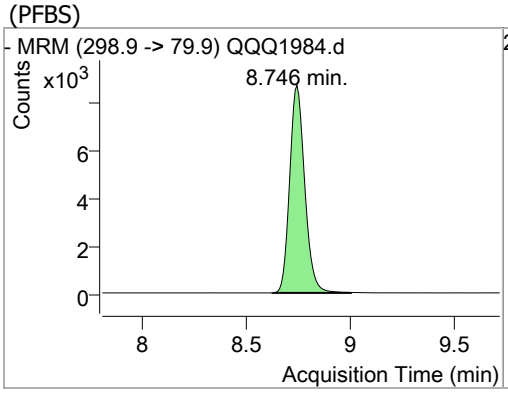


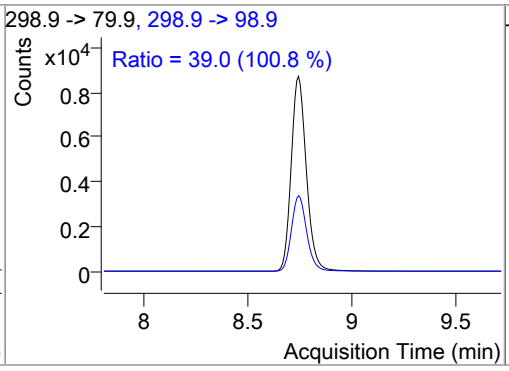
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	5.0504	8.04	-0.08	165347				

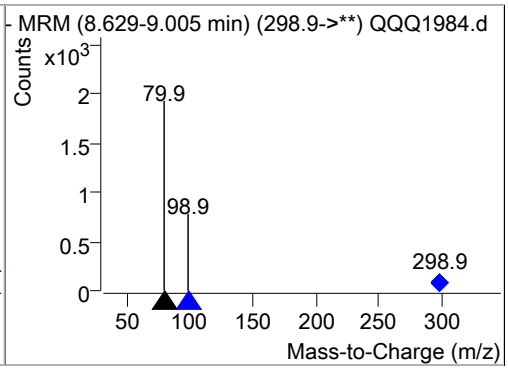


Quantitation Results Report (Not Reviewed)

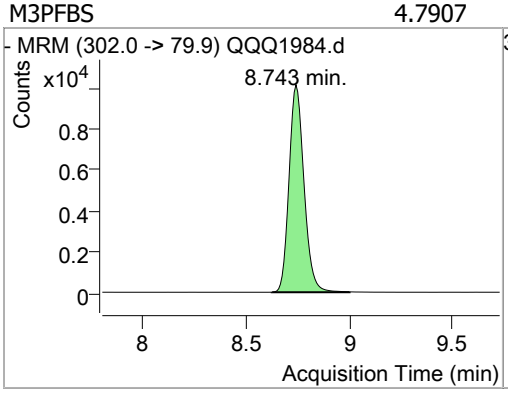
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	4.5496	8.75	-0.07	43612	298.9 -> 98.9	39.0	31.0	46.5

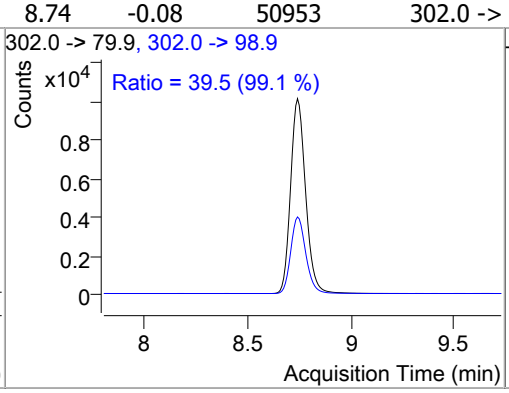


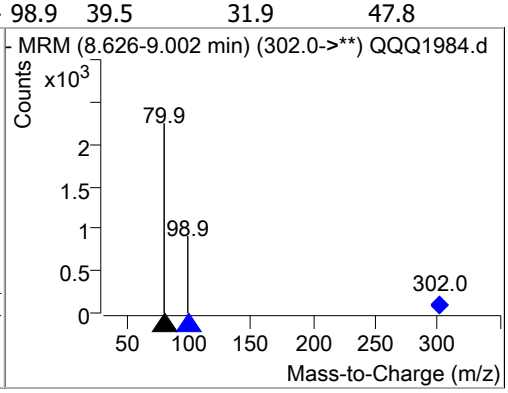




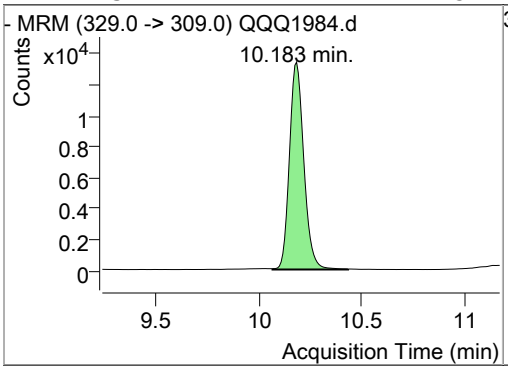
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	4.7907	8.74	-0.08	50953	302.0 -> 98.9	39.5	31.9	47.8

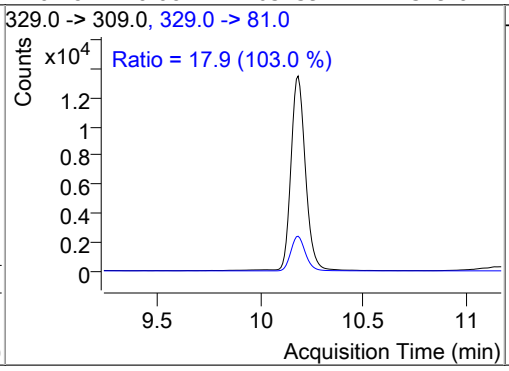


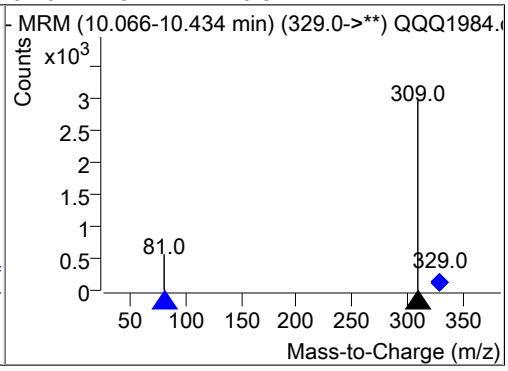




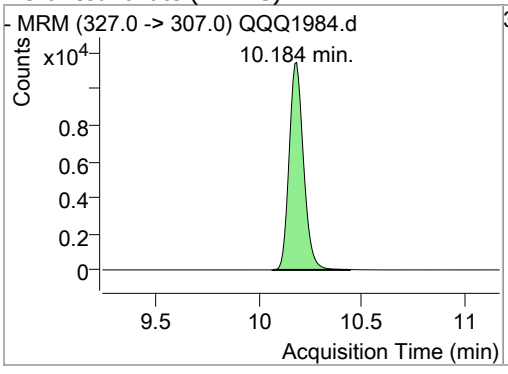
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	4.4723	10.18	-0.08	65439	329.0 -> 81.0	17.9	10.5	24.4

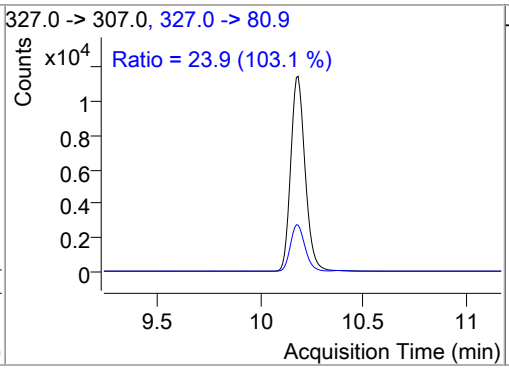


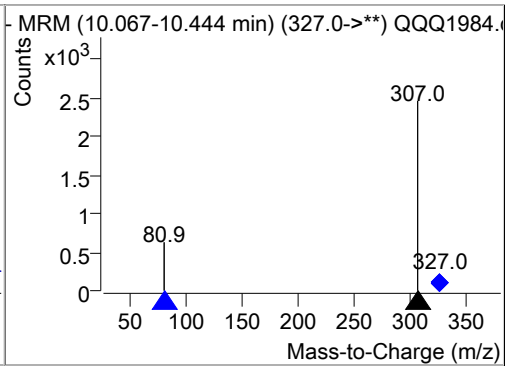




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	4.6060	10.18	-0.08	55694	327.0 -> 80.9	23.9	13.9	32.5

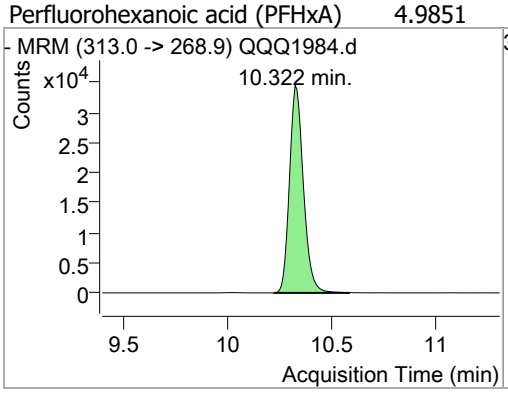


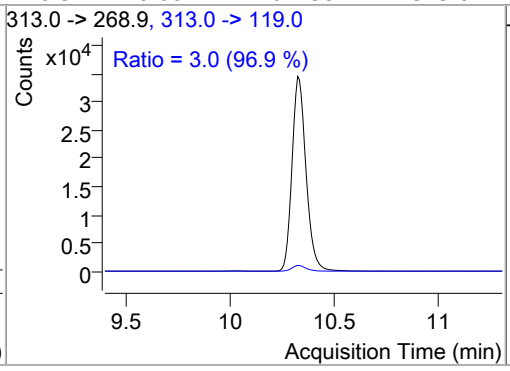


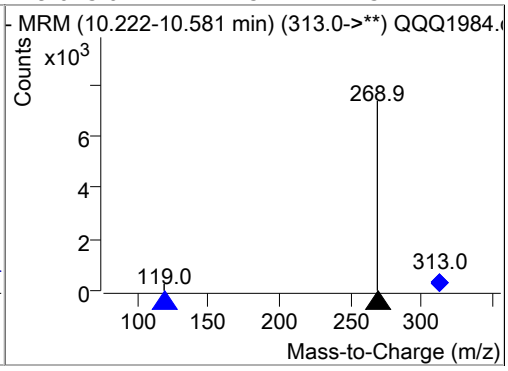


Quantitation Results Report (Not Reviewed)

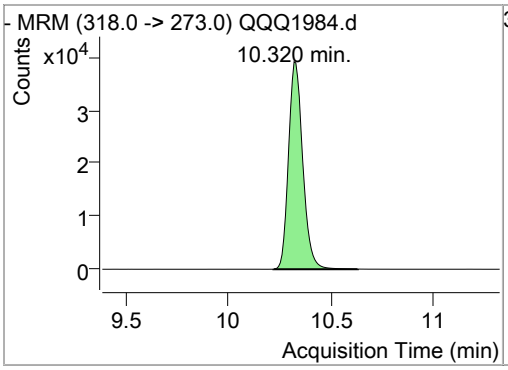
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	4.9851	10.32	-0.08	161438	313.0 -> 119.0	3.0	2.5	3.7

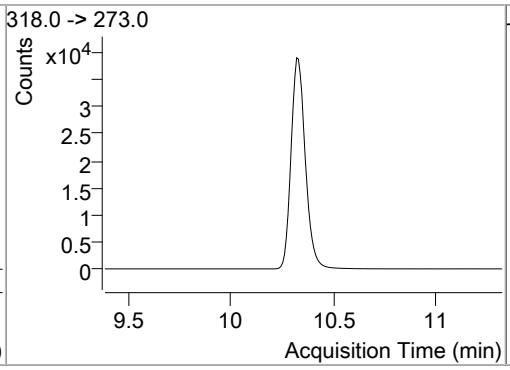


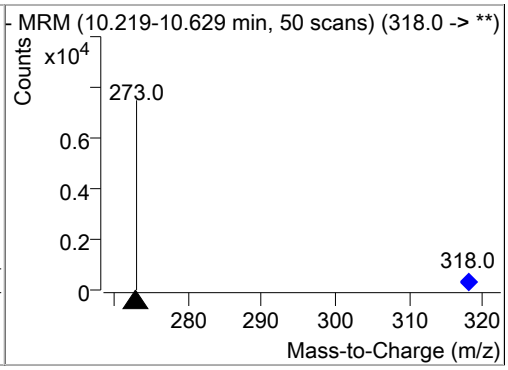




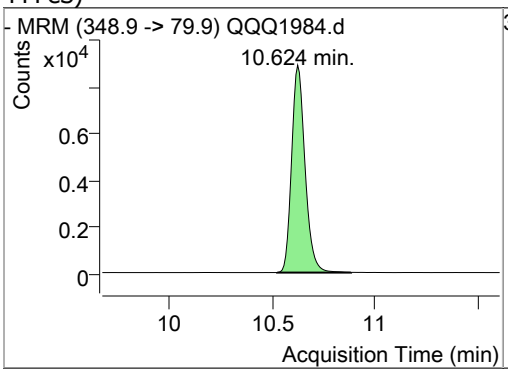
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	4.9981	10.32	-0.08	187613				

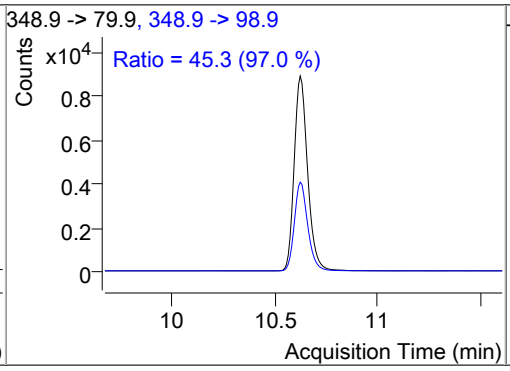


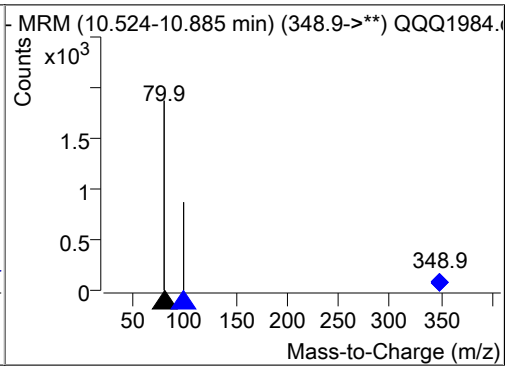




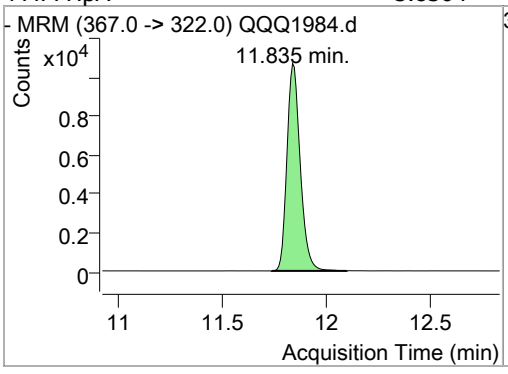
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	4.8260	10.62	-0.08	40457	348.9 -> 98.9	45.3	37.3	56.0

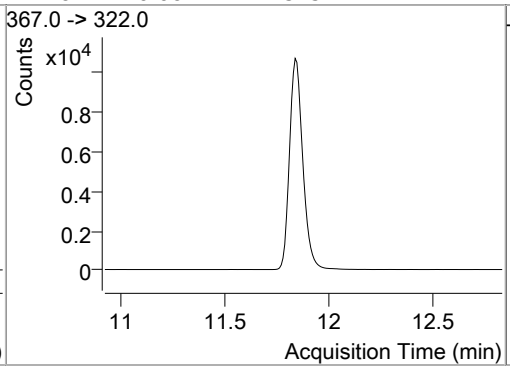


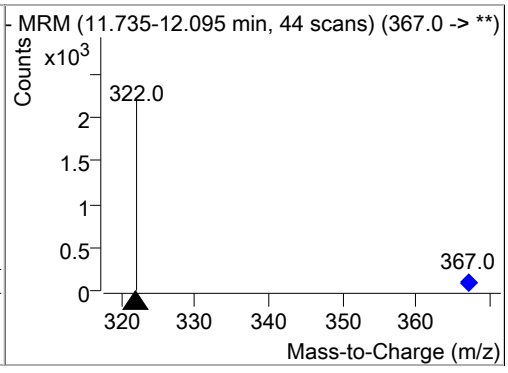




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	5.8304	11.84	-0.08	47545				

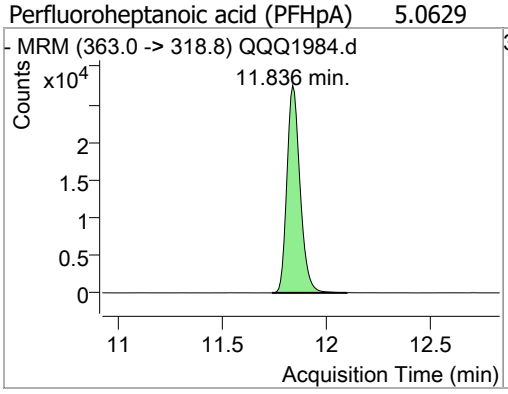


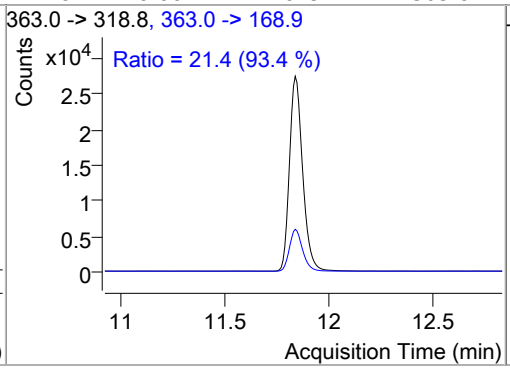


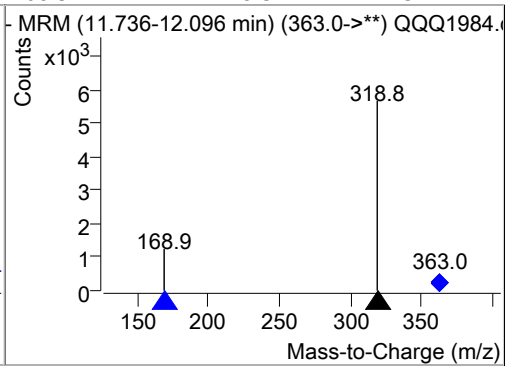


Quantitation Results Report (Not Reviewed)

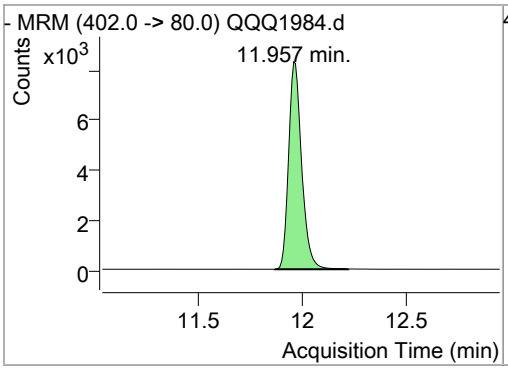
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	5.0629	11.84	-0.08	120792	363.0 -> 168.9	21.4	18.3	27.5

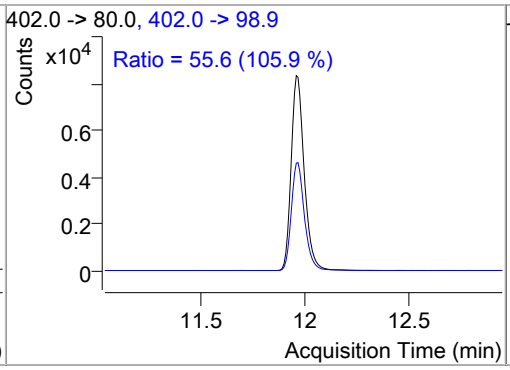


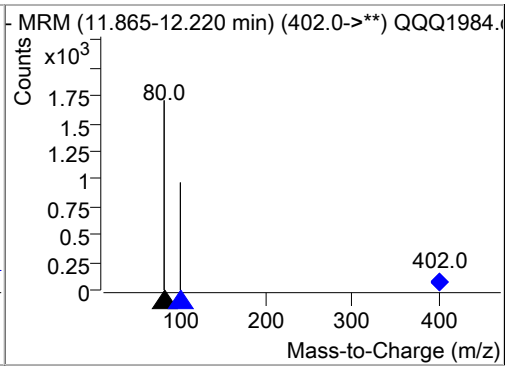




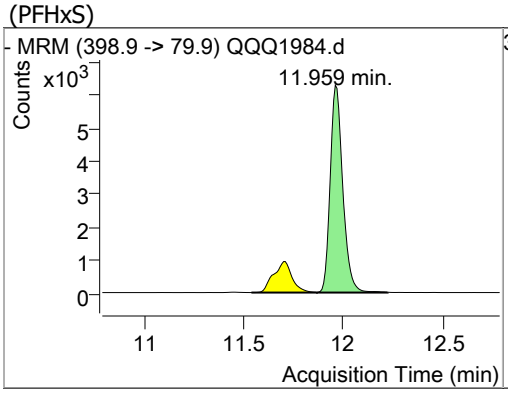
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	4.8777	11.96	-0.09	36290	402.0 -> 98.9	55.6	42.0	62.9

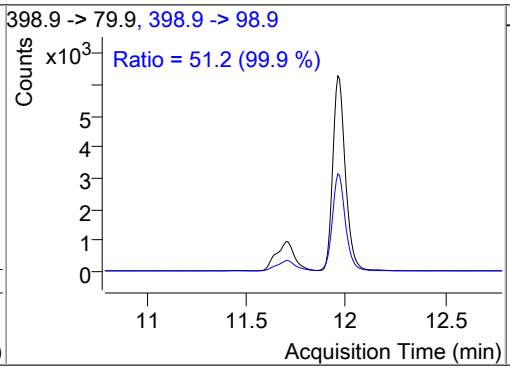


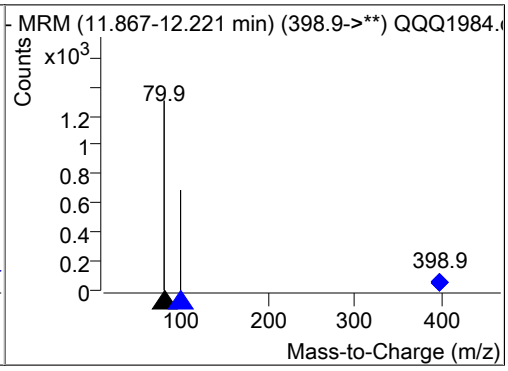




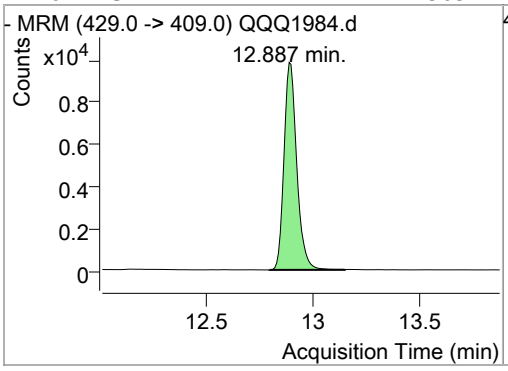
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	3.8681	11.96	-0.08	27431	398.9 -> 98.9	51.2	41.0	61.5

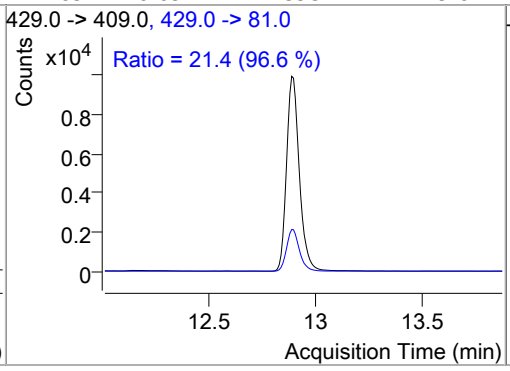


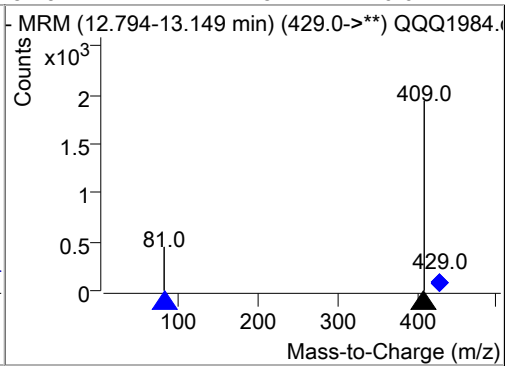




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	4.7965	12.89	-0.09	41393	429.0 -> 81.0	21.4	17.8	26.6

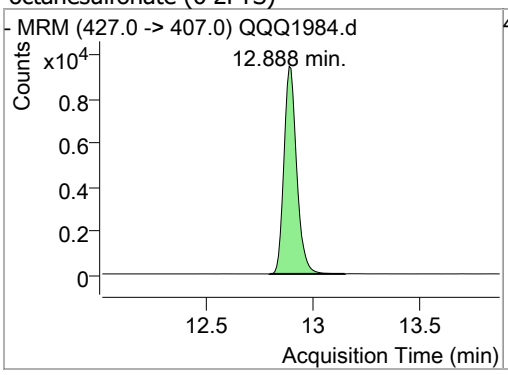


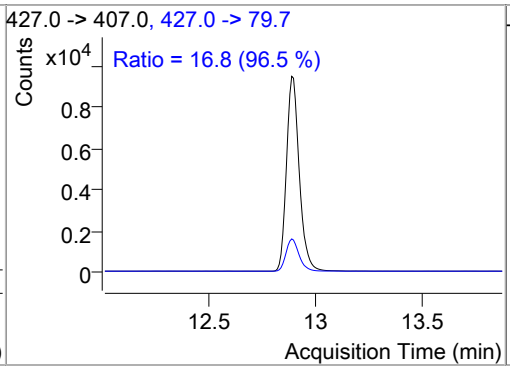


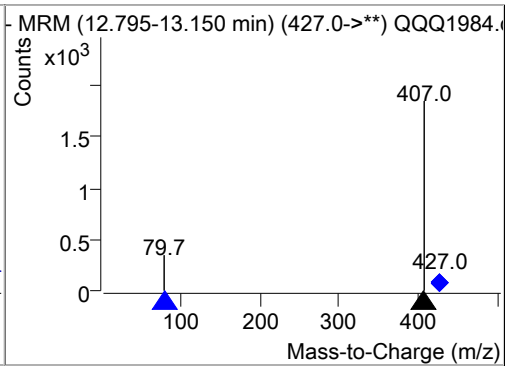


Quantitation Results Report (Not Reviewed)

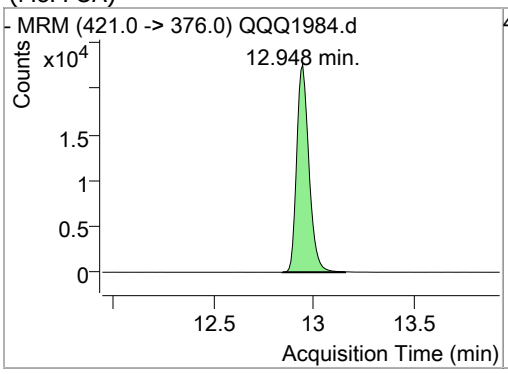
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.5246	12.89	-0.09	39529	427.0 -> 79.7	16.8	13.9	20.8

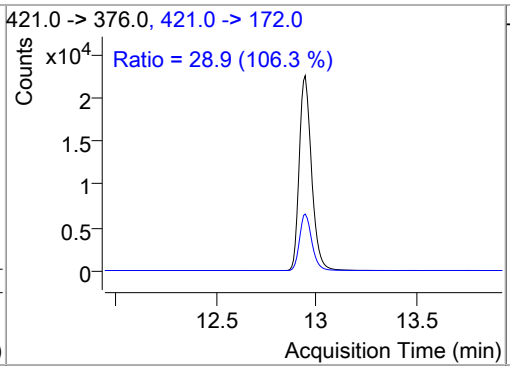


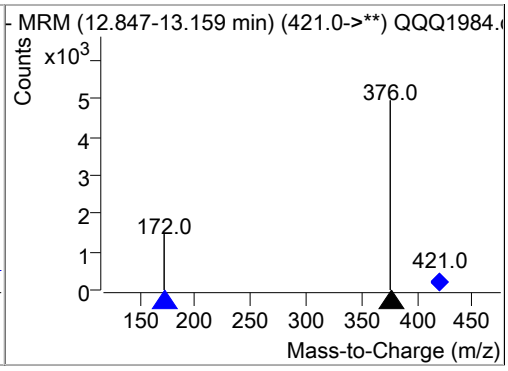




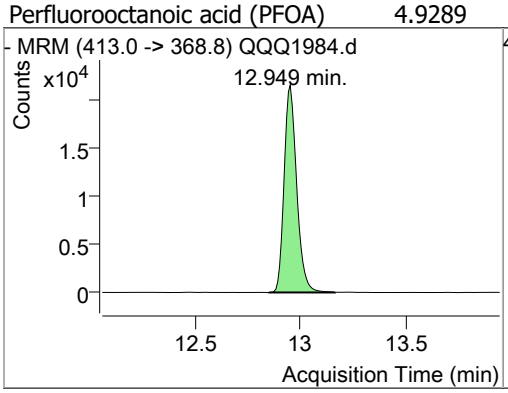
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.7240	12.95	-0.08	96089	421.0 -> 172.0	28.9	21.7	32.6

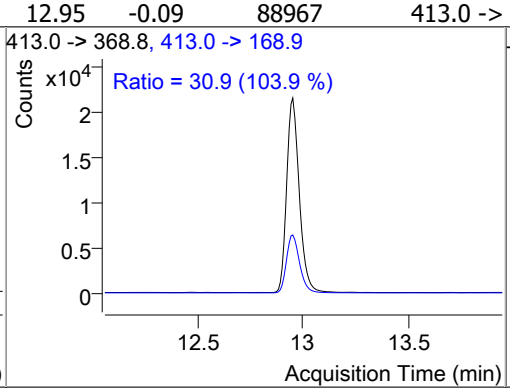


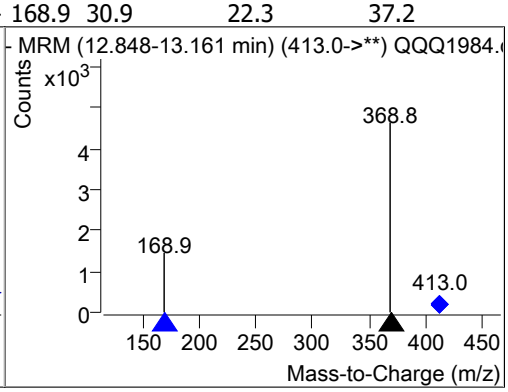




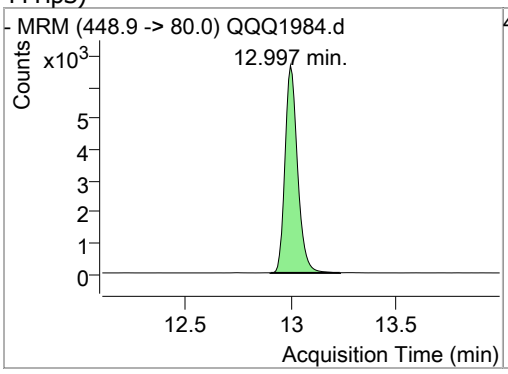
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.9289	12.95	-0.09	88967	413.0 -> 168.9	30.9	22.3	37.2

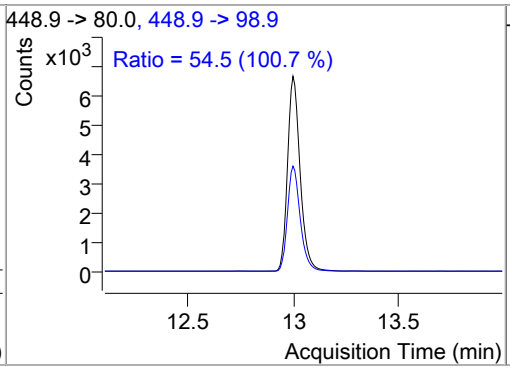


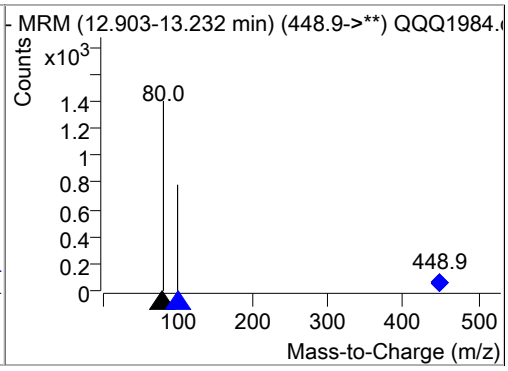




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	5.2343	13.00	-0.08	27501	448.9 -> 98.9	54.5	43.3	64.9

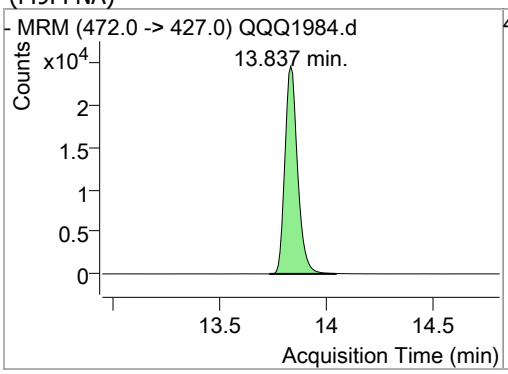


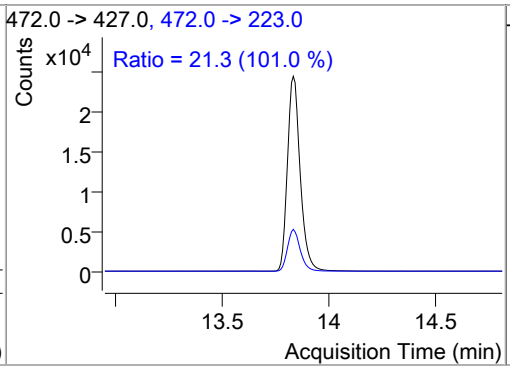


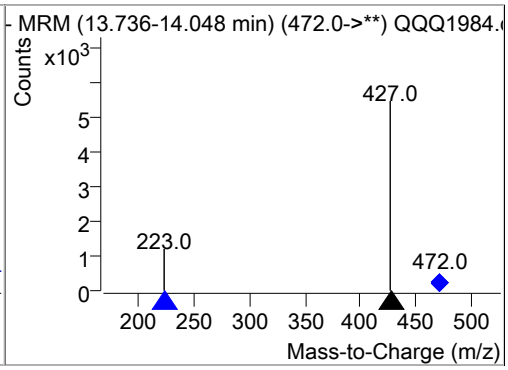


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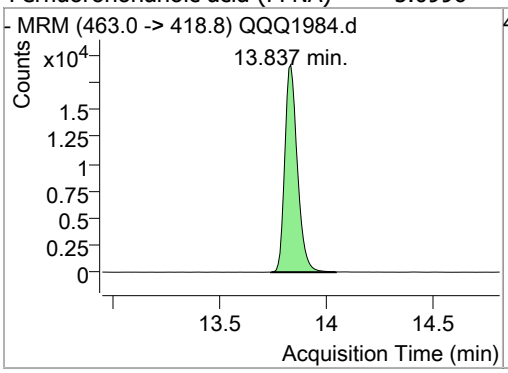
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	4.8653	13.84	-0.07	101608	472.0 -> 223.0	21.3	16.9	25.4

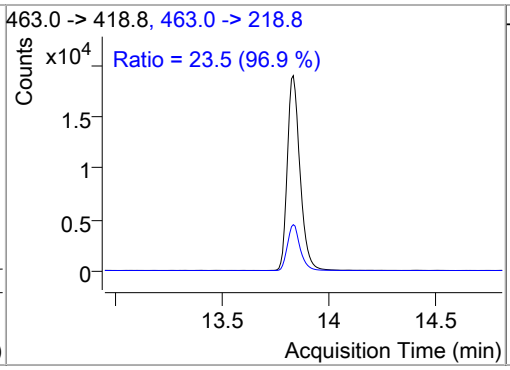


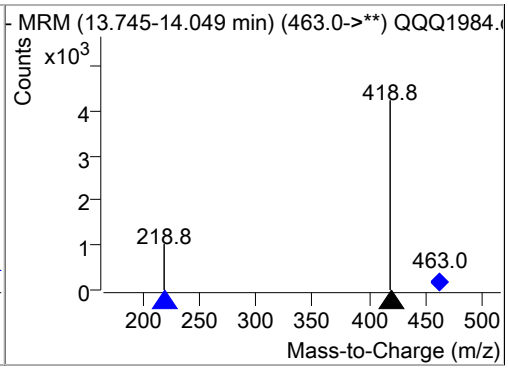




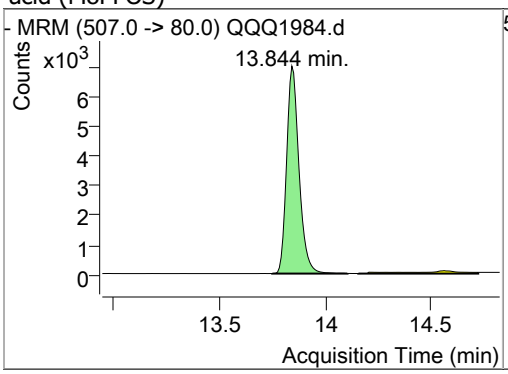
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	5.0996	13.84	-0.07	78249	463.0 -> 218.8	23.5	19.4	29.1

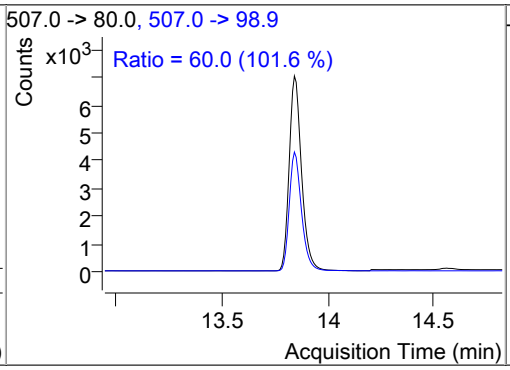


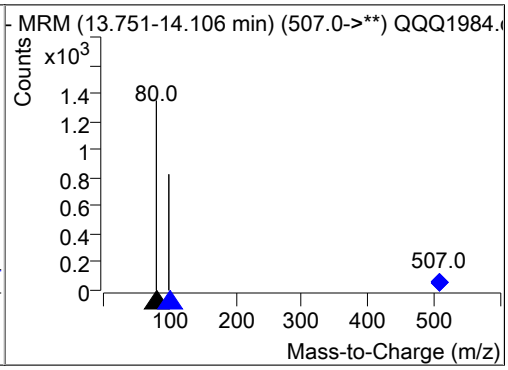




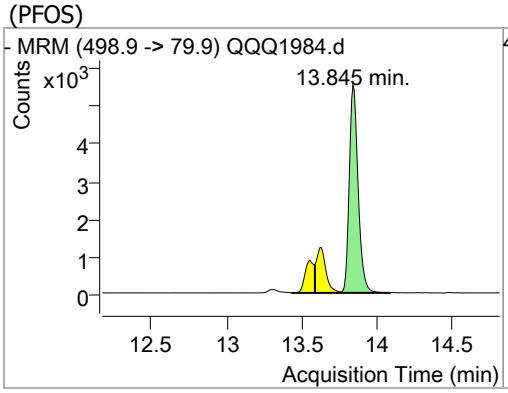
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.9478	13.84	-0.07	28352	507.0 -> 98.9	60.0	47.2	70.8

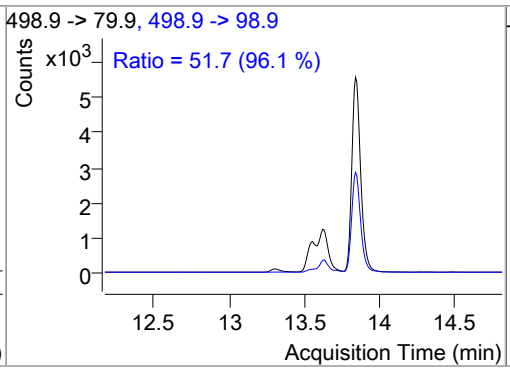


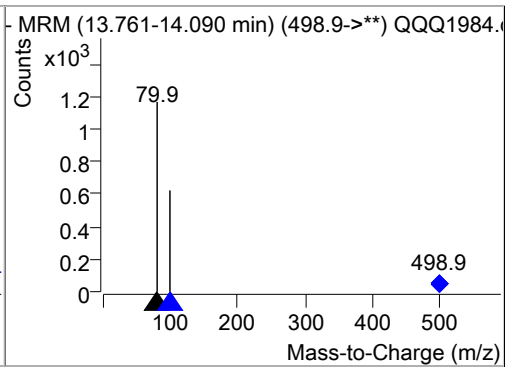




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	3.6277	13.84	-0.07	22697	498.9 -> 98.9	51.7	43.1	64.6

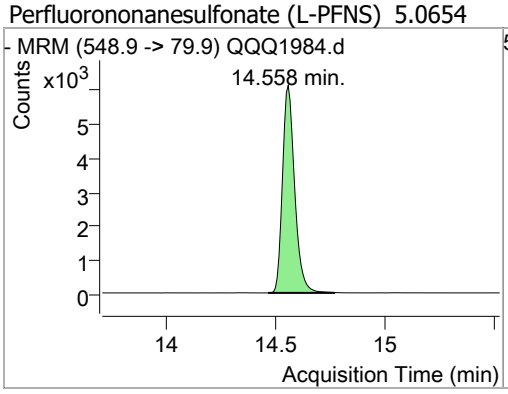


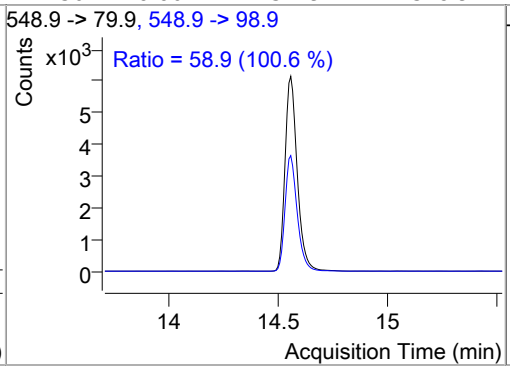


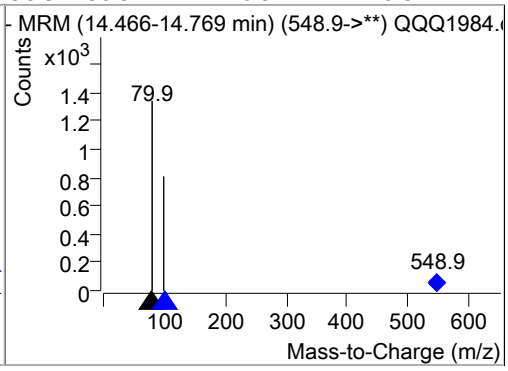


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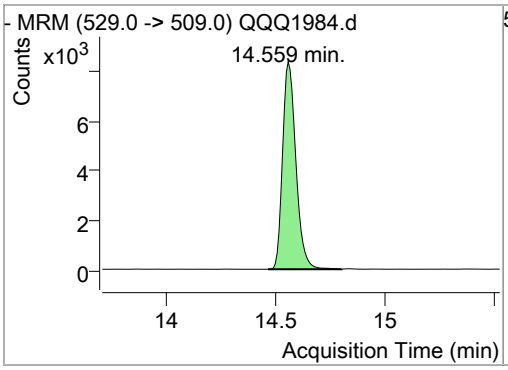
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	5.0654	14.56	-0.06	23749	548.9 -> 98.9	58.9	46.9	70.3

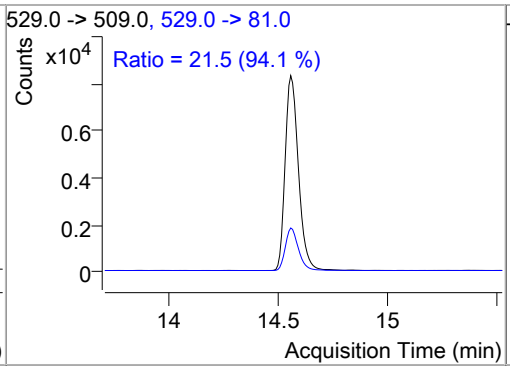


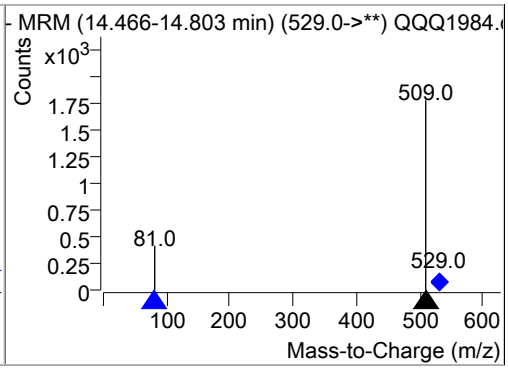




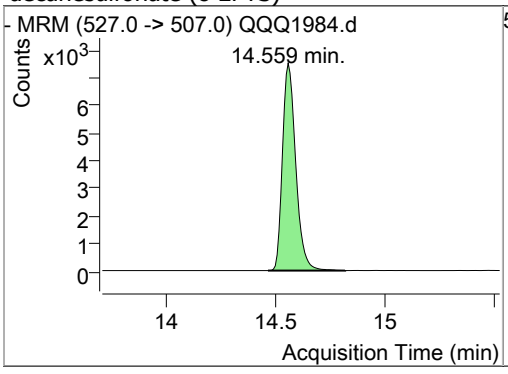
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	5.0051	14.56	-0.06	35218	529.0 -> 81.0	21.5	18.3	27.4

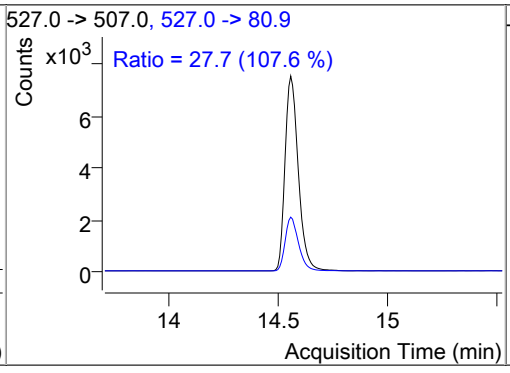


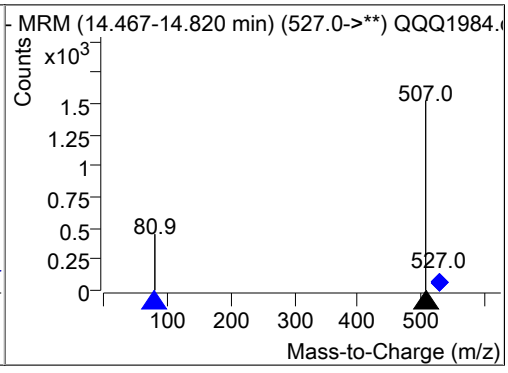




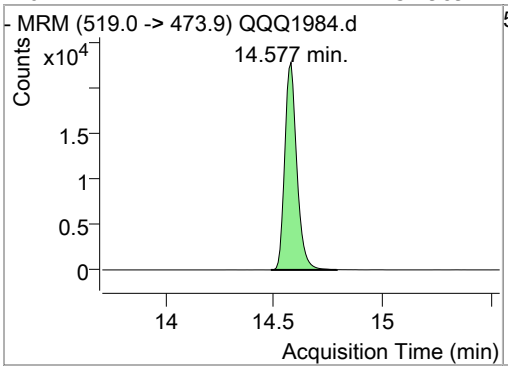
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	5.0591	14.56	-0.06	31576	527.0 -> 80.9	27.7	20.6	30.9

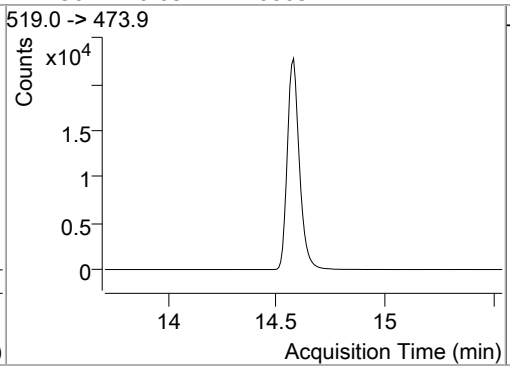


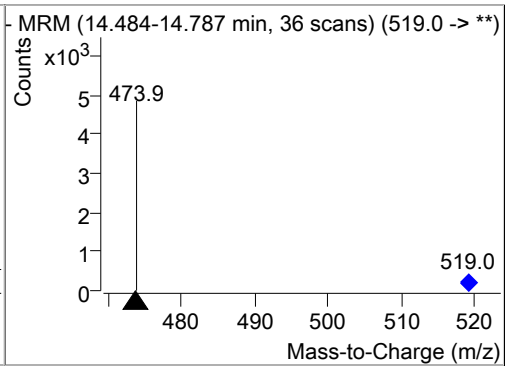




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	5.2989	14.58	-0.05	88052				

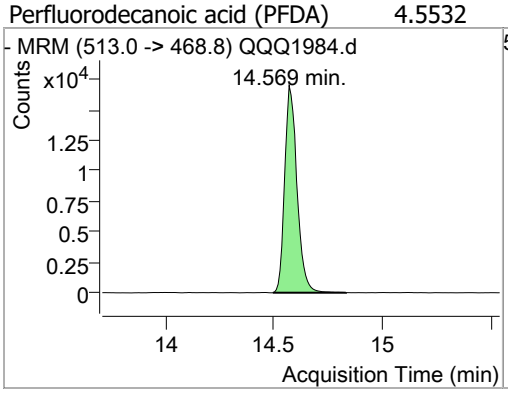


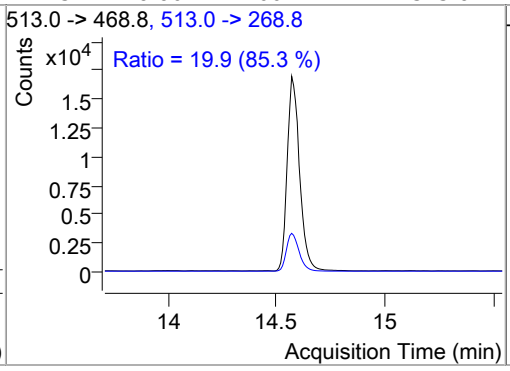


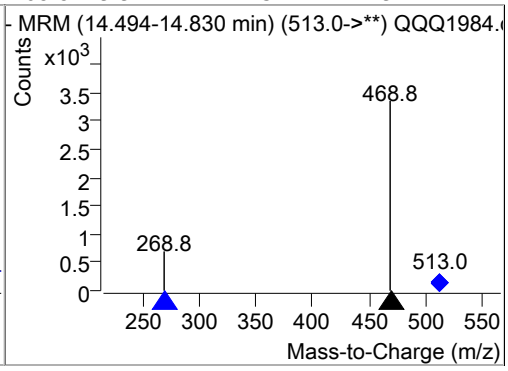


Quantitation Results Report (Not Reviewed)

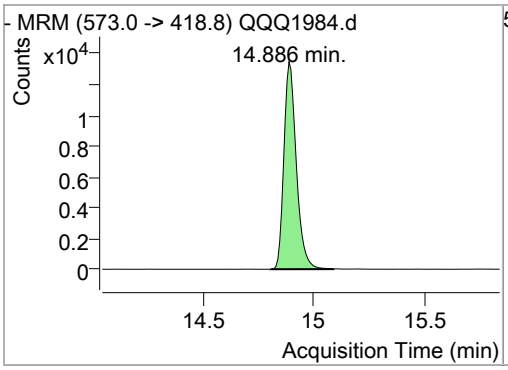
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	4.5532	14.57	-0.06	66744	513.0 -> 268.8	19.9	17.5	29.1

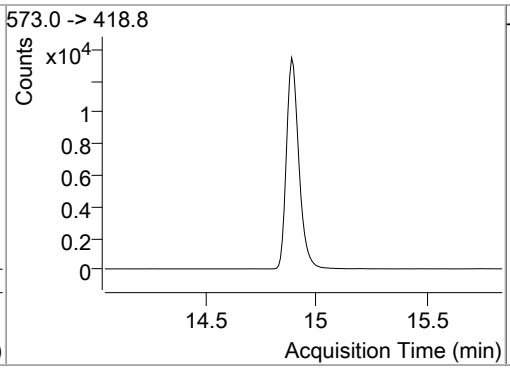


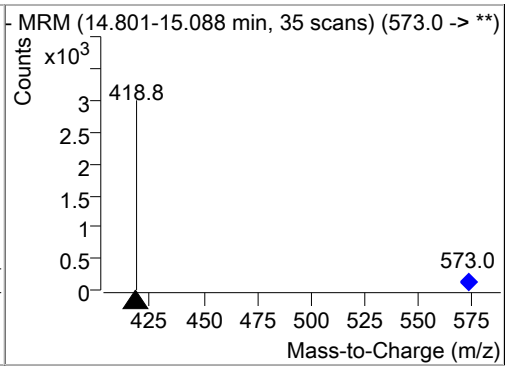




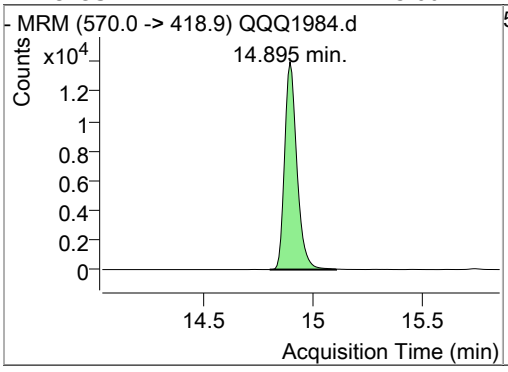
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	5.1853	14.89	-0.05	52843				

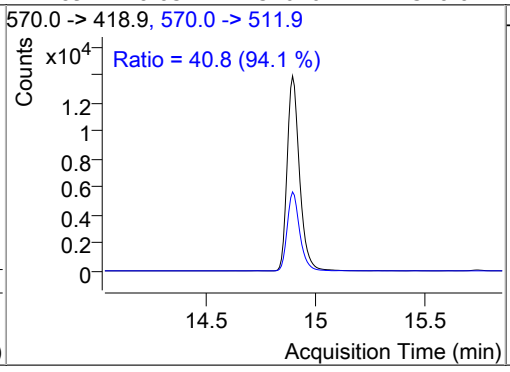


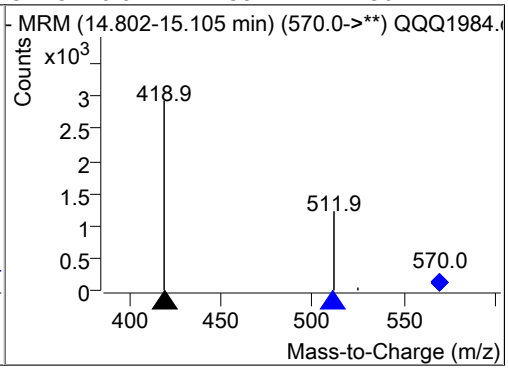




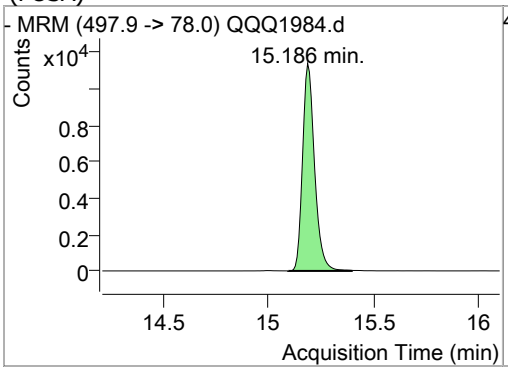
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	5.0677	14.89	-0.05	54616	570.0 -> 511.9	40.8	30.4	56.4

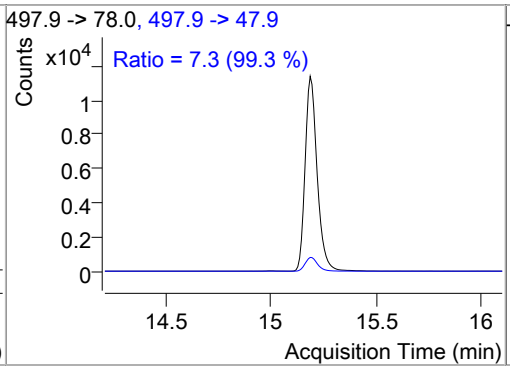


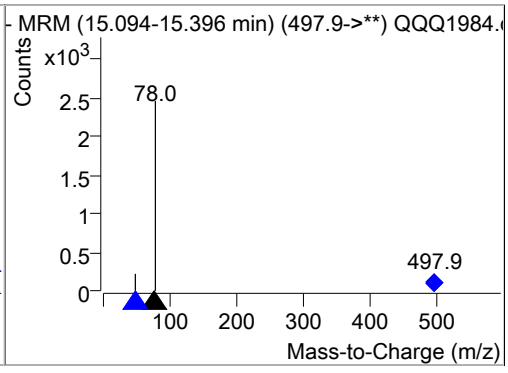




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	4.9989	15.19	0.00	45086	497.9 -> 47.9	7.3	5.9	8.8

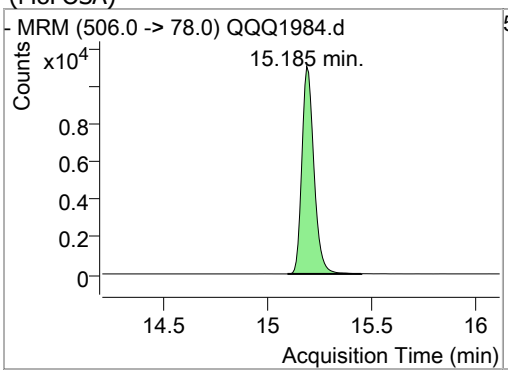


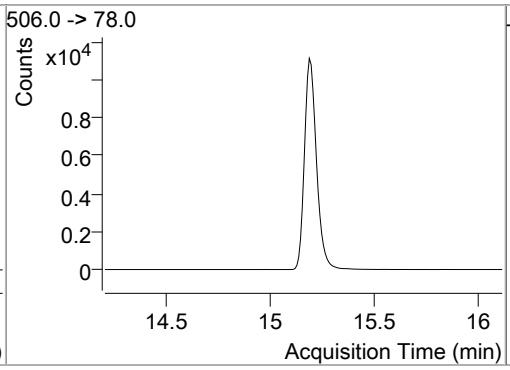


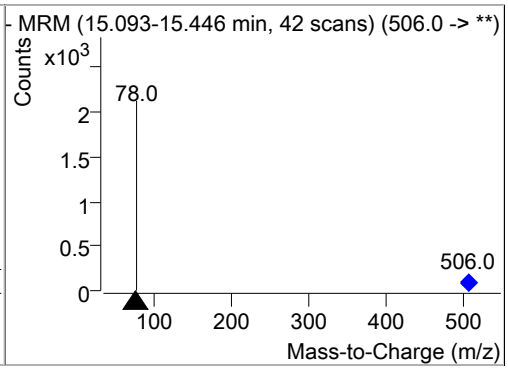


Quantitation Results Report (Not Reviewed)

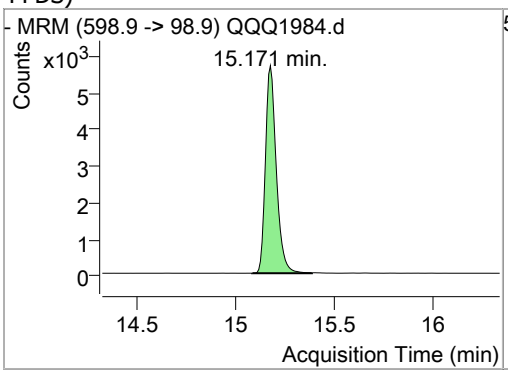
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	5.1344	15.19	-0.01	44452				

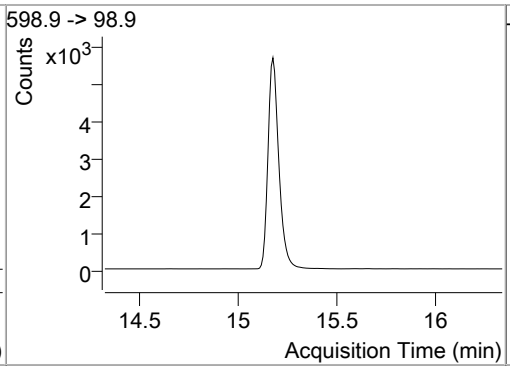


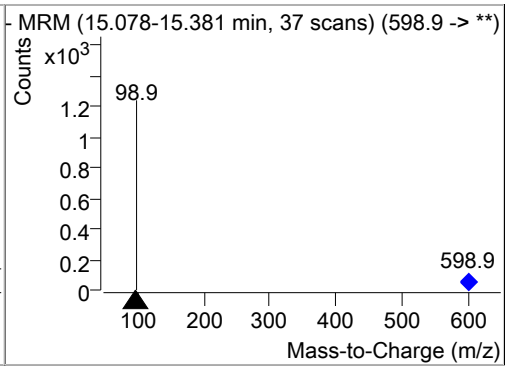




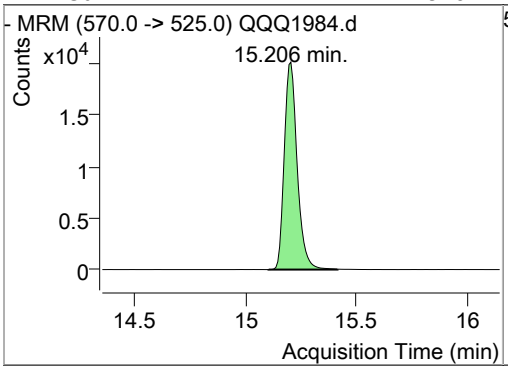
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	4.9740	15.17	-0.04	21578				

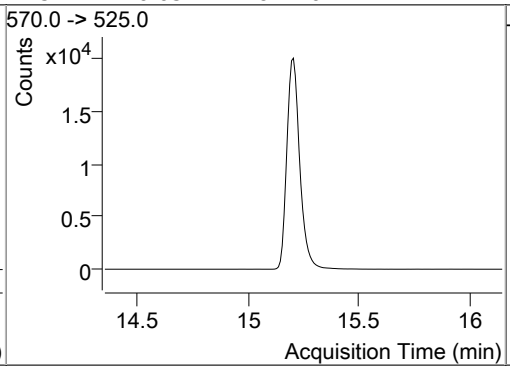


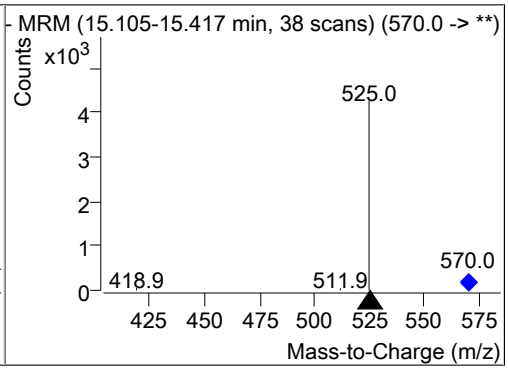




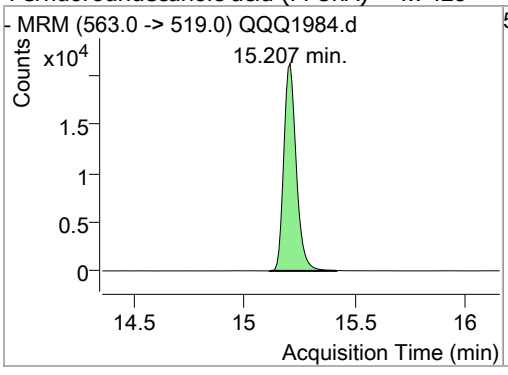
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	4.2920	15.21	-0.03	81140				

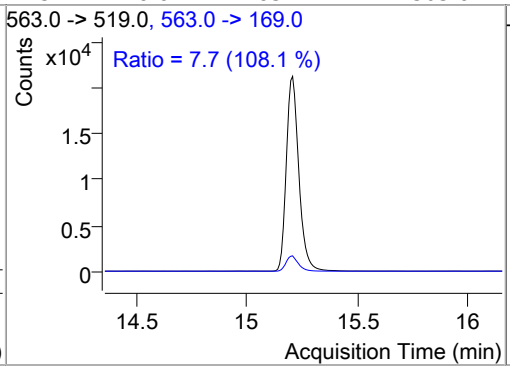


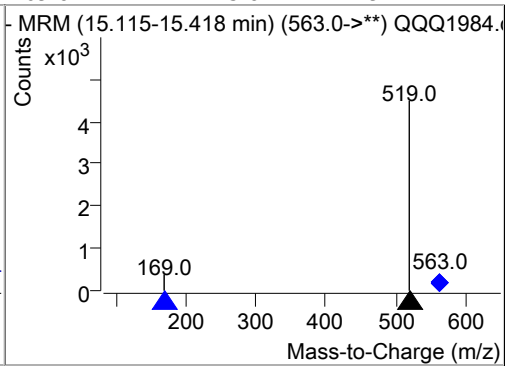




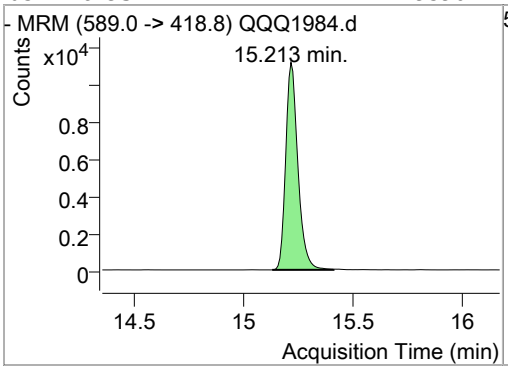
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	4.7428	15.21	-0.04	83221	563.0 -> 169.0	7.7	5.0	9.2

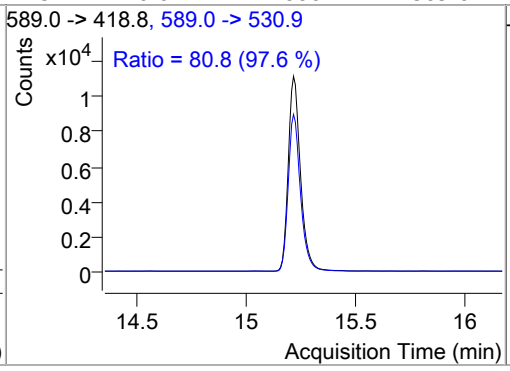


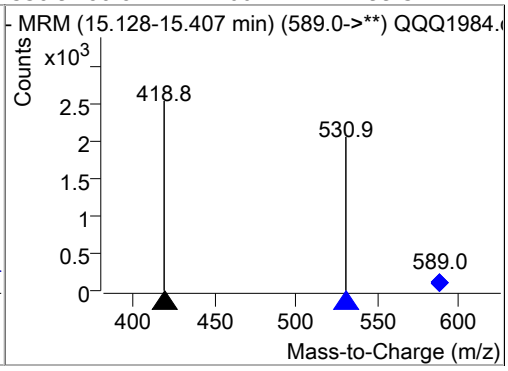




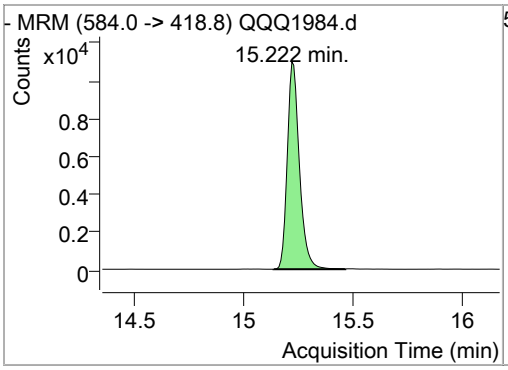
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	4.9596	15.21	-0.04	42880	589.0 -> 530.9	80.8	66.2	99.3

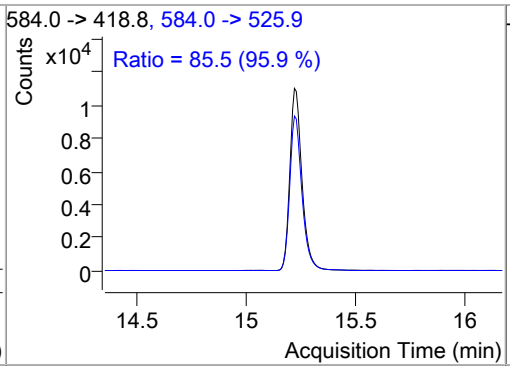


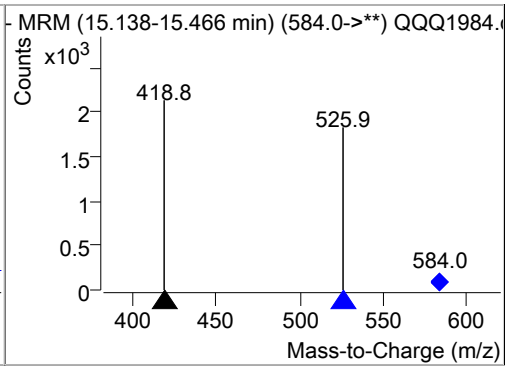




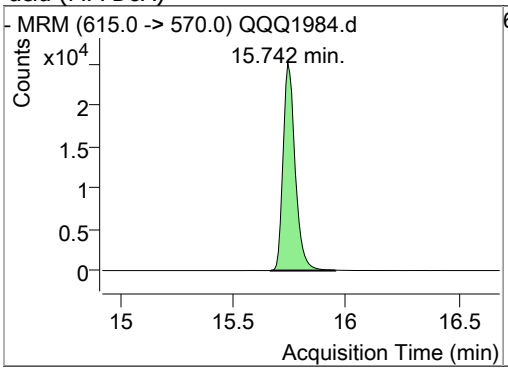
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	4.9448	15.22	-0.04	42235	584.0 -> 525.9	85.5	71.3	107.0

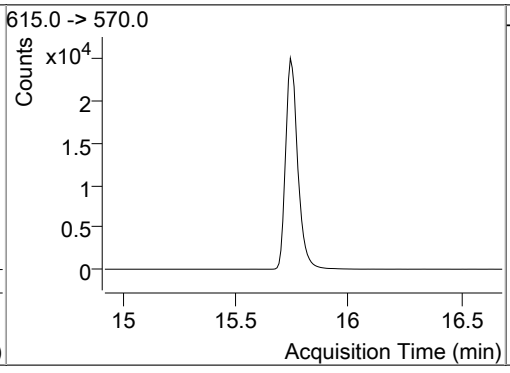


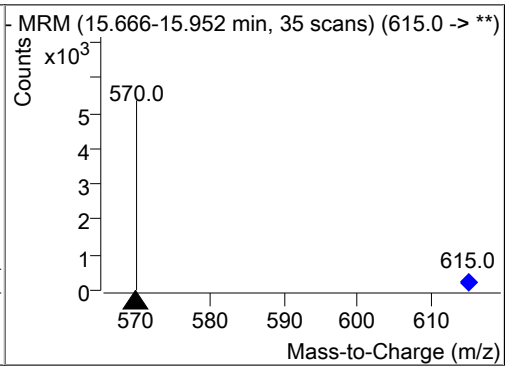




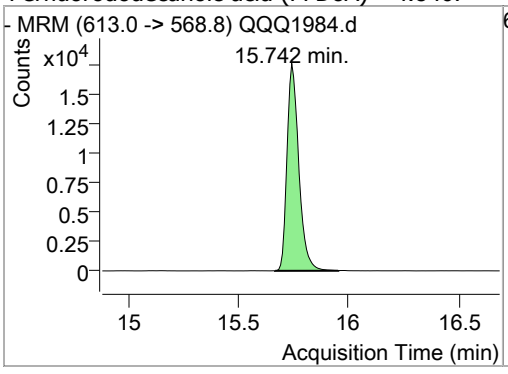
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.8137	15.74	-0.03	93564				

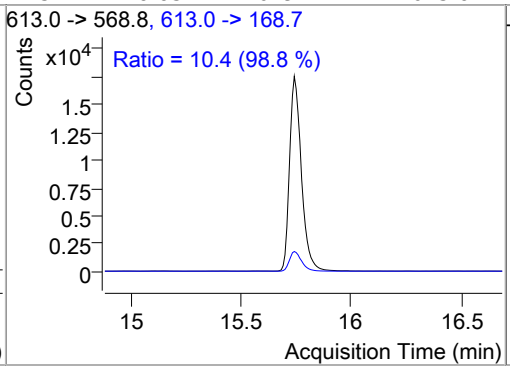


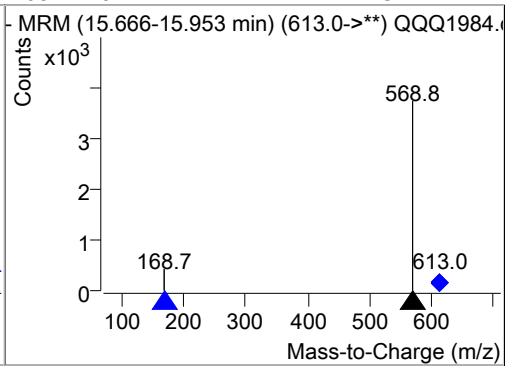




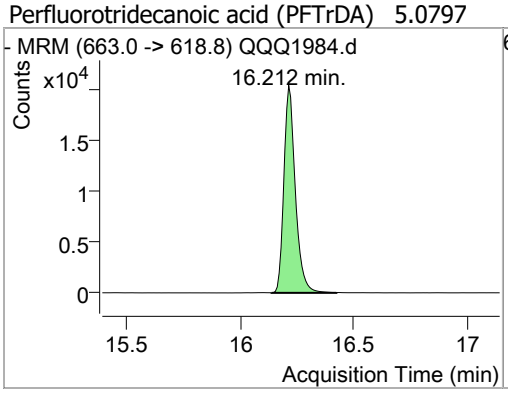
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	4.8467	15.74	-0.03	64947	613.0 -> 168.7	10.4	7.4	13.7

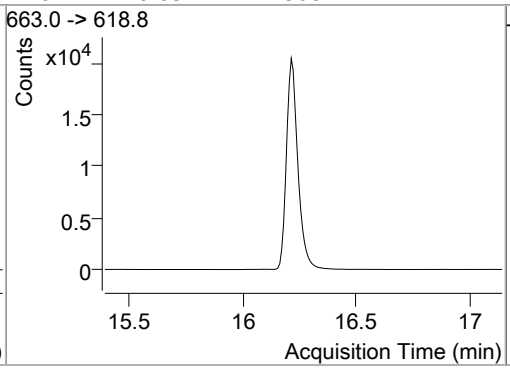


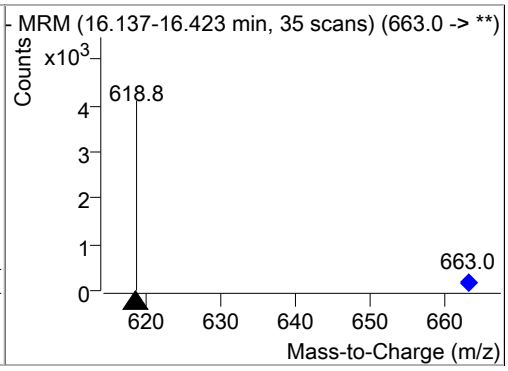




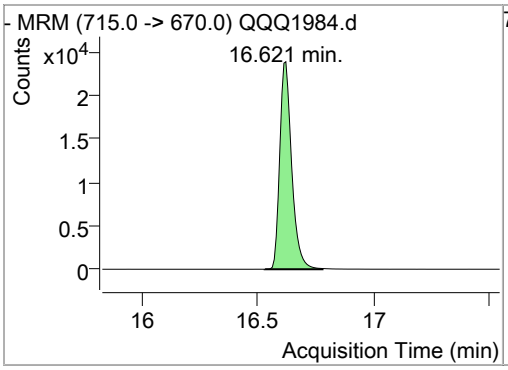
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	5.0797	16.21	-0.03	71568				

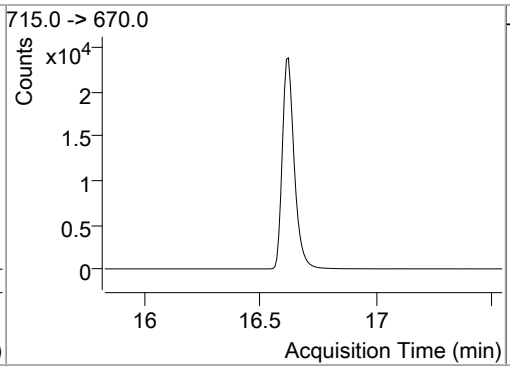


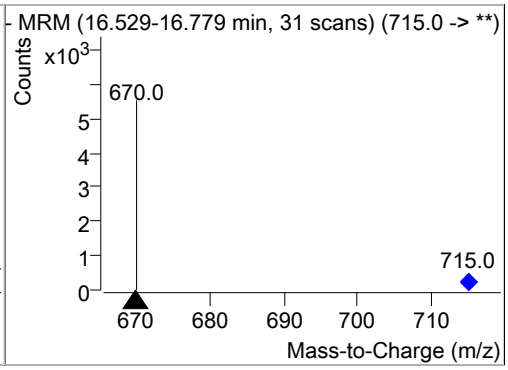




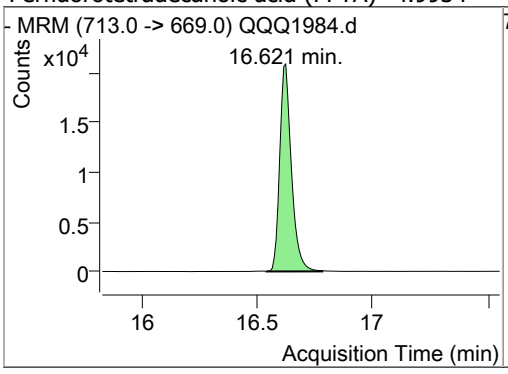
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	5.3852	16.62	-0.02	85455				

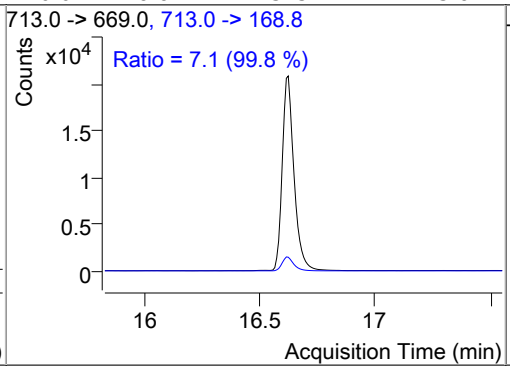


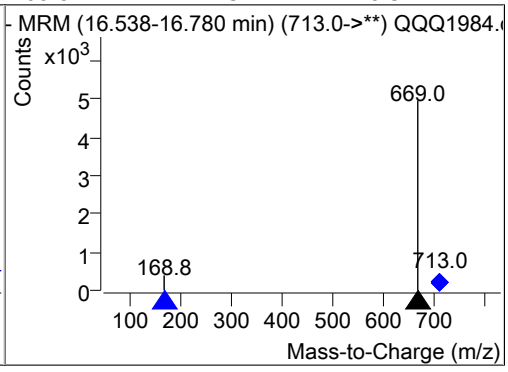




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	4.9934	16.62	-0.02	73454	713.0 -> 168.8	7.1	5.7	8.5







METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: PFAS
METHOD: EPA 537m

FORM I

METHOD BLANK DATA SHEET

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90227-BLK1	File ID:	QQQ1971.d
Prepared:	10/03/19 13:31	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.0481 g / 2 mL
Analyzed:	10/04/19 18:02	Instrument:	LCQQQ		
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.732	U
307-24-4	Perfluorohexanoic acid (PFHxA)	0.732	U
375-85-9	Perfluoroheptanoic acid (PFHpA)	0.732	U
3871-99-6	Perfluorohexanesulfonic acid (PFHxS)	0.732	U
335-67-1	Perfluorooctanoic acid (PFOA)	0.732	U
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.732	U
375-95-1	Perfluorononanoic acid (PFNA)	0.732	U
335-76-2	Perfluorodecanoic acid (PFDA)	0.732	U
2058-94-8	Perfluoroundecanoic acid (PFUnA)	0.732	U
307-55-1	Perfluorododecanoic acid (PFDoA)	0.732	U
72629-94-8	Perfluorotridecanoic acid (PFTrDA)	0.732	U
376-06-7	Perfluorotetradecanoic acid (PFTA)	0.732	U
2355-31-9	N-MeFOSAA	0.732	U
2991-50-6	N-EtFOSAA	0.732	U
2706-90-3	Perfluoropentanoic acid (PFPeA)	0.732	U
754-91-6	Perfluoro-1-octanesulfonamide (FOSA)	0.732	U
375-92-8	Perfluoro-1-heptanesulfonic acid (PFHpS)	0.732	U
335-77-3	Perfluoro-1-decanesulfonic acid (PFDS)	0.732	U
27619-97-2	1H,1H,2H,2H-Perfluorooctanesulfonic acid (6:2 FTS)	0.732	U
39108-34-4	1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	0.732	U
375-22-4	Perfluoro-n-butanoic acid (PFBA)	0.732	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
M3PFBS	4.54	3.13	69.0	25 - 150	
M5PFHxA	4.88	3.38	69.2	25 - 150	
M4PFHpA	4.88	3.85	78.9	25 - 150	
M3PFHxS	4.62	3.20	69.3	25 - 150	
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	4.88	3.69	75.6	25 - 150	
M6PFDA	4.88	3.77	77.1	25 - 150	
M7PFUdA	4.88	3.06	62.8	25 - 150	
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	4.88	3.10	63.4	25 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 537m

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90227-BLK1	File ID:	QQQ1971.d
Prepared:	10/03/19 13:31	Preparation:	SPE PFAS Extraction-Soil-E	Initial/Final:	2.0481 g / 2 mL
Analyzed:	10/04/19 18:02	Instrument:	LCQQQ		
Batch:	BJ90227	Sequence:	Y9J0727	Calibration:	YI90019

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
M2PFTeDA	4.88	3.24	66.3	10 - 150	
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.88	3.45	70.6	25 - 150	
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	4.67	3.14	67.1	25 - 150	
Perfluoro-n-[13C5]pentanoic acid (M5PFPeA)	4.88	3.37	69.1	25 - 150	
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	4.88	2.80	57.4	10 - 150	
d3-N-MeFOSAA	4.88	3.18	65.1	25 - 150	
d5-N-EtFOSAA	4.88	3.33	68.2	25 - 150	
M2-6:2 FTS	4.63	3.75	80.9	25 - 150	
M2-8:2 FTS	4.68	4.42	94.6	25 - 150	
M9PFNA	4.88	3.99	81.7	25 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
MPFOA	251123.4	12.95832	234864.3	12.94018	

Data File	QQQ1971.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 6:02:11 PM
Sample Name	BJ90227-BLK1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

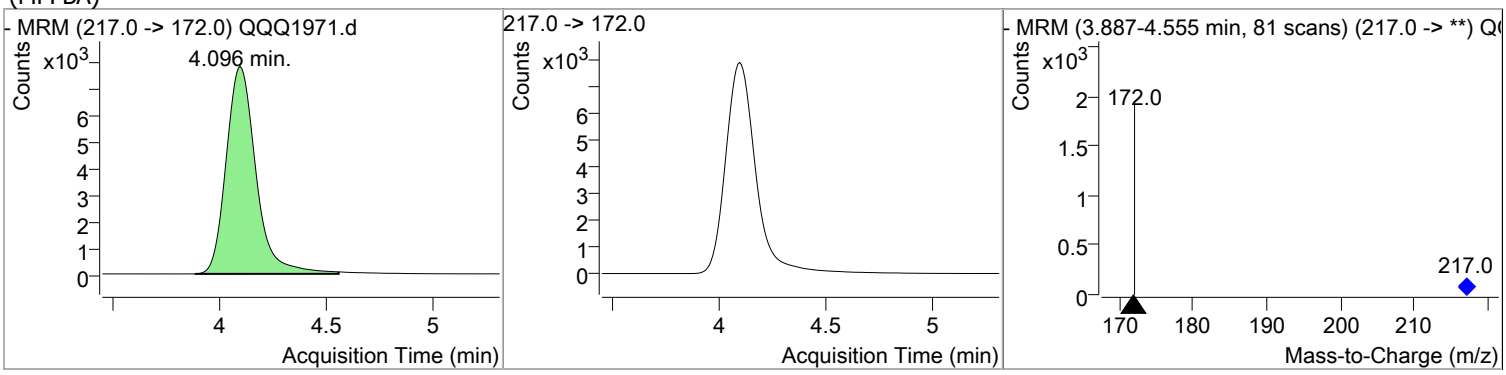
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.958	417.0 -> 372.0	251123	10.0000	ng/ml	-0.075
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.096	217.0 -> 172.0	75677	3.5284	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 35.28%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.047	268.0 -> 223.0	110842	3.4535	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.54%		
M3PFBS	8.752	302.0 -> 79.9	29317	3.2028	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.03%		
M2-4-2FTS	10.191	329.0 -> 309.0	40780	3.2383	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.38%		
M5PFHxA	10.336	318.0 -> 273.0	111853	3.4623	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.62%		
M4PFHpA	11.844	367.0 -> 322.0	27695	3.9461	ng/ml	-0.075
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 39.46%		
M3PFHxS	11.974	402.0 -> 80.0	20999	3.2795	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.80%		
M2-6-2FTS	12.904	429.0 -> 409.0	28502	3.8375	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.37%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.958	421.0 -> 376.0	66150	3.7787	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 37.79%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.837	472.0 -> 427.0	73461	4.0871	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 40.87%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.844	507.0 -> 80.0	15840	3.2120	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.12%		
M2-8-2FTS	14.559	529.0 -> 509.0	27793	4.5296	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 45.30%		
M6PFDA	14.577	519.0 -> 473.9	55149	3.8562	ng/ml	-0.050
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.56%		
d3-N-MeFOSAA	14.894	573.0 -> 418.8	28531	3.2529	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.53%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.194	506.0 -> 78.0	21371	2.8682	ng/ml	0.000
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.68%		
M7PFUdA	15.206	570.0 -> 525.0	51066	3.1386	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.39%		
d5-N-EtFOSAA	15.222	589.0 -> 418.8	25377	3.4104	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.10%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.750	615.0 -> 570.0	53047	3.1711	ng/ml	-0.025
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.71%		
M2PFTeDA	16.621	715.0 -> 670.0	45260	3.3141	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.14%		

Target Compounds	QValue

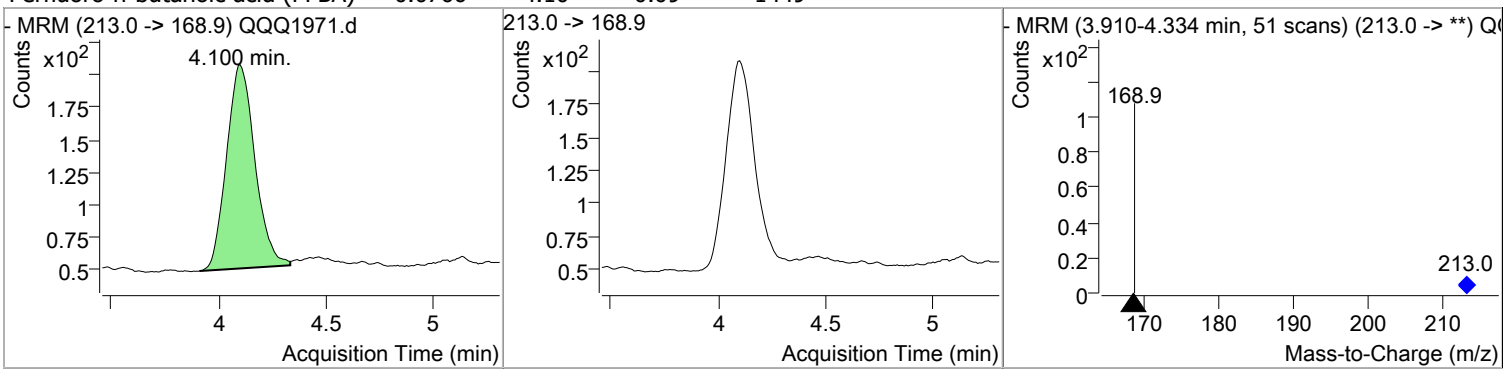
Compound	RT	QIon	Resp.	Conc.	Units		Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.100	213.0 -> 168.9	1449	0.0766	ng/ml		100
Perfluoro-n-pentanoic acid (PFPeA)	8.049	263.0 -> 219.0	458	0.0163	ng/ml		100
Perfluorobutanesulfonic acid (PFBS)	8.754	298.9 -> 79.9	3789	0.4593	ng/ml		100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.176	327.0 -> 307.0	5	0.0005	ng/ml	#	1
Perfluorohexanoic acid (PFHxA)	10.339	313.0 -> 268.9	208	0.0075	ng/ml	#	96
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.658	348.9 -> 79.9	3	0.0004	ng/ml	#	76
Perfluoroheptanoic acid (PFHpA)	11.844	363.0 -> 318.8	149	0.0073	ng/ml	#	86
Perfluorohexanesulfonic acid (PFHxS)	11.984	398.9 -> 79.9	6	0.0009	ng/ml	#	42
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.905	427.0 -> 407.0	368	0.0489	ng/ml		99
Perfluorooctanoic acid (PFOA)	12.959	413.0 -> 368.8	621	0.0400	ng/ml	#	85
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.031	448.9 -> 80.0	29	0.0064	ng/ml	#	30
Perfluorononanoic acid (PFNA)	13.821	463.0 -> 418.8	54	0.0041	ng/ml	#	78
Perfluorooctanesulfonic acid (PFOS)	13.853	498.9 -> 79.9	69	0.0128	ng/ml	#	50
Perfluorononanesulfonate (L-PFNS)	14.558	548.9 -> 79.9	40	0.0099	ng/ml	#	65
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.568	527.0 -> 507.0	73	0.0000	ng/ml	#	56
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	252	0.0200	ng/ml	#	74
N-MeFOSAA	14.911	570.0 -> 418.9	149	0.0161	ng/ml	#	66
Perfluoro-1-octanesulfonamide (FOSA)	15.195	497.9 -> 78.0	27	0.0034	ng/ml	#	86
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	49	0.0132	ng/ml		100
Perfluoroundecanoic acid (PFUnA)	15.216	563.0 -> 519.0	373	0.0247	ng/ml	#	91
N-EtFOSAA	15.248	584.0 -> 418.8	94	0.0128	ng/ml	#	30
Perfluorododecanoic acid (PFDoA)	15.750	613.0 -> 568.8	148	0.0129	ng/ml		92
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	91	0.0075	ng/ml		100
Perfluorotetradecanoic acid (PFTA)	16.613	713.0 -> 669.0	117	0.0092	ng/ml	#	93

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

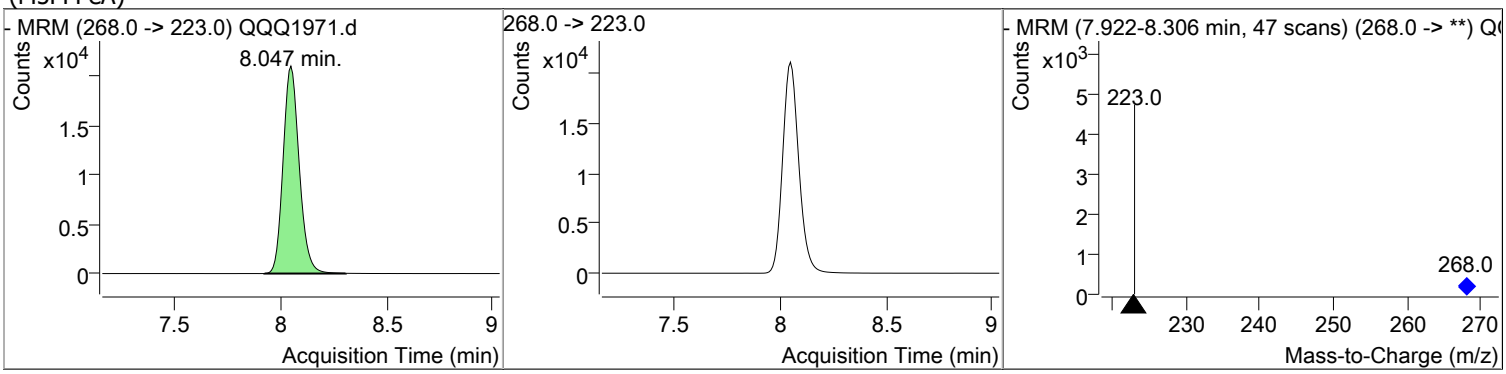
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	3.5284	4.10	-0.09	75677				



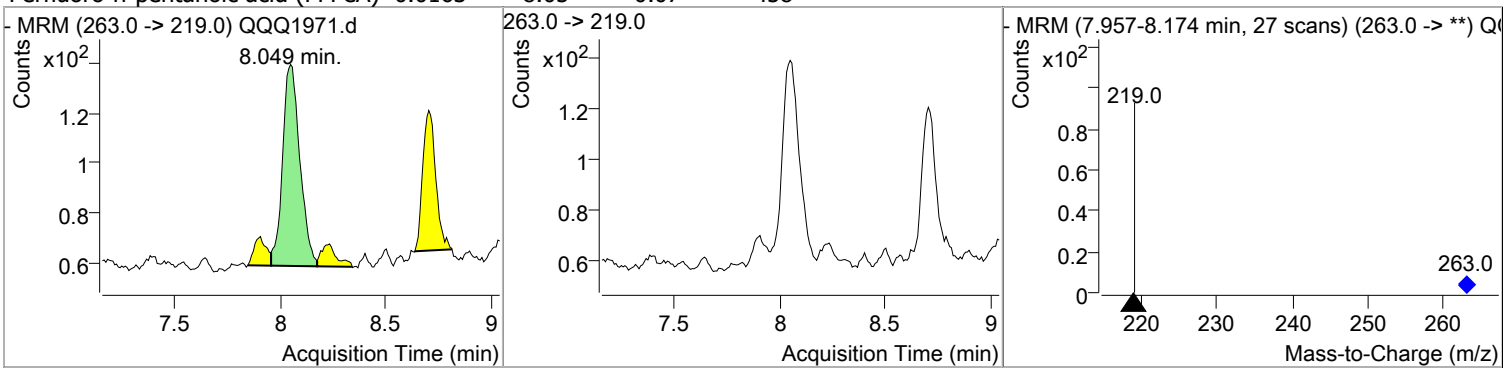
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	0.0766	4.10	-0.09	1449				



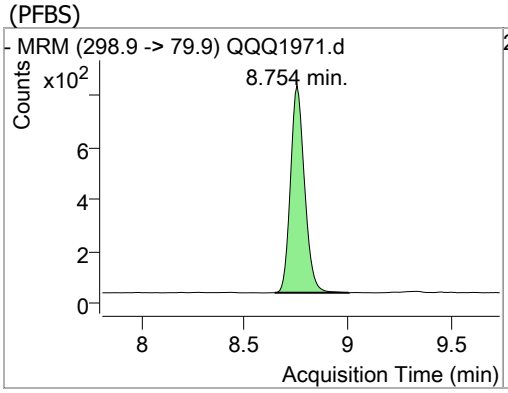
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.4535	8.05	-0.07	110842				

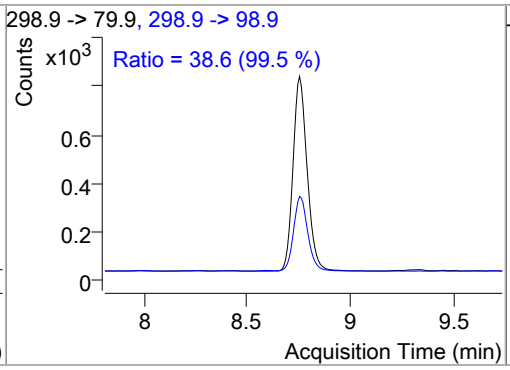


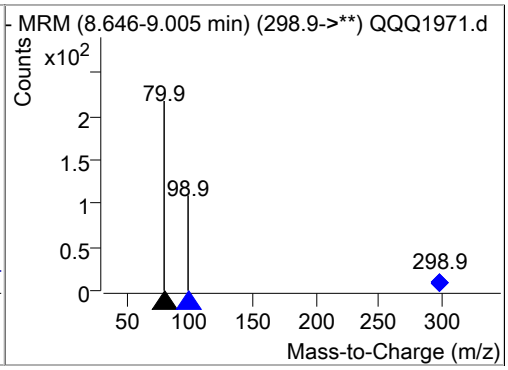
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	0.0163	8.05	-0.07	458				



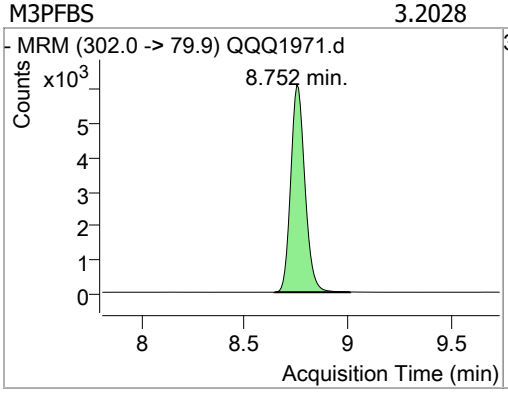
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	0.4593	8.75	-0.06	3789	298.9 -> 98.9	38.6	31.0	46.5

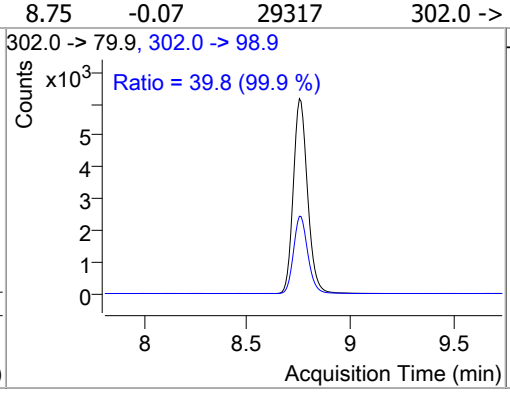


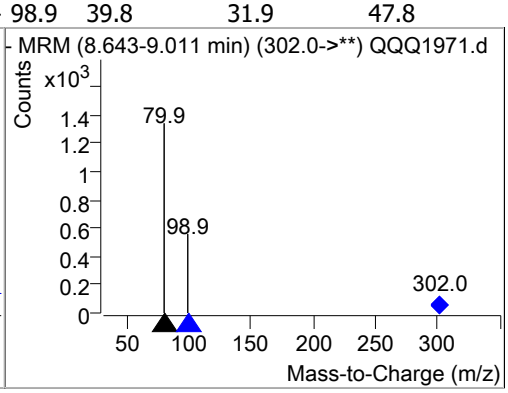




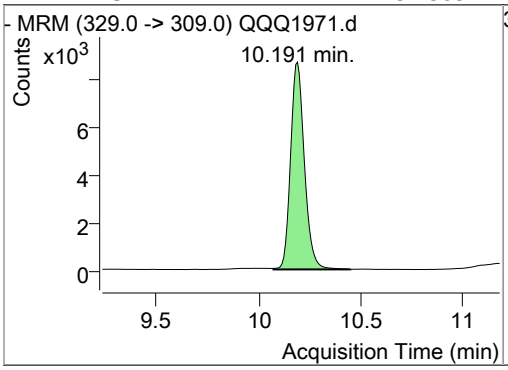
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.2028	8.75	-0.07	29317	302.0 -> 98.9	39.8	31.9	47.8

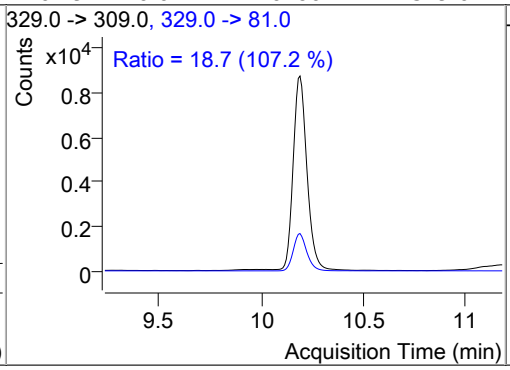


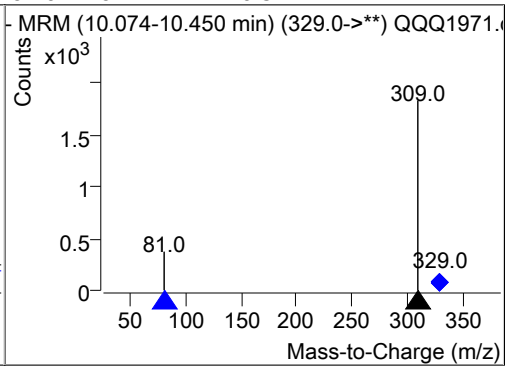




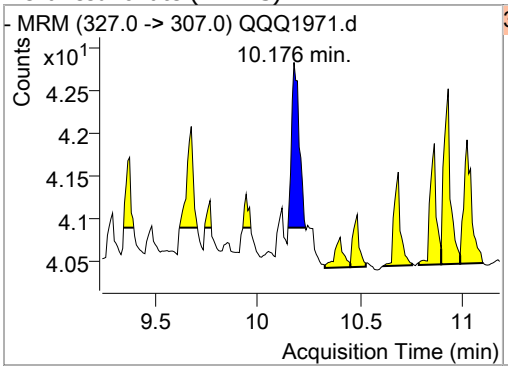
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	3.2383	10.19	-0.07	40780	329.0 -> 81.0	18.7	10.5	24.4

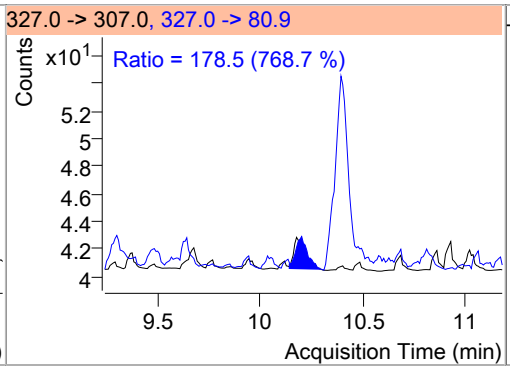


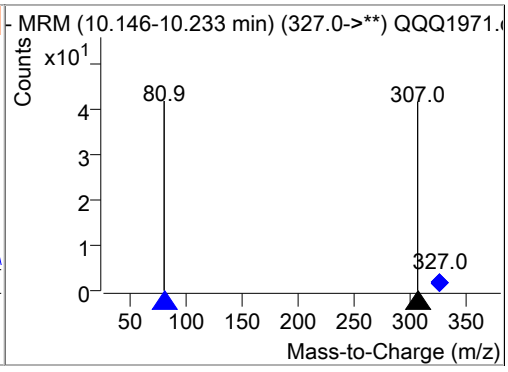




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	0.0005	10.18	-0.08	5	327.0 -> 80.9	178.5	13.9	32.5

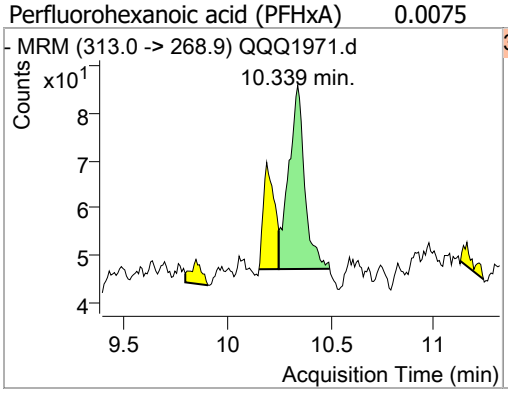


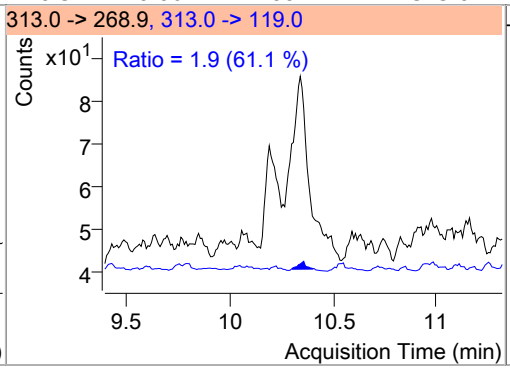


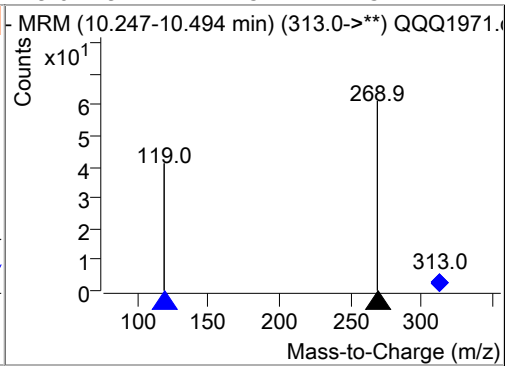


Quantitation Results Report (Not Reviewed)

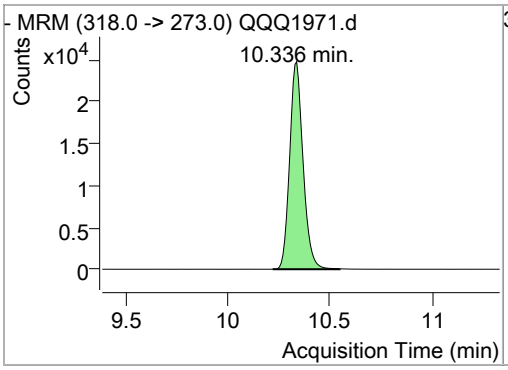
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	0.0075	10.34	-0.06	208	313.0 -> 119.0	1.9	2.5	3.7

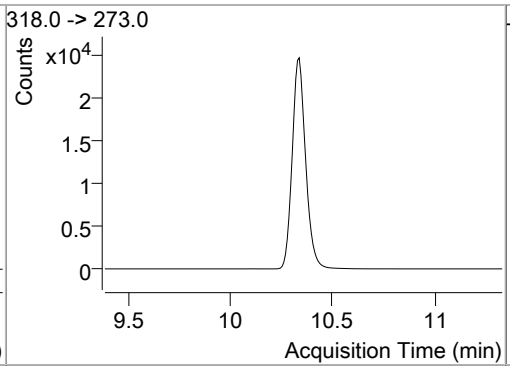


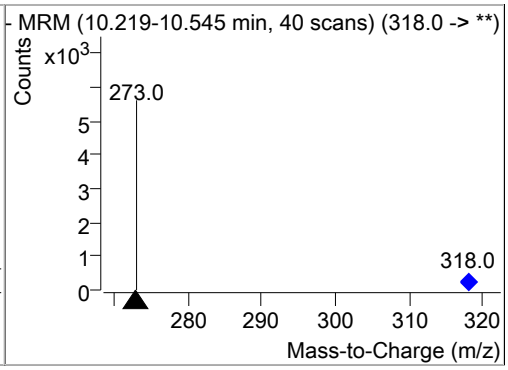




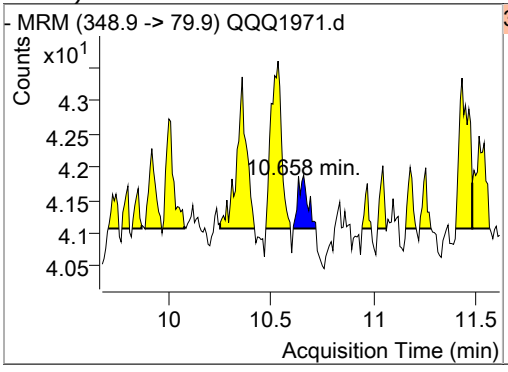
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.4623	10.34	-0.07	111853				

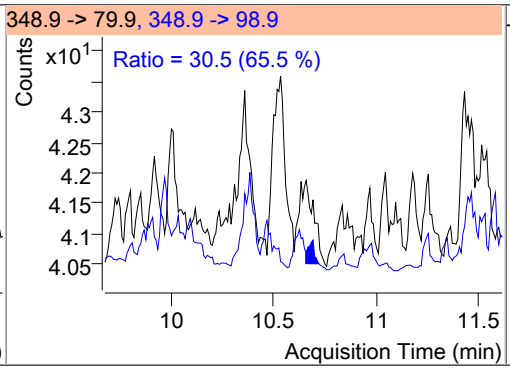


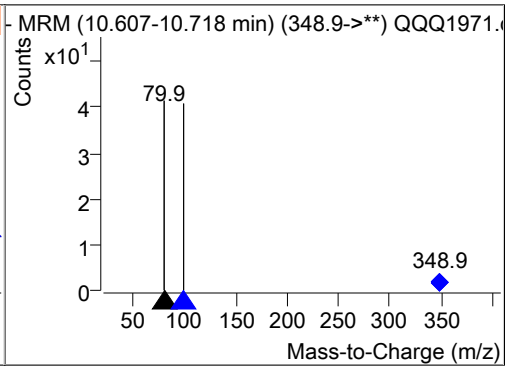




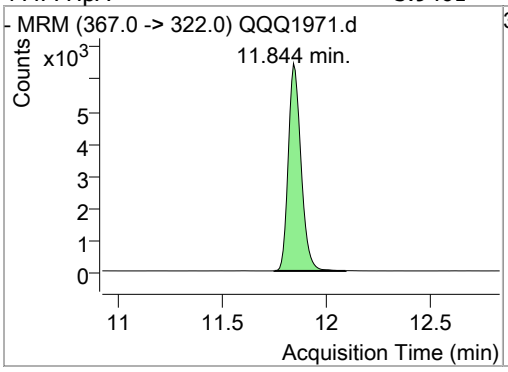
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	0.0004	10.66	-0.04	3	348.9 -> 98.9	30.5	37.3	56.0

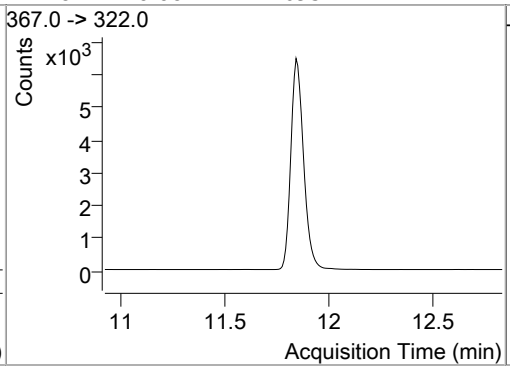


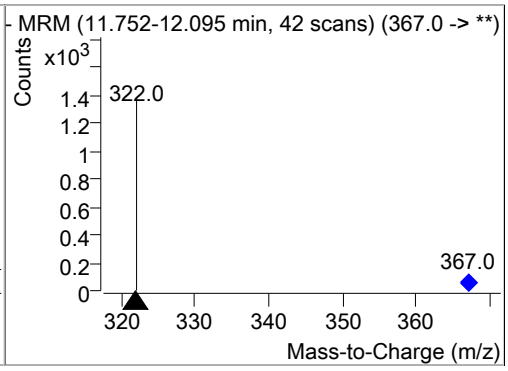




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	3.9461	11.84	-0.08	27695				

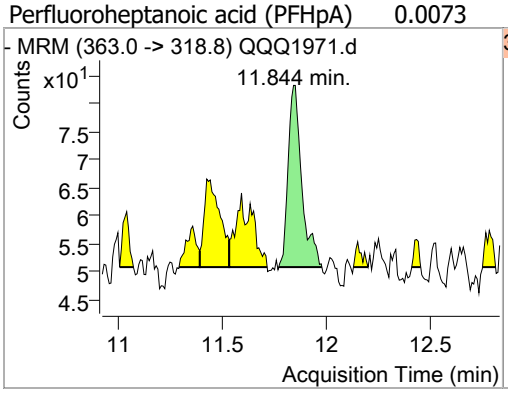


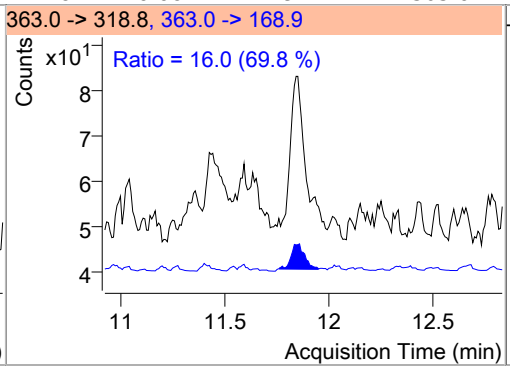


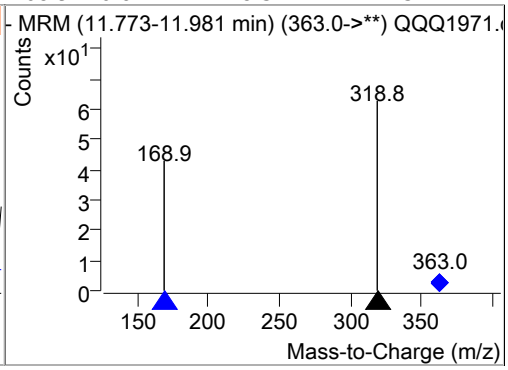


Quantitation Results Report (Not Reviewed)

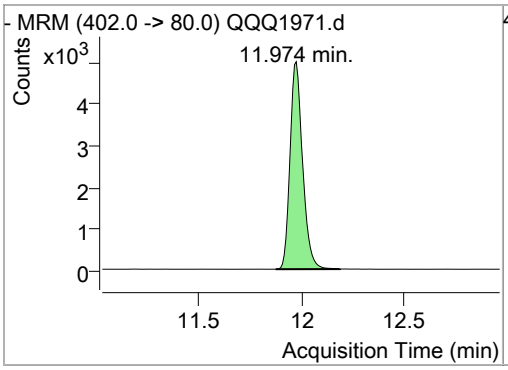
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	0.0073	11.84	-0.08	149	363.0 -> 168.9	16.0	18.3	27.5

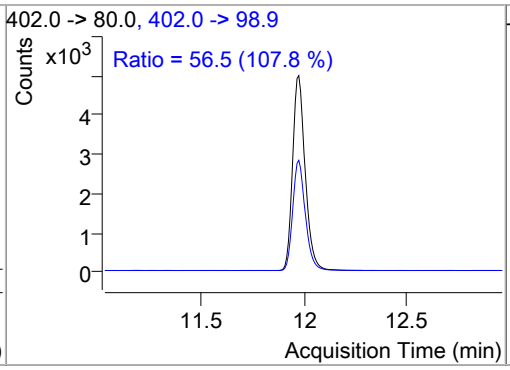


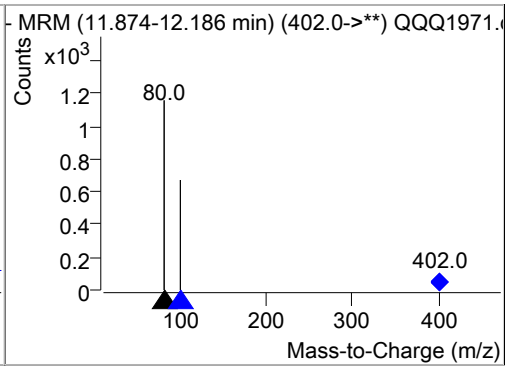




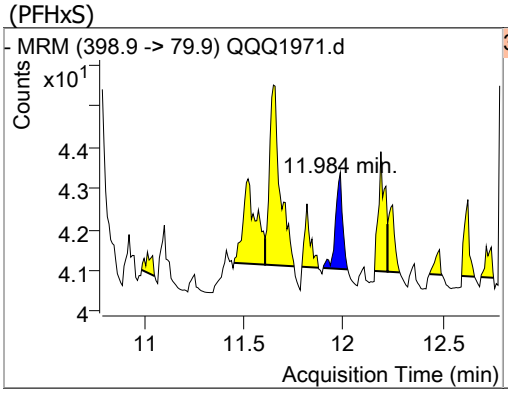
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.2795	11.97	-0.07	20999	402.0 -> 98.9	56.5	42.0	62.9

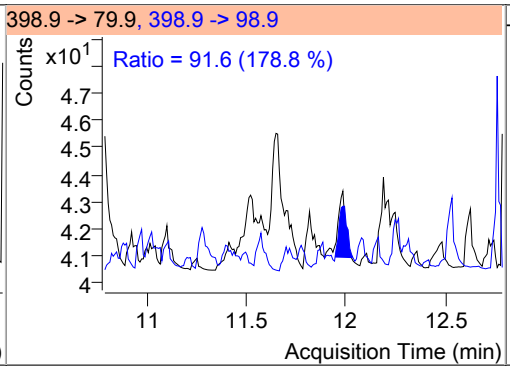


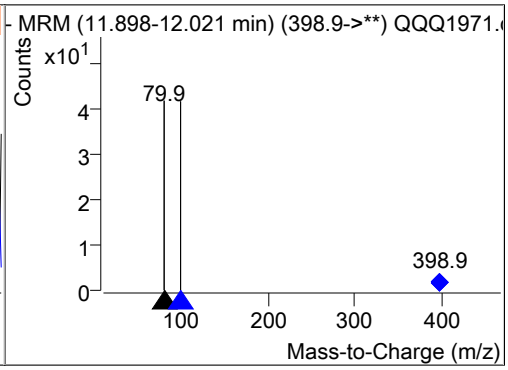




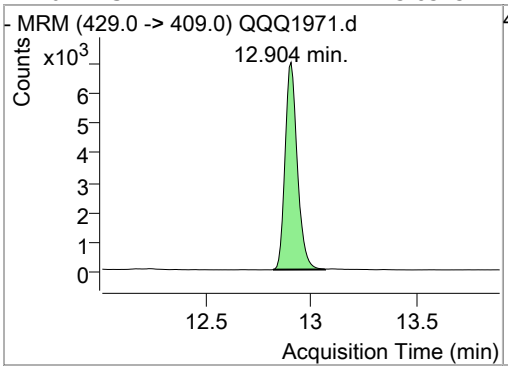
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	0.0009	11.98	-0.06	6	398.9 -> 98.9	91.6	41.0	61.5

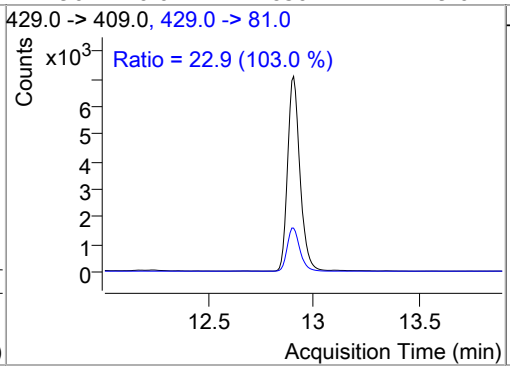


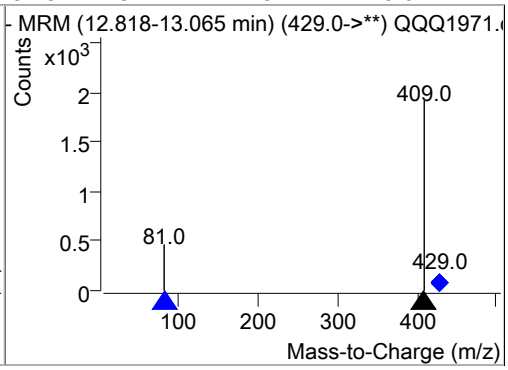




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	3.8375	12.90	-0.07	28502	429.0 -> 81.0	22.9	17.8	26.6

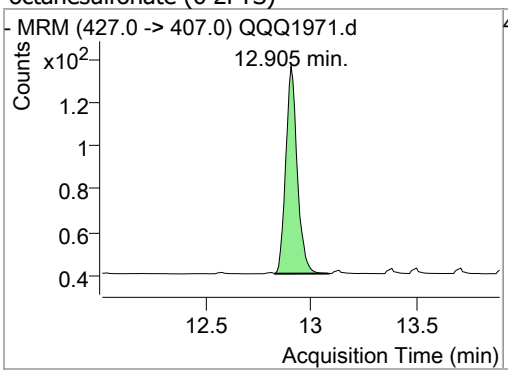


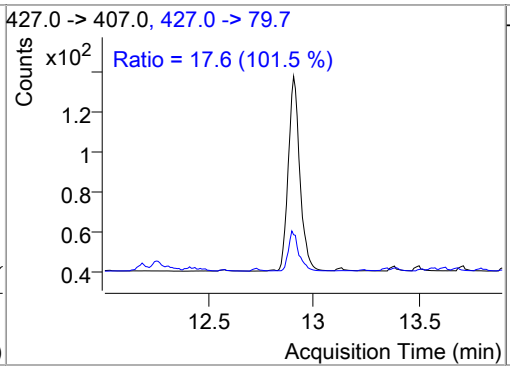


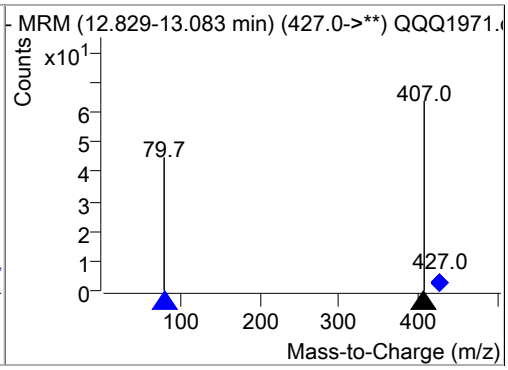


Quantitation Results Report (Not Reviewed)

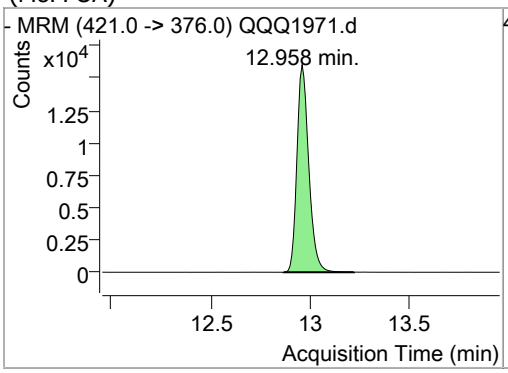
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	0.0489	12.90	-0.07	368	427.0 -> 79.7	17.6	13.9	20.8

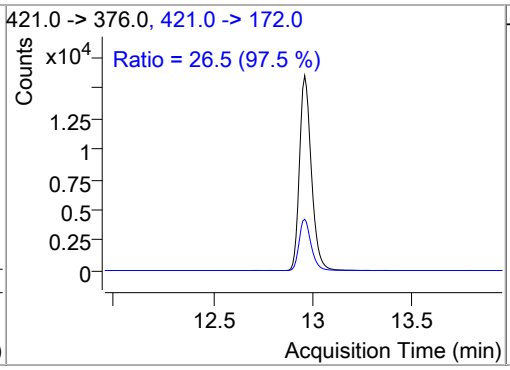


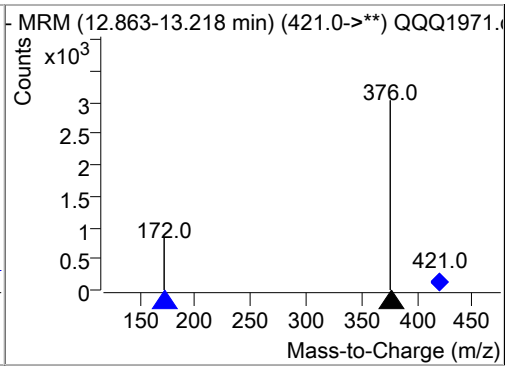




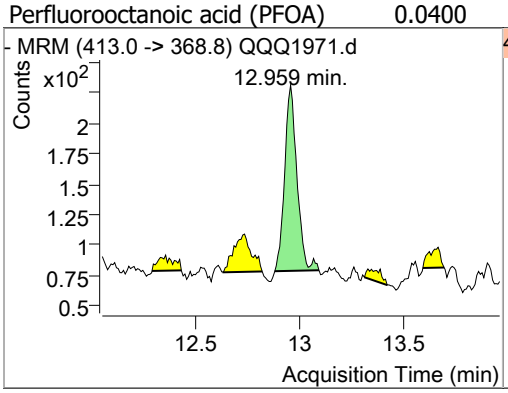
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	3.7787	12.96	-0.07	66150	421.0 -> 172.0	26.5	21.7	32.6

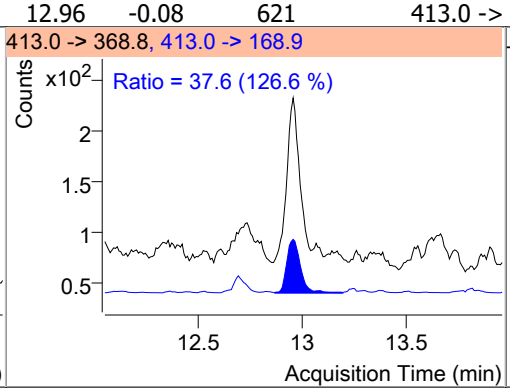


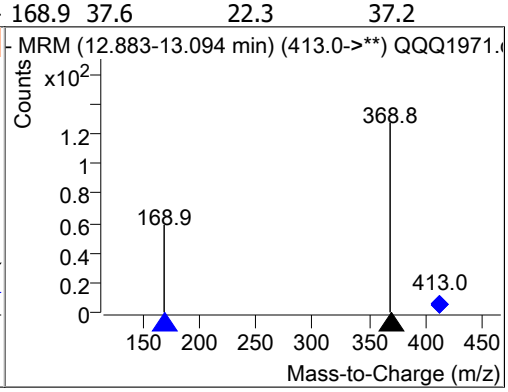




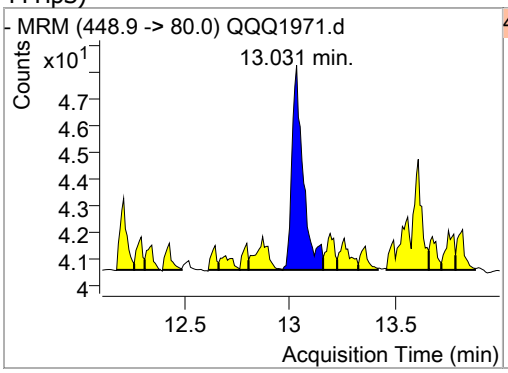
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	0.0400	12.96	-0.08	621	413.0 -> 168.9	37.6	22.3	37.2

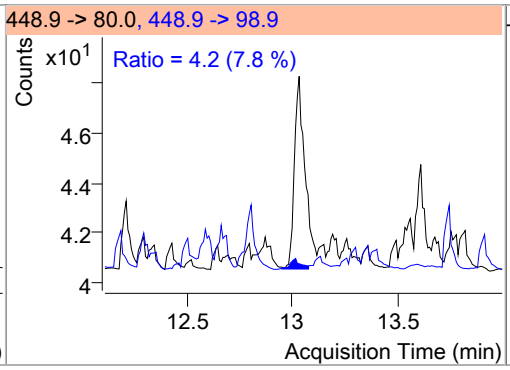


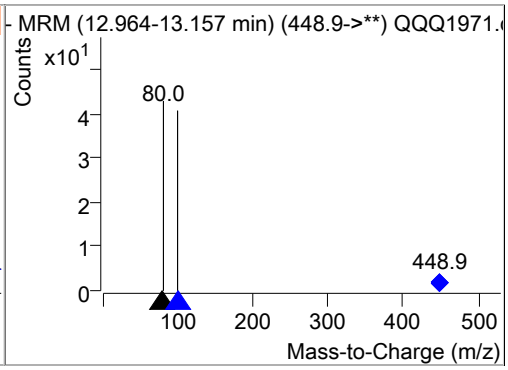




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	0.0064	13.03	-0.05	29	448.9 -> 98.9	4.2	43.3	64.9

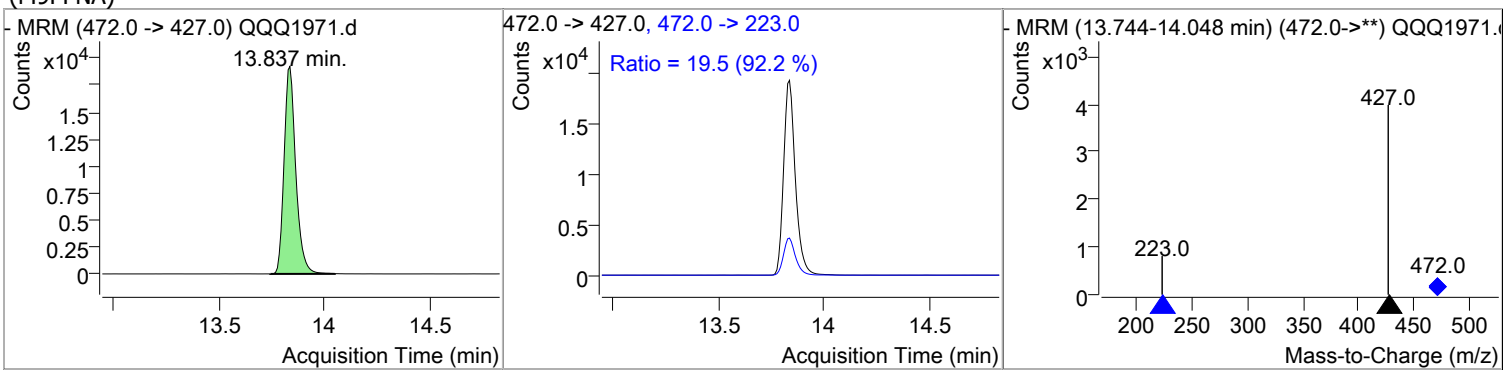




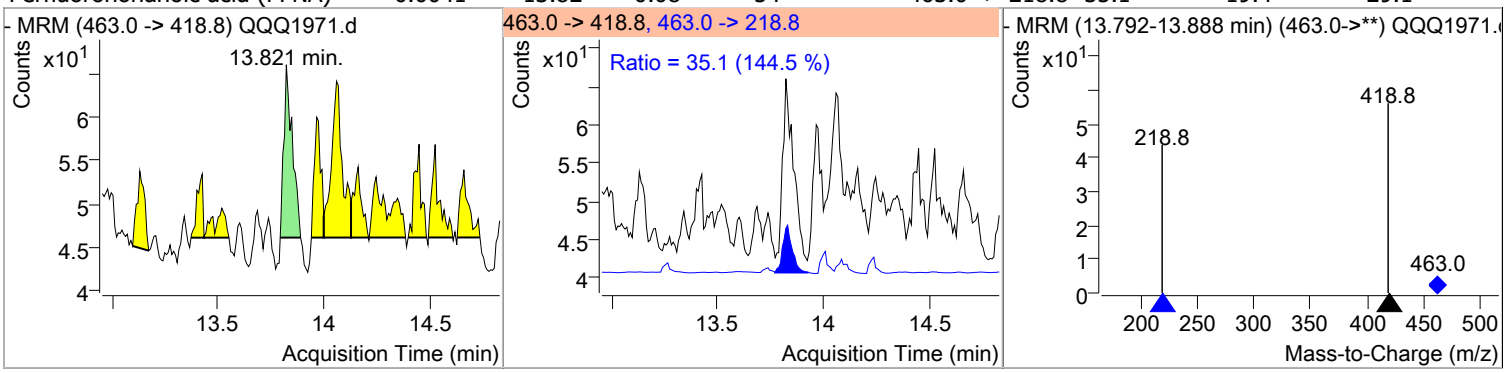


Quantitation Results Report (Not Reviewed)

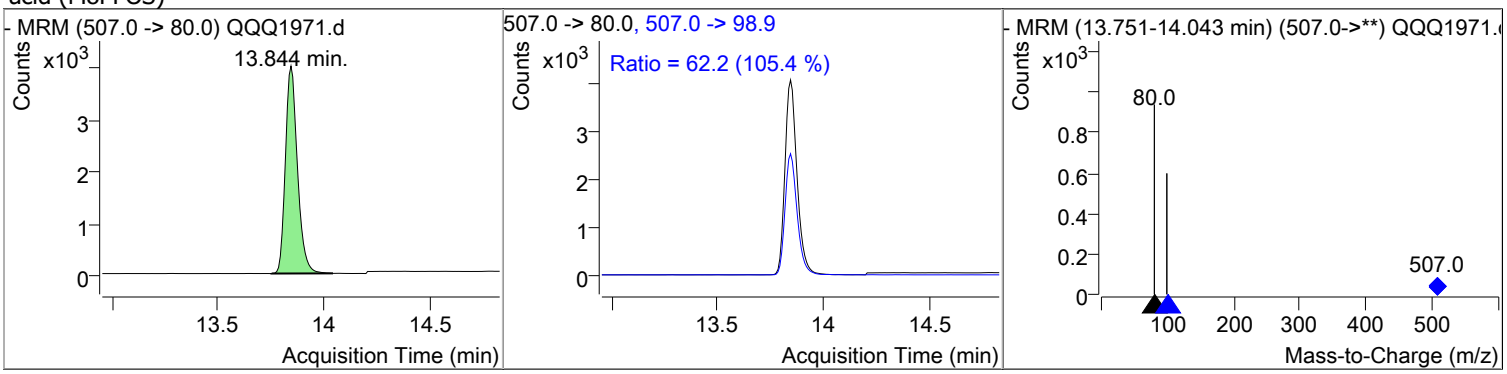
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	4.0871	13.84	-0.07	73461	472.0 -> 223.0	19.5	16.9	25.4



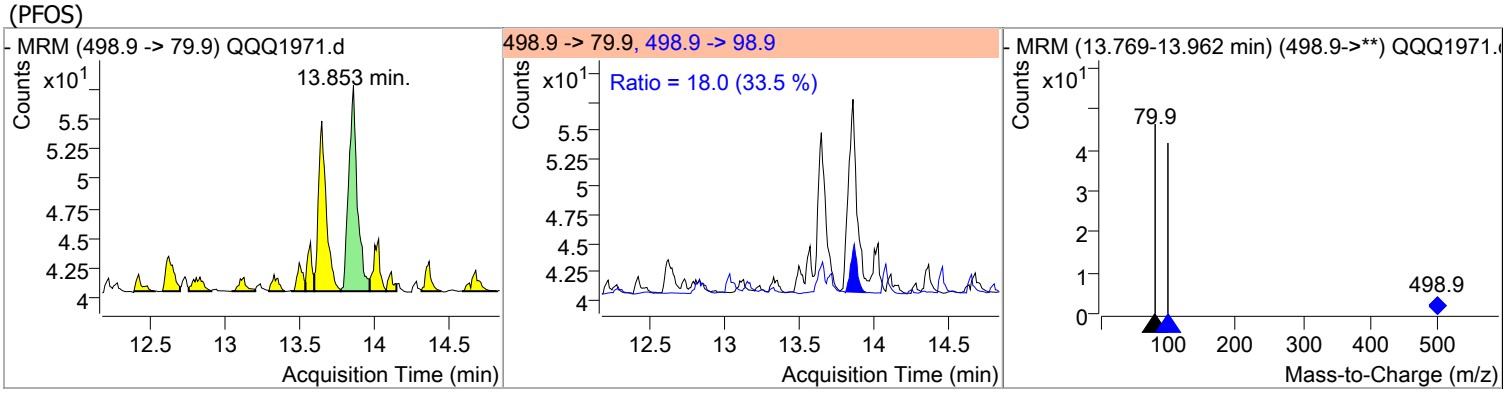
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	0.0041	13.82	-0.08	54	463.0 -> 218.8	35.1	19.4	29.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.2120	13.84	-0.07	15840	507.0 -> 98.9	62.2	47.2	70.8

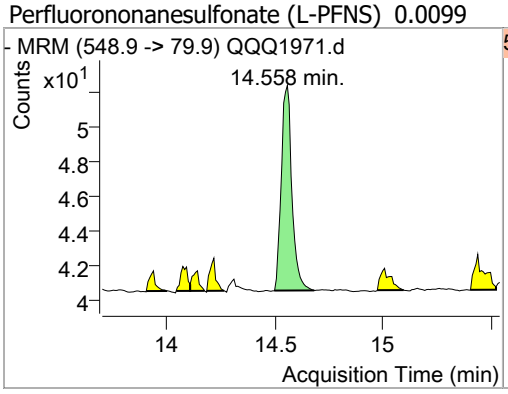


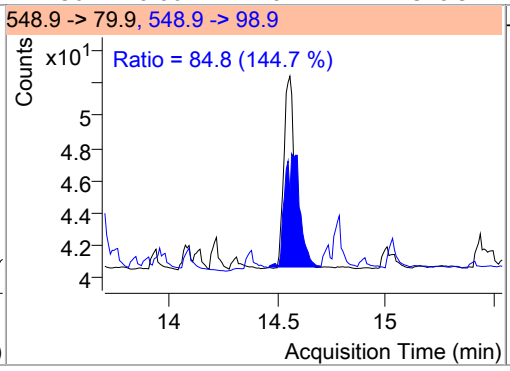
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	0.0128	13.85	-0.06	69	498.9 -> 98.9	18.0	43.1	64.6

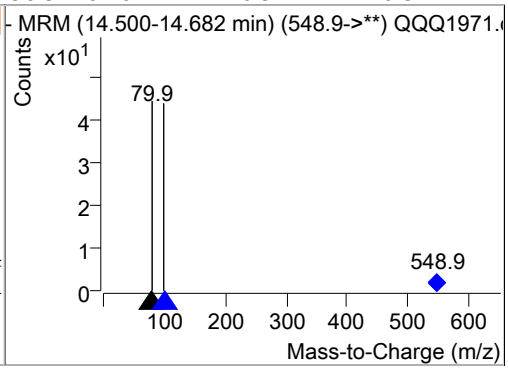


Quantitation Results Report (Not Reviewed)

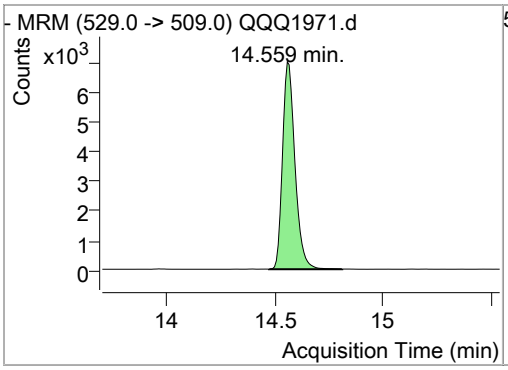
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	0.0099	14.56	-0.06	40	548.9 -> 98.9	84.8	46.9	70.3

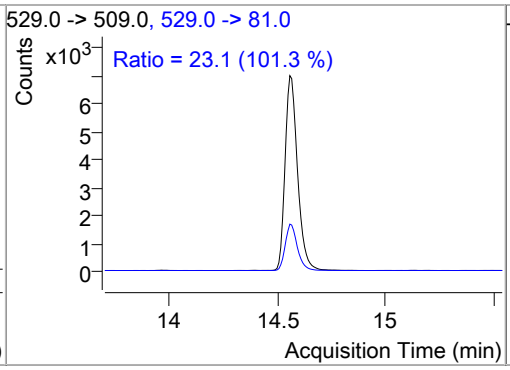


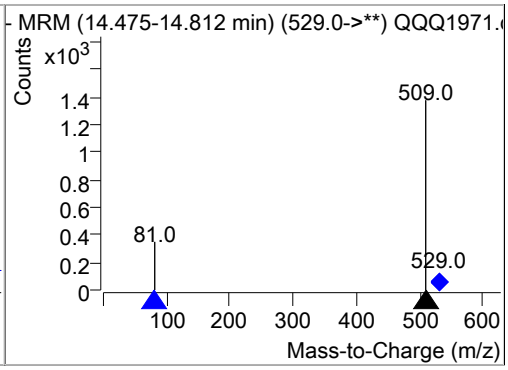




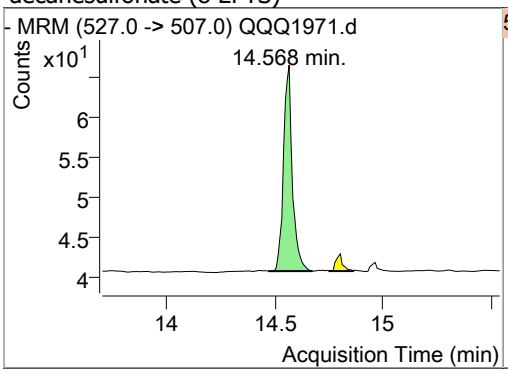
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.5296	14.56	-0.06	27793	529.0 -> 81.0	23.1	18.3	27.4

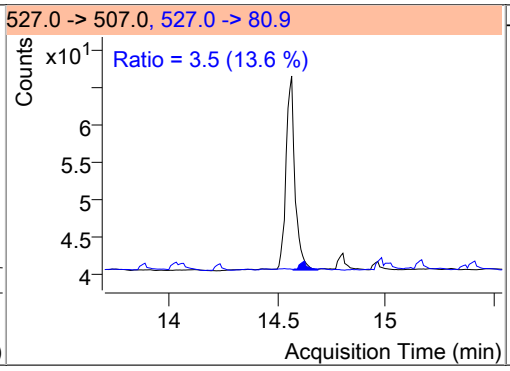


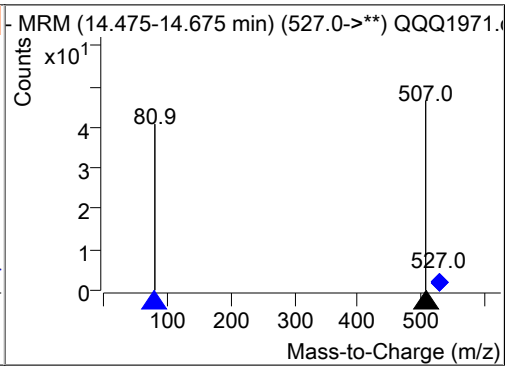




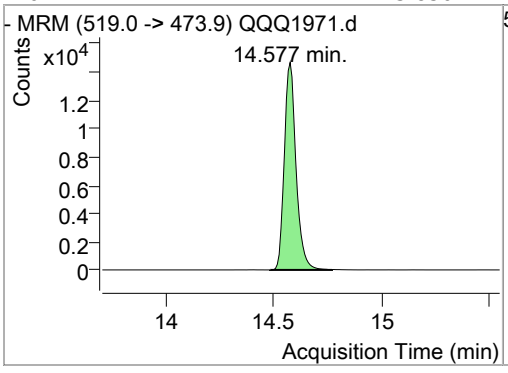
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	0.0000	14.57	-0.05	73	527.0 -> 80.9	3.5	20.6	30.9

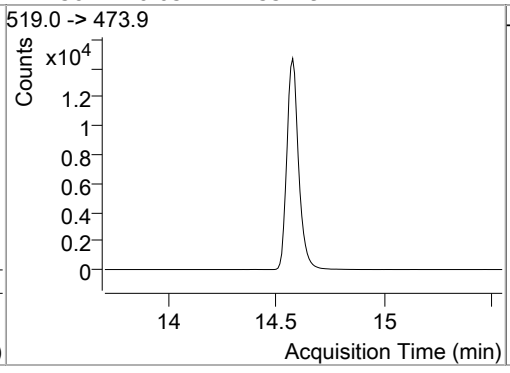


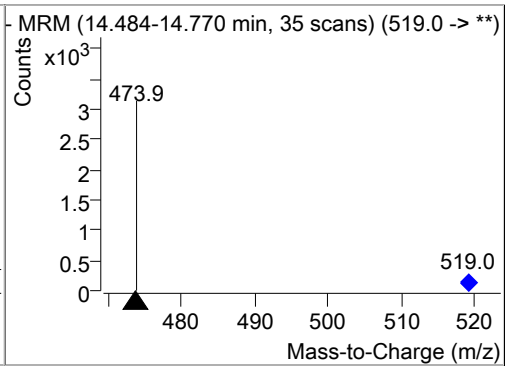




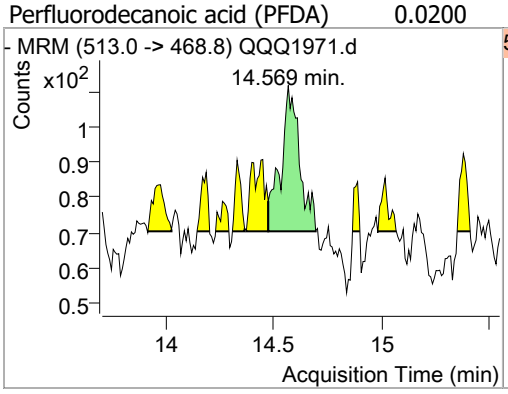
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	3.8562	14.58	-0.05	55149				

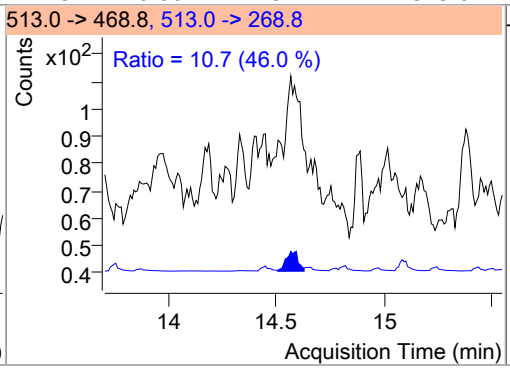


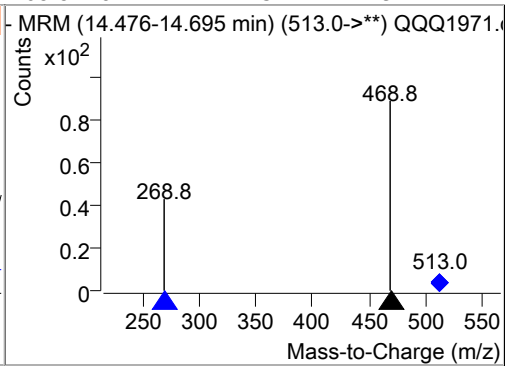




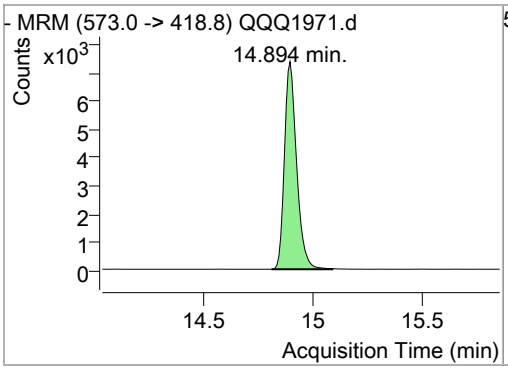
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	0.0200	14.57	-0.06	252	513.0 -> 268.8	10.7	17.5	29.1

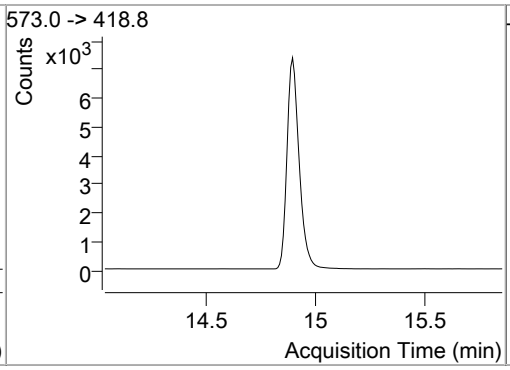


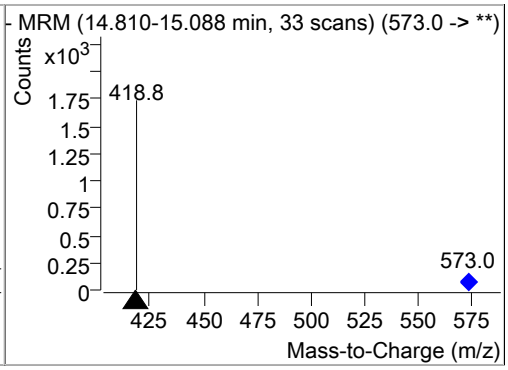




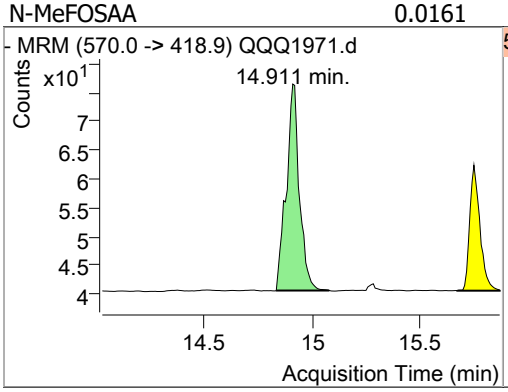
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.2529	14.89	-0.04	28531				

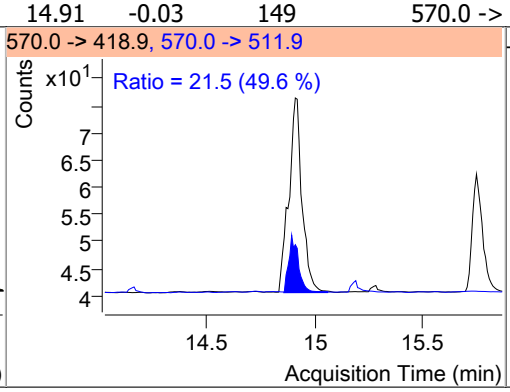


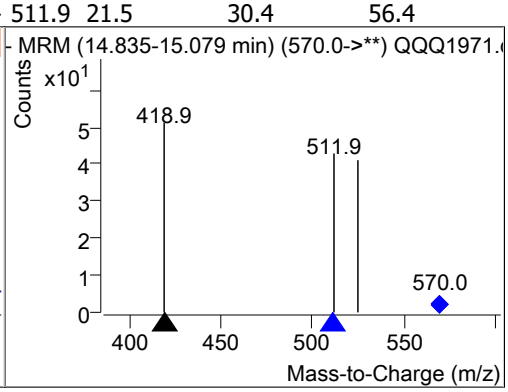




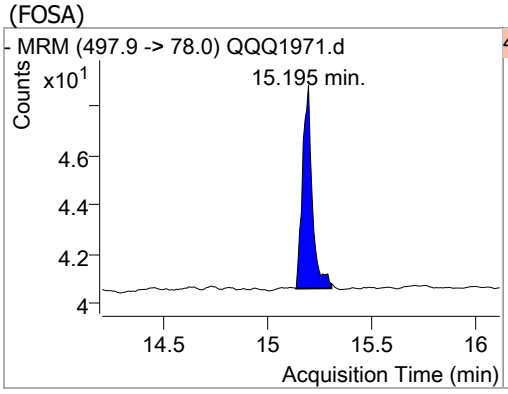
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	0.0161	14.91	-0.03	149	570.0 -> 511.9	21.5	30.4	56.4

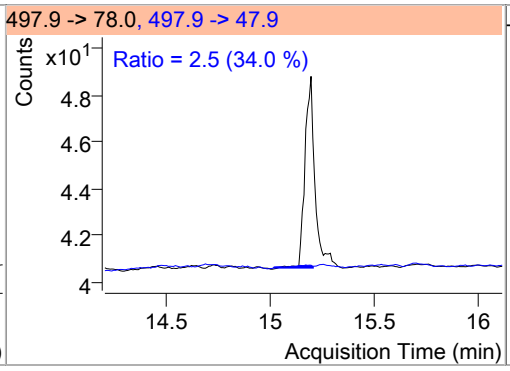


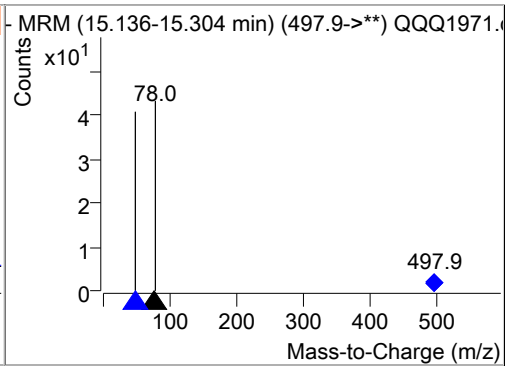




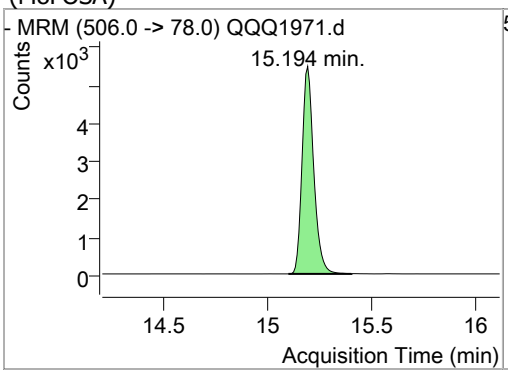
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	0.0034	15.19	0.01	27	497.9 -> 47.9	2.5	5.9	8.8

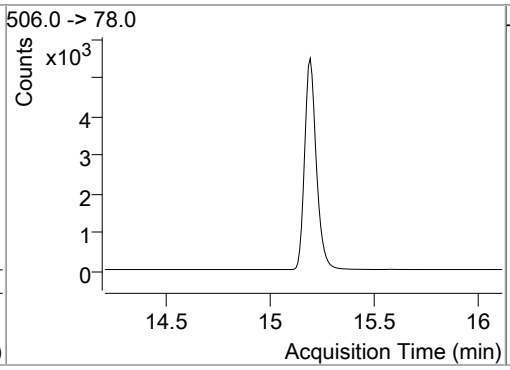


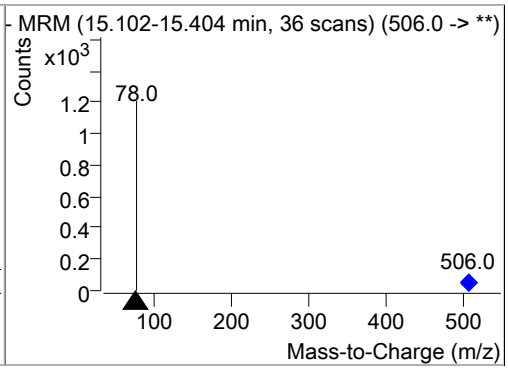




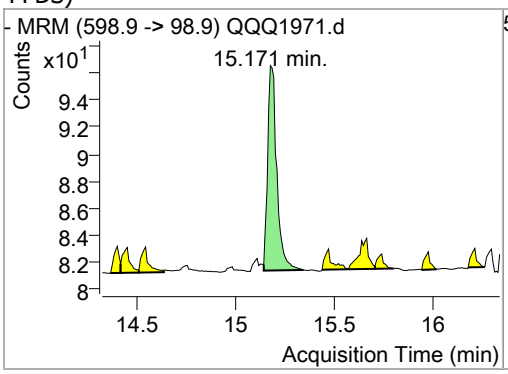
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.8682	15.19	0.00	21371				

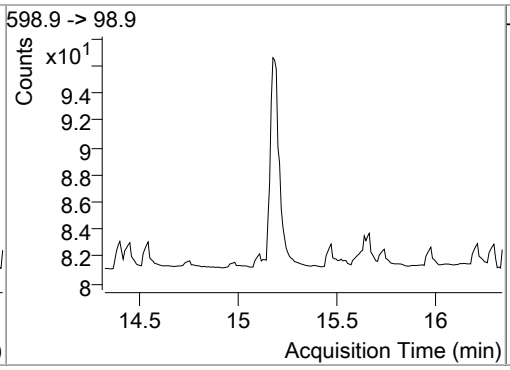


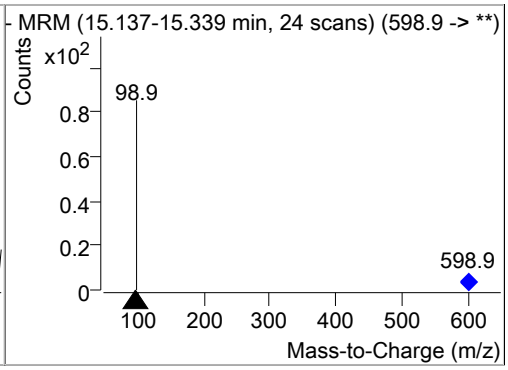




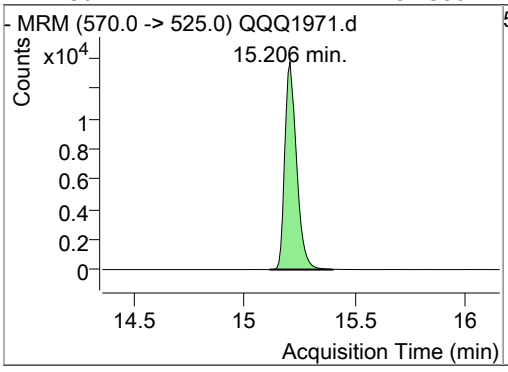
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	0.0132	15.17	-0.04	49				

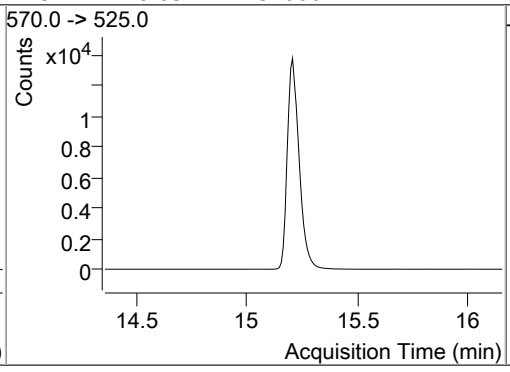


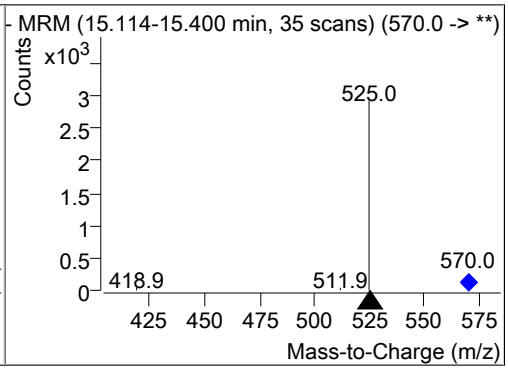




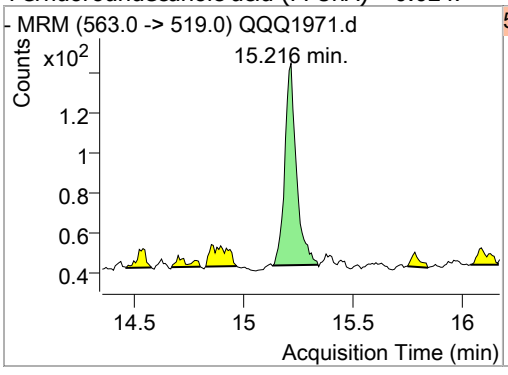
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	3.1386	15.21	-0.03	51066				

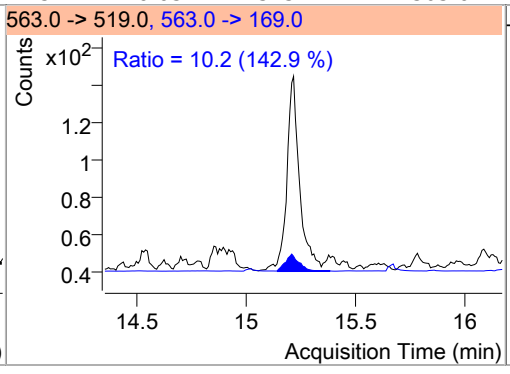


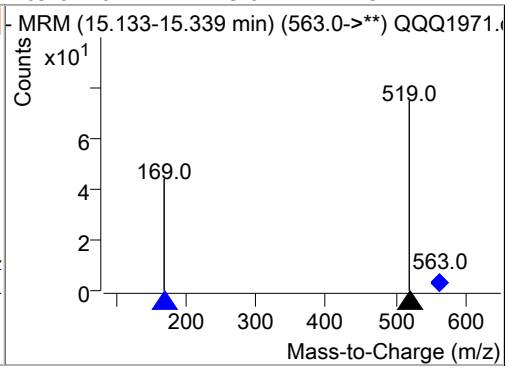




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	0.0247	15.22	-0.03	373	563.0 -> 169.0	10.2	5.0	9.2

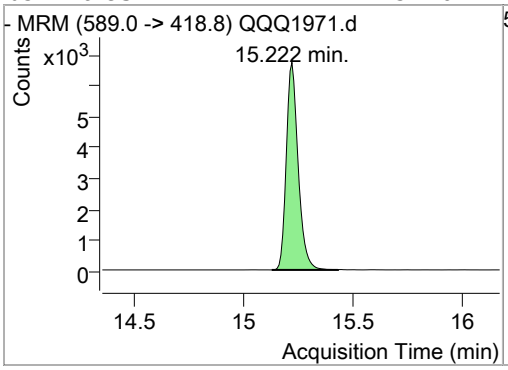


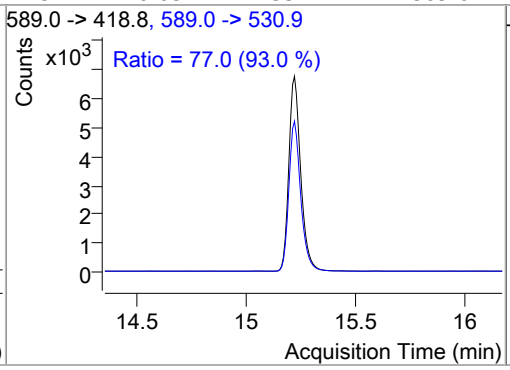


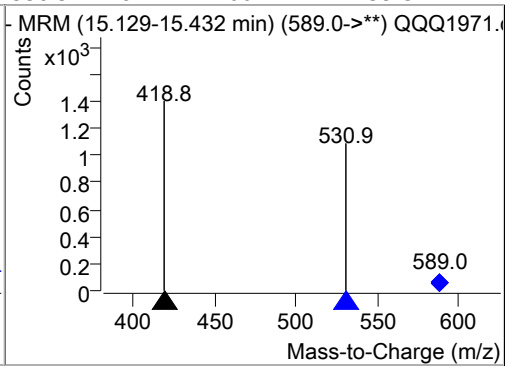


Quantitation Results Report (Not Reviewed)

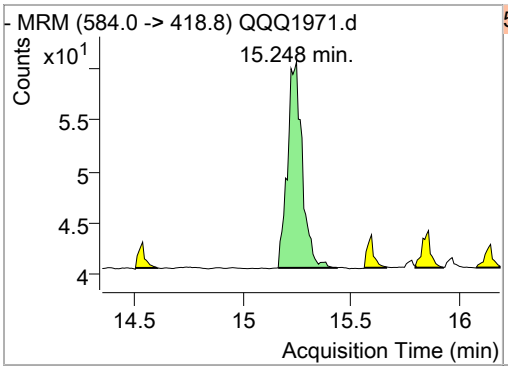
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.4104	15.22	-0.03	25377	589.0 -> 530.9	77.0	66.2	99.3

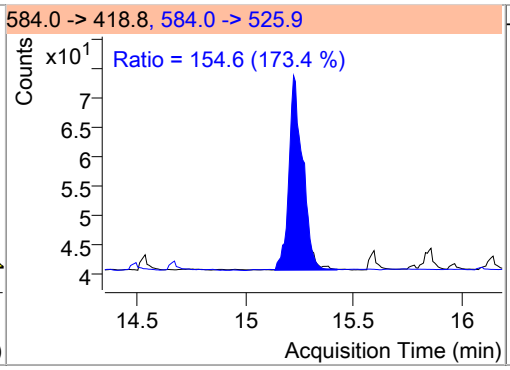


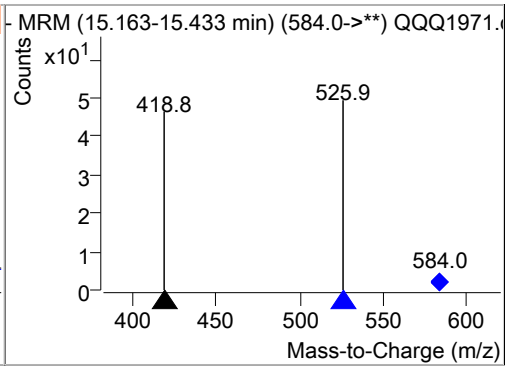




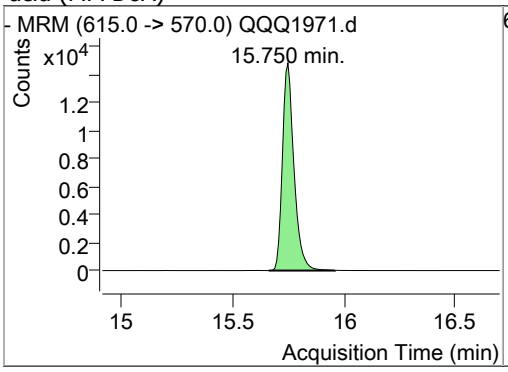
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	0.0128	15.25	-0.02	94	584.0 -> 525.9	154.6	71.3	107.0

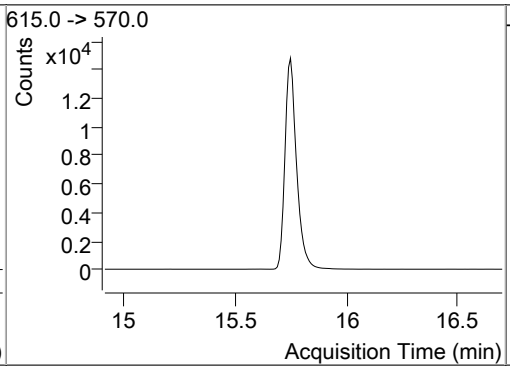


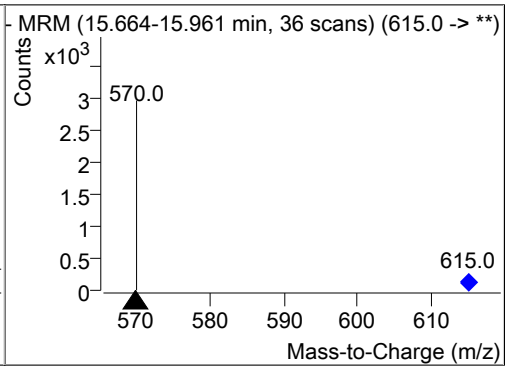




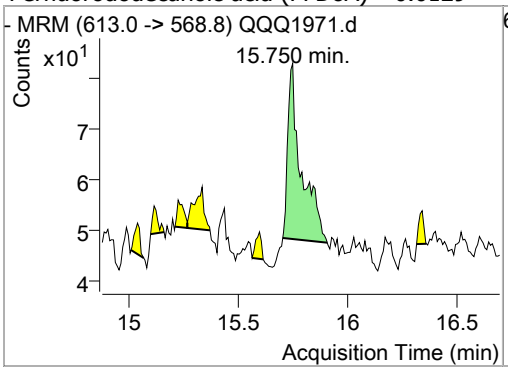
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	3.1711	15.75	-0.03	53047				

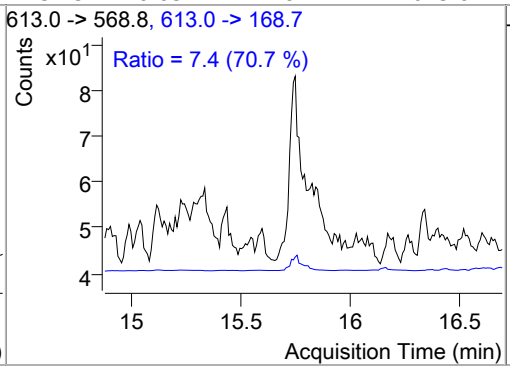


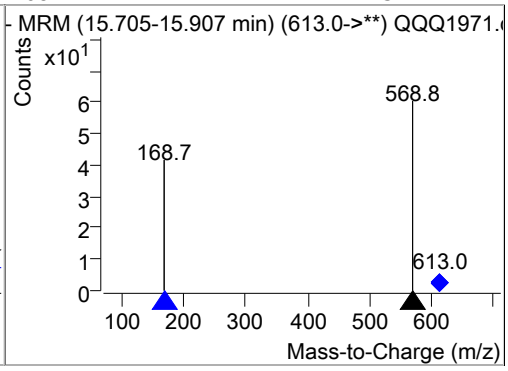




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	0.0129	15.75	-0.03	148	613.0 -> 168.7	7.4	7.4	13.7

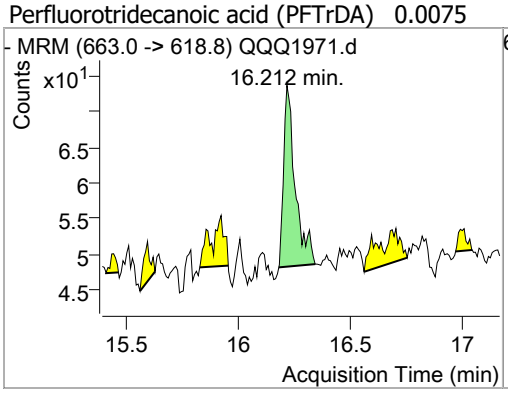


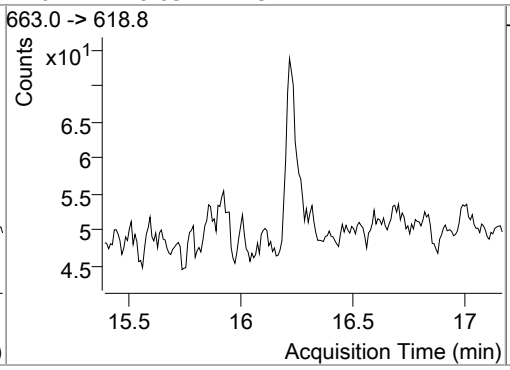


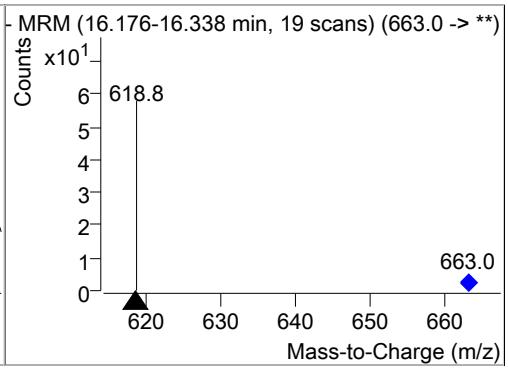


Quantitation Results Report (Not Reviewed)

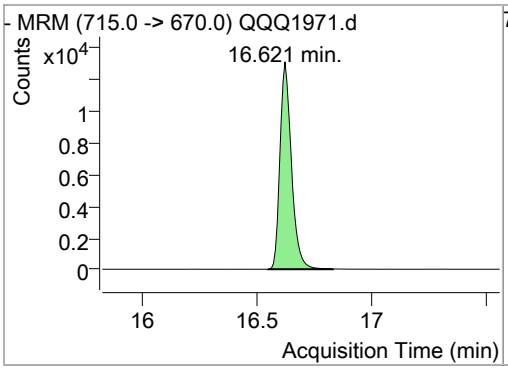
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	0.0075	16.21	-0.03	91				

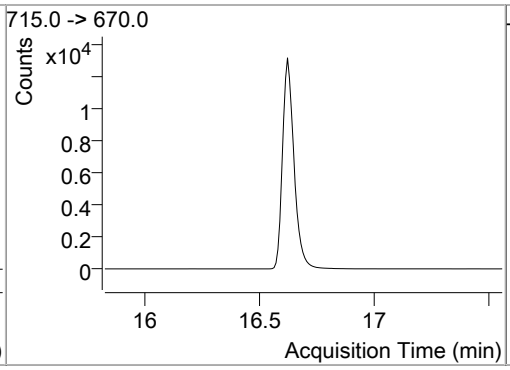


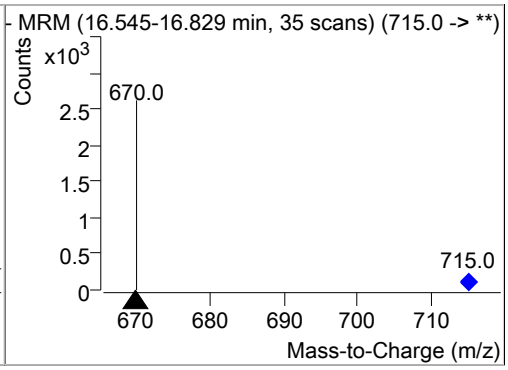




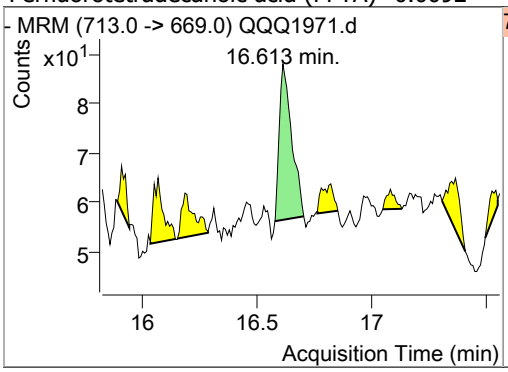
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	3.3141	16.62	-0.02	45260				

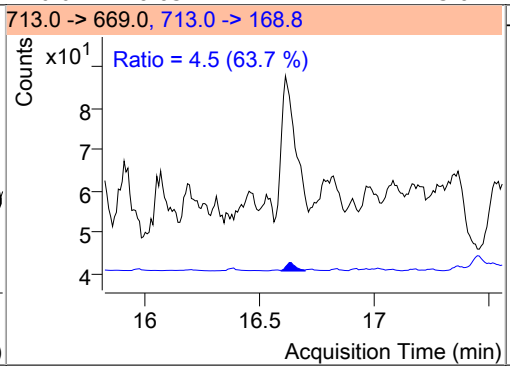


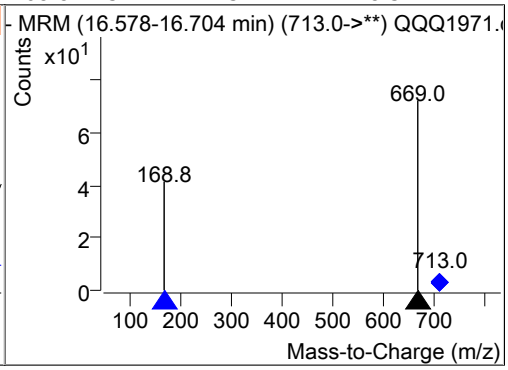




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	0.0092	16.61	-0.03	117	713.0 -> 168.8	4.5	5.7	8.5







LCS RAW DATA

SDG: 19J0144
CLASS: PFAS
METHOD: EPA 537m

Quantitation Results Report (Not Reviewed)

Data File	QQQ1972.d	Operator	
Acq. Method	PFAS 24_IDA ACQ.m	Acq. Date-Time	10/4/2019 6:29:07 PM
Sample Name	BJ90227-BS1	Instrument	LCQQQ
Vial		Multiplier	1.00
DA Method File	PFAS Quant_IDA_21_092619.m	Comment	
Tune File		Tune Date	
Batch Name	2019-10-04.batch.bin	Last Calib Update	9/27/2019 3:34:26 PM
Ref Library			

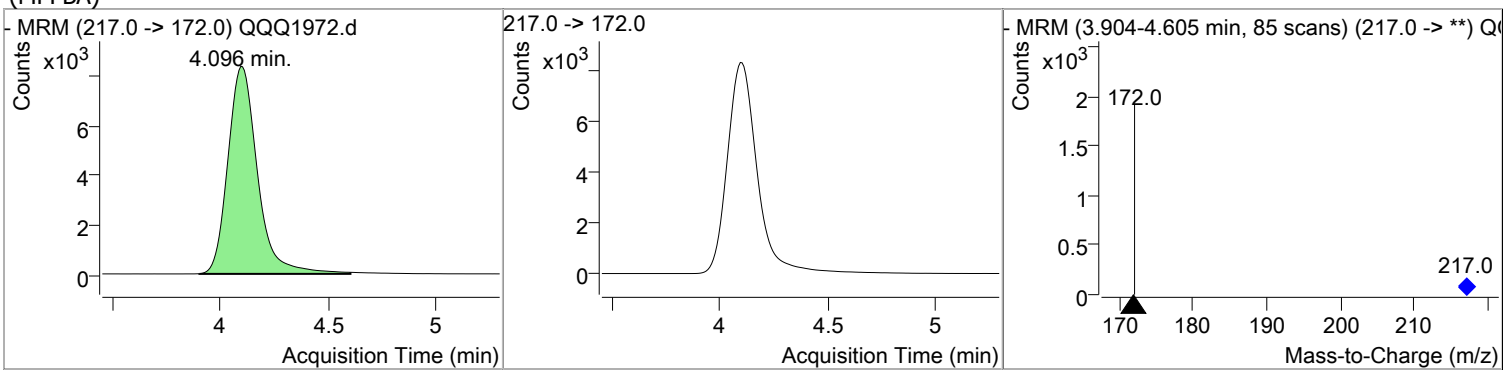
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Internal Standards						
MPFOA	12.949	417.0 -> 372.0	262370	10.0000	ng/ml	-0.085
System Monitoring Compounds						
Perfluoro-n-[13C4]butanoic acid (MPFBA)	4.096	217.0 -> 172.0	79597	3.5521	ng/ml	-0.092
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 35.52%		
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	8.072	268.0 -> 223.0	115953	3.4579	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.58%		
M3PFBS	8.777	302.0 -> 79.9	30423	3.1812	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 31.81%		
M2-4-2FTS	10.216	329.0 -> 309.0	43263	3.2882	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.88%		
M5PFHxA	10.361	318.0 -> 273.0	116198	3.4426	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.43%		
M4PFHpA	11.852	367.0 -> 322.0	29596	4.0362	ng/ml	-0.067
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 40.36%		
M3PFHxS	11.974	402.0 -> 80.0	22380	3.3454	ng/ml	-0.069
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.45%		
M2-6-2FTS	12.895	429.0 -> 409.0	30135	3.8835	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.83%		
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	12.948	421.0 -> 376.0	66776	3.6510	ng/ml	-0.077
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 36.51%		
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	13.828	472.0 -> 427.0	70559	3.7573	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 37.57%		
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	13.835	507.0 -> 80.0	16986	3.2968	ng/ml	-0.076
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.97%		
M2-8-2FTS	14.559	529.0 -> 509.0	27112	4.1859	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 41.86%		
M6PFDA	14.568	519.0 -> 473.9	56993	3.8143	ng/ml	-0.059
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 38.14%		
d3-N-MeFOSAA	14.886	573.0 -> 418.8	31019	3.3850	ng/ml	-0.051
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 33.85%		
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	15.185	506.0 -> 78.0	22456	2.8846	ng/ml	-0.009
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 28.85%		
M7PFUdA	15.198	570.0 -> 525.0	55834	3.2845	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.85%		
d5-N-EtFOSAA	15.213	589.0 -> 418.8	25523	3.2830	ng/ml	-0.042
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.83%		
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	15.742	615.0 -> 570.0	57326	3.2800	ng/ml	-0.034
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 32.80%		
M2PFTeDA	16.621	715.0 -> 670.0	49481	3.4678	ng/ml	-0.017
Spiked Amount: 10.000	Range: 25.0 - 140.0%			Recovery = 34.68%		

Target Compounds	QValue

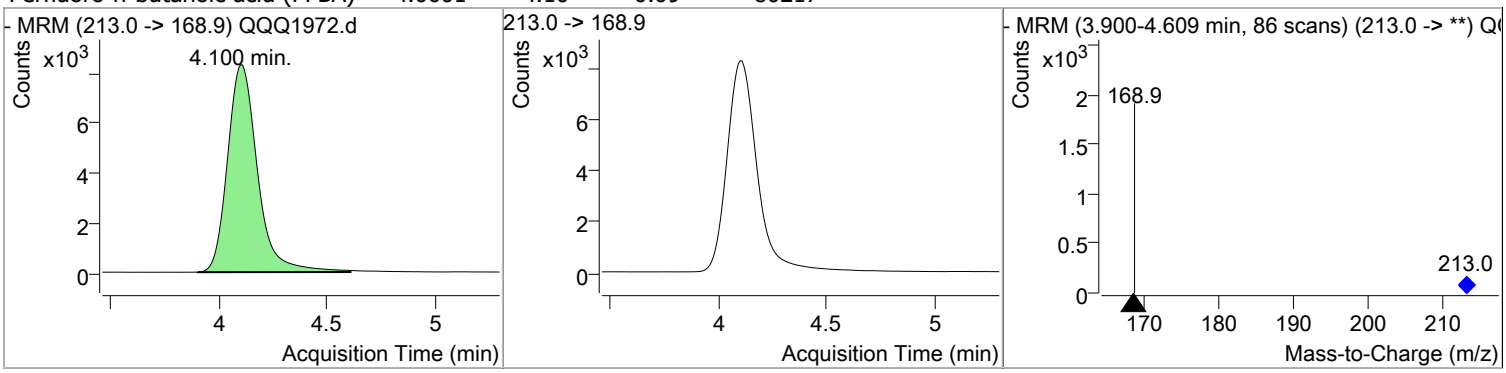
Compound	RT	QIon	Resp.	Conc.	Units	Dev(Min)
Perfluoro-n-butanoic acid (PFBA)	4.100	213.0 -> 168.9	80217	4.0601	ng/ml	100
Perfluoro-n-pentanoic acid (PFPeA)	8.074	263.0 -> 219.0	113161	3.8439	ng/ml	100
Perfluorobutanesulfonic acid (PFBS)	8.771	298.9 -> 79.9	30594	3.5493	ng/ml	100
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	10.218	327.0 -> 307.0	40429	3.7184	ng/ml	99
Perfluorohexanoic acid (PFHxA)	10.364	313.0 -> 268.9	110977	3.8111	ng/ml	99
Perfluoro-1-pentanesulfonate (L-PFPeS)	10.658	348.9 -> 79.9	26867	3.5642	ng/ml	99
Perfluoroheptanoic acid (PFHpA)	11.853	363.0 -> 318.8	84481	3.9379	ng/ml	99
Perfluorohexanesulfonic acid (PFHxS)	11.976	398.9 -> 79.9	18483	2.8986	ng/ml	99
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	12.896	427.0 -> 407.0	32375	4.1212	ng/ml	98
Perfluorooctanoic acid (PFOA)	12.949	413.0 -> 368.8	67734	4.1733	ng/ml	99
Perfluoro-1-heptanesulfonate (L-PFHpS)	13.006	448.9 -> 80.0	18125	3.8366	ng/ml	98
Perfluorononanoic acid (PFNA)	13.829	463.0 -> 418.8	57297	4.1528	ng/ml	99
Perfluorooctanesulfonic acid (PFOS)	13.836	498.9 -> 79.9	14888	2.6464	ng/ml	94
Perfluorononanesulfonate (L-PFNS)	14.550	548.9 -> 79.9	13610	3.2284	ng/ml	96
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	14.559	527.0 -> 507.0	25047	4.3833	ng/ml	95
Perfluorodecanoic acid (PFDA)	14.569	513.0 -> 468.8	51722	3.9241	ng/ml	90
N-MeFOSAA	14.895	570.0 -> 418.9	34795	3.5906	ng/ml	98
Perfluoro-1-octanesulfonamide (FOSA)	15.186	497.9 -> 78.0	24748	3.0515	ng/ml	100
Perfluoro-1-decanesulfonate (L-PFDS)	15.171	598.9 -> 98.9	13000	3.3326	ng/ml	100
Perfluoroundecanoic acid (PFUnA)	15.199	563.0 -> 519.0	53074	3.3639	ng/ml	98
N-EtFOSAA	15.222	584.0 -> 418.8	27886	3.6310	ng/ml	94
Perfluorododecanoic acid (PFDoA)	15.742	613.0 -> 568.8	43921	3.6451	ng/ml	100
Perfluorotridecanoic acid (PFTrDA)	16.212	663.0 -> 618.8	47509	3.7501	ng/ml	100
Perfluorotetradecanoic acid (PFTA)	16.621	713.0 -> 669.0	47076	3.5591	ng/ml	99

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed; (*) = Surrogate Percent Recovery Out of Range; (d): Zeroed Peak

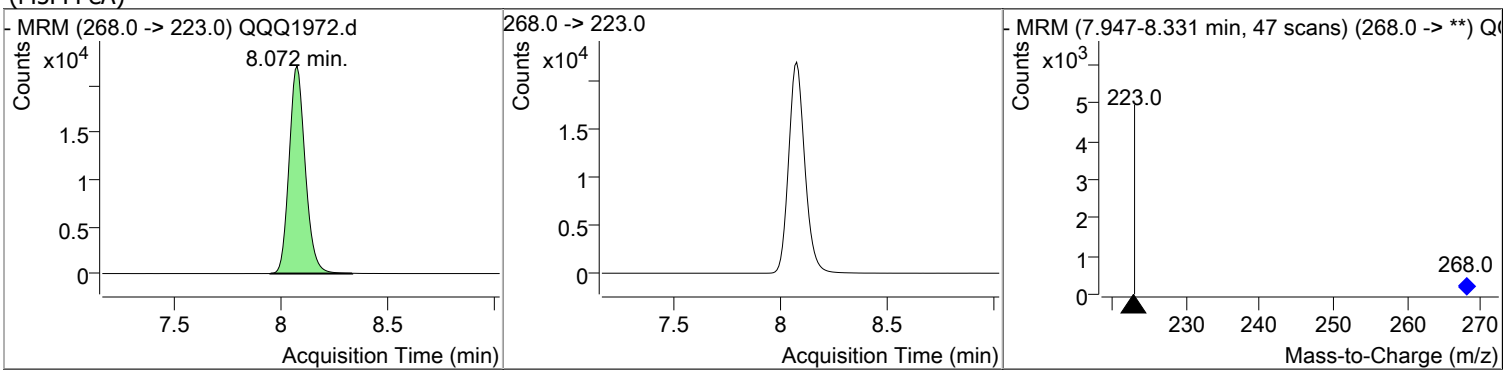
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C4]butanoic acid (MPFBA)	3.5521	4.10	-0.09	79597				



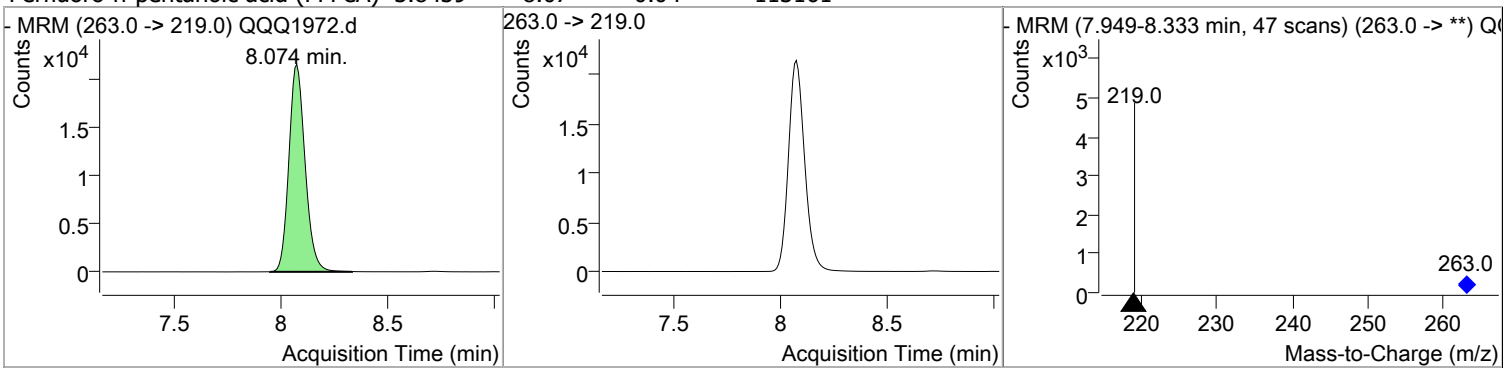
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-butanoic acid (PFBA)	4.0601	4.10	-0.09	80217				



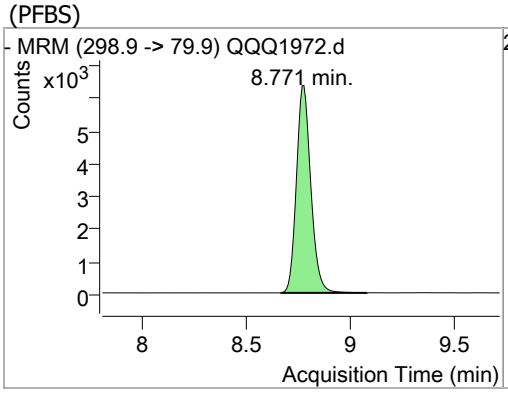
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C54]pentanoic acid (M5PFPeA)	3.4579	8.07	-0.04	115953				

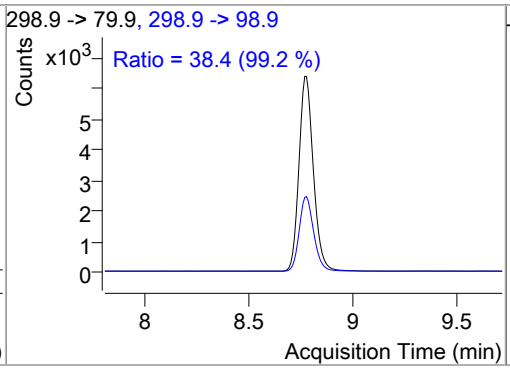


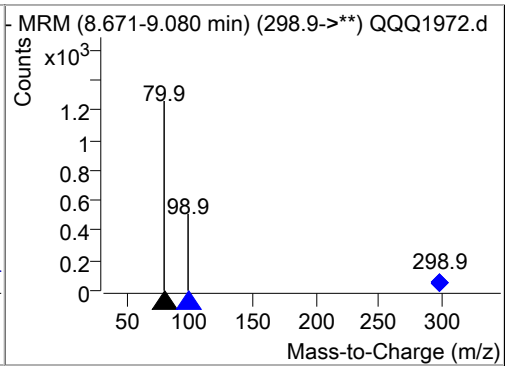
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-pentanoic acid (PFPeA)	3.8439	8.07	-0.04	113161				



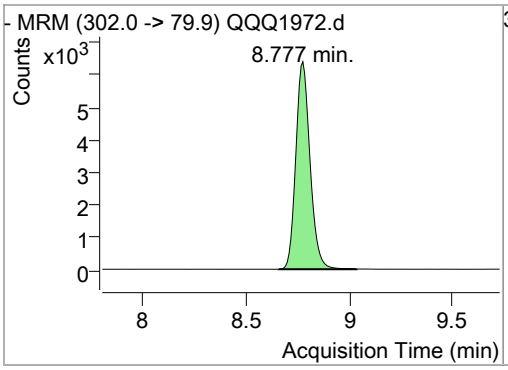
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorobutanesulfonic acid (PFBS)	3.5493	8.77	-0.04	30594	298.9 -> 98.9	38.4	31.0	46.5

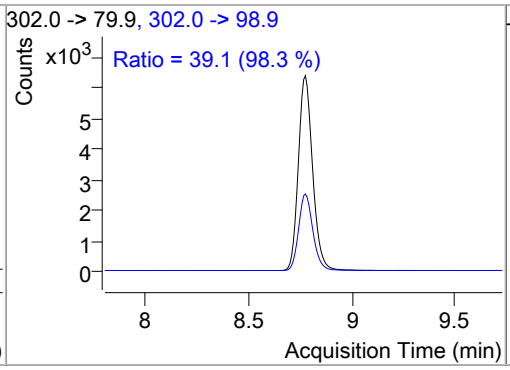


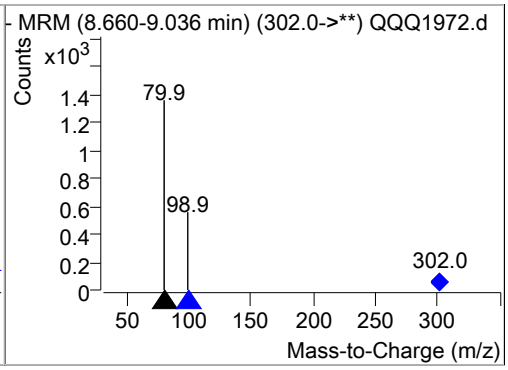




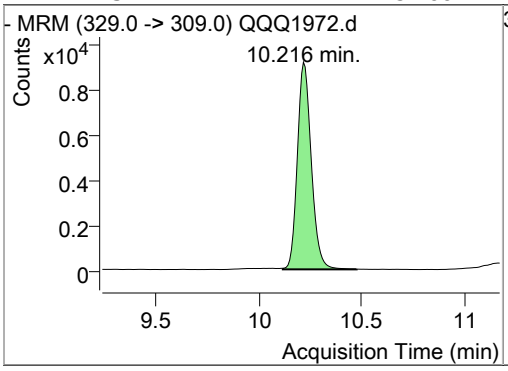
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFBS	3.1812	8.78	-0.04	30423	302.0 -> 98.9	39.1	31.9	47.8

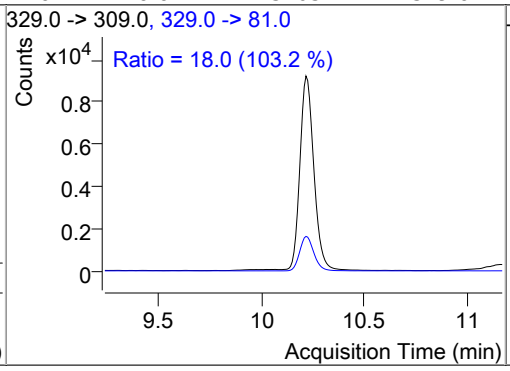


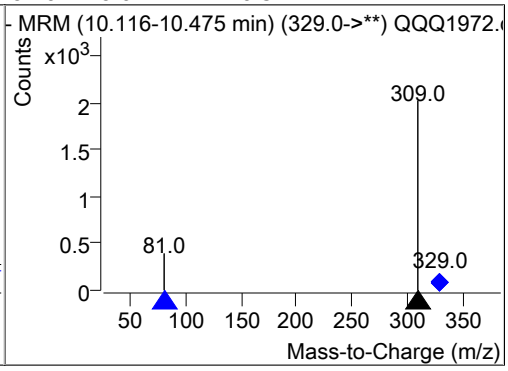




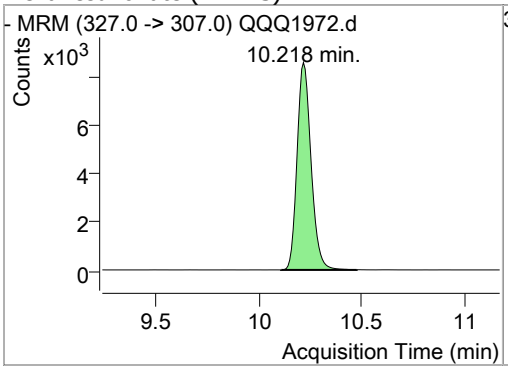
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-4-2FTS	3.2882	10.22	-0.04	43263	329.0 -> 81.0	18.0	10.5	24.4

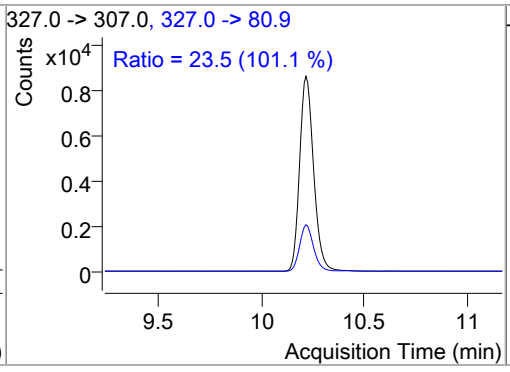


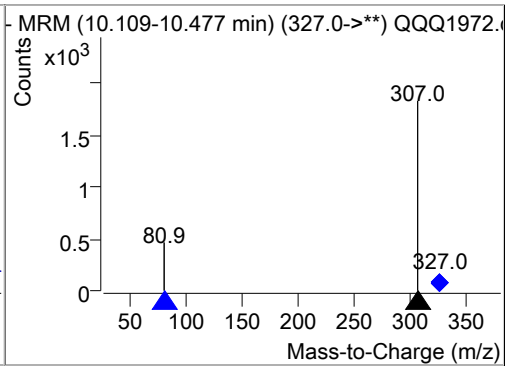




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4 2FTS)	3.7184	10.22	-0.04	40429	327.0 -> 80.9	23.5	13.9	32.5

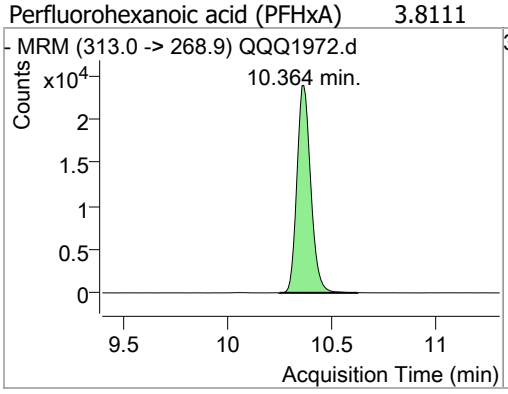


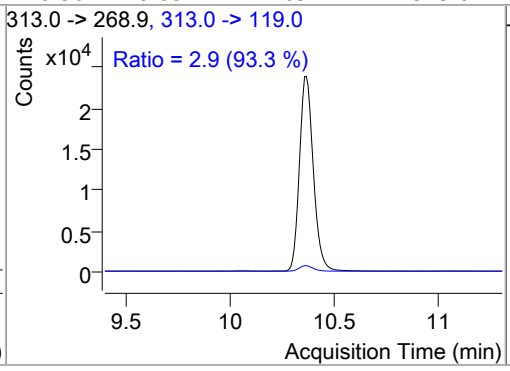


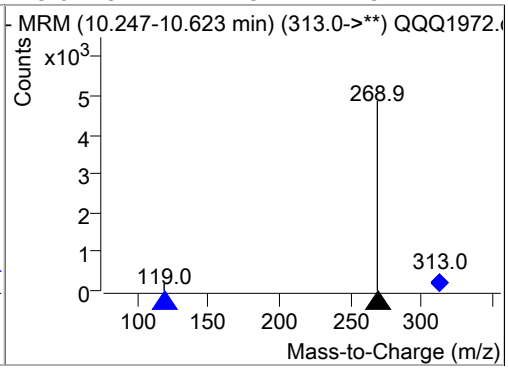


Quantitation Results Report (Not Reviewed)

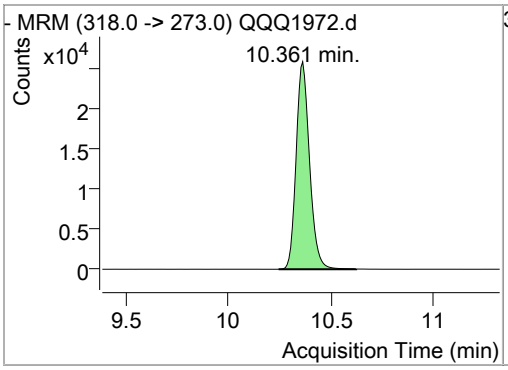
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanoic acid (PFHxA)	3.8111	10.36	-0.03	110977	313.0 -> 119.0	2.9	2.5	3.7

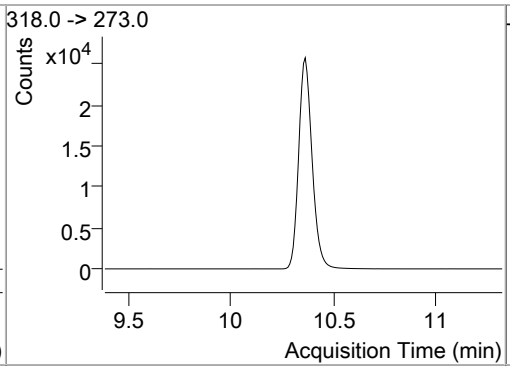


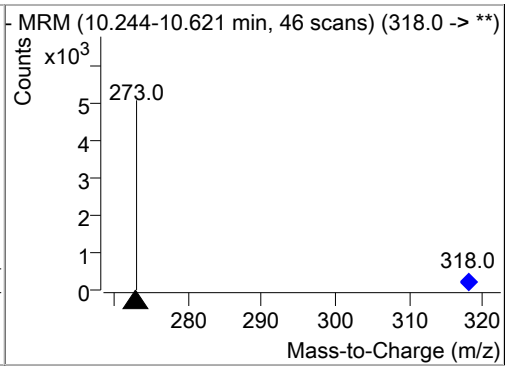




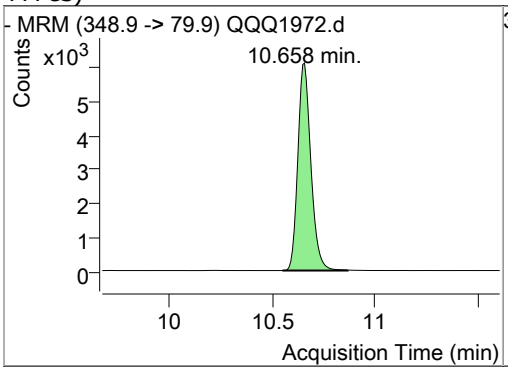
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M5PFHxA	3.4426	10.36	-0.04	116198				

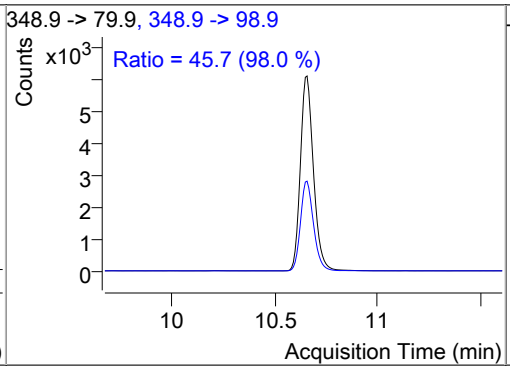


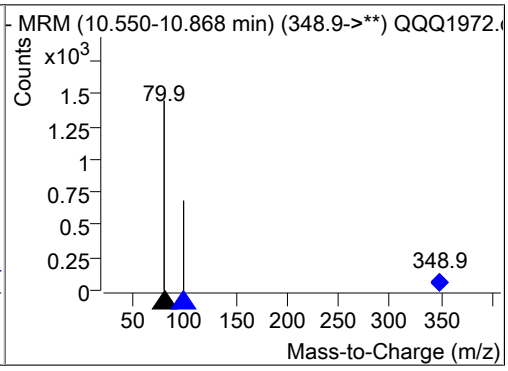




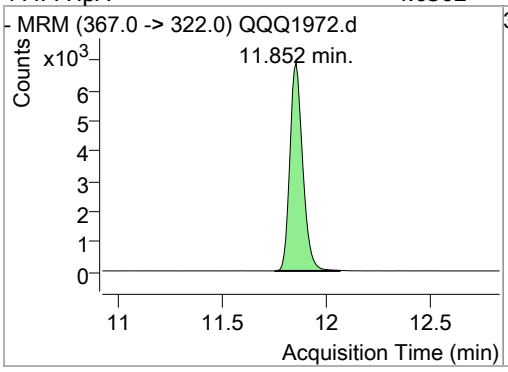
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-pentanesulfonate (L-PFPeS)	3.5642	10.66	-0.04	26867	348.9 -> 98.9	45.7	37.3	56.0

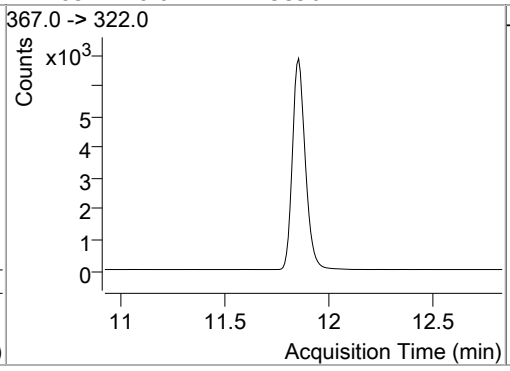


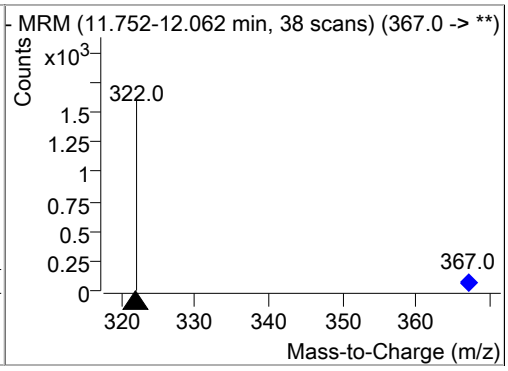




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M4PFHpA	4.0362	11.85	-0.07	29596				

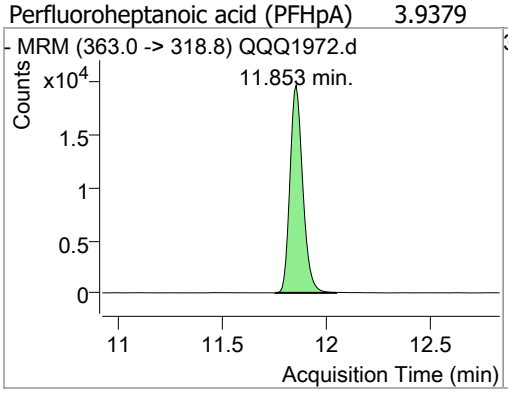


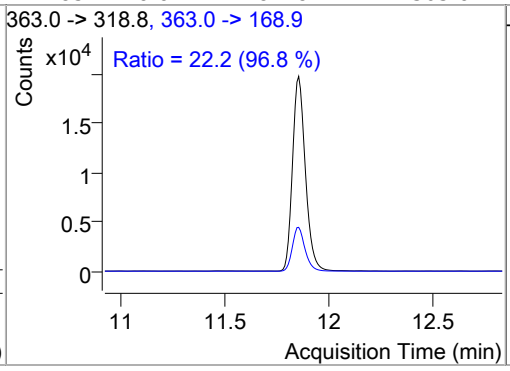


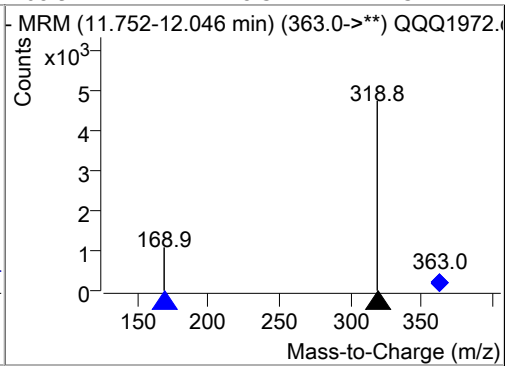


Quantitation Results Report (Not Reviewed)

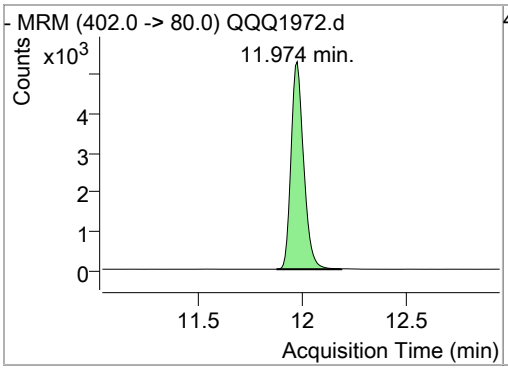
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroheptanoic acid (PFHpA)	3.9379	11.85	-0.07	84481	363.0 -> 168.9	22.2	18.3	27.5

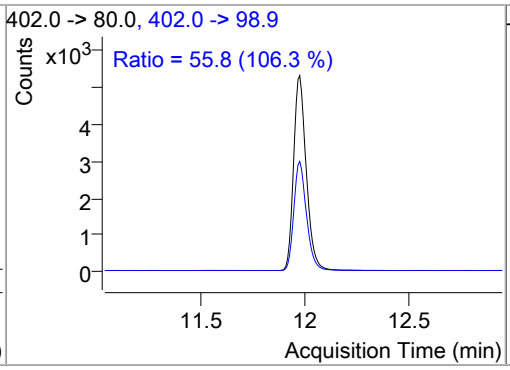


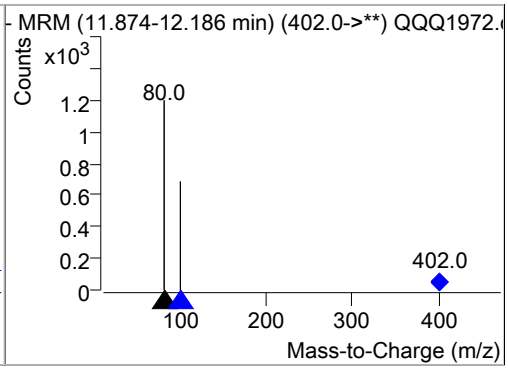




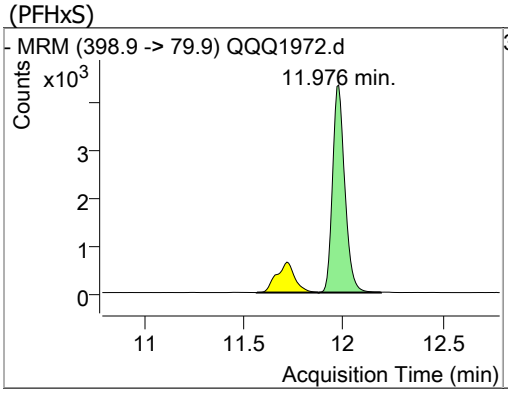
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M3PFHxS	3.3454	11.97	-0.07	22380	402.0 -> 98.9	55.8	42.0	62.9

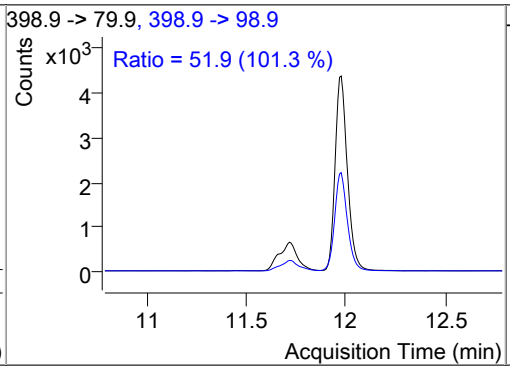


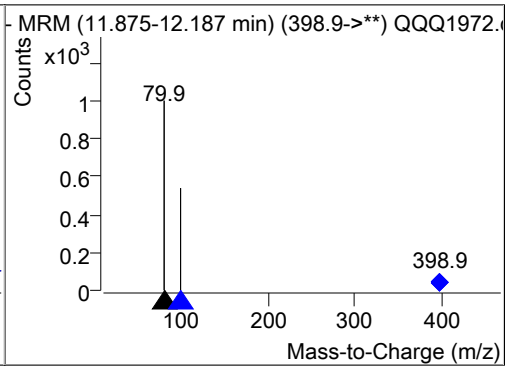




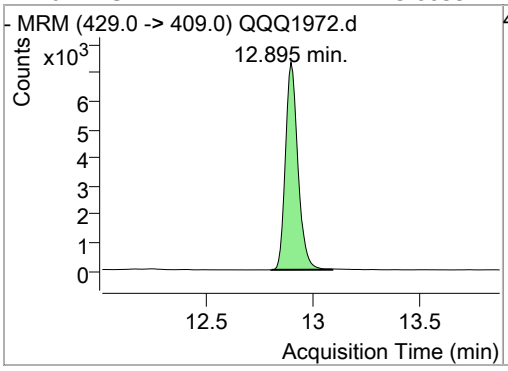
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorohexanesulfonic acid (PFHxS)	2.8986	11.98	-0.07	18483	398.9 -> 98.9	51.9	41.0	61.5

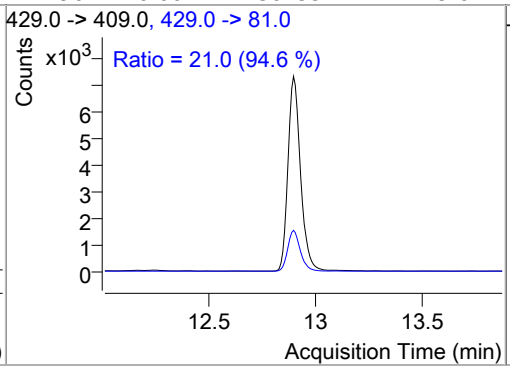


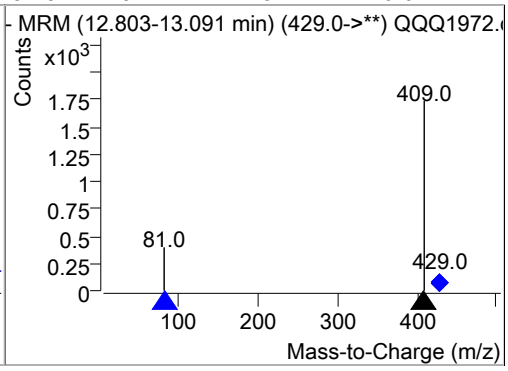




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-6-2FTS	3.8835	12.90	-0.08	30135	429.0 -> 81.0	21.0	17.8	26.6

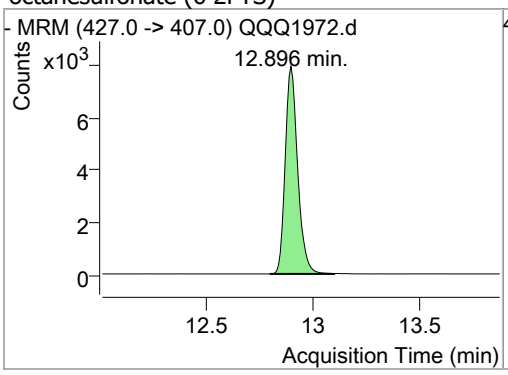


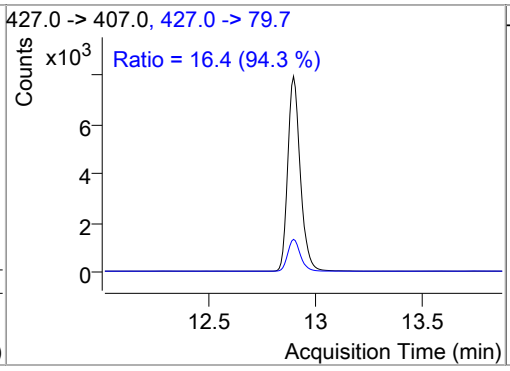


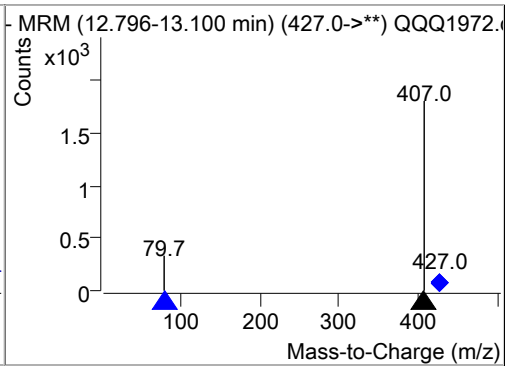


Quantitation Results Report (Not Reviewed)

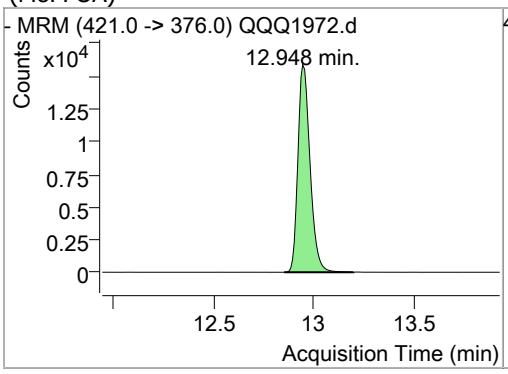
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	4.1212	12.90	-0.08	32375	427.0 -> 79.7	16.4	13.9	20.8

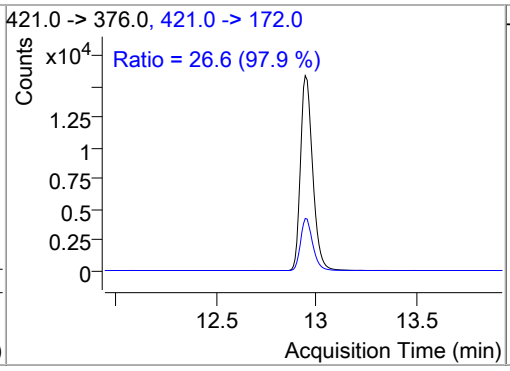


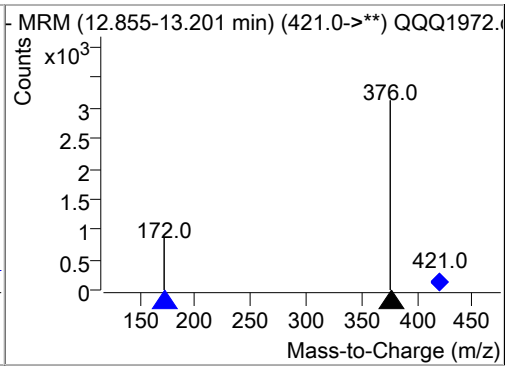




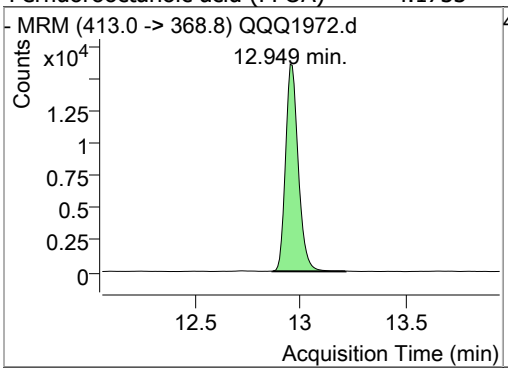
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C8]octanoic acid (M8PFOA)	3.6510	12.95	-0.08	66776	421.0 -> 172.0	26.6	21.7	32.6

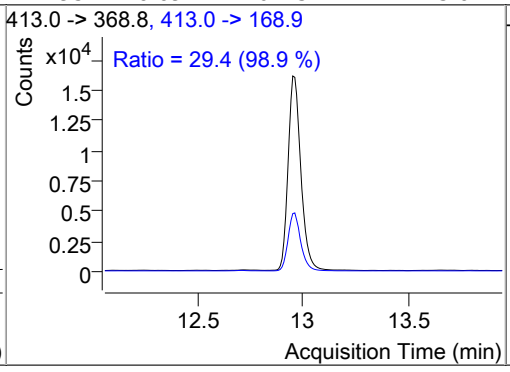


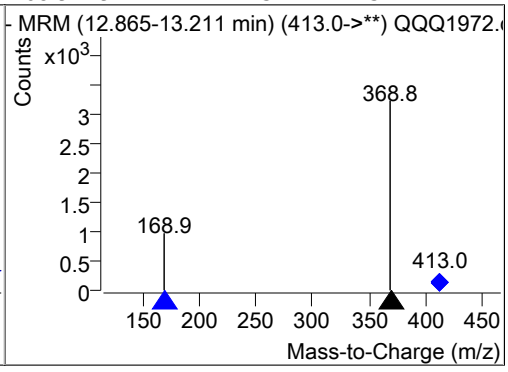




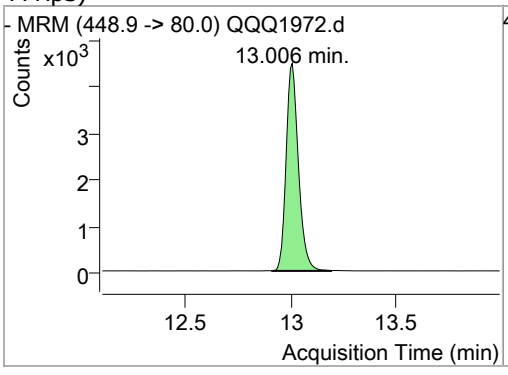
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanoic acid (PFOA)	4.1733	12.95	-0.09	67734	413.0 -> 168.9	29.4	22.3	37.2

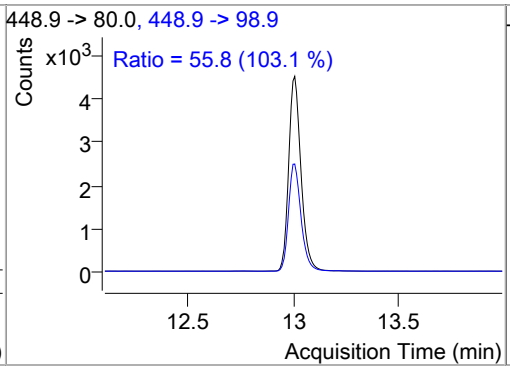


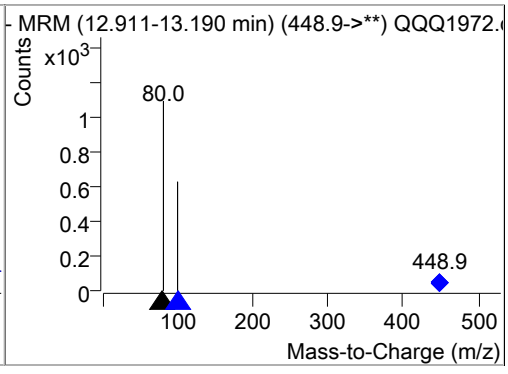




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-heptanesulfonate (L-PFHpS)	3.8366	13.01	-0.08	18125	448.9 -> 98.9	55.8	43.3	64.9

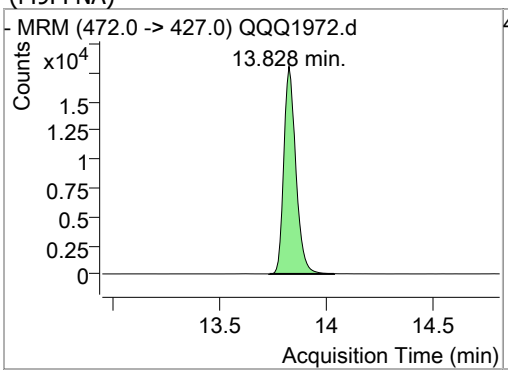


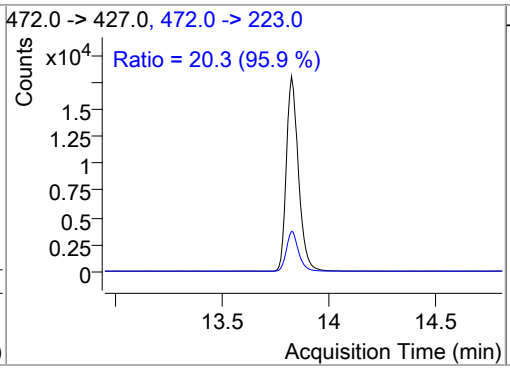


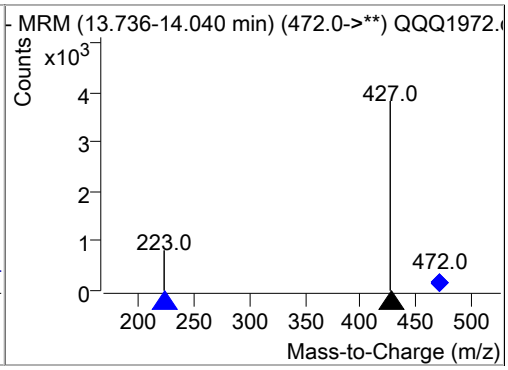


Quantitation Results Report (Not Reviewed)

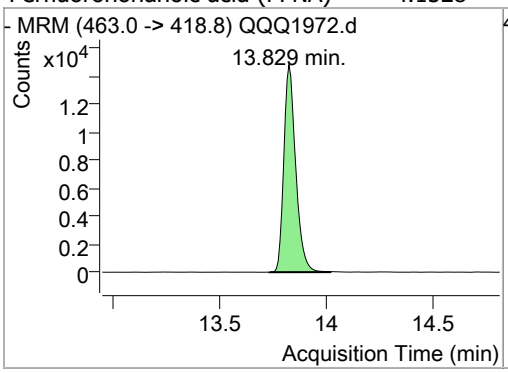
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[13C9]nonanoic acid (M9PFNA)	3.7573	13.83	-0.08	70559	472.0 -> 223.0	20.3	16.9	25.4

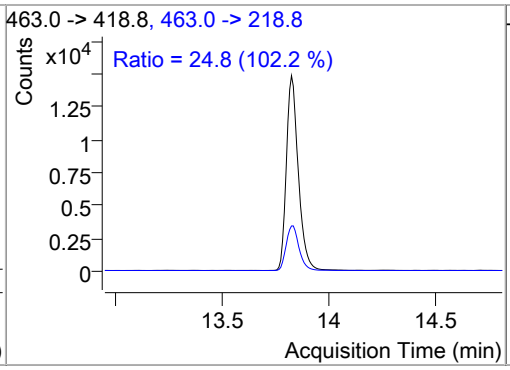


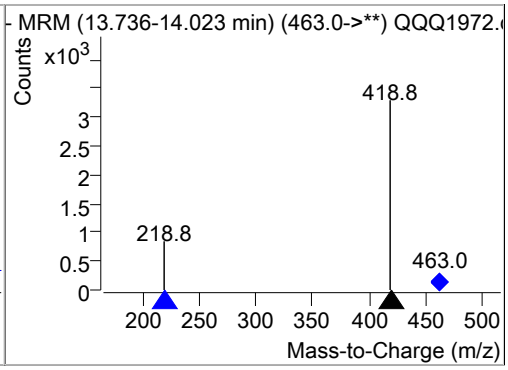




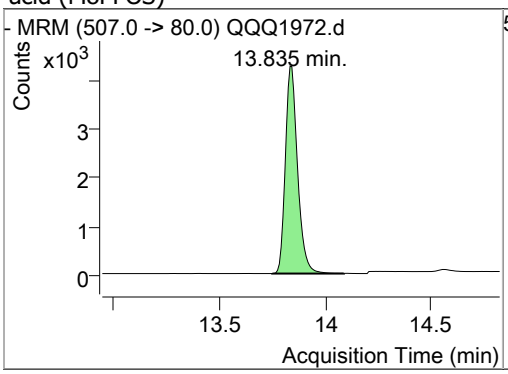
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanoic acid (PFNA)	4.1528	13.83	-0.08	57297	463.0 -> 218.8	24.8	19.4	29.1

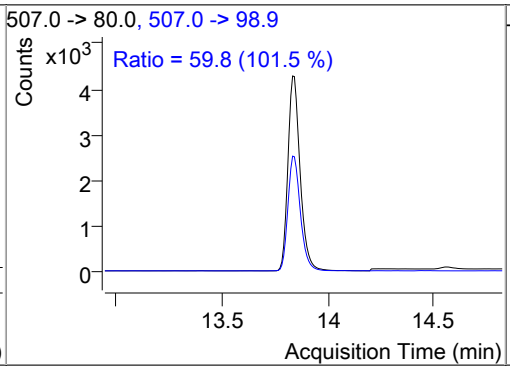


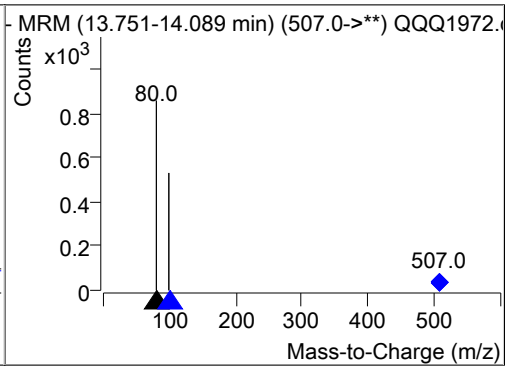




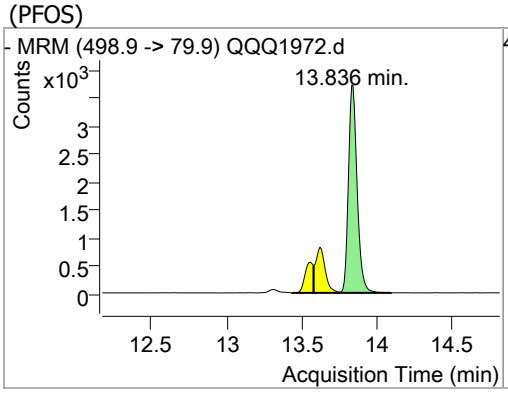
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonic acid (M8PFOS)	3.2968	13.84	-0.08	16986	507.0 -> 98.9	59.8	47.2	70.8

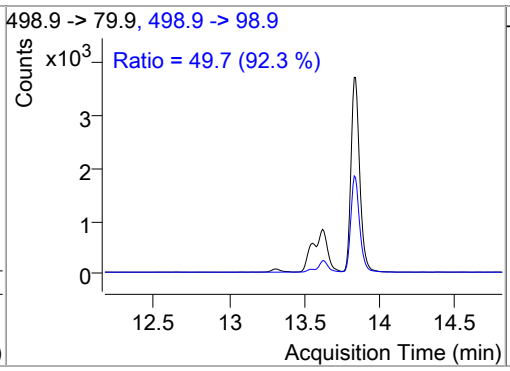


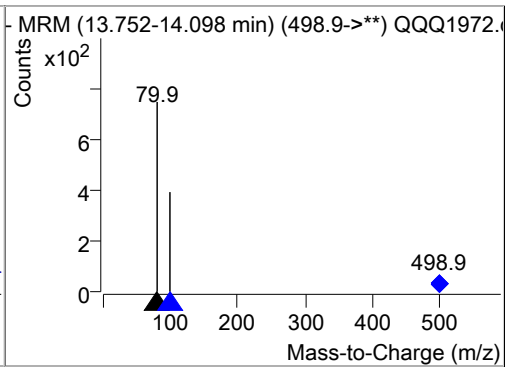




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorooctanesulfonic acid (PFOS)	2.6464	13.84	-0.08	14888	498.9 -> 98.9	49.7	43.1	64.6

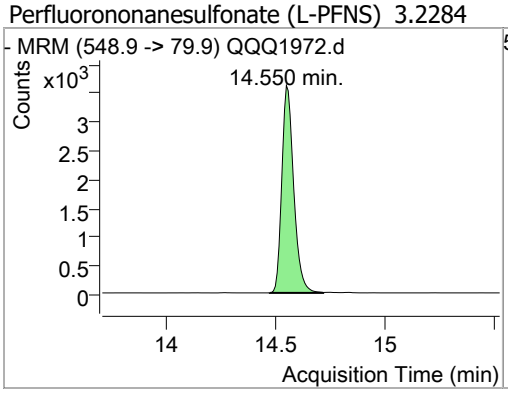


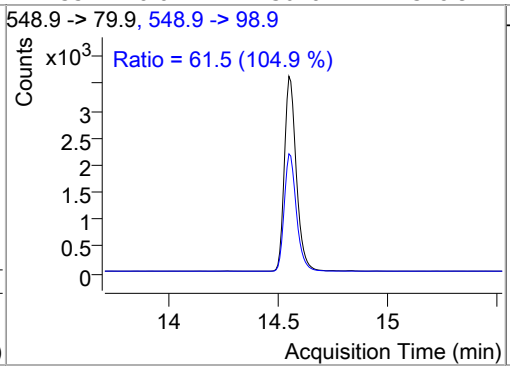


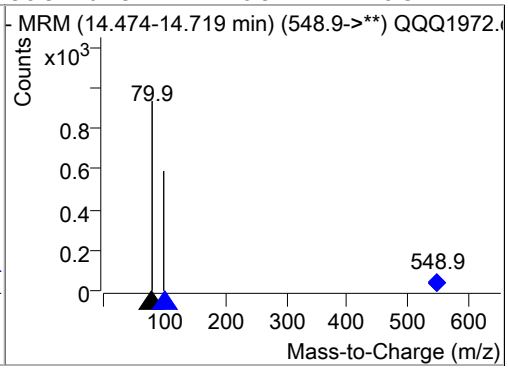


Quantitation Results Report (Not Reviewed)

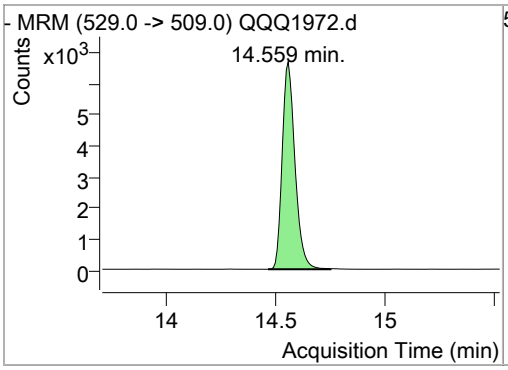
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorononanesulfonate (L-PFNS)	3.2284	14.55	-0.07	13610	548.9 -> 98.9	61.5	46.9	70.3

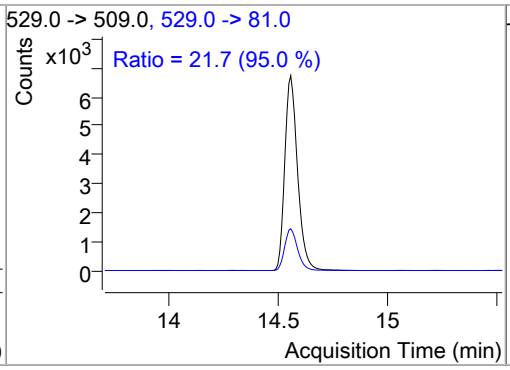


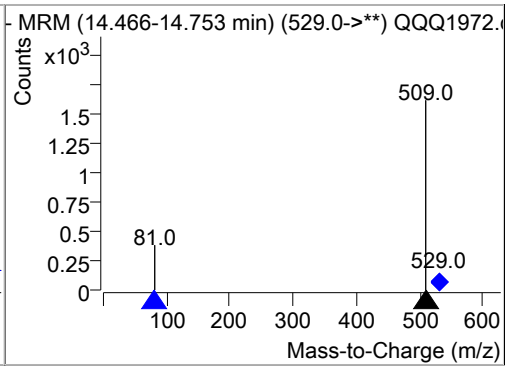




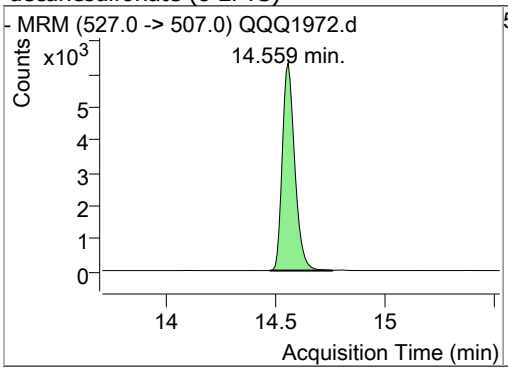
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2-8-2FTS	4.1859	14.56	-0.06	27112	529.0 -> 81.0	21.7	18.3	27.4

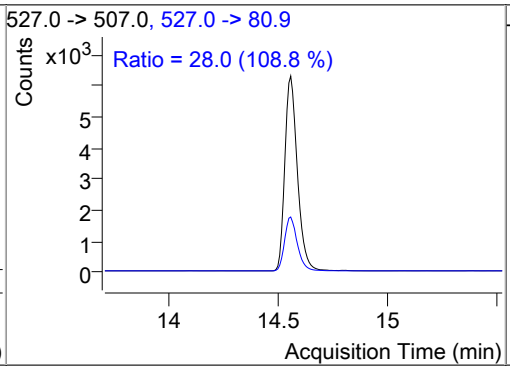


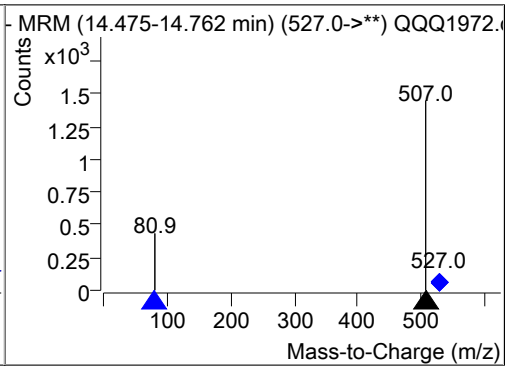




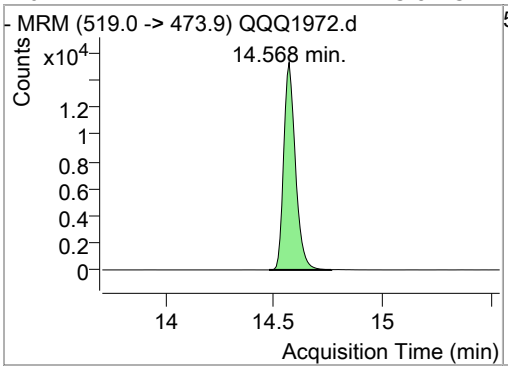
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	4.3833	14.56	-0.06	25047	527.0 -> 80.9	28.0	20.6	30.9

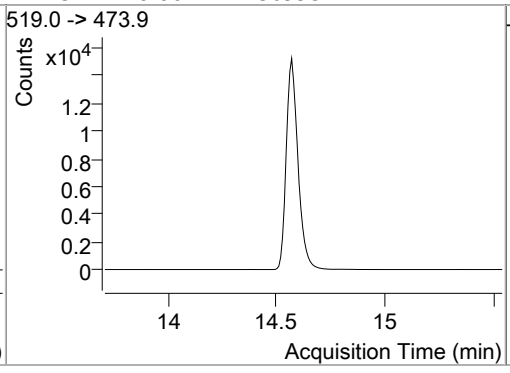


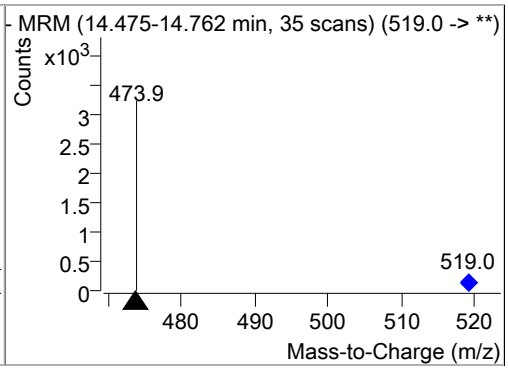




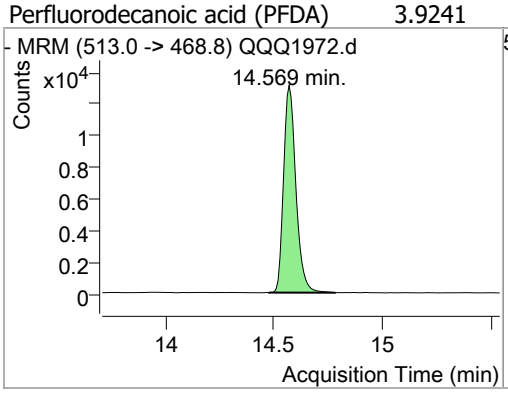
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M6PFDA	3.8143	14.57	-0.06	56993				

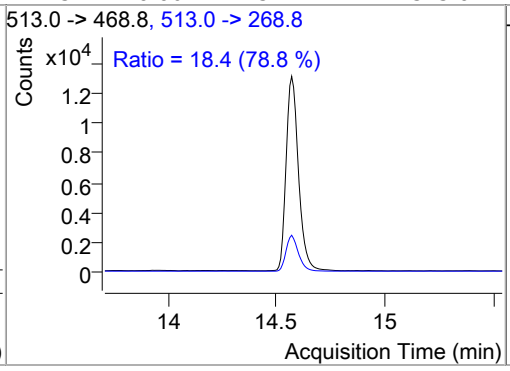


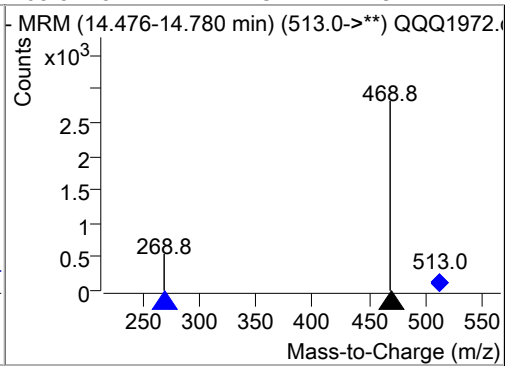




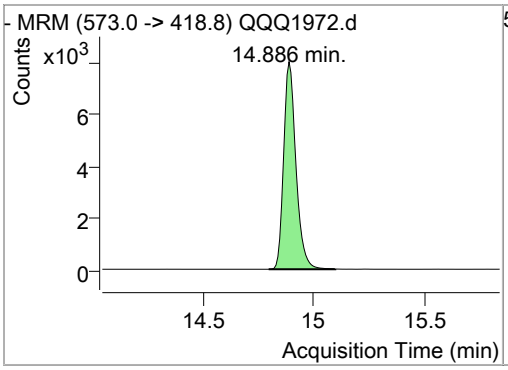
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorodecanoic acid (PFDA)	3.9241	14.57	-0.06	51722	513.0 -> 268.8	18.4	17.5	29.1

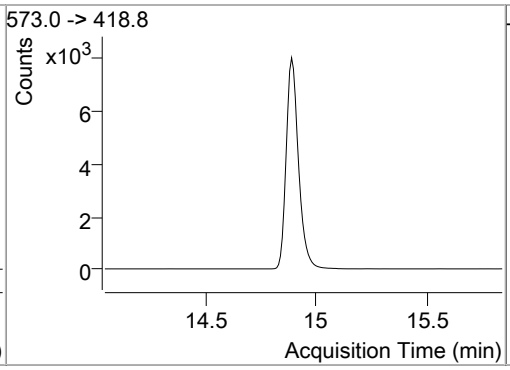


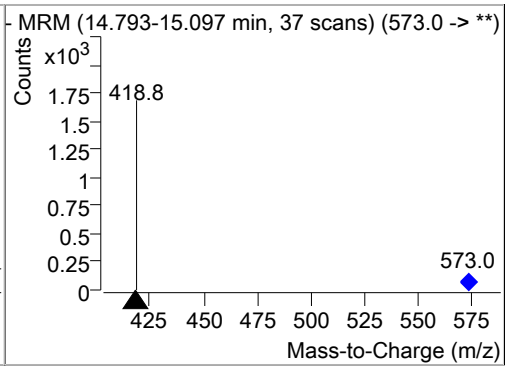




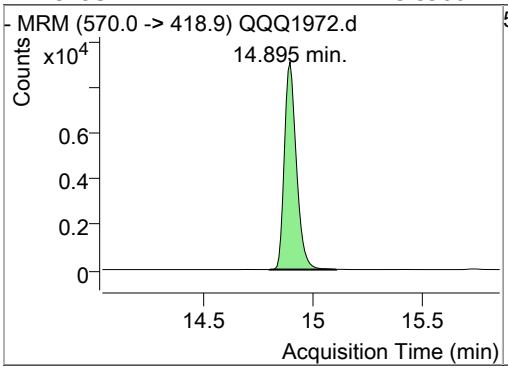
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d3-N-MeFOSAA	3.3850	14.89	-0.05	31019				

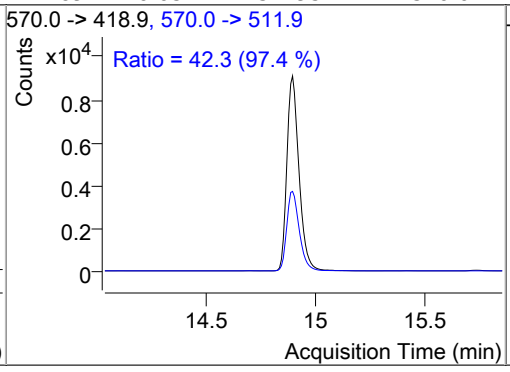


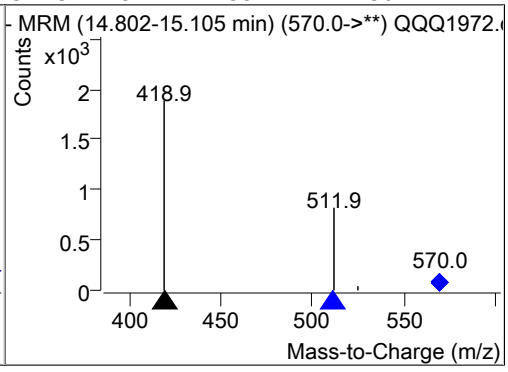




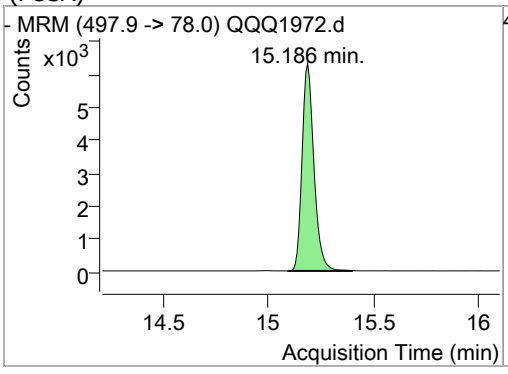
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-MeFOSAA	3.5906	14.89	-0.05	34795	570.0 -> 511.9	42.3	30.4	56.4

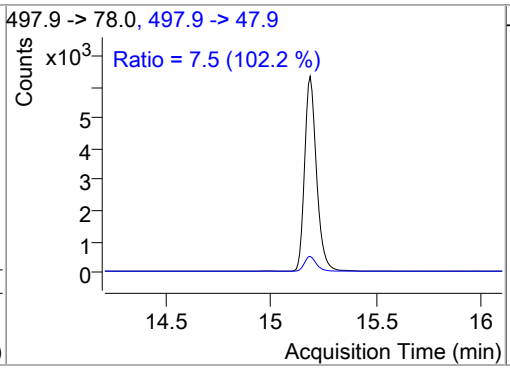


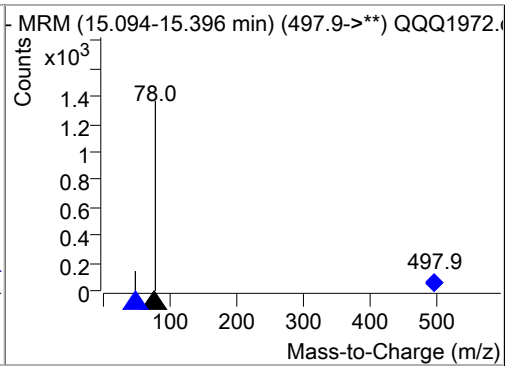




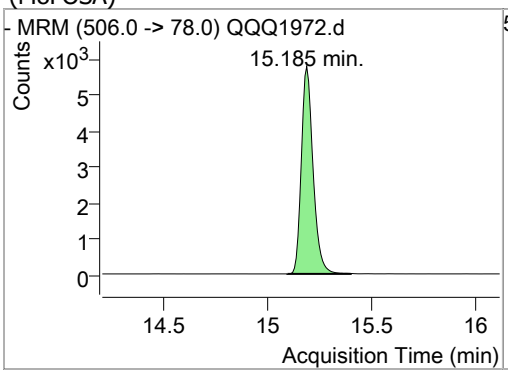
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-octanesulfonamide (FOSA)	3.0515	15.19	0.00	24748	497.9 -> 47.9	7.5	5.9	8.8

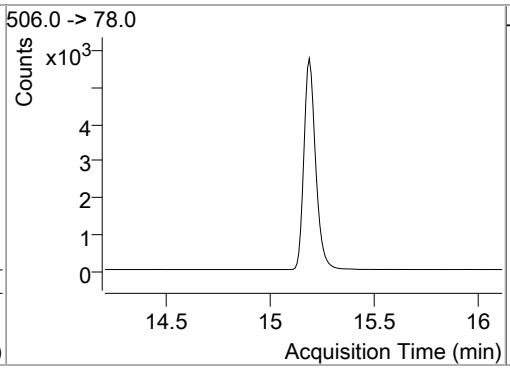


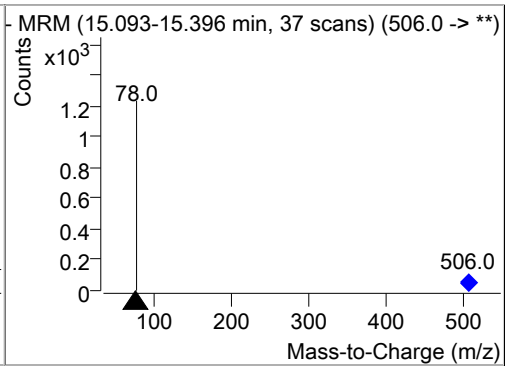




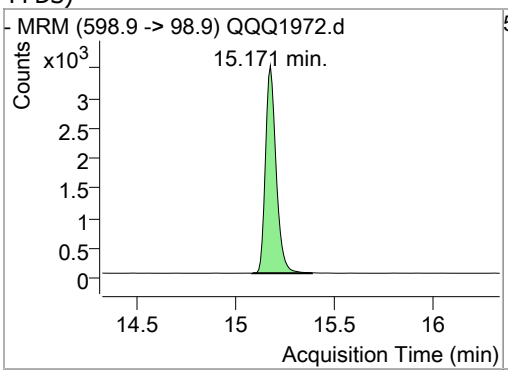
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-[13C8]octanesulfonamide (M8FOSA)	2.8846	15.19	-0.01	22456				

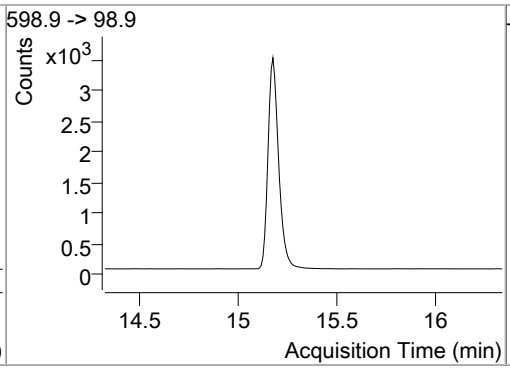


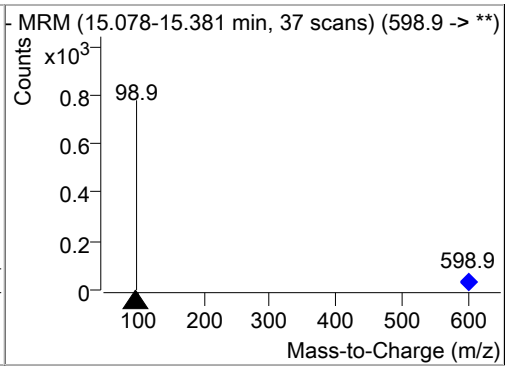




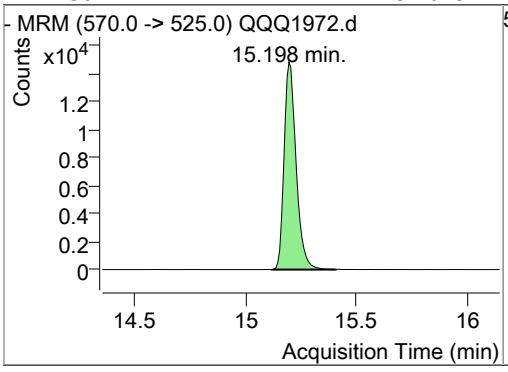
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-1-decanesulfonate (L-PFDS)	3.3326	15.17	-0.04	13000				

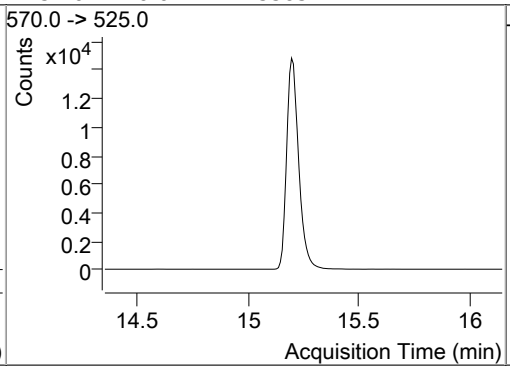


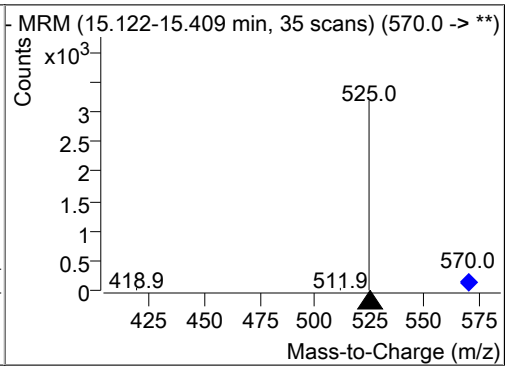




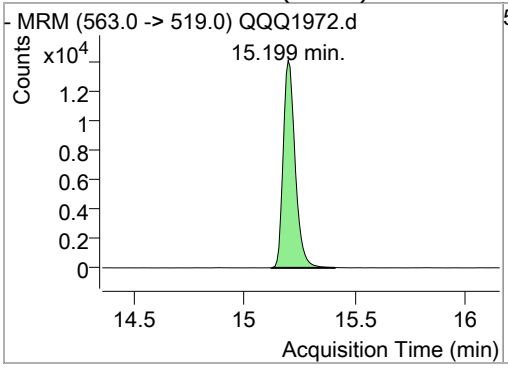
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M7PFUdA	3.2845	15.20	-0.04	55834				

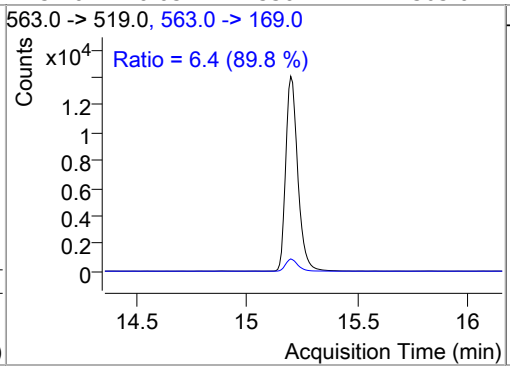


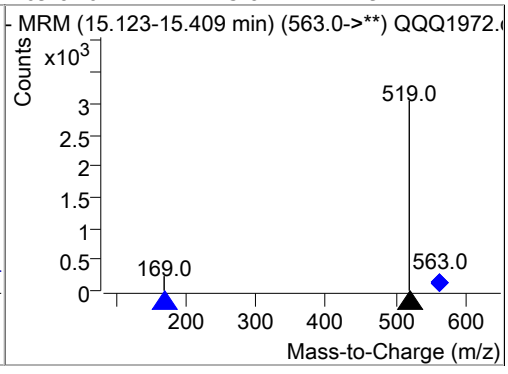




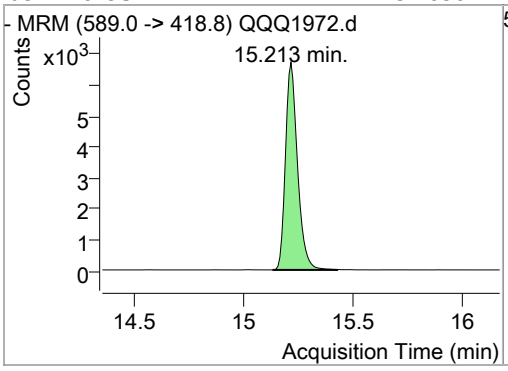
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoroundecanoic acid (PFUnA)	3.3639	15.20	-0.05	53074	563.0 -> 169.0	6.4	5.0	9.2

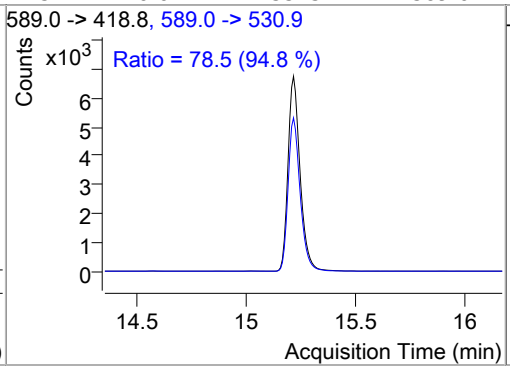


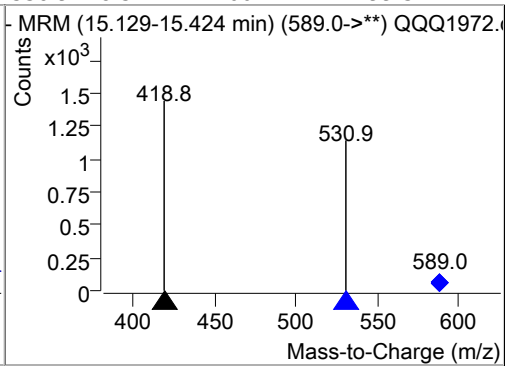




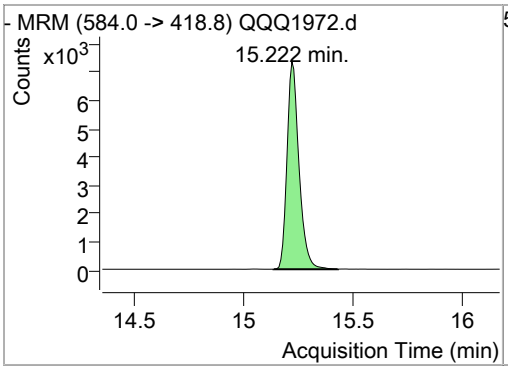
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
d5-N-EtFOSAA	3.2830	15.21	-0.04	25523	589.0 -> 530.9	78.5	66.2	99.3

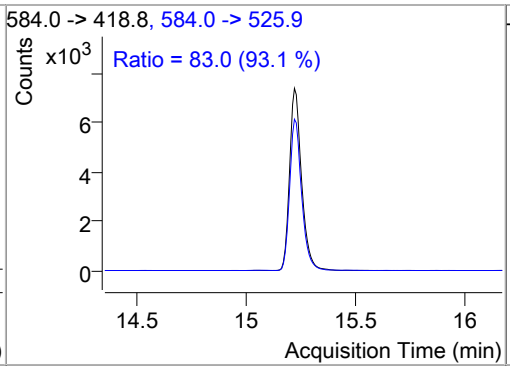


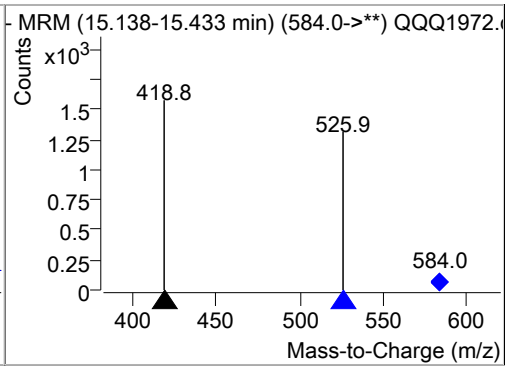




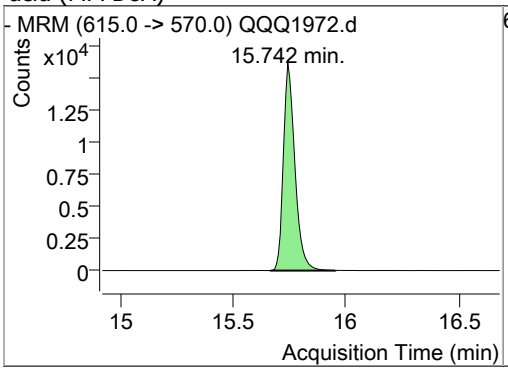
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
N-EtFOSAA	3.6310	15.22	-0.04	27886	584.0 -> 525.9	83.0	71.3	107.0

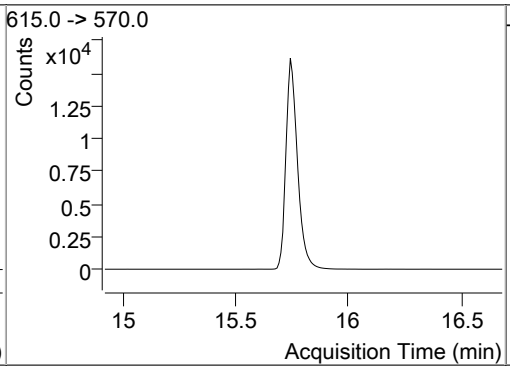


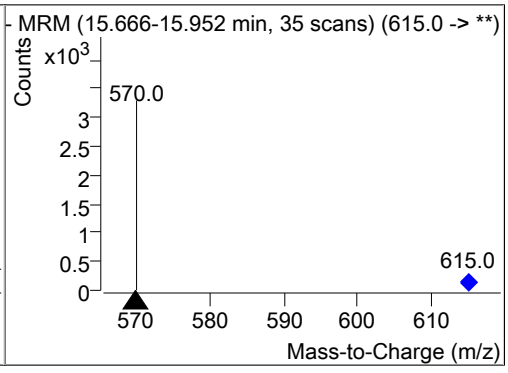




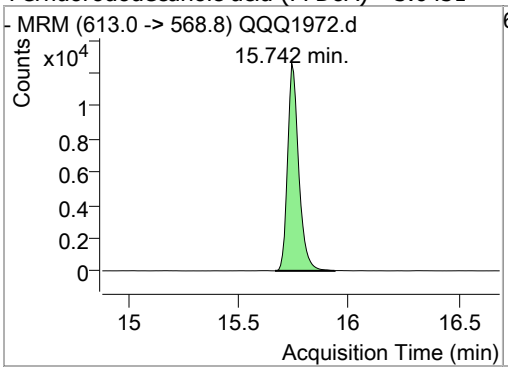
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluoro-n-[1,2-13C2]dodecanoic acid (MPFDoA)	3.2800	15.74	-0.03	57326				

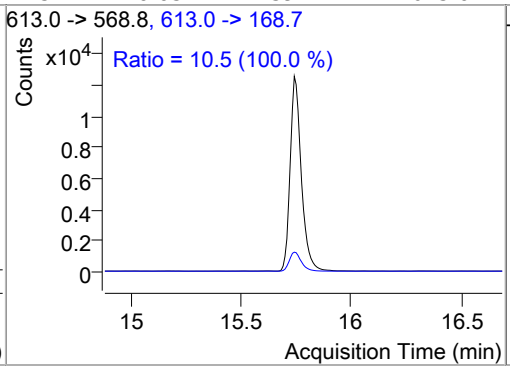


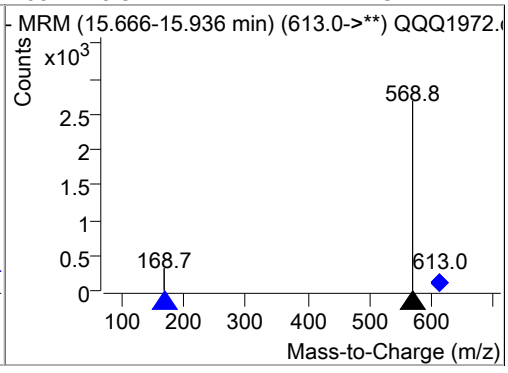




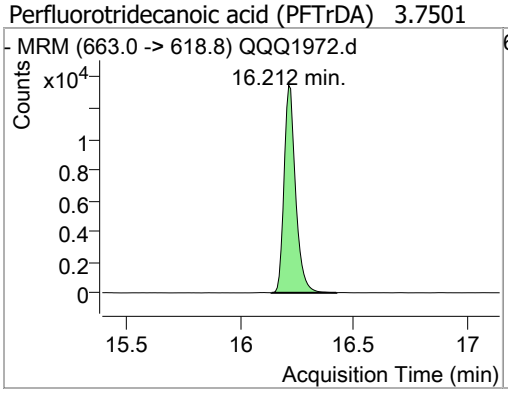
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorododecanoic acid (PFDoA)	3.6451	15.74	-0.03	43921	613.0 -> 168.7	10.5	7.4	13.7

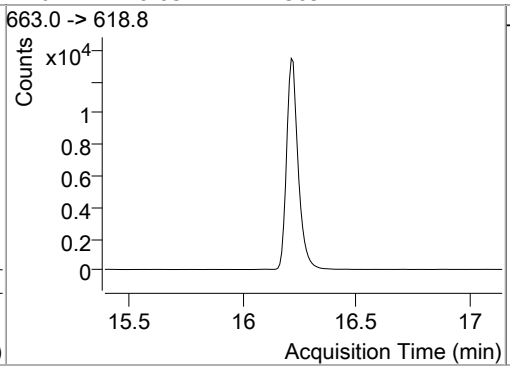


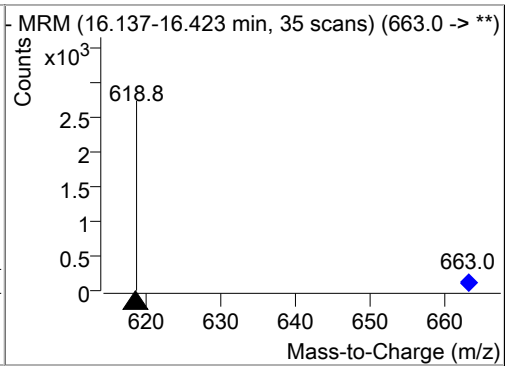




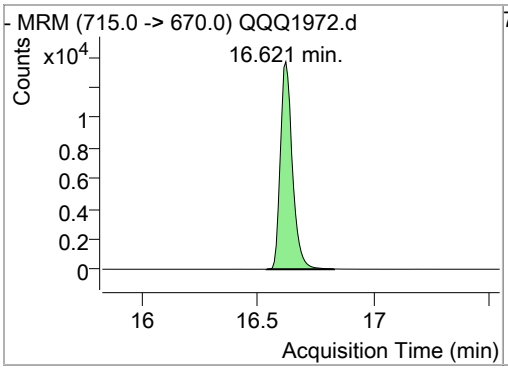
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotridecanoic acid (PFTrDA)	3.7501	16.21	-0.03	47509				

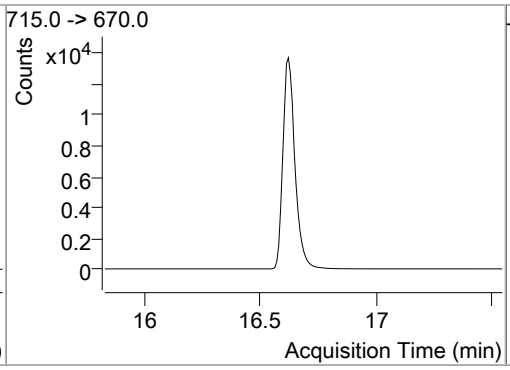


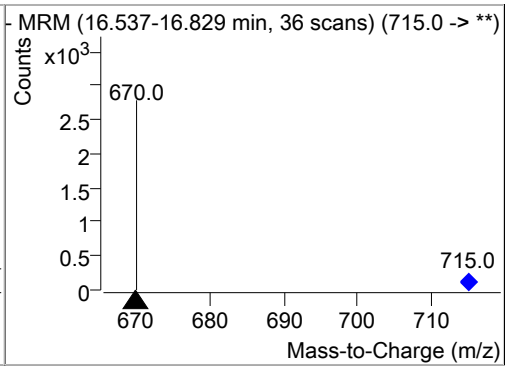




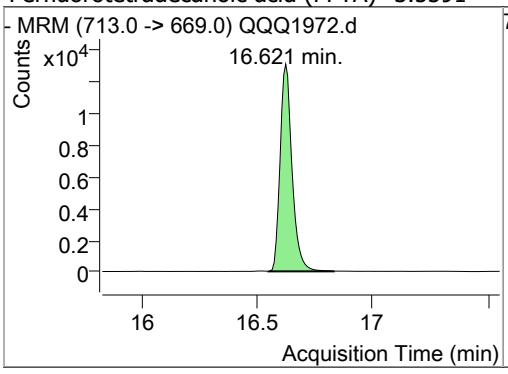
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
M2PFTeDA	3.4678	16.62	-0.02	49481				

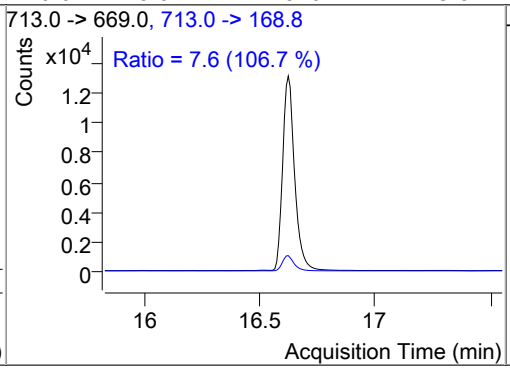


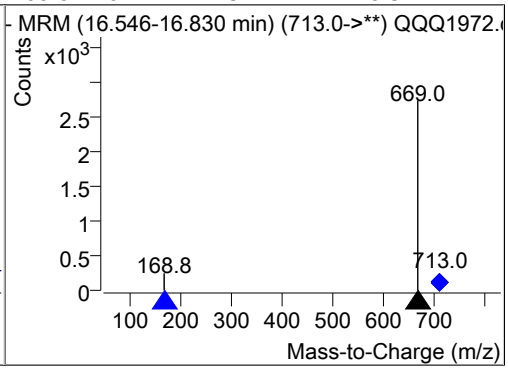




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Lower	Upper
Perfluorotetradecanoic acid (PFTA)	3.5591	16.62	-0.02	47076	713.0 -> 168.8	7.6	5.7	8.5







BENCHSHEETS

SDG: 19J0144

CLASS: PFAS

METHOD: EPA 537m

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90227

Preparation Date: 10/03/2019 13:31

York Analytical Laboratories, Inc. **Printed: 10/7/2019 3:08:35PM**

Matrix: Soil **Preparation: SPE PFAS Extractic** **Surrogate used: Y19I142 100 ul**

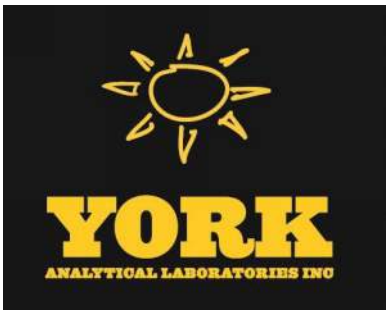
Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0126-01 A	PFAS, NYSDEC Target List	2.0409	2				
19J0126-02 A	PFAS, NYSDEC Target List	2.195	2				
19J0126-03 A	PFAS, NYSDEC Target List	2.0644	2				
19J0126-04 A	PFAS, NYSDEC Target List	2.1234	2				
19J0126-05 A	PFAS, NYSDEC Target List	2.0556	2				
19J0144-02 F	PFAS, NYSDEC Target List	2.2181	2				
19J0144-04 F	PFAS, NYSDEC Target List	2.1187	2				
19J0144-06 F	PFAS, NYSDEC Target List	2.1587	2				
BJ90227-BLK1	QC	2.0481	2				
BJ90227-BS1	QC	2.0408	2	Y19I341		100	
BJ90227-MS1	QC	2.1148	2	Y19I341	19J0126-04	100	
BJ90227-MSD1	QC	2.1415	2	Y19I341	19J0126-04	100	

Reagents:

ID Number	Description	Lot Number
Y19H339	Methanol, LiChrosolv LC Grade	I0942018 817
Y19H542	Strata XL-AW 100 um PWA 50(	S322-0025_S19-003423
Y19I303	0.3% NH4OH/Methanol Soluito	YorkPFAS-1

ID Number	Description	Lot Number
Y19H340	Water, OmniSolv LC-MS Grade	59189
Y19I302	0.4 % KOH/Methanol Solution	YorkPFAS-2

Preparations Performed by **WL** **Date:** **10/03/2019 13:31**



Monday, October 07, 2019

PFAS Isotope Dilution Report - Targets

SampleName: BJ90227-BLK1 **DataFileName:** QQQ1971.d **Operator:** KT **AcqTime** 2019-10-04T18:02:11.9604155-04:00

Matrix: Soil WorkOrder: 0

CompoundName	Type	DF	UncorrConc	IsotopeCorrConc	Units	%IsoRec
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	T	1	0.000000	0.000000	ng/ml	90.59%
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	T	1	0.048940	0.063766	ng/ml	76.75%
N-EtFOSAA	T	1	0.012755	0.018699	ng/ml	68.21%
N-MeFOSAA	T	1	0.016080	0.024716	ng/ml	65.06%
Perfluoro-1-decanesulfonate (L-PFDS)	T	1	0.013178	0.020514	ng/ml	64.24%
Perfluoro-1-heptanesulfonate (L-PFHpS)	T	1	0.006423	0.009998	ng/ml	64.24%
Perfluoro-1-octanesulfonamide (FOSA)	T	1	0.003431	0.005980	ng/ml	57.36%
Perfluorobutanesulfonic acid (PFBS)	T	1	0.459314	0.717053	ng/ml	64.06%
Perfluorodecanoic acid (PFDA)	T	1	0.019955	0.025873	ng/ml	77.12%
Perfluorododecanoic acid (PFDoA)	T	1	0.012869	0.020292	ng/ml	63.42%
Perfluoroheptanoic acid (PFHpA)	T	1	0.007268	0.009209	ng/ml	78.92%
Perfluorohexanesulfonic acid (PFHxS)	T	1	0.000934	0.001424	ng/ml	65.59%
Perfluorohexanoic acid (PFHxA)	T	1	0.007467	0.010783	ng/ml	69.25%
Perfluoro-n-butanoic acid (PFBA)	T	1	0.076615	0.108567	ng/ml	70.57%
Perfluorononanoic acid (PFNA)	T	1	0.004102	0.005019	ng/ml	81.74%
Perfluoro-n-pentanoic acid (PFPeA)	T	1	0.016252	0.023530	ng/ml	69.07%
Perfluorooctanesulfonic acid (PFOS)	T	1	0.012841	0.019989	ng/ml	64.24%
Perfluorooctanoic acid (PFOA)	T	1	0.039976	0.052896	ng/ml	75.57%
Perfluorotetradecanoic acid (PFTA)	T	1	0.009249	0.013955	ng/ml	66.28%
Perfluorotridecanoic acid (PFTrDA)	T	1	0.007536	0.011882	ng/ml	63.42%
Perfluoroundecanoic acid (PFUnA)	T	1	0.024717	0.039377	ng/ml	62.77%

PFAS Isotope Dilution Report - Targets

SampleName: BJ90227-BS1 **DataFileName:** QQQ1972.d **Operator:** KT **AcqTime** 2019-10-04T18:29:07.2107524-04:00

Matrix: Soil WorkOrder: 0

CompoundName	Type	DF	UncorrConc	IsotopeCorrConc	Units	%IsoRec
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	T	1	4.383315	5.235783	ng/ml	83.72%
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	T	1	4.121220	5.306106	ng/ml	77.67%
N-EtFOSAA	T	1	3.630958	5.530010	ng/ml	65.66%
N-MeFOSAA	T	1	3.590574	5.303621	ng/ml	67.70%
Perfluoro-1-decanesulfonate (L-PFDS)	T	1	3.332563	5.054308	ng/ml	65.94%
Perfluoro-1-heptanesulfonate (L-PFHpS)	T	1	3.836639	5.818812	ng/ml	65.94%
Perfluoro-1-octanesulfonamide (FOSA)	T	1	3.051504	5.289379	ng/ml	57.69%
Perfluorobutanesulfonic acid (PFBS)	T	1	3.549338	5.578657	ng/ml	63.62%
Perfluorodecanoic acid (PFDA)	T	1	3.924072	5.143843	ng/ml	76.29%
Perfluorododecanoic acid (PFDoA)	T	1	3.645074	5.556545	ng/ml	65.60%
Perfluoroheptanoic acid (PFHpA)	T	1	3.937942	4.878265	ng/ml	80.72%
Perfluorohexanesulfonic acid (PFHxS)	T	1	2.898630	4.332234	ng/ml	66.91%
Perfluorohexanoic acid (PFHxA)	T	1	3.811111	5.535149	ng/ml	68.85%
Perfluoro-n-butanoic acid (PFBA)	T	1	4.060107	5.715038	ng/ml	71.04%
Perfluorononanoic acid (PFNA)	T	1	4.152849	5.526302	ng/ml	75.15%
Perfluoro-n-pentanoic acid (PFPeA)	T	1	3.843935	5.558154	ng/ml	69.16%
Perfluorooctanesulfonic acid (PFOS)	T	1	2.646391	4.013630	ng/ml	65.94%
Perfluorooctanoic acid (PFOA)	T	1	4.173326	5.715276	ng/ml	73.02%
Perfluorotetradecanoic acid (PFTA)	T	1	3.559079	5.131548	ng/ml	69.36%
Perfluorotridecanoic acid (PFTrDA)	T	1	3.750150	5.716723	ng/ml	65.60%
Perfluoroundecanoic acid (PFUnA)	T	1	3.363851	5.120782	ng/ml	65.69%

PFAS Isotope Dilution Report - Targets

SampleName: 19J0144-02 **DataFileName:** QQQ1981.d **Operator:** KT **AcqTime** 2019-10-04T22:31:19.876878-04:00

Matrix: Soil WorkOrder: 19J0144

CompoundName	Type	DF	UncorrConc	IsotopeCorrConc	Units	%IsoRec
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	T	1	0.000000	0.000000	ng/ml	94.81%
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	T	1	0.030185	0.038992	ng/ml	77.41%
N-EtFOSAA	T	1	0.005954	0.008510	ng/ml	69.96%
N-MeFOSAA	T	1	0.005557	0.008613	ng/ml	64.52%
Perfluoro-1-decanesulfonate (L-PFDS)	T	1	0.002118	0.003364	ng/ml	62.97%
Perfluoro-1-heptanesulfonate (L-PFHpS)	T	1	0.001729	0.002745	ng/ml	62.97%
Perfluoro-1-octanesulfonamide (FOSA)	T	1	0.002177	0.003768	ng/ml	57.78%
Perfluorobutanesulfonic acid (PFBS)	T	1	0.044748	0.074218	ng/ml	60.29%
Perfluorodecanoic acid (PFDA)	T	1	0.015134	0.019264	ng/ml	78.56%
Perfluorododecanoic acid (PFDoA)	T	1	0.001317	0.002197	ng/ml	59.94%
Perfluoroheptanoic acid (PFHpA)	T	1	0.006879	0.008684	ng/ml	79.22%
Perfluorohexanesulfonic acid (PFHxS)	T	1	0.003336	0.005247	ng/ml	63.58%
Perfluorohexanoic acid (PFHxA)	T	1	0.010573	0.016290	ng/ml	64.91%
Perfluoro-n-butanoic acid (PFBA)	T	1	0.060120	0.089888	ng/ml	66.88%
Perfluorononanoic acid (PFNA)	T	1	0.005467	0.007370	ng/ml	74.17%
Perfluoro-n-pentanoic acid (PFPeA)	T	1	0.016576	0.025135	ng/ml	65.95%
Perfluorooctanesulfonic acid (PFOS)	T	1	0.021783	0.034594	ng/ml	62.97%
Perfluorooctanoic acid (PFOA)	T	1	0.041133	0.057102	ng/ml	72.03%
Perfluorotetradecanoic acid (PFTA)	T	1	0.006049	0.009410	ng/ml	64.28%
Perfluorotridecanoic acid (PFTrDA)	T	1	0.000705	0.001177	ng/ml	59.94%
Perfluoroundecanoic acid (PFUnA)	T	1	0.000917	0.001466	ng/ml	62.54%

PFAS Isotope Dilution Report - Targets

SampleName: 19J0144-04 **DataFileName:** QQQ1982.d **Operator:** KT **AcqTime** 2019-10-04T22:58:21.0445458-04:00

Matrix: Soil WorkOrder: 19J0144

CompoundName	Type	DF	UncorrConc	IsotopeCorrConc	Units	%IsoRec
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	T	1	0.000000	0.000000	ng/ml	100.55%
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	T	1	0.023879	0.029103	ng/ml	82.05%
N-EtFOSAA	T	1	0.003589	0.005115	ng/ml	70.18%
N-MeFOSAA	T	1	0.002739	0.004248	ng/ml	64.49%
Perfluoro-1-decanesulfonate (L-PFDS)	T	1	0.000390	0.000673	ng/ml	58.02%
Perfluoro-1-heptanesulfonate (L-PFHpS)	T	1	0.000730	0.001259	ng/ml	58.02%
Perfluoro-1-octanesulfonamide (FOSA)	T	1	0.003930	0.007390	ng/ml	53.18%
Perfluorobutanesulfonic acid (PFBS)	T	1	0.032685	0.055457	ng/ml	58.94%
Perfluorodecanoic acid (PFDA)	T	1	0.006536	0.009377	ng/ml	69.70%
Perfluorododecanoic acid (PFDoA)	T	1	0.001999	0.003438	ng/ml	58.16%
Perfluoroheptanoic acid (PFHpA)	T	1	0.004173	0.005426	ng/ml	76.90%
Perfluorohexanesulfonic acid (PFHxS)	T	1	0.001858	0.003023	ng/ml	61.46%
Perfluorohexanoic acid (PFHxA)	T	1	0.005098	0.007742	ng/ml	65.85%
Perfluoro-n-butanoic acid (PFBA)	T	1	0.054348	0.083103	ng/ml	65.40%
Perfluorononanoic acid (PFNA)	T	1	0.005716	0.007790	ng/ml	73.37%
Perfluoro-n-pentanoic acid (PFPeA)	T	1	0.018758	0.028859	ng/ml	65.00%
Perfluorooctanesulfonic acid (PFOS)	T	1	0.001686	0.002907	ng/ml	58.02%
Perfluorooctanoic acid (PFOA)	T	1	0.027758	0.038410	ng/ml	72.27%
Perfluorotetradecanoic acid (PFTA)	T	1	0.008713	0.013456	ng/ml	64.76%
Perfluorotridecanoic acid (PFTrDA)	T	1	0.005100	0.008769	ng/ml	58.16%
Perfluoroundecanoic acid (PFUnA)	T	1	0.000750	0.001238	ng/ml	60.55%

PFAS Isotope Dilution Report - Targets

SampleName: 19J0144-06 **DataFileName:** QQQ1983.d **Operator:** KT **AcqTime** 2019-10-04T23:25:16.3232259-04:00

Matrix: Soil WorkOrder: 19J0144

CompoundName	Type	DF	UncorrConc	IsotopeCorrConc	Units	%IsoRec
1H,1H,2H,2H-perfluoro-1-decanesulfonate (8 2FTS)	T	1	0.000000	0.000000	ng/ml	98.49%
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6 2FTS)	T	1	0.030132	0.039697	ng/ml	75.91%
N-EtFOSAA	T	1	0.003184	0.004350	ng/ml	73.19%
N-MeFOSAA	T	1	0.002782	0.004132	ng/ml	67.34%
Perfluoro-1-decanesulfonate (L-PFDS)	T	1	0.001014	0.001615	ng/ml	62.80%
Perfluoro-1-heptanesulfonate (L-PFHpS)	T	1	0.001185	0.001888	ng/ml	62.80%
Perfluoro-1-octanesulfonamide (FOSA)	T	1	0.000660	0.001169	ng/ml	56.44%
Perfluorobutanesulfonic acid (PFBS)	T	1	0.023859	0.039038	ng/ml	61.12%
Perfluorodecanoic acid (PFDA)	T	1	0.004968	0.007707	ng/ml	64.46%
Perfluorododecanoic acid (PFDoA)	T	1	0.004746	0.007887	ng/ml	60.18%
Perfluoroheptanoic acid (PFHpA)	T	1	0.007232	0.008253	ng/ml	87.63%
Perfluorohexanesulfonic acid (PFHxS)	T	1	0.002965	0.004675	ng/ml	63.42%
Perfluorohexanoic acid (PFHxA)	T	1	0.034974	0.050546	ng/ml	69.19%
Perfluoro-n-butanoic acid (PFBA)	T	1	0.060249	0.086371	ng/ml	69.76%
Perfluorononanoic acid (PFNA)	T	1	0.001718	0.002236	ng/ml	76.86%
Perfluoro-n-pentanoic acid (PFPeA)	T	1	0.027630	0.040834	ng/ml	67.66%
Perfluorooctanesulfonic acid (PFOS)	T	1	0.003395	0.005405	ng/ml	62.80%
Perfluorooctanoic acid (PFOA)	T	1	0.027173	0.038689	ng/ml	70.23%
Perfluorotetradecanoic acid (PFTA)	T	1	0.001028	0.001640	ng/ml	62.69%
Perfluorotridecanoic acid (PFTrDA)	T	1	0.001904	0.003164	ng/ml	60.18%
Perfluoroundecanoic acid (PFUnA)	T	1	0.001543	0.002432	ng/ml	63.44%

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: PEST
METHOD: EPA 8081B

DATA PACKAGE COVER PAGE

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0822 Instrument: GC Dual E

Calibration: YI90014

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0822-CCV1)			Lab File ID: P5059201.D		Analyzed: 10/07/19 07:57			
Decachlorobiphenyl	160	72.3	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	78.3	80 - 120	10.73	10.74	-0.0100	+/-1.00	*
Tetrachloro-m-xylene	160	96.6	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	90.3	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0822-CCV2)			Lab File ID: P5059203.D		Analyzed: 10/07/19 08:47			
Decachlorobiphenyl	100	161	80 - 120	12.37	12.36	0.0100	+/-1.00	*
Decachlorobiphenyl [2C]	100	195	80 - 120	10.76	10.74	0.0200	+/-1.00	*
Tetrachloro-m-xylene	100	36.0	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	100	167	80 - 120	3	2.986667	0.0133	+/-1.00	*
Calibration Check (Y9J0822-CCV3)			Lab File ID: P5059204.D		Analyzed: 10/07/19 09:05			
Decachlorobiphenyl	200	352	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	200	412	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	200	310	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	200	432	80 - 120	2.99	2.986667	0.0033	+/-1.00	*
Calibration Check (Y9J0822-CCV4)			Lab File ID: P5059225.D		Analyzed: 10/07/19 15:22			
Decachlorobiphenyl	160	91.0	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	93.4	80 - 120	10.73	10.74	-0.0100	+/-1.00	
Tetrachloro-m-xylene	160	105	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	91.6	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0822-CCV5)			Lab File ID: P5059246.D		Analyzed: 10/07/19 21:38			
Decachlorobiphenyl	160	85.2	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	86.2	80 - 120	10.73	10.74	-0.0100	+/-1.00	
Tetrachloro-m-xylene	160	111	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	95.7	80 - 120	2.98	2.986667	-0.0067	+/-1.00	
Calibration Check (Y9J0822-CCV6)			Lab File ID: P5059248.D		Analyzed: 10/07/19 22:14			
Decachlorobiphenyl	160	96.6	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	97.6	80 - 120	10.73	10.74	-0.0100	+/-1.00	
Tetrachloro-m-xylene	160	103	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	90.8	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Blank (BJ90321-BLK1)			Lab File ID: P5059265.D		Analyzed: 10/08/19 03:19			
Decachlorobiphenyl	0.0664	103	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0664	106	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0664	110	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0664	107	30 - 150	2.99	2.986667	0.0033	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0822	Instrument:	GC Dual E
		Calibration:	YI90014

Surrogate Compound	Spike Level mg/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (BJ90321-BS1)			Lab File ID: P5059266.D		Analyzed: 10/08/19 03:37			
Decachlorobiphenyl	0.0664	109	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0664	112	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0664	106	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0664	103	30 - 150	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0822-CCV7)			Lab File ID: P5059269.D		Analyzed: 10/08/19 04:31			
Decachlorobiphenyl	160	98.5	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	97.3	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	113	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	100	80 - 120	2.98	2.986667	-0.0067	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0912 Instrument: GC Dual E

Calibration: YI90014

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0912-CCV1)			Lab File ID: P5059271.D		Analyzed: 10/08/19 05:20			
Decachlorobiphenyl	160	90.8	80 - 120	12.37	12.36	0.0100	+/-1.00	
Decachlorobiphenyl [2C]	160	91.0	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	103	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	95.3	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0912-CCV4)			Lab File ID: P5059294.D		Analyzed: 10/08/19 12:13			
Decachlorobiphenyl	160	67.2	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	74.9	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	92.2	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	81.3	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0912-CCV5)			Lab File ID: P5059306.D		Analyzed: 10/08/19 15:47			
Decachlorobiphenyl	160	76.7	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	84.4	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	106	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	90.1	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0912-CCV6)			Lab File ID: P5059308.D		Analyzed: 10/08/19 16:29			
Decachlorobiphenyl	160	66.7	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	70.9	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	98.9	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	88.1	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0912-CCV7)			Lab File ID: P5059329.D		Analyzed: 10/08/19 22:46			
Decachlorobiphenyl	160	73.1	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	75.2	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	107	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	93.1	80 - 120	2.99	2.986667	0.0033	+/-1.00	
SB27_6-8 (19J0144-04)			Lab File ID: P5059331.D		Analyzed: 10/08/19 23:22			
Decachlorobiphenyl	0.0784	71.0	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0784	73.5	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0784	104	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0784	98.7	30 - 150	2.99	2.986667	0.0033	+/-1.00	
SB28_0-2 (19J0144-05)			Lab File ID: P5059332.D		Analyzed: 10/08/19 23:40			
Decachlorobiphenyl	0.0717	84.6	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0717	86.6	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0717	115	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0717	109	30 - 150	2.99	2.986667	0.0033	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0912	Instrument:	GC Dual E
		Calibration:	YI90014

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB28_5.5-7.5 (19J0144-06)			Lab File ID: P5059333.D		Analyzed: 10/08/19 23:58			
Decachlorobiphenyl	0.0724	60.9	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0724	62.8	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0724	94.1	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0724	90.6	30 - 150	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J0912-CCV8)			Lab File ID: P5059350.D		Analyzed: 10/09/19 05:02			
Decachlorobiphenyl	160	80.1	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	77.7	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	110	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	92.2	80 - 120	2.99	2.986667	0.0033	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J1109 Instrument: GC Dual E

Calibration: YI90014

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J1109-CCV1)			Lab File ID: P5059352.D		Analyzed: 10/09/19 05:42			
Decachlorobiphenyl	160	86.6	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	81.5	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	114	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	93.9	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV2)			Lab File ID: P5059353.D		Analyzed: 10/09/19 06:05			
Decachlorobiphenyl	100	218	80 - 120	12.37	12.36	0.0100	+/-1.00	*
Decachlorobiphenyl [2C]	100	247	80 - 120	10.75	10.74	0.0100	+/-1.00	*
Tetrachloro-m-xylene	100	40.0	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	100	186	80 - 120	2.99	2.986667	0.0033	+/-1.00	*
Calibration Check (Y9J1109-CCV3)			Lab File ID: P5059354.D		Analyzed: 10/09/19 06:22			
Decachlorobiphenyl	200	404	80 - 120	12.37	12.36	0.0100	+/-1.00	*
Decachlorobiphenyl [2C]	200	458	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	200	336	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	200	461	80 - 120	2.99	2.986667	0.0033	+/-1.00	*
Blank (BJ90322-BLK1)			Lab File ID: P5059371.D		Analyzed: 10/09/19 11:27			
Decachlorobiphenyl	0.0664	88.1	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0664	92.5	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0664	108	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0664	102	30 - 150	2.99	2.986667	0.0033	+/-1.00	
LCS (BJ90322-BS1)			Lab File ID: P5059372.D		Analyzed: 10/09/19 11:45			
Decachlorobiphenyl	0.0664	95.0	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0664	93.2	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0664	108	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0664	101	30 - 150	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV4)			Lab File ID: P5059376.D		Analyzed: 10/09/19 12:57			
Decachlorobiphenyl	160	90.5	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	89.1	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	105	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	90.0	80 - 120	2.99	2.986667	0.0033	+/-1.00	
SB19_0-2 (19J0144-01)			Lab File ID: P5059378.D		Analyzed: 10/09/19 13:32			
Decachlorobiphenyl	0.0695	53.9	30 - 150	12.37	12.36	0.0100	+/-1.00	
Decachlorobiphenyl [2C]	0.0695	53.7	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0695	60.6	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0695	57.4	30 - 150	2.99	2.986667	0.0033	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J1109 Instrument: GC Dual E

Calibration: YI90014

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB19_8-9 (19J0144-02)			Lab File ID: P5059379.D		Analyzed: 10/09/19 13:50			
Decachlorobiphenyl	0.0750	84.9	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0750	84.2	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0750	99.6	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0750	91.7	30 - 150	2.99	2.986667	0.0033	+/-1.00	
SB27_0-2 (19J0144-03)			Lab File ID: P5059380.D		Analyzed: 10/09/19 14:08			
Decachlorobiphenyl	0.0692	76.2	30 - 150	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	0.0692	73.8	30 - 150	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	0.0692	89.3	30 - 150	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	0.0692	84.3	30 - 150	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV5)			Lab File ID: P5059388.D		Analyzed: 10/09/19 16:51			
Decachlorobiphenyl	160	64.6	80 - 120	12.37	12.36	0.0100	+/-1.00	*
Decachlorobiphenyl [2C]	160	66.0	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	94.7	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	84.2	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV6)			Lab File ID: P5059390.D		Analyzed: 10/09/19 18:08			
Decachlorobiphenyl	160	67.9	80 - 120	12.36	12.36	0.0000	+/-1.00	*
Decachlorobiphenyl [2C]	160	72.1	80 - 120	10.74	10.74	0.0000	+/-1.00	*
Tetrachloro-m-xylene	160	111	80 - 120	3.25	3.25	0.0000	+/-1.00	
Tetrachloro-m-xylene [2C]	160	106	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV7)			Lab File ID: P5059411.D		Analyzed: 10/10/19 00:25			
Decachlorobiphenyl	160	92.1	80 - 120	12.36	12.36	0.0000	+/-1.00	
Decachlorobiphenyl [2C]	160	88.7	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	130	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	160	116	80 - 120	2.99	2.986667	0.0033	+/-1.00	
Calibration Check (Y9J1109-CCV8)			Lab File ID: P5059425.D		Analyzed: 10/10/19 04:36			
Decachlorobiphenyl	160	86.9	80 - 120	12.37	12.36	0.0100	+/-1.00	
Decachlorobiphenyl [2C]	160	83.9	80 - 120	10.74	10.74	0.0000	+/-1.00	
Tetrachloro-m-xylene	160	128	80 - 120	3.25	3.25	0.0000	+/-1.00	*
Tetrachloro-m-xylene [2C]	160	116	80 - 120	2.99	2.986667	0.0033	+/-1.00	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90321	Laboratory ID:	BJ90321-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
4,4'-DDD	0.0332	0.0342	103	40 - 140
4,4'-DDD [2C]	0.0332	0.0358	108	40 - 140
4,4'-DDE	0.0332	0.0331	99.5	40 - 140
4,4'-DDE [2C]	0.0332	0.0297	89.3	40 - 140
4,4'-DDT	0.0332	0.0163	49.0	40 - 140
4,4'-DDT [2C]	0.0332	0.0159	48.0	40 - 140
Aldrin	0.0332	0.0322	96.8	40 - 140
Aldrin [2C]	0.0332	0.0319	96.0	40 - 140
alpha-BHC	0.0332	0.0301	90.7	40 - 140
alpha-BHC [2C]	0.0332	0.0304	91.6	40 - 140
alpha-Chlordane	0.0332	0.0327	98.4	40 - 140
alpha-Chlordane [2C]	0.0332	0.0326	98.3	40 - 140
beta-BHC	0.0332	0.0297	89.5	40 - 140
beta-BHC [2C]	0.0332	0.0300	90.2	40 - 140
delta-BHC	0.0332	0.0265	79.8	40 - 140
delta-BHC [2C]	0.0332	0.0272	81.9	40 - 140
Dieldrin	0.0332	0.0331	99.7	40 - 140
Dieldrin [2C]	0.0332	0.0325	97.8	40 - 140
Endosulfan I	0.0332	0.0338	102	40 - 140
Endosulfan I [2C]	0.0332	0.0341	103	40 - 140
Endosulfan II	0.0332	0.0336	101	40 - 140
Endosulfan II [2C]	0.0332	0.0345	104	40 - 140
Endosulfan sulfate	0.0332	0.0319	96.1	40 - 140
Endosulfan sulfate [2C]	0.0332	0.0332	100	40 - 140
Endrin	0.0332	0.0301	90.6	40 - 140
Endrin [2C]	0.0332	0.0288	86.7	40 - 140
gamma-BHC (Lindane)	0.0332	0.0290	87.2	40 - 140
gamma-BHC (Lindane) [2C]	0.0332	0.0306	92.2	40 - 140
Heptachlor	0.0332	0.0281	84.6	40 - 140
Heptachlor [2C]	0.0332	0.0283	85.1	40 - 140

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90321	Laboratory ID:	BJ90321-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90322	Laboratory ID:	BJ90322-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
4,4'-DDD	0.0332	0.0306	92.0	40 - 140
4,4'-DDD [2C]	0.0332	0.0308	92.8	40 - 140
4,4'-DDE	0.0332	0.0283	85.1	40 - 140
4,4'-DDE [2C]	0.0332	0.0244	73.5	40 - 140
4,4'-DDT	0.0332	0.0137	41.3	40 - 140
4,4'-DDT [2C]	0.0332	0.0117	35.3 *	40 - 140
Aldrin	0.0332	0.0307	92.4	40 - 140
Aldrin [2C]	0.0332	0.0296	89.0	40 - 140
alpha-BHC	0.0332	0.0298	89.8	40 - 140
alpha-BHC [2C]	0.0332	0.0294	88.4	40 - 140
alpha-Chlordane	0.0332	0.0298	89.6	40 - 140
alpha-Chlordane [2C]	0.0332	0.0291	87.6	40 - 140
beta-BHC	0.0332	0.0281	84.7	40 - 140
beta-BHC [2C]	0.0332	0.0285	85.9	40 - 140
delta-BHC	0.0332	0.0259	78.0	40 - 140
delta-BHC [2C]	0.0332	0.0273	82.2	40 - 140
Dieldrin	0.0332	0.0302	90.9	40 - 140
Dieldrin [2C]	0.0332	0.0293	88.2	40 - 140
Endosulfan I	0.0332	0.0310	93.4	40 - 140
Endosulfan I [2C]	0.0332	0.0313	94.1	40 - 140
Endosulfan II	0.0332	0.0297	89.3	40 - 140
Endosulfan II [2C]	0.0332	0.0298	89.7	40 - 140
Endosulfan sulfate	0.0332	0.0284	85.5	40 - 140
Endosulfan sulfate [2C]	0.0332	0.0287	86.2	40 - 140
Endrin	0.0332	0.0248	74.7	40 - 140
Endrin [2C]	0.0332	0.0242	72.8	40 - 140
gamma-BHC (Lindane)	0.0332	0.0282	84.8	40 - 140
gamma-BHC (Lindane) [2C]	0.0332	0.0290	87.3	40 - 140
Heptachlor	0.0332	0.0261	78.6	40 - 140
Heptachlor [2C]	0.0332	0.0249	74.8	40 - 140

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90322	Laboratory ID:	BJ90322-BS1
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90321 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB27_6-8	19J0144-04	P5059331.D	10/04/19 13:49	
SB28_0-2	19J0144-05	P5059332.D	10/04/19 13:49	
SB28_5.5-7.5	19J0144-06	P5059333.D	10/04/19 13:49	
Blank	BJ90321-BLK1	P5059265.D	10/04/19 13:49	
LCS	BJ90321-BS1	P5059266.D	10/04/19 13:49	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90322 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	P5059378.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
SB19_8-9	19J0144-02	P5059379.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
SB27_0-2	19J0144-03	P5059380.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
Blank	BJ90322-BLK1	P5059371.D	10/04/19 13:53	
LCS	BJ90322-BS1	P5059372.D	10/04/19 13:53	

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK1	File ID:	P5059265.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 03:19	Instrument:	GC Dual E		
Batch:	BJ90321	Sequence:	Y9J0822	Calibration:	YI90014

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00164	U
72-54-8	4,4'-DDD [2C]	0.00164	U
72-55-9	4,4'-DDE	0.00164	U
72-55-9	4,4'-DDE [2C]	0.00164	U
50-29-3	4,4'-DDT	0.00164	U
50-29-3	4,4'-DDT [2C]	0.00164	U
309-00-2	Aldrin	0.00164	U
309-00-2	Aldrin [2C]	0.00164	U
319-84-6	alpha-BHC	0.00164	U
319-84-6	alpha-BHC [2C]	0.00164	U
5103-71-9	alpha-Chlordane	0.00164	U
5103-71-9	alpha-Chlordane [2C]	0.00164	U
319-85-7	beta-BHC	0.00164	U
319-85-7	beta-BHC [2C]	0.00164	U
319-86-8	delta-BHC	0.00164	U
319-86-8	delta-BHC [2C]	0.00164	U
60-57-1	Dieldrin	0.00164	U
60-57-1	Dieldrin [2C]	0.00164	U
959-98-8	Endosulfan I	0.00164	U
959-98-8	Endosulfan I [2C]	0.00164	U
33213-65-9	Endosulfan II	0.00164	U
33213-65-9	Endosulfan II [2C]	0.00164	U
1031-07-8	Endosulfan sulfate	0.00164	U
1031-07-8	Endosulfan sulfate [2C]	0.00164	U
72-20-8	Endrin	0.00164	U
72-20-8	Endrin [2C]	0.00164	U
58-89-9	gamma-BHC (Lindane)	0.00164	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00164	U
76-44-8	Heptachlor	0.00164	U
76-44-8	Heptachlor [2C]	0.00164	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK1	File ID:	P5059265.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 03:19	Instrument:	GC Dual E		
Batch:	BJ90321	Sequence:	Y9J0822	Calibration:	YI90014

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0686	103	30 - 150	
Decachlorobiphenyl [2C]	0.0664	0.0703	106	30 - 150	
Tetrachloro-m-xylene	0.0664	0.0730	110	30 - 150	
Tetrachloro-m-xylene [2C]	0.0664	0.0708	107	30 - 150	

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK1	File ID:	P5059371.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/09/19 11:27	Instrument:	GC Dual E		
Batch:	BJ90322	Sequence:	Y9J1109	Calibration:	YI90014

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00164	U
72-54-8	4,4'-DDD [2C]	0.00164	U
72-55-9	4,4'-DDE	0.00164	U
72-55-9	4,4'-DDE [2C]	0.00164	U
50-29-3	4,4'-DDT	0.00164	U
50-29-3	4,4'-DDT [2C]	0.00164	U
309-00-2	Aldrin	0.00164	U
309-00-2	Aldrin [2C]	0.00164	U
319-84-6	alpha-BHC	0.00164	U
319-84-6	alpha-BHC [2C]	0.00164	U
5103-71-9	alpha-Chlordane	0.00164	U
5103-71-9	alpha-Chlordane [2C]	0.00164	U
319-85-7	beta-BHC	0.00164	U
319-85-7	beta-BHC [2C]	0.00164	U
319-86-8	delta-BHC	0.00164	U
319-86-8	delta-BHC [2C]	0.00164	U
60-57-1	Dieldrin	0.00164	U
60-57-1	Dieldrin [2C]	0.00164	U
959-98-8	Endosulfan I	0.00164	U
959-98-8	Endosulfan I [2C]	0.00164	U
33213-65-9	Endosulfan II	0.00164	U
33213-65-9	Endosulfan II [2C]	0.00164	U
1031-07-8	Endosulfan sulfate	0.00164	U
1031-07-8	Endosulfan sulfate [2C]	0.00164	U
72-20-8	Endrin	0.00164	U
72-20-8	Endrin [2C]	0.00164	U
58-89-9	gamma-BHC (Lindane)	0.00164	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00164	U
76-44-8	Heptachlor	0.00164	U
76-44-8	Heptachlor [2C]	0.00164	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK1	File ID:	P5059371.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/09/19 11:27	Instrument:	GC Dual E		
Batch:	BJ90322	Sequence:	Y9J1109	Calibration:	YI90014

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0586	88.1	30 - 150	
Decachlorobiphenyl [2C]	0.0664	0.0615	92.5	30 - 150	
Tetrachloro-m-xylene	0.0664	0.0718	108	30 - 150	
Tetrachloro-m-xylene [2C]	0.0664	0.0674	102	30 - 150	

METHOD DETECTION AND REPORTING LIMITS

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** GC Dual E

Analyte	LOD	LOQ	Units
4,4'-DDD	0.000330	0.000330	mg/kg
4,4'-DDD [2C]	0.000330	0.000330	mg/kg
4,4'-DDE	0.000330	0.000330	mg/kg
4,4'-DDE [2C]	0.000330	0.000330	mg/kg
4,4'-DDT	0.000330	0.000330	mg/kg
4,4'-DDT [2C]	0.000330	0.000330	mg/kg
Aldrin	0.000330	0.000330	mg/kg
Aldrin [2C]	0.000330	0.000330	mg/kg
alpha-BHC	0.000330	0.000330	mg/kg
alpha-BHC [2C]	0.000330	0.000330	mg/kg
alpha-Chlordane	0.000330	0.000330	mg/kg
alpha-Chlordane [2C]	0.000330	0.000330	mg/kg
beta-BHC	0.000330	0.000330	mg/kg
beta-BHC [2C]	0.000330	0.000330	mg/kg
delta-BHC	0.000330	0.000330	mg/kg
delta-BHC [2C]	0.000330	0.000330	mg/kg
Dieldrin	0.000330	0.000330	mg/kg
Dieldrin [2C]	0.000330	0.000330	mg/kg
Endosulfan I	0.000330	0.000330	mg/kg
Endosulfan I [2C]	0.000330	0.000330	mg/kg
Endosulfan II	0.000330	0.000330	mg/kg
Endosulfan II [2C]	0.000330	0.000330	mg/kg
Endosulfan sulfate	0.000330	0.000330	mg/kg
Endosulfan sulfate [2C]	0.000330	0.000330	mg/kg
Endrin	0.000330	0.000330	mg/kg
Endrin [2C]	0.000330	0.000330	mg/kg
Endrin aldehyde	0.000330	0.000330	mg/kg
Endrin aldehyde [2C]	0.000330	0.000330	mg/kg
Endrin ketone	0.000330	0.000330	mg/kg
Endrin ketone [2C]	0.000330	0.000330	mg/kg
gamma-BHC (Lindane)	0.000330	0.000330	mg/kg
gamma-BHC (Lindane) [2C]	0.000330	0.000330	mg/kg
Heptachlor	0.000330	0.000330	mg/kg
Heptachlor [2C]	0.000330	0.000330	mg/kg

HOLDING TIME SUMMARY

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/04/19 13:53	2.05	14.00	10/09/19 13:32	4.99	40.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/04/19 13:53	2.04	14.00	10/09/19 13:50	5.00	40.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/04/19 13:53	2.14	14.00	10/09/19 14:08	5.01	40.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/04/19 13:49	2.13	14.00	10/08/19 23:22	4.40	40.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/04/19 13:49	2.08	14.00	10/08/19 23:40	4.41	40.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/04/19 13:49	2.07	14.00	10/08/19 23:58	4.42	40.00	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: P5059378.D

Sampled: 10/02/19 12:45 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 13:32

Solids: 95.31 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00172	U
72-55-9	4,4'-DDE	5	0.00172	U
50-29-3	4,4'-DDT	5	0.00172	U
309-00-2	Aldrin	5	0.00172	U
319-84-6	alpha-BHC	5	0.00172	U
5103-71-9	alpha-Chlordane	5	0.00172	U
319-85-7	beta-BHC	5	0.00172	U
319-86-8	delta-BHC	5	0.00172	U
60-57-1	Dieldrin	5	0.00172	U
959-98-8	Endosulfan I	5	0.00172	U
33213-65-9	Endosulfan II	5	0.00172	U
1031-07-8	Endosulfan sulfate	5	0.00172	U
72-20-8	Endrin	5	0.00172	U
58-89-9	gamma-BHC (Lindane)	5	0.00172	U
76-44-8	Heptachlor	5	0.00172	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0695	0.0374	53.9	30 - 150	
Tetrachloro-m-xylene	0.0695	0.0421	60.6	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059378.D\ECD1B.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059378.D\ECD2A.CH
Acq On : 9 Oct 2019 1:32 pm Operator: CM
Sample : 19J0144-01 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:17 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	429090	408970	24.220	22.973
	Spiked Amount 200.000	Range 30 - 150		Recovery =		12.11%#	11.49%#
23) SA	Decachlorobiphen	12.37	10.74	542040	432166	21.555	21.468
	Spiked Amount 200.000	Range 30 - 150		Recovery =		10.78%#	10.73%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

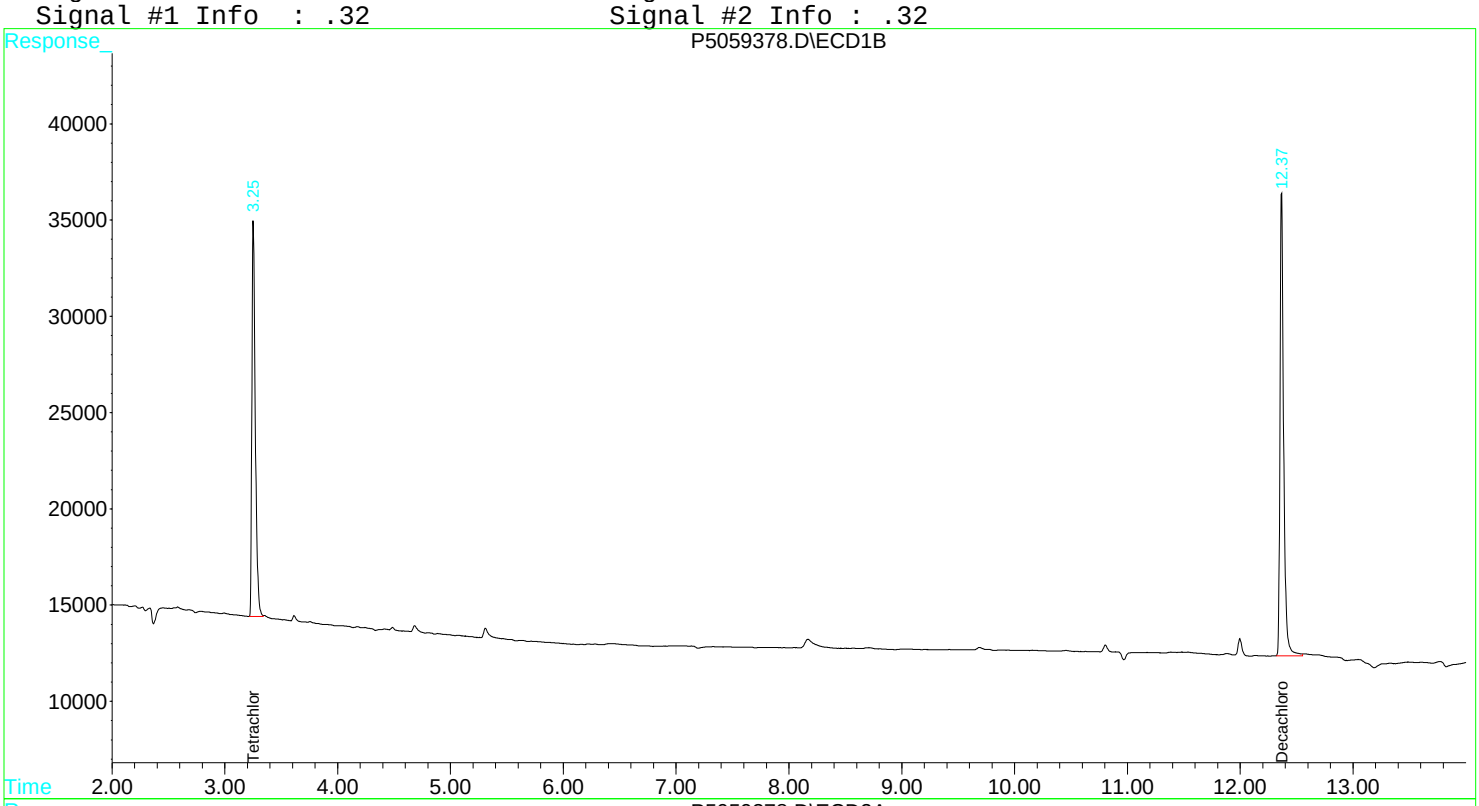
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

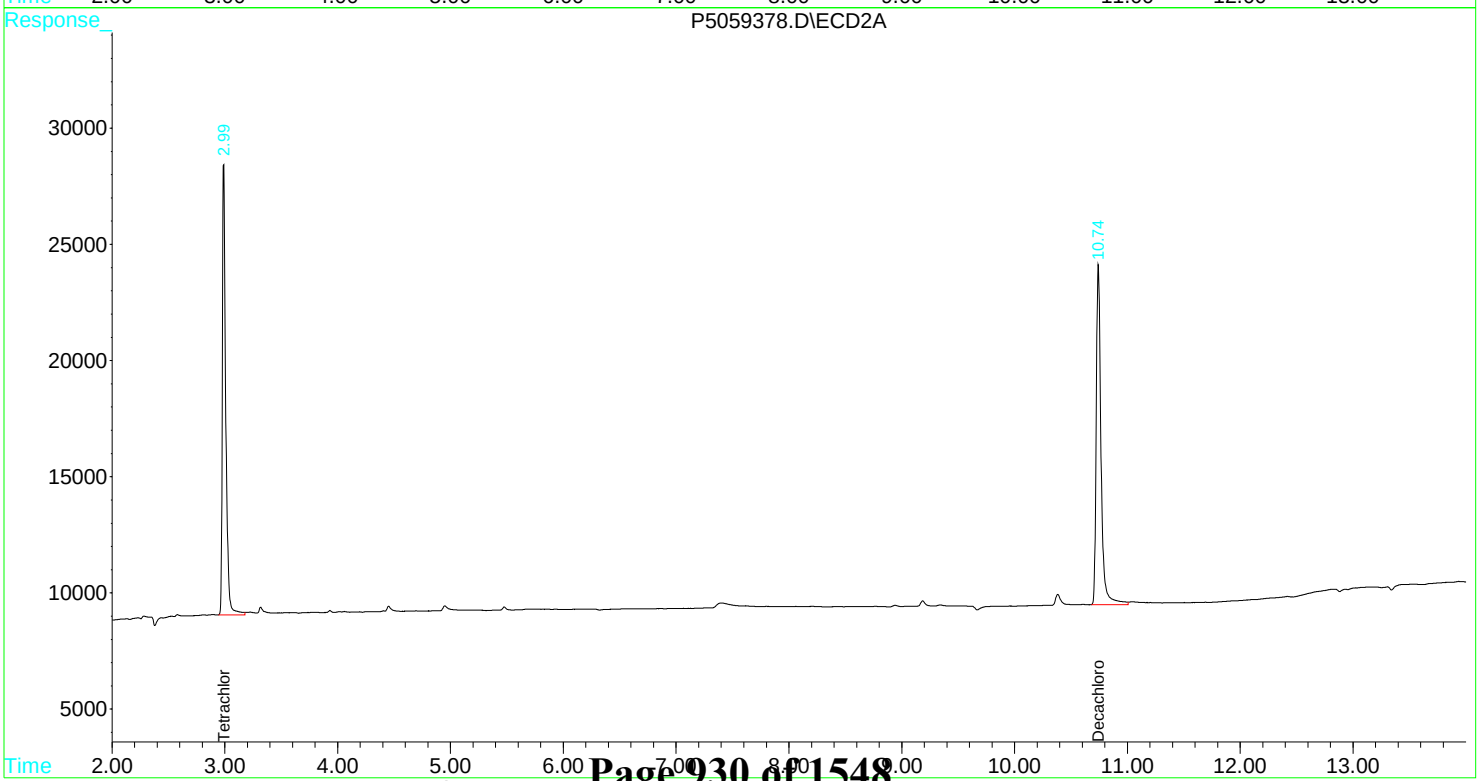
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059378.D\ECD1B.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059378.D\ECD2A.CH
Acq On : 9 Oct 2019 1:32 pm Operator: CM
Sample : 19J0144-01 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:17 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: P5059379.D

Sampled: 10/02/19 12:50 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 13:50

Solids: 86.53 Preparation: EPA 3550C Initial/Final: 30.8 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00186	U
72-55-9	4,4'-DDE	5	0.00186	U
50-29-3	4,4'-DDT	5	0.00186	U
309-00-2	Aldrin	5	0.00186	U
319-84-6	alpha-BHC	5	0.00186	U
5103-71-9	alpha-Chlordane	5	0.00186	U
319-85-7	beta-BHC	5	0.00186	U
319-86-8	delta-BHC	5	0.00186	U
60-57-1	Dieldrin	5	0.00186	U
959-98-8	Endosulfan I	5	0.00186	U
33213-65-9	Endosulfan II	5	0.00186	U
1031-07-8	Endosulfan sulfate	5	0.00186	U
72-20-8	Endrin	5	0.00186	U
58-89-9	gamma-BHC (Lindane)	5	0.00186	U
76-44-8	Heptachlor	5	0.00186	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0750	0.0637	84.9	30 - 150	
Tetrachloro-m-xylene	0.0750	0.0747	99.6	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059379.D\ECD1B.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059379.D\ECD2A.CH
Acq On : 9 Oct 2019 1:50 pm Operator: CM
Sample : 19J0144-02 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:17 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	705500	653140	39.822	36.689
	Spiked Amount 200.000	Range 30 - 150		Recovery =		19.91%#	18.34%#
23) SA	Decachlorobiphen	12.36	10.74	853850	678196	33.954	33.689
	Spiked Amount 200.000	Range 30 - 150		Recovery =		16.98%#	16.84%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

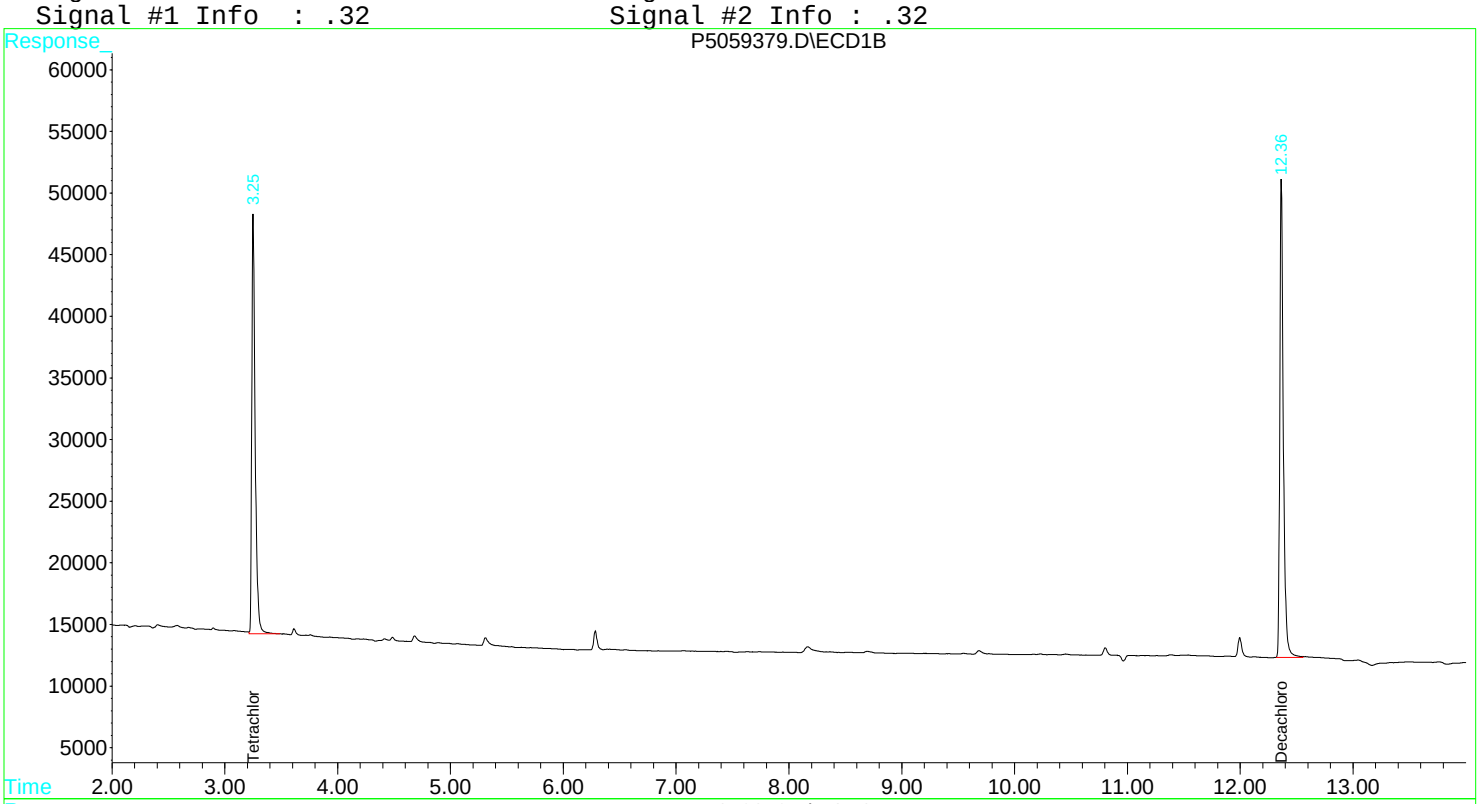
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059379.D P5091619.M Wed Oct 09 14:18:07 2019 Page 1

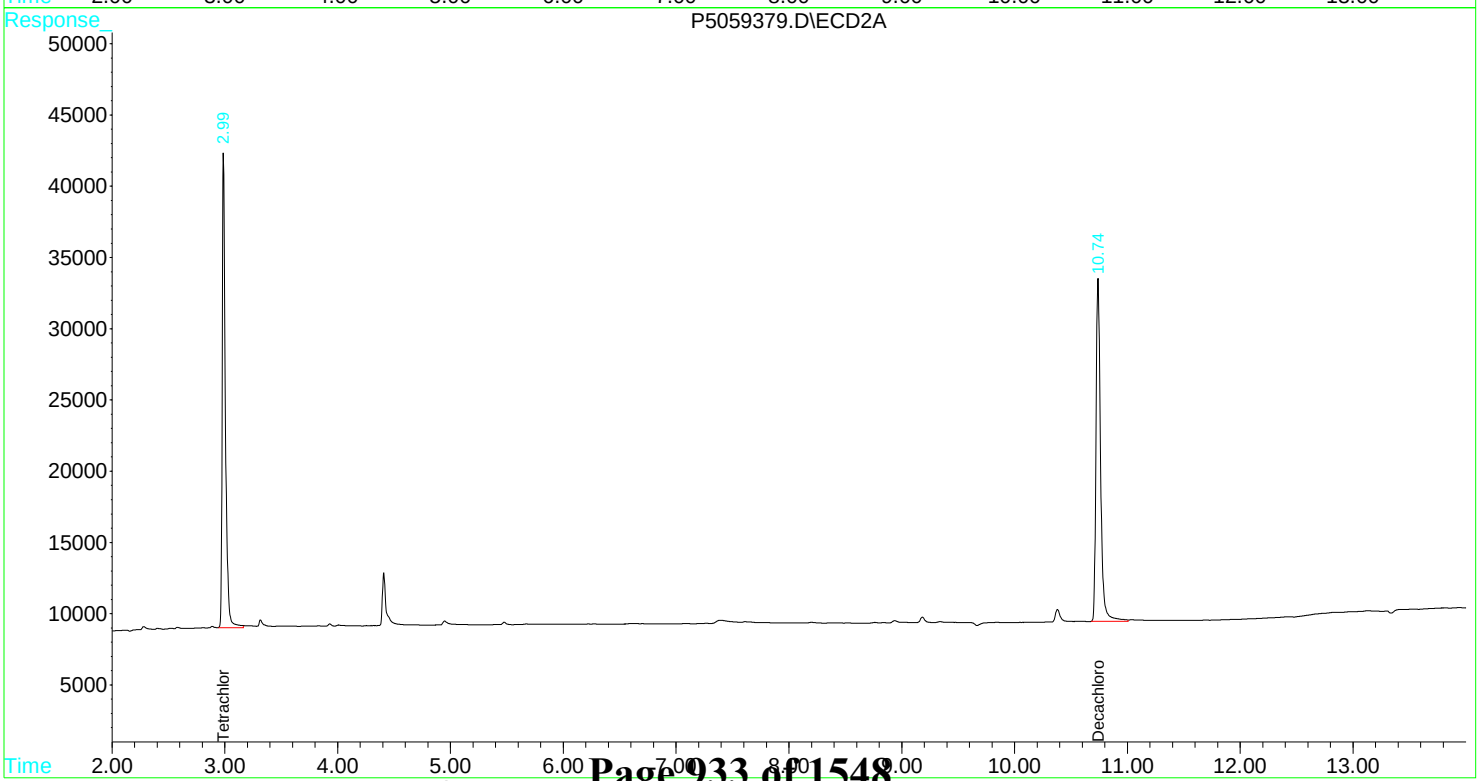
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059379.D\ECD1B.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059379.D\ECD2A.CH
Acq On : 9 Oct 2019 1:50 pm Operator: CM
Sample : 19J0144-02 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:17 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: P5059380.D

Sampled: 10/02/19 10:30 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 14:08

Solids: 94.09 Preparation: EPA 3550C Initial/Final: 30.7 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00171	U
72-55-9	4,4'-DDE	5	0.00171	U
50-29-3	4,4'-DDT	5	0.00171	U
309-00-2	Aldrin	5	0.00171	U
319-84-6	alpha-BHC	5	0.00171	U
5103-71-9	alpha-Chlordane	5	0.00171	U
319-85-7	beta-BHC	5	0.00171	U
319-86-8	delta-BHC	5	0.00171	U
60-57-1	Dieldrin	5	0.00171	U
959-98-8	Endosulfan I	5	0.00171	U
33213-65-9	Endosulfan II	5	0.00171	U
1031-07-8	Endosulfan sulfate	5	0.00171	U
72-20-8	Endrin	5	0.00171	U
58-89-9	gamma-BHC (Lindane)	5	0.00171	U
76-44-8	Heptachlor	5	0.00171	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0692	0.0527	76.2	30 - 150	
Tetrachloro-m-xylene	0.0692	0.0619	89.3	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059380.D\ECD1B.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059380.D\ECD2A.CH
Acq On : 9 Oct 2019 2:08 pm Operator: CM
Sample : 19J0144-03 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:51 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	633026	600002	35.731	33.704
	Spiked Amount 200.000	Range 30 - 150		Recovery =		17.87%#	16.85%#
23) SA	Decachlorobiphen	12.36	10.74	766238	593958	30.470	29.505
	Spiked Amount 200.000	Range 30 - 150		Recovery =		15.23%#	14.75%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D. d	N.D. d
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D. d
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D. d
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D. d	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D. d

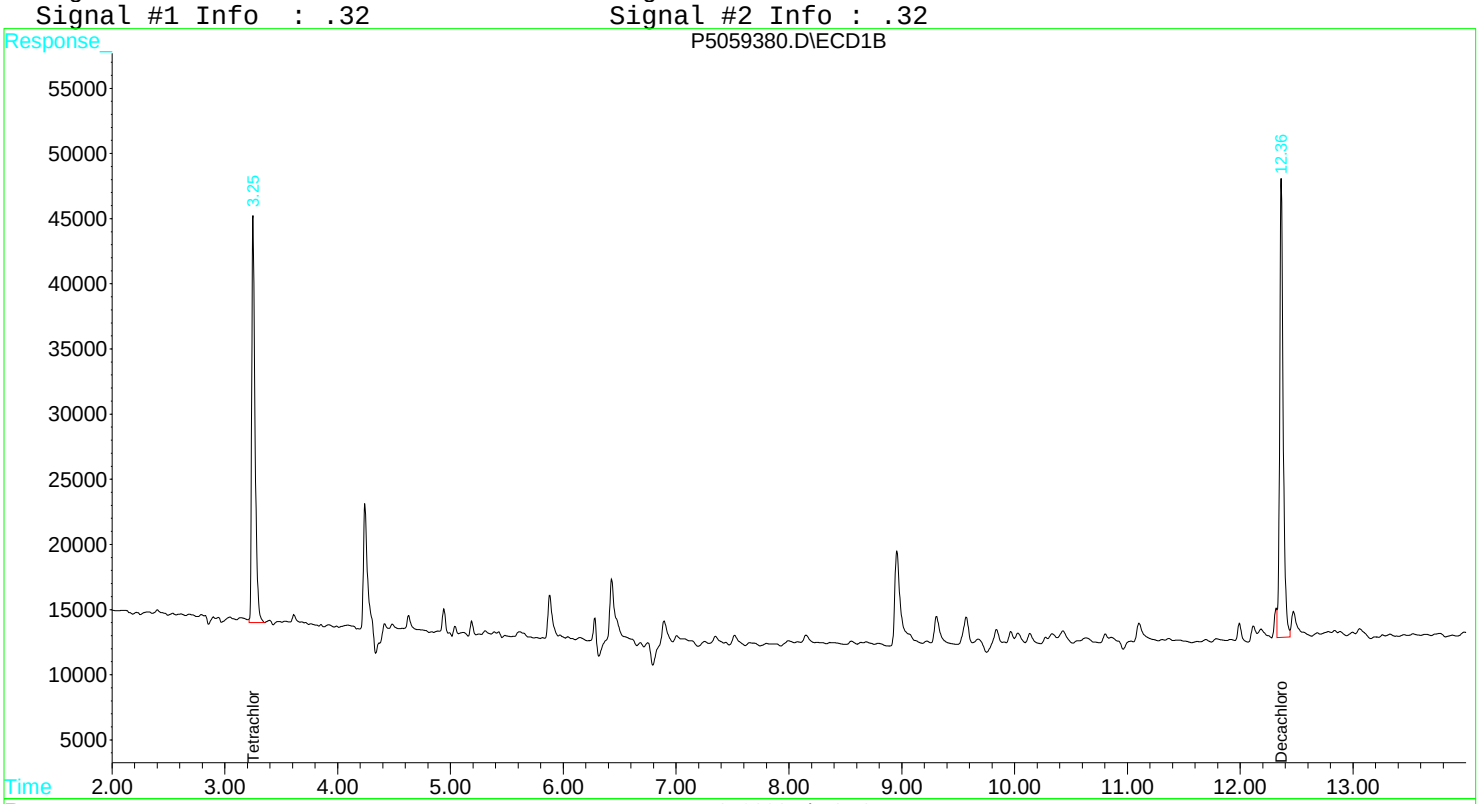
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

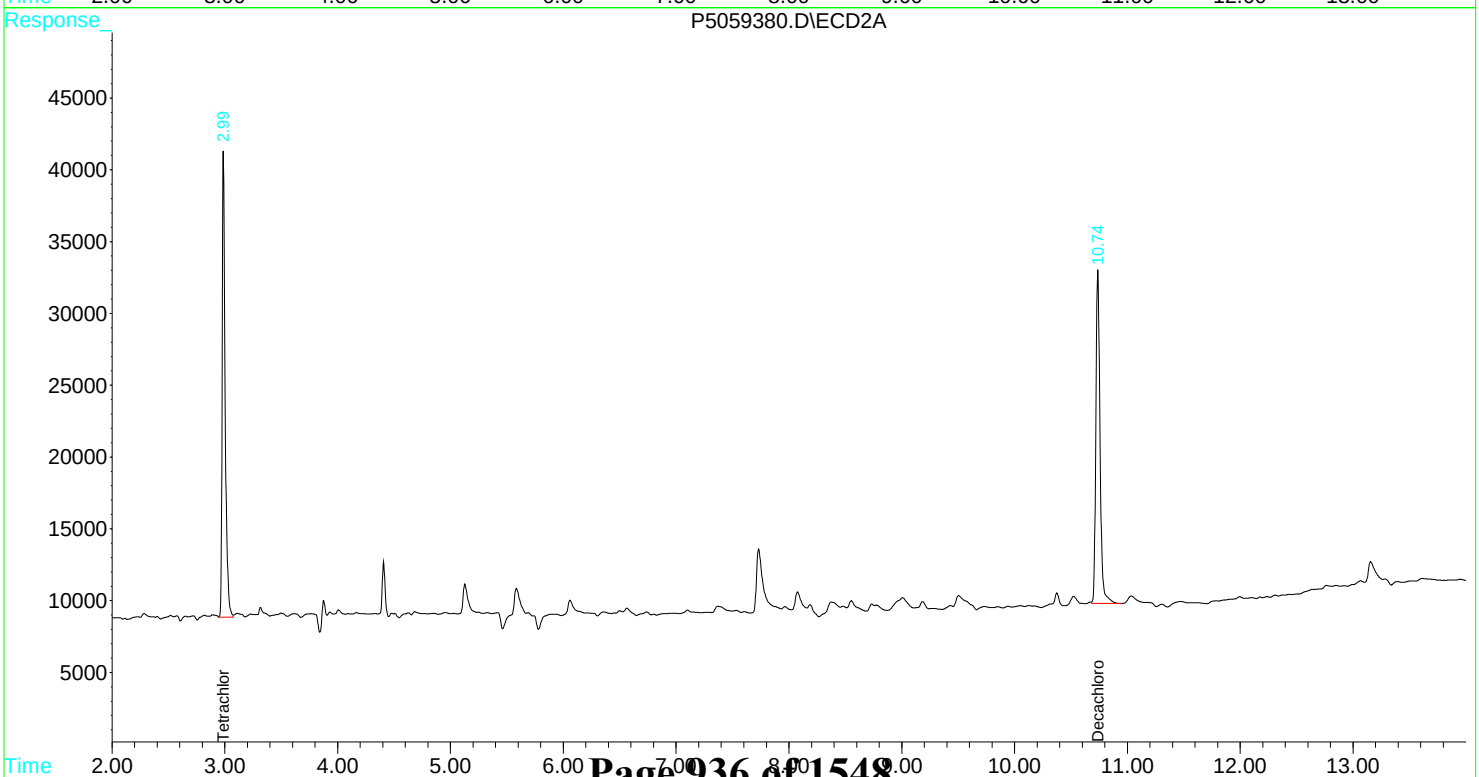
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059380.D\ECD1B.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059380.D\ECD2A.CH
Acq On : 9 Oct 2019 2:08 pm Operator: CM
Sample : 19J0144-03 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 14:51 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: P5059331.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:22

Solids: 83.69 Preparation: EPA 3550C Initial/Final: 30.5 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00194	U
72-55-9	4,4'-DDE	5	0.00194	U
50-29-3	4,4'-DDT	5	0.00194	U
309-00-2	Aldrin	5	0.00194	U
319-84-6	alpha-BHC	5	0.00194	U
5103-71-9	alpha-Chlordane	5	0.00194	U
319-85-7	beta-BHC	5	0.00194	U
319-86-8	delta-BHC	5	0.00194	U
60-57-1	Dieldrin	5	0.00194	U
959-98-8	Endosulfan I	5	0.00194	U
33213-65-9	Endosulfan II	5	0.00194	U
1031-07-8	Endosulfan sulfate	5	0.00194	U
72-20-8	Endrin	5	0.00194	U
58-89-9	gamma-BHC (Lindane)	5	0.00194	U
76-44-8	Heptachlor	5	0.00194	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0784	0.0556	71.0	30 - 150	
Tetrachloro-m-xylene	0.0784	0.0813	104	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059331.D\ECD1B.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059331.D\ECD2A.CH
Acq On : 8 Oct 2019 11:22 pm Operator: CM
Sample : 19J0144-04 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	735700	702464	41.526	39.460
	Spiked Amount 200.000	Range 30 - 150		Recovery =		20.76%#	19.73%#
23) SA	Decachlorobiphen	12.36	10.74	714394	591630	28.408	29.389
	Spiked Amount 200.000	Range 30 - 150		Recovery =		14.20%#	14.69%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

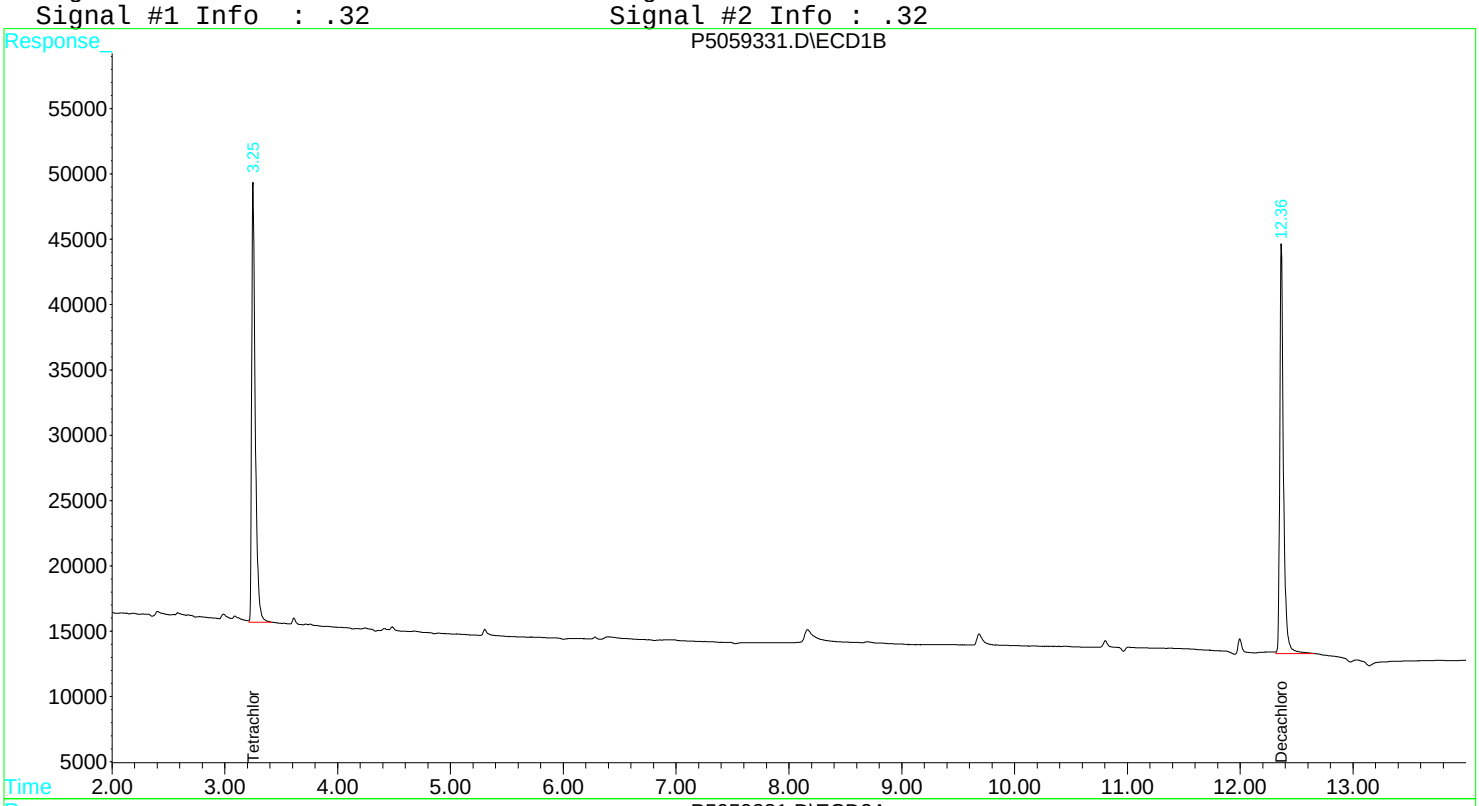
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P5059331.D P5091619.M Wed Oct 09 11:48:39 2019 Page 1

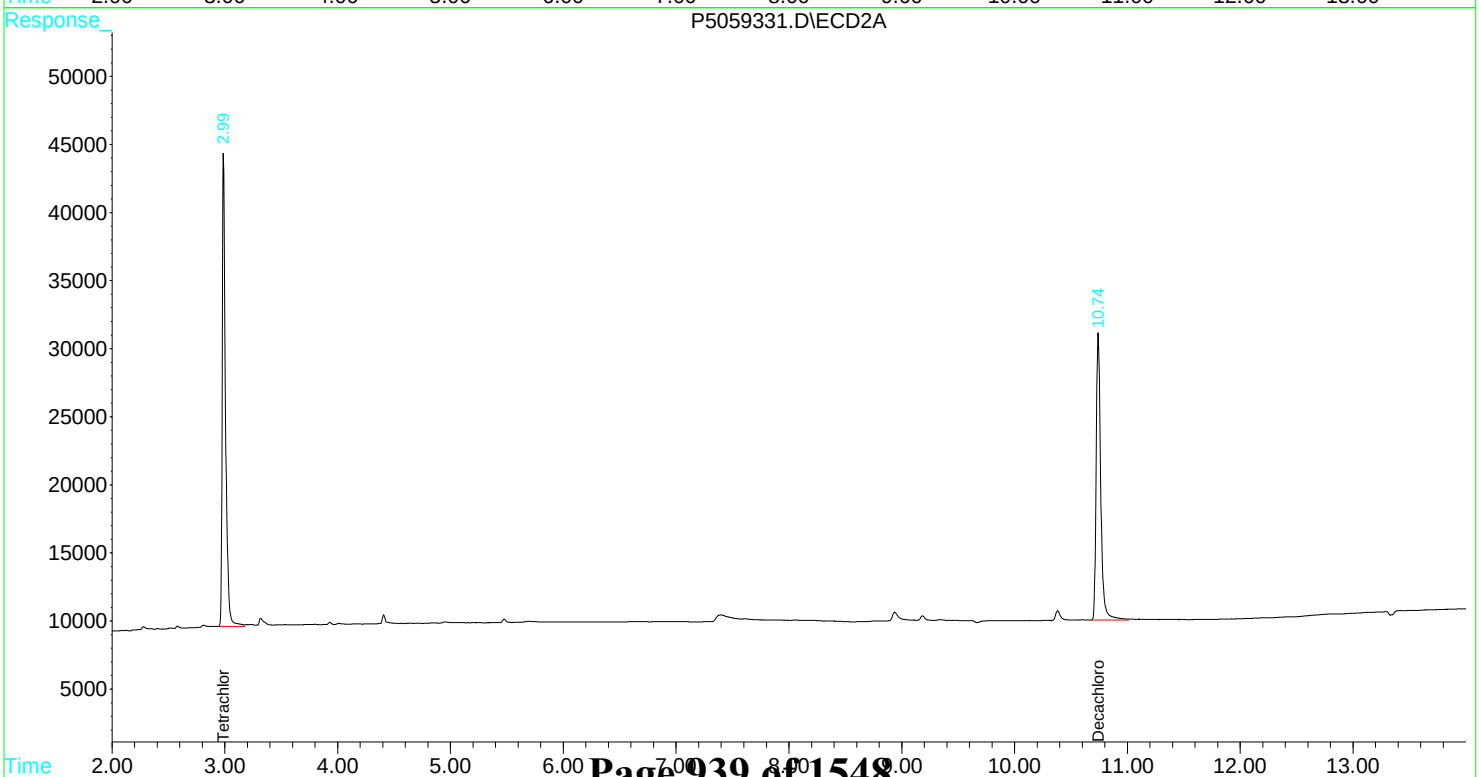
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059331.D\ECD1B.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059331.D\ECD2A.CH
Acq On : 8 Oct 2019 11:22 pm Operator: CM
Sample : 19J0144-04 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: P5059332.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:40

Solids: 92.39 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00177	U
72-55-9	4,4'-DDE	5	0.00177	U
50-29-3	4,4'-DDT	5	0.00177	U
309-00-2	Aldrin	5	0.00177	U
319-84-6	alpha-BHC	5	0.00177	U
5103-71-9	alpha-Chlordane	5	0.00177	U
319-85-7	beta-BHC	5	0.00177	U
319-86-8	delta-BHC	5	0.00177	U
60-57-1	Dieldrin	5	0.00177	U
959-98-8	Endosulfan I	5	0.00177	U
33213-65-9	Endosulfan II	5	0.00177	U
1031-07-8	Endosulfan sulfate	5	0.00177	U
72-20-8	Endrin	5	0.00177	U
58-89-9	gamma-BHC (Lindane)	5	0.00177	U
76-44-8	Heptachlor	5	0.00177	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0717	0.0606	84.6	30 - 150	
Tetrachloro-m-xylene	0.0717	0.0821	115	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059332.D\ECD1B.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059332.D\ECD2A.CH
Acq On : 8 Oct 2019 11:40 pm Operator: CM
Sample : 19J0144-05 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	811658	775966	45.814	43.589
	Spiked Amount 200.000	Range 30 - 150		Recovery =		22.91%#	21.79%#
23) SA	Decachlorobiphen	12.36	10.74	850964	697498	33.839	34.648
	Spiked Amount 200.000	Range 30 - 150		Recovery =		16.92%#	17.32%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D. d	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D. d
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

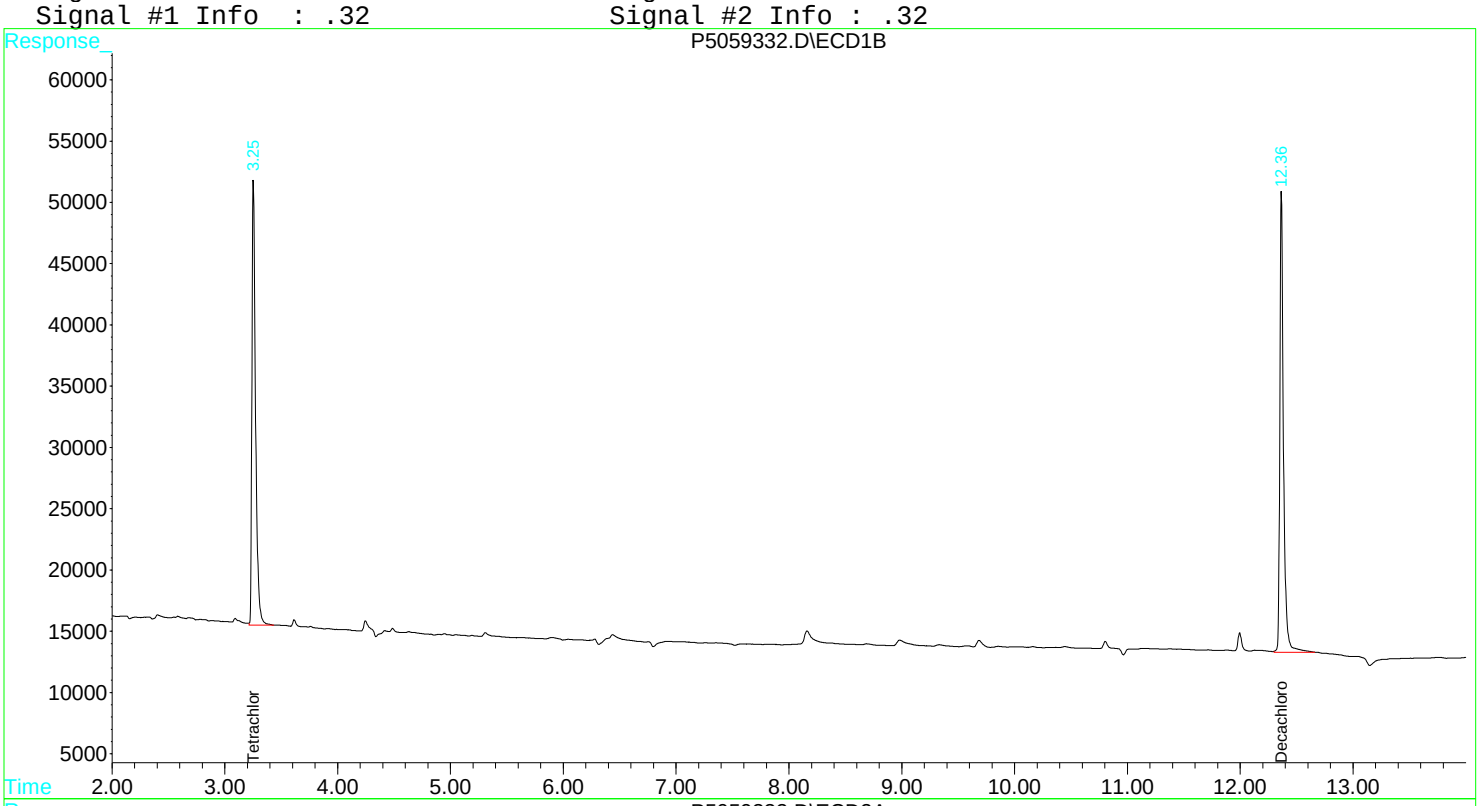
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P5059332.D P5091619.M Wed Oct 09 11:48:58 2019 Page 1

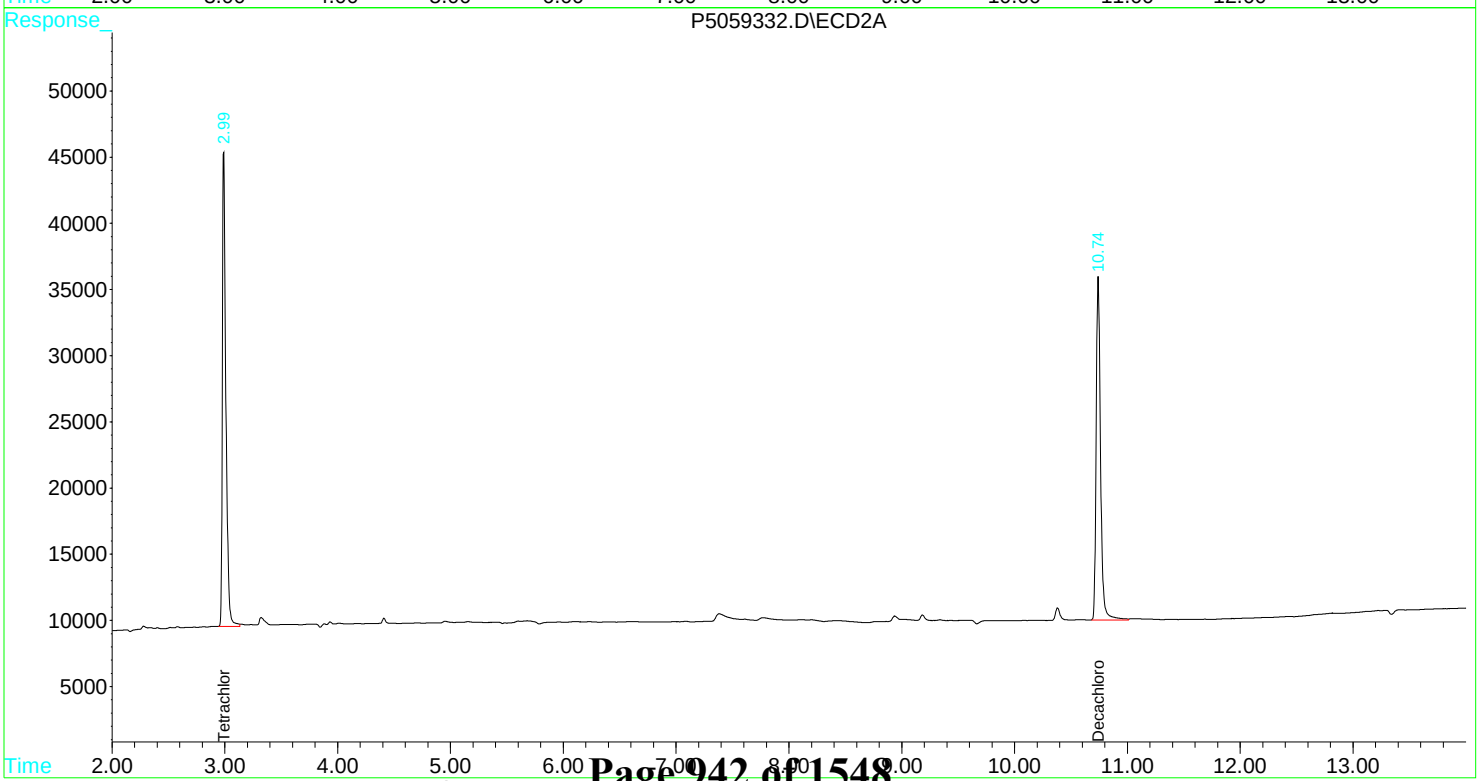
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059332.D\ECD1B.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059332.D\ECD2A.CH
Acq On : 8 Oct 2019 11:40 pm Operator: CM
Sample : 19J0144-05 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8081B

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: P5059333.D

Sampled: 10/02/19 12:05 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:58

Solids: 91.18 Preparation: EPA 3550C Initial/Final: 30.3 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
72-54-8	4,4'-DDD	5	0.00179	U
72-55-9	4,4'-DDE	5	0.00179	U
50-29-3	4,4'-DDT	5	0.00179	U
309-00-2	Aldrin	5	0.00179	U
319-84-6	alpha-BHC	5	0.00179	U
5103-71-9	alpha-Chlordane	5	0.00179	U
319-85-7	beta-BHC	5	0.00179	U
319-86-8	delta-BHC	5	0.00179	U
60-57-1	Dieldrin	5	0.00179	U
959-98-8	Endosulfan I	5	0.00179	U
33213-65-9	Endosulfan II	5	0.00179	U
1031-07-8	Endosulfan sulfate	5	0.00179	U
72-20-8	Endrin	5	0.00179	U
58-89-9	gamma-BHC (Lindane)	5	0.00179	U
76-44-8	Heptachlor	5	0.00179	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0724	0.0441	60.9	30 - 150	
Tetrachloro-m-xylene	0.0724	0.0681	94.1	30 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059333.D\ECD1B.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059333.D\ECD2A.CH
Acq On : 8 Oct 2019 11:58 pm Operator: CM
Sample : 19J0144-06 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:49 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	666806	645012	37.638	36.233
	Spiked Amount 200.000	Range 30 - 150		Recovery =		18.82%#	18.12%#
23) SA	Decachlorobiphen	12.36	10.74	612742	505378	24.366	25.104
	Spiked Amount 200.000	Range 30 - 150		Recovery =		12.18%#	12.55%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

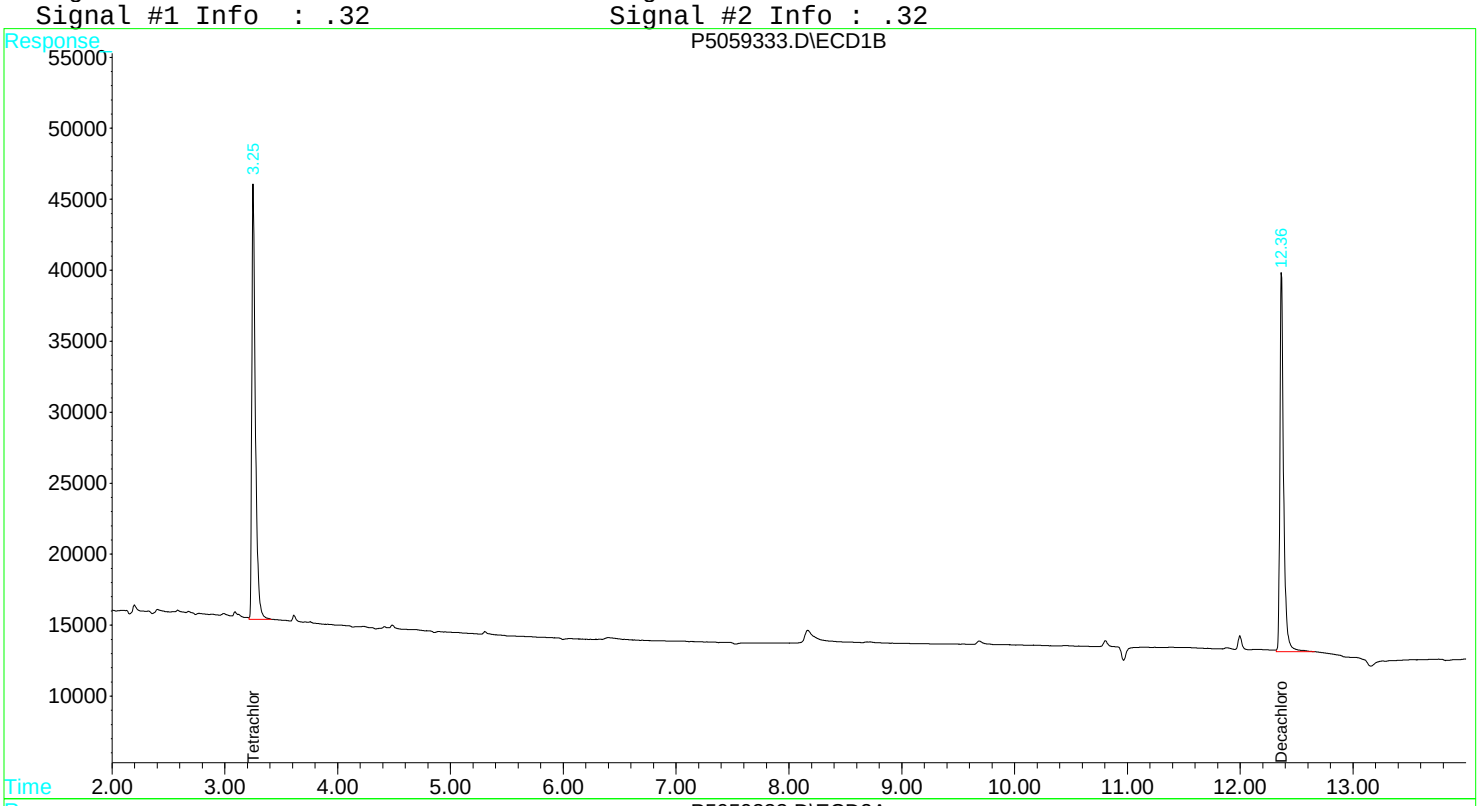
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P5059333.D P5091619.M Wed Oct 09 11:49:15 2019 Page 1

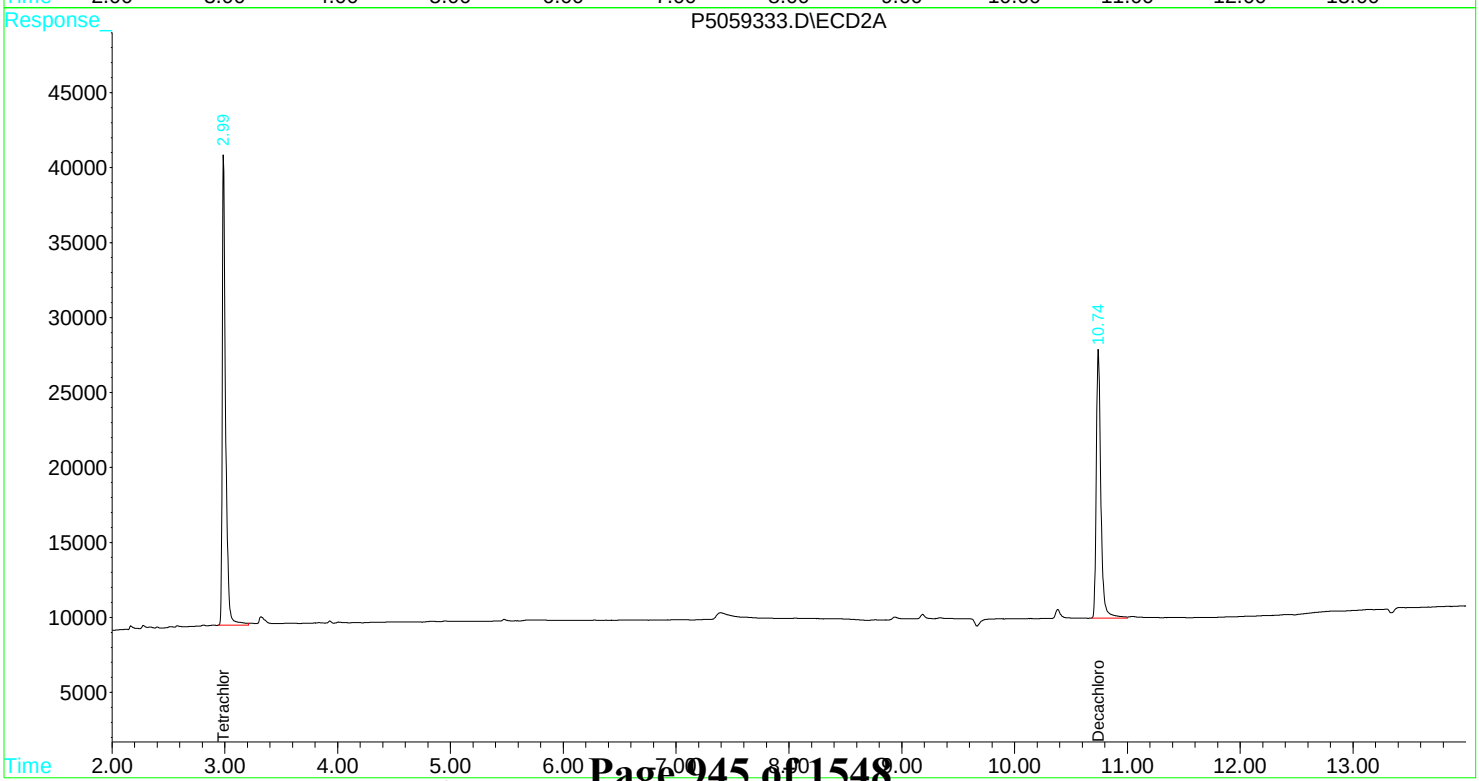
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059333.D\ECD1B.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059333.D\ECD2A.CH
Acq On : 8 Oct 2019 11:58 pm Operator: CM
Sample : 19J0144-06 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 11:49 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: P5059378.D

Sampled: 10/02/19 12:45 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 13:32

Solids: 95.31 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00172	0.00172		U
72-55-9	4,4'-DDE	5	0.00172	0.00172		U
50-29-3	4,4'-DDT	5	0.00172	0.00172		U
309-00-2	Aldrin	5	0.00172	0.00172		U
319-84-6	alpha-BHC	5	0.00172	0.00172		U
5103-71-9	alpha-Chlordane	5	0.00172	0.00172		U
319-85-7	beta-BHC	5	0.00172	0.00172		U
319-86-8	delta-BHC	5	0.00172	0.00172		U
60-57-1	Dieldrin	5	0.00172	0.00172		U
959-98-8	Endosulfan I	5	0.00172	0.00172		U
33213-65-9	Endosulfan II	5	0.00172	0.00172		U
1031-07-8	Endosulfan sulfate	5	0.00172	0.00172		U
72-20-8	Endrin	5	0.00172	0.00172		U
58-89-9	gamma-BHC (Lindane)	5	0.00172	0.00172		U
76-44-8	Heptachlor	5	0.00172	0.00172		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0695	0.0374	53.9	30 - 150	
Tetrachloro-m-xylene	0.0695	0.0421	60.6	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: P5059379.D

Sampled: 10/02/19 12:50 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 13:50

Solids: 86.53 Preparation: EPA 3550C Initial/Final: 30.8 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00186	0.00186		U
72-55-9	4,4'-DDE	5	0.00186	0.00186		U
50-29-3	4,4'-DDT	5	0.00186	0.00186		U
309-00-2	Aldrin	5	0.00186	0.00186		U
319-84-6	alpha-BHC	5	0.00186	0.00186		U
5103-71-9	alpha-Chlordane	5	0.00186	0.00186		U
319-85-7	beta-BHC	5	0.00186	0.00186		U
319-86-8	delta-BHC	5	0.00186	0.00186		U
60-57-1	Dieldrin	5	0.00186	0.00186		U
959-98-8	Endosulfan I	5	0.00186	0.00186		U
33213-65-9	Endosulfan II	5	0.00186	0.00186		U
1031-07-8	Endosulfan sulfate	5	0.00186	0.00186		U
72-20-8	Endrin	5	0.00186	0.00186		U
58-89-9	gamma-BHC (Lindane)	5	0.00186	0.00186		U
76-44-8	Heptachlor	5	0.00186	0.00186		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0750	0.0637	84.9	30 - 150	
Tetrachloro-m-xylene	0.0750	0.0747	99.6	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: P5059380.D

Sampled: 10/02/19 10:30 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 14:08

Solids: 94.09 Preparation: EPA 3550C Initial/Final: 30.7 g / 10 mL

Batch: BJ90322 Sequence: Y9J1109 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00171	0.00171		U
72-55-9	4,4'-DDE	5	0.00171	0.00171		U
50-29-3	4,4'-DDT	5	0.00171	0.00171		U
309-00-2	Aldrin	5	0.00171	0.00171		U
319-84-6	alpha-BHC	5	0.00171	0.00171		U
5103-71-9	alpha-Chlordane	5	0.00171	0.00171		U
319-85-7	beta-BHC	5	0.00171	0.00171		U
319-86-8	delta-BHC	5	0.00171	0.00171		U
60-57-1	Dieldrin	5	0.00171	0.00171		U
959-98-8	Endosulfan I	5	0.00171	0.00171		U
33213-65-9	Endosulfan II	5	0.00171	0.00171		U
1031-07-8	Endosulfan sulfate	5	0.00171	0.00171		U
72-20-8	Endrin	5	0.00171	0.00171		U
58-89-9	gamma-BHC (Lindane)	5	0.00171	0.00171		U
76-44-8	Heptachlor	5	0.00171	0.00171		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0692	0.0527	76.2	30 - 150	
Tetrachloro-m-xylene	0.0692	0.0619	89.3	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: P5059331.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:22

Solids: 83.69 Preparation: EPA 3550C Initial/Final: 30.5 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00194	0.00194		U
72-55-9	4,4'-DDE	5	0.00194	0.00194		U
50-29-3	4,4'-DDT	5	0.00194	0.00194		U
309-00-2	Aldrin	5	0.00194	0.00194		U
319-84-6	alpha-BHC	5	0.00194	0.00194		U
5103-71-9	alpha-Chlordane	5	0.00194	0.00194		U
319-85-7	beta-BHC	5	0.00194	0.00194		U
319-86-8	delta-BHC	5	0.00194	0.00194		U
60-57-1	Dieldrin	5	0.00194	0.00194		U
959-98-8	Endosulfan I	5	0.00194	0.00194		U
33213-65-9	Endosulfan II	5	0.00194	0.00194		U
1031-07-8	Endosulfan sulfate	5	0.00194	0.00194		U
72-20-8	Endrin	5	0.00194	0.00194		U
58-89-9	gamma-BHC (Lindane)	5	0.00194	0.00194		U
76-44-8	Heptachlor	5	0.00194	0.00194		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0784	0.0556	71.0	30 - 150	
Tetrachloro-m-xylene	0.0784	0.0813	104	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: P5059332.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:40

Solids: 92.39 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00177	0.00177		U
72-55-9	4,4'-DDE	5	0.00177	0.00177		U
50-29-3	4,4'-DDT	5	0.00177	0.00177		U
309-00-2	Aldrin	5	0.00177	0.00177		U
319-84-6	alpha-BHC	5	0.00177	0.00177		U
5103-71-9	alpha-Chlordane	5	0.00177	0.00177		U
319-85-7	beta-BHC	5	0.00177	0.00177		U
319-86-8	delta-BHC	5	0.00177	0.00177		U
60-57-1	Dieldrin	5	0.00177	0.00177		U
959-98-8	Endosulfan I	5	0.00177	0.00177		U
33213-65-9	Endosulfan II	5	0.00177	0.00177		U
1031-07-8	Endosulfan sulfate	5	0.00177	0.00177		U
72-20-8	Endrin	5	0.00177	0.00177		U
58-89-9	gamma-BHC (Lindane)	5	0.00177	0.00177		U
76-44-8	Heptachlor	5	0.00177	0.00177		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0717	0.0606	84.6	30 - 150	
Tetrachloro-m-xylene	0.0717	0.0821	115	30 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: P5059333.D

Sampled: 10/02/19 12:05 Prepared: 10/04/19 13:49 Analyzed: 10/08/19 23:58

Solids: 91.18 Preparation: EPA 3550C Initial/Final: 30.3 g / 10 mL

Batch: BJ90321 Sequence: Y9J0912 Calibration: YI90014 Instrument: GC Dual E

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
72-54-8	4,4'-DDD	5	0.00179	0.00179		U
72-55-9	4,4'-DDE	5	0.00179	0.00179		U
50-29-3	4,4'-DDT	5	0.00179	0.00179		U
309-00-2	Aldrin	5	0.00179	0.00179		U
319-84-6	alpha-BHC	5	0.00179	0.00179		U
5103-71-9	alpha-Chlordane	5	0.00179	0.00179		U
319-85-7	beta-BHC	5	0.00179	0.00179		U
319-86-8	delta-BHC	5	0.00179	0.00179		U
60-57-1	Dieldrin	5	0.00179	0.00179		U
959-98-8	Endosulfan I	5	0.00179	0.00179		U
33213-65-9	Endosulfan II	5	0.00179	0.00179		U
1031-07-8	Endosulfan sulfate	5	0.00179	0.00179		U
72-20-8	Endrin	5	0.00179	0.00179		U
58-89-9	gamma-BHC (Lindane)	5	0.00179	0.00179		U
76-44-8	Heptachlor	5	0.00179	0.00179		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0724	0.0441	60.9	30 - 150	
Tetrachloro-m-xylene	0.0724	0.0681	94.1	30 - 150	

* Values outside of QC limits

INITIAL CALIBRATION STANDARDS

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9I2404	Instrument:	GC Dual E
Calibration:	YI90014		

Standard ID	Description	Lab Sample ID	Lab File ID	Analysis Date/Time
Y19I112	Pest- Pest Mix CAL 1 @ 2.0ng/mL	Y9I2404-CAL1	P5058204.D	09/16/19 16:25
Y19I117	Pest- Pest Mix CAL 3 @ 5.0ng/mL	Y9I2404-CAL2	P5058205.D	09/16/19 16:43
Y19I113	Pest- Pest Mix CAL 3 @ 20.0ng/mL	Y9I2404-CAL3	P5058206.D	09/16/19 17:01
Y19I115	Pest- Pest Mix CAL 4 @ 50.0ng/mL	Y9I2404-CAL4	P5058207.D	09/16/19 17:19
Y19I114	Pest- Pest Mix CAL 5 @ 100.0ng/mL	Y9I2404-CAL5	P5058208.D	09/16/19 17:37
Y19I116	Pest- Pest Mix CAL 6 @ 200.0ng/mL	Y9I2404-CAL6	P5058210.D	09/16/19 18:13
Y19H102	Pest - SCV 50ng/mL	Y9I2404-SCV1	P5058211.D	09/16/19 18:31

FORM VI

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YI90014
Instrument: GC Dual E
Calibration Date: 09/16/19 08:56

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
4,4'-DDD	2	20604	5	19606	20	19162	50	20417.16	100	19523.58	200	18182.38
4,4'-DDD [2C]	2	14043	5	12888	20	13024.3	50	13915.64	100	13473.44	200	12426.3
4,4'-DDE	2	30483	5	29106.4	20	28070.7	50	28958.72	100	27217.22	200	25089.7
4,4'-DDE [2C]	2	16280	5	13872.8	20	14593.9	50	15497.4	100	14142.3	200	12922.54
4,4'-DDT	2	10120	5	8234.4	20	10524.5	50	11702.04	100	12066.86	200	12445.64
4,4'-DDT [2C]	2	7795	5	4476.8	20	5738.8	50	6677.88	100	7235.78	200	7693.3
Aldrin	2	34666	5	31750	20	31384.3	50	32709.72	100	30726.18	200	28239.24
Aldrin [2C]	2	25587	5	22226.8	20	21524.7	50	21982.28	100	20052.36	200	17822.32
alpha-BHC	2	31241	5	29334	20	31294	50	34096.8	100	32524.18	200	30643.89
alpha-BHC [2C]	2	24104	5	21524	20	22647.7	50	24297.08	100	22590.4	200	20699.94
alpha-Chlordane	2	34382	5	31315.2	20	29945.3	50	30372.32	100	27928.6	200	25677.52
alpha-Chlordane [2C]	2	26552	5	23321.6	20	21707.7	50	21376.12	100	19216.06	200	16953.02
beta-BHC	2	16927	5	14944.4	20	13729.7	50	13695.12	100	12520.88	200	11363.78
beta-BHC [2C]	2	13332	5	11260.4	20	10427.8	50	10345.52	100	9374.64	200	8457.27
Decachlorobiphenyl	40	35683.6	80	27275.5	120	25862.78	160	25885.69	200	24408.05	240	23662.9
Decachlorobiphenyl [2C]	40	30870.55	80	22178.82	120	20725.95	160	20292.68	200	18932.98	240	18075.28
delta-BHC	2	29804	5	26101.2	20	26637.1	50	29492.48	100	28567.92	200	27093.31
delta-BHC [2C]	2	21576	5	18790.8	20	17740.7	50	19988.56	100	19022.34	200	17730.53
Dieldrin	2	29998	5	27374	20	27435.1	50	28331.48	100	26177.6	200	23664.66
Dieldrin [2C]	2	22334	5	19591.2	20	18983.5	50	19387.24	100	17644.58	200	15545
Endosulfan I	2	29791	5	30514	20	28747.7	50	28595.48	100	26048.78	200	23123.23
Endosulfan I [2C]	2	30946	5	27664	20	25101.1	50	24298.24	100	21813.56	200	18672.53
Endosulfan II	2	31953	5	28725.2	20	26358.6	50	25904.52	100	23507.32	200	20960.74
Endosulfan II [2C]	2	19917	5	17211.6	20	16560.5	50	17489.72	100	15754.34	200	13656.58
Endosulfan sulfate	2	31253	5	26584	20	24882.3	50	24468.12	100	22198.9	200	19845.03
Endosulfan sulfate [2C]	2	20394	5	17778.8	20	16913.5	50	16509.64	100	14929.74	200	13037.19
Endrin	2	21852	5	22020.4	20	21449.7	50	22163.04	100	20598.8	200	18619.02
Endrin [2C]	2	15423	5	13802.4	20	13419	50	13867.4	100	12787.68	200	11361.85
Endrin aldehyde	2	28973	5	23611.2	20	21631.3	50	21001.12	100	19016.54	200	17114.39
Endrin aldehyde [2C]	2	21915	5	16582.4	20	15093.3	50	14806.2	100	13244.84	200	12516.19
Endrin ketone	2	30718	5	26867.2	20	26341.3	50	26109.12	100	23647.02	200	20875.17

FORM VI

INITIAL CALIBRATION DATA

EPA 8081B

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YI90014
Instrument: GC Dual E
Calibration Date: 09/16/19 08:56

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Endrin ketone [2C]	2	19143	5	17380.8	20	17366.7	50	17391.68	100	15845.94	200	13753.66
gamma-BHC (Lindane)	2	29174	5	27651.6	20	27855.2	50	29947	100	28467.62	200	26748.44
gamma-BHC (Lindane) [2C]	2	21162	5	20592.4	20	20699	50	21763.16	100	20097.28	200	18297.77
gamma-Chlordane	2	34248	5	30971.6	20	29490.2	50	30391.2	100	28501.34	200	26415.05
gamma-Chlordane [2C]	2	27500	5	24295.2	20	21734.8	50	21630.72	100	19560.32	200	17368.3
Heptachlor	2	23833	5	23378	20	23846.4	50	25303.88	100	23895.9	200	22379.83
Heptachlor [2C]	2	18650	5	16474	20	15863.9	50	16295.64	100	14894.9	200	13350.88
Heptachlor epoxide	2	30299	5	29690.8	20	28160.4	50	28468.24	100	26085.66	200	23512.36
Heptachlor epoxide [2C]	2	22439	5	21056	20	19591.3	50	19228.72	100	17196.62	200	14952.3
Methoxychlor	2	4909	5	5356.4	20	5391.9	50	6282.44	100	6042.18	200	5886.23
Methoxychlor [2C]	2	2127	5	3124.4	20	2446.1	50	3156.04	100	3379.68	200	3519.09
Tetrachloro-m-xylene	40	24649.9	80	18619.35	120	18024.53	160	18706.68	200	17529.83	240	16985.18
Tetrachloro-m-xylene [2C]	40	25620.45	80	18988.35	120	17966.73	160	18508.56	200	17321.48	240	16946.53

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Calibration: YI90014 Instrument: GC Dual E

Calibration Date: 09/16/19 08:56

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
4,4'-DDD	19582.52	4.499197	7.823333	6.434718E-02			20	
4,4'-DDD [2C]	13295.11	4.721368	6.69	1.689563E-02			20	
4,4'-DDE	28154.29	6.597914	6.84	1.112085E-02			20	
4,4'-DDE [2C]	14551.49	8.226984	5.81	1.140391E-02			20	
4,4'-DDT	10848.91	14.41768	8.37	1.822986E-02	0.99985		0.99	
4,4'-DDT [2C]	6602.927	19.49296	7.131667	5.921429E-02	0.99927		0.99	
Aldrin	31579.24	6.75564	5.22	2.779896E-03			20	
Aldrin [2C]	21532.58	11.94536	4.59	1.657225E-02			20	
alpha-BHC	31522.31	5.178492	3.86	9.616491E-03			20	
alpha-BHC [2C]	22643.85	6.21445	3.463333	0.1497391			20	
alpha-Chlordane	29936.82	9.911821	6.55	2.026794E-02	0.99855		0.99	
alpha-Chlordane [2C]	21521.08	15.38134	5.68	1.027446E-02			20	
beta-BHC	13863.48	13.93132	4.36	1.645195E-02			20	
beta-BHC [2C]	10532.94	15.92065	3.85	2.778624E-03			20	
Decachlorobiphenyl	27129.75	16.13177	12.36	7.787668E-03			20	
Decachlorobiphenyl [2C]	21846.04	21.26682	10.74	3.694839E-03			20	*
delta-BHC	27949.34	5.559942	4.72	1.631853E-02			20	
delta-BHC [2C]	19141.49	7.654759	4.03	1.375235E-02			20	
Dieldrin	27163.47	7.849364	7.08	1.603628E-02	0.99801		0.99	
Dieldrin [2C]	18914.25	11.90352	6.2	1.759607E-02			20	
Endosulfan I	27803.37	9.889211	6.64	1.939754E-02			20	
Endosulfan I [2C]	24749.24	17.40408	5.855	9.615405E-02			20	
Endosulfan II	26234.9	14.6916	7.96	1.761732E-02	0.99748		0.99	
Endosulfan II [2C]	16764.96	12.33588	6.88	1.882391E-02	0.99596		0.99	
Endosulfan sulfate	24871.89	15.69861	9.08	1.997184E-02	0.99758		0.99	
Endosulfan sulfate [2C]	16593.81	15.09562	8.28	5.801038E-03	0.99653		0.99	
Endrin	21117.16	6.377867	7.59	1.722988E-02	0.99806		0.99	
Endrin [2C]	13443.56	9.97475	6.53	1.436055E-02	0.99739		0.99	
Endrin aldehyde	21891.26	18.84021	8.57	1.755412E-02	0.99785		0.99	
Endrin aldehyde [2C]	15692.99	21.46538	7.55	9.609983E-03	0.99905		0.99	
Endrin ketone	25759.64	12.82763	10.06	1.819112E-02	0.99697		0.99	
Endrin ketone [2C]	16813.63	10.86549	8.75	0	0.99623		0.99	

FORM VI **INITIAL CALIBRATION DATA (Continued)**

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Calibration:	YI90014	Instrument:	GC Dual E
		Calibration Date:	09/16/19 08:56

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
gamma-BHC (Lindane)	28307.31	4.037092	4.26	9.315157E-03			20	
gamma-BHC (Lindane) [2C]	20435.27	5.818459	3.76	3.774498E-03			20	
gamma-Chlordane	30002.9	8.755135	6.32	9.234004E-03			20	
gamma-Chlordane [2C]	22014.89	16.14022	5.5	0			20	
Heptachlor	23772.84	3.974906	4.79	1.043714E-02	0.99911		0.99	
Heptachlor [2C]	15921.55	11.07818	4.256667	0.1215564			20	
Heptachlor epoxide	27702.74	9.083761	6.04	2.321752E-02	0.99788		0.99	
Heptachlor epoxide [2C]	19077.32	14.07623	5.33	7.135707E-03			20	
Methoxychlor	5644.692	9.07254	9.7	2.205712E-03	0.99969		0.99	
Methoxychlor [2C]	2958.718	18.58695	8	0			20	
Tetrachloro-m-xylene	19085.91	14.68555	3.25	0			20	
Tetrachloro-m-xylene [2C]	19225.35	16.7531	2.986667	0.1714798			20	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058204.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058204.D\ECD2A.CH
Acq On : 16 Sep 2019 4:25 pm Operator: CM
Sample : SEQ-CAL1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:26 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:57:23 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	985996	1024818	56.207	57.379
	Spiked Amount 200.000	Range 30 - 150		Recovery =		28.10%#	28.69%#
23) SA	Decachlorobiphen	12.36	10.74	1427344	1234822	60.611	65.159
	Spiked Amount 200.000	Range 30 - 150		Recovery =		30.31%	32.58%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	62482	48208	2.052m	2.197
3) M	gamma-BHC (Linda	4.26	3.76	58348	42324	2.245m	2.068m
4) M	beta-BHC	4.36	3.85	33854	26664	2.521m	2.592m
5) M	delta-BHC	4.72	4.03	59608	43152	2.272m	2.375
6) M	Heptachlor	4.79	4.26	47666	37300	2.214m	2.628m
7) M	Aldrin	5.22	4.59	69332	51174	2.317m	2.410
8) M	Alachlor	5.08	4.77	6596	6510	2.422m	2.397m
9) M	Heptachlor Epoxi	6.04	5.33	60598	44878	2.372m	2.505m
10) M	gamma-Chlordane	6.32	5.50	68496	55000	2.501m	2.692m
11) M	alpha-Chlordane	6.55	5.68	68764	53104	2.512m	2.630m
12) M	Endosulfan I	6.64	5.86	59582	61892	2.299m	2.669
13) M	4,4'-DDE	6.84	5.81	60966	32560	2.355m	2.412
14) M	Dieldrin	7.08	6.20	59996	44668	2.394m	2.544m
15) M	Endrin	7.59	6.53	43704	30846	2.294m	2.583
16) M	4,4'-DDD	7.83	6.69	41208	28086	2.335m	2.341
17) M	Endosulfan II	7.96	6.88	63906	39834	2.609m	2.519
18) M	4,4'-DDT	8.37	7.14	20240	15590	1.646m	2.070m#
19) M	Endrin Aldehyde	8.57	7.55	57946	43830	3.277m	3.661m
20) M	Methoxychlor	9.70	8.00	9818	4254	2.059m	1.227m#
21) M	Endosulfan sulfa	9.08	8.28	62506	40788	2.743m	2.626m
22) M	Endrin Ketone	10.06	8.75	61436	38286	2.712m	2.479

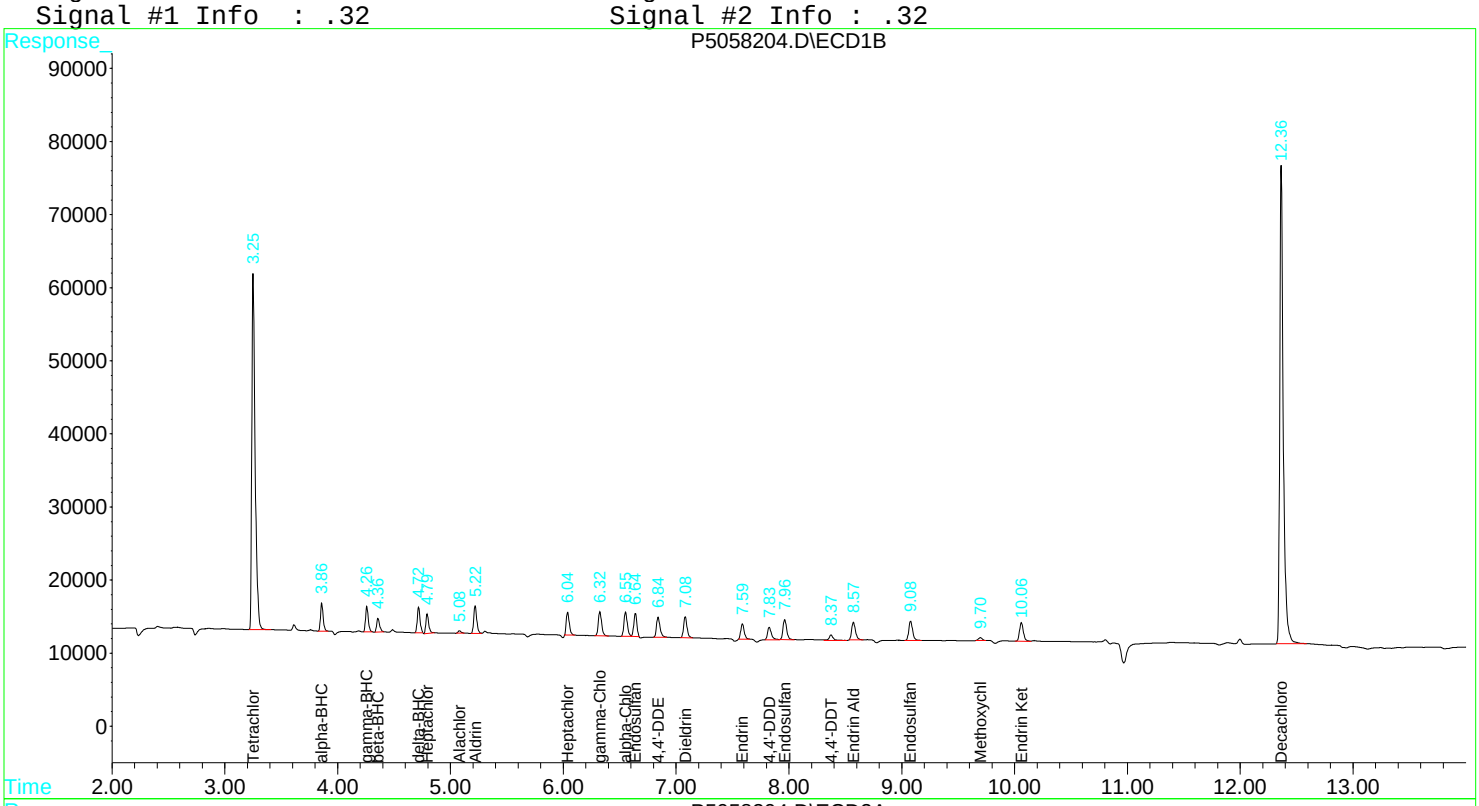
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

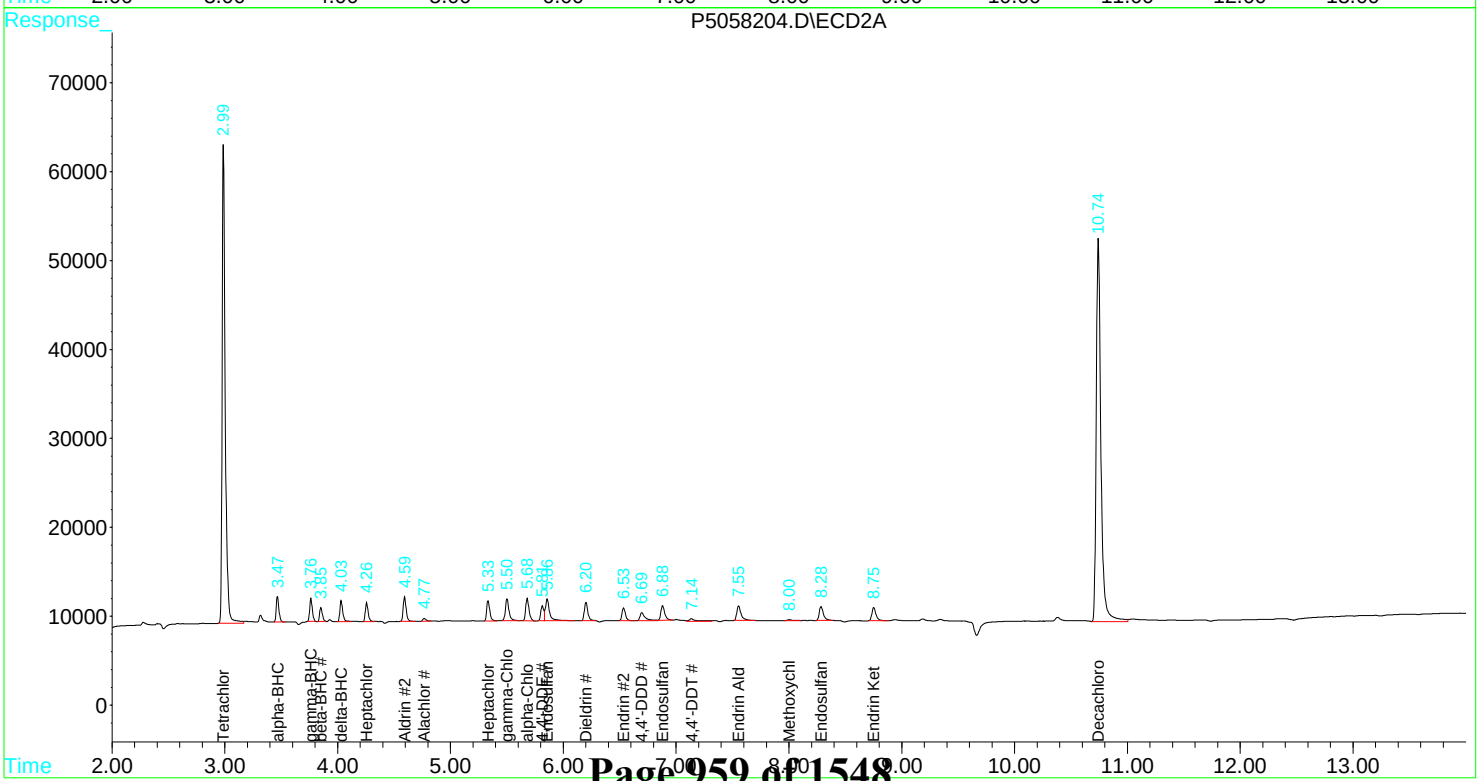
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058204.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058204.D\ECD2A.CH
Acq On : 16 Sep 2019 4:25 pm Operator: CM
Sample : SEQ-CAL1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:26 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:57:23 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058205.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058205.D\ECD2A.CH
Acq On : 16 Sep 2019 4:43 pm Operator: CM
Sample : SEQ-CAL2 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:27 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 05:14:16 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.98	1489548	1519068	83.813	84.221
	Spiked Amount 200.000	Range 30 - 150		Recovery =		41.91%	42.11%
23) SA	Decachlorobiphen	12.36	10.74	2182040	1774306	89.966	90.685
	Spiked Amount 200.000	Range 30 - 150		Recovery =		44.98%	45.34%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	146670	107620	4.644	4.719
3) M	gamma-BHC (Linda	4.26	3.76	138258	102962	5.085	4.977m
4) M	beta-BHC	4.36	3.85	74722	56302	5.426m	5.319
5) M	delta-BHC	4.72	4.03	130506	93954	4.800m	4.974m
6) M	Heptachlor	4.79	4.26	116890	82370	5.186m	5.386m
7) M	Aldrin	5.22	4.59	158750	111134	5.110	5.066
8) M	Alachlor	5.08	4.76	15358	15126	5.382m	5.357m
9) M	Heptachlor Epoxi	6.04	5.33	148454	105280	5.570	5.641
10) M	gamma-Chlordane	6.32	5.50	154858	121476	5.348	5.610
11) M	alpha-Chlordane	6.55	5.68	156576	116608	5.418	5.479
12) M	Endosulfan I	6.64	5.86	152570	138320	5.701	5.710
13) M	4,4'-DDE	6.84	5.81	145532	69364	5.362	4.819
14) M	Dieldrin	7.08	6.20	136870	97956	5.192	5.283
15) M	Endrin	7.59	6.53	110102	69012	5.592	5.427
16) M	4,4'-DDD	7.82	6.69	98030	64440	5.279m	5.062
17) M	Endosulfan II	7.96	6.88	143626	86058	5.598	5.177
18) M	4,4'-DDT	8.37	7.13	41172	22384	3.349m	2.972m
19) M	Endrin Aldehyde	8.57	7.55	118056	82912	6.676	6.924m
20) M	Methoxychlor	9.70	8.00	26782	15622	5.188m	4.508m
21) M	Endosulfan sulfa	9.08	8.28	132920	88894	5.525	5.454
22) M	Endrin Ketone	10.06	8.75	134336	86904	5.527	5.339

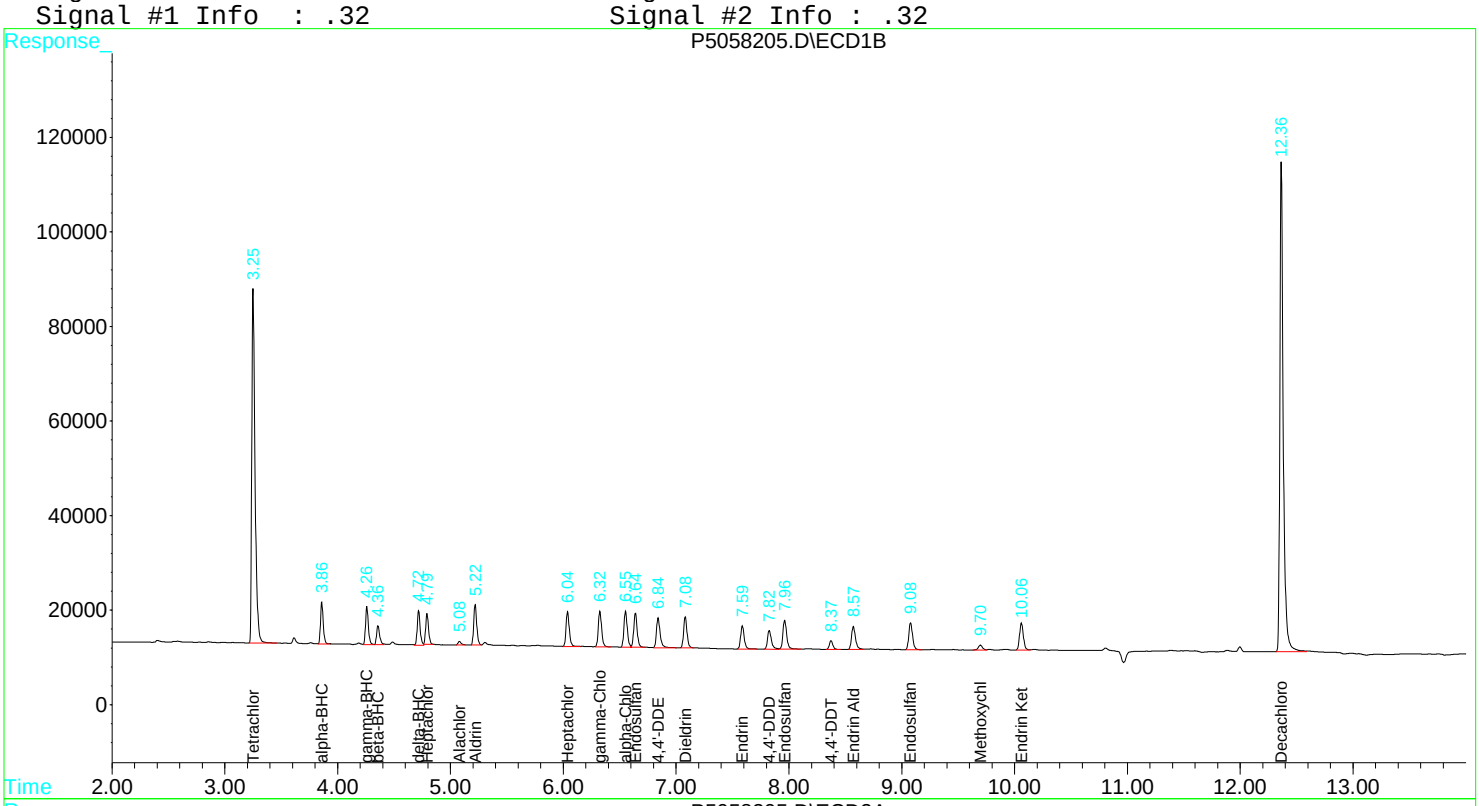
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5058205.D P5091619.M Tue Sep 24 08:43:01 2019 Page 1

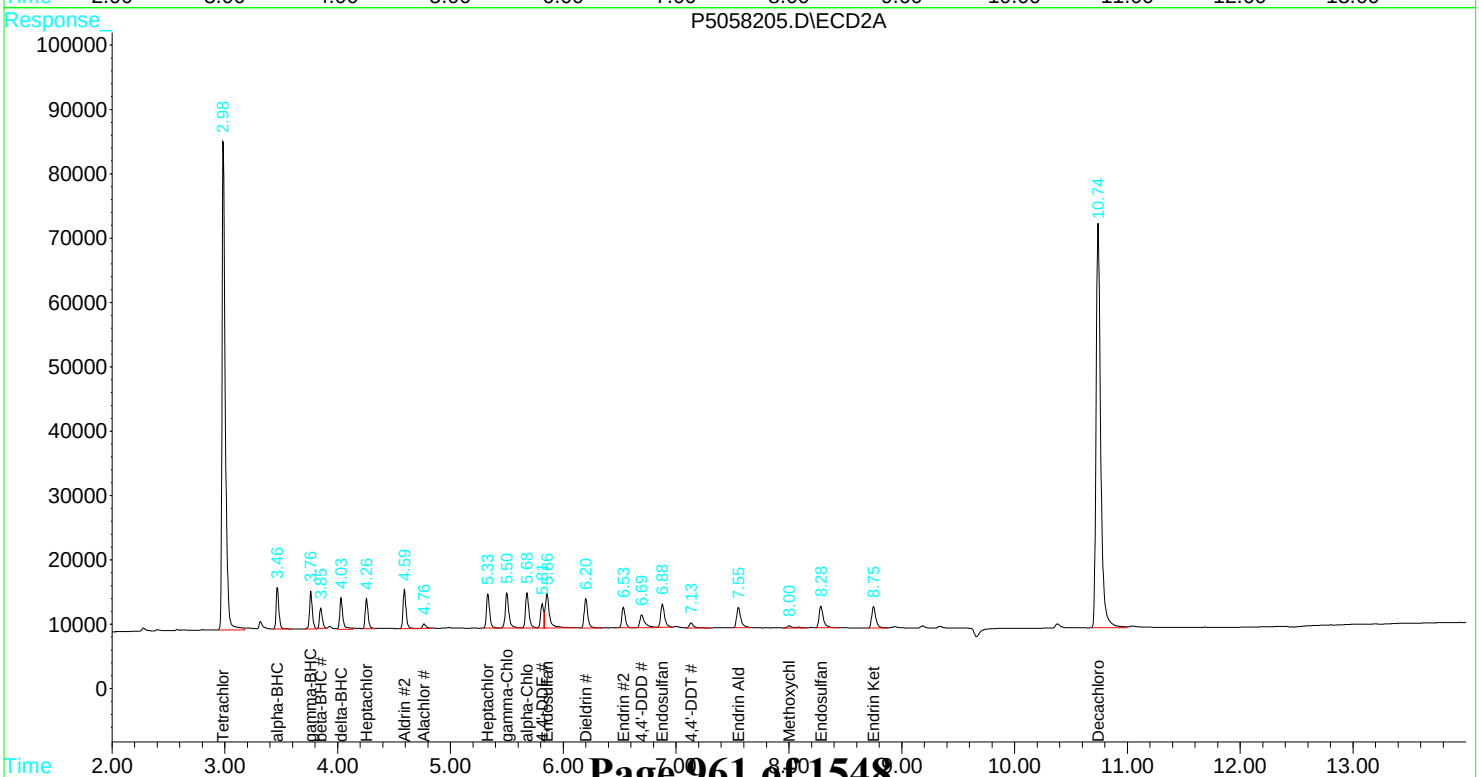
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058205.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058205.D\ECD2A.CH
Acq On : 16 Sep 2019 4:43 pm Operator: CM
Sample : SEQ-CAL2 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:27 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 05:14:16 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058206.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058206.D\ECD2A.CH
Acq On : 16 Sep 2019 5:01 pm Operator: CM
Sample : SEQ-CAL3 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:30 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:57:23 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

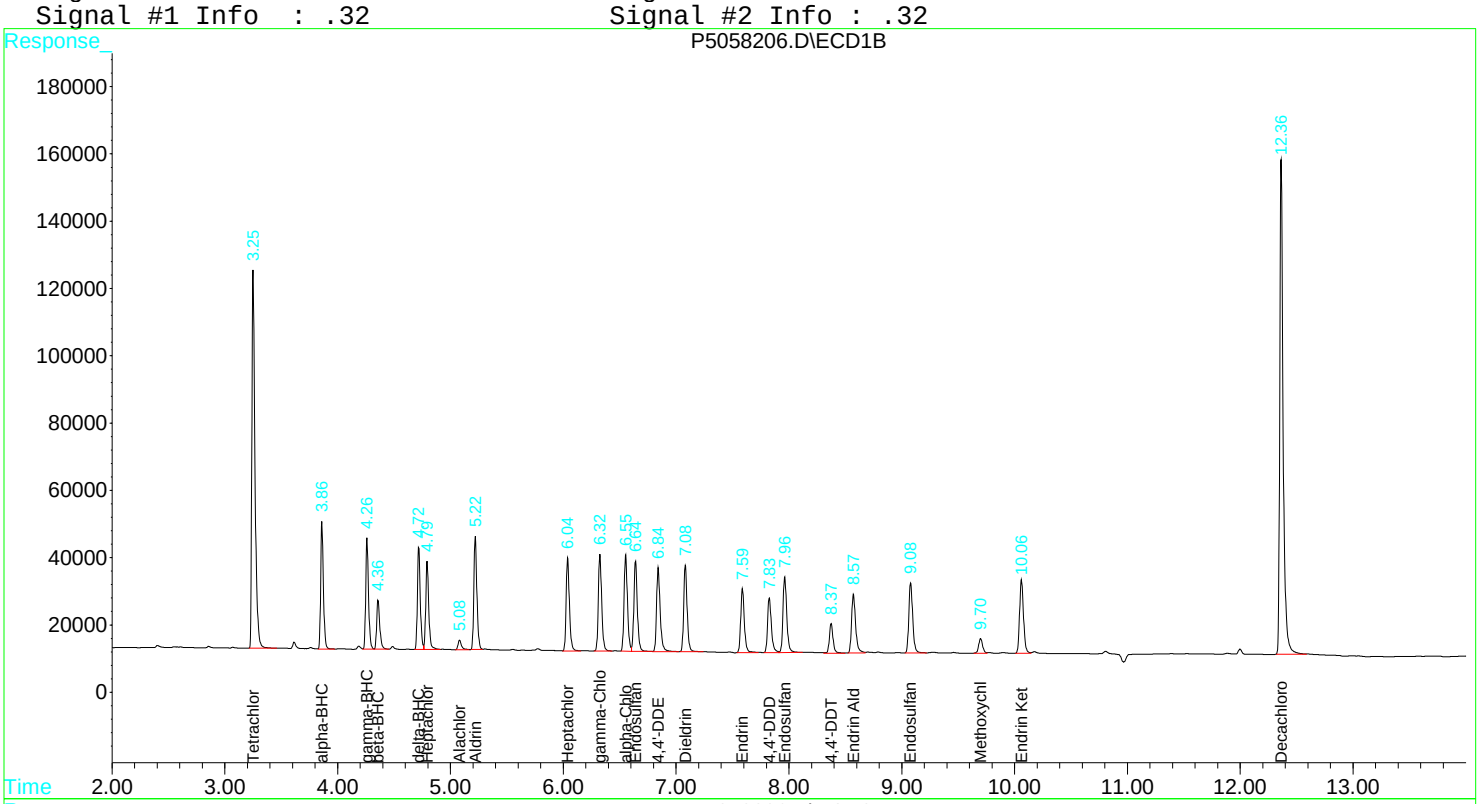
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2162944	2156008	123.300	120.713
	Spiked Amount 200.000	Range 30 - 150		Recovery =		61.65%	60.36%
23) SA	Decachlorobiphen	12.36	10.74	3103534	2487114	131.789	131.240
	Spiked Amount 200.000	Range 30 - 150		Recovery =		65.89%	65.62%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	625880	452954	20.551	20.642
3) M	gamma-BHC (Linda	4.26	3.76	557104	413980	21.438	20.226
4) M	beta-BHC	4.36	3.85	274594	208556	20.446	20.277
5) M	delta-BHC	4.72	4.03	532742	354814	20.309	19.526m
6) M	Heptachlor	4.79	4.26	476928	317278	22.152	22.352
7) M	Aldrin	5.22	4.59	627686	430494	20.976	20.276
8) M	Alachlor	5.08	4.77	59536	59208	21.863m	21.804
9) M	Heptachlor Epoxi	6.04	5.33	563208	391826	22.044	21.871
10) M	gamma-Chlordane	6.32	5.50	589804	434696	21.539	21.278
11) M	alpha-Chlordane	6.55	5.68	598906	434154	21.876	21.498
12) M	Endosulfan I	6.64	5.86	574954	502022	22.188	21.648
13) M	4,4'-DDE	6.84	5.81	561414	291878	21.683	21.623
14) M	Dieldrin	7.08	6.20	548702	379670	21.893	21.627
15) M	Endrin	7.59	6.53	428994	268380	22.517	22.478
16) M	4,4'-DDD	7.83	6.69	383240	260486	21.714	21.709
17) M	Endosulfan II	7.96	6.88	527172	331210	21.521	20.946
18) M	4,4'-DDT	8.37	7.13	210490	114776	17.123m	15.240m
19) M	Endrin Aldehyde	8.57	7.55	432626	301866	24.466	25.211m
20) M	Methoxychlor	9.70	8.00	107838	48922	22.618m	14.117m#
21) M	Endosulfan sulfa	9.08	8.28	497646	338270	21.837	21.776
22) M	Endrin Ketone	10.06	8.75	526826	347334	23.258	22.488

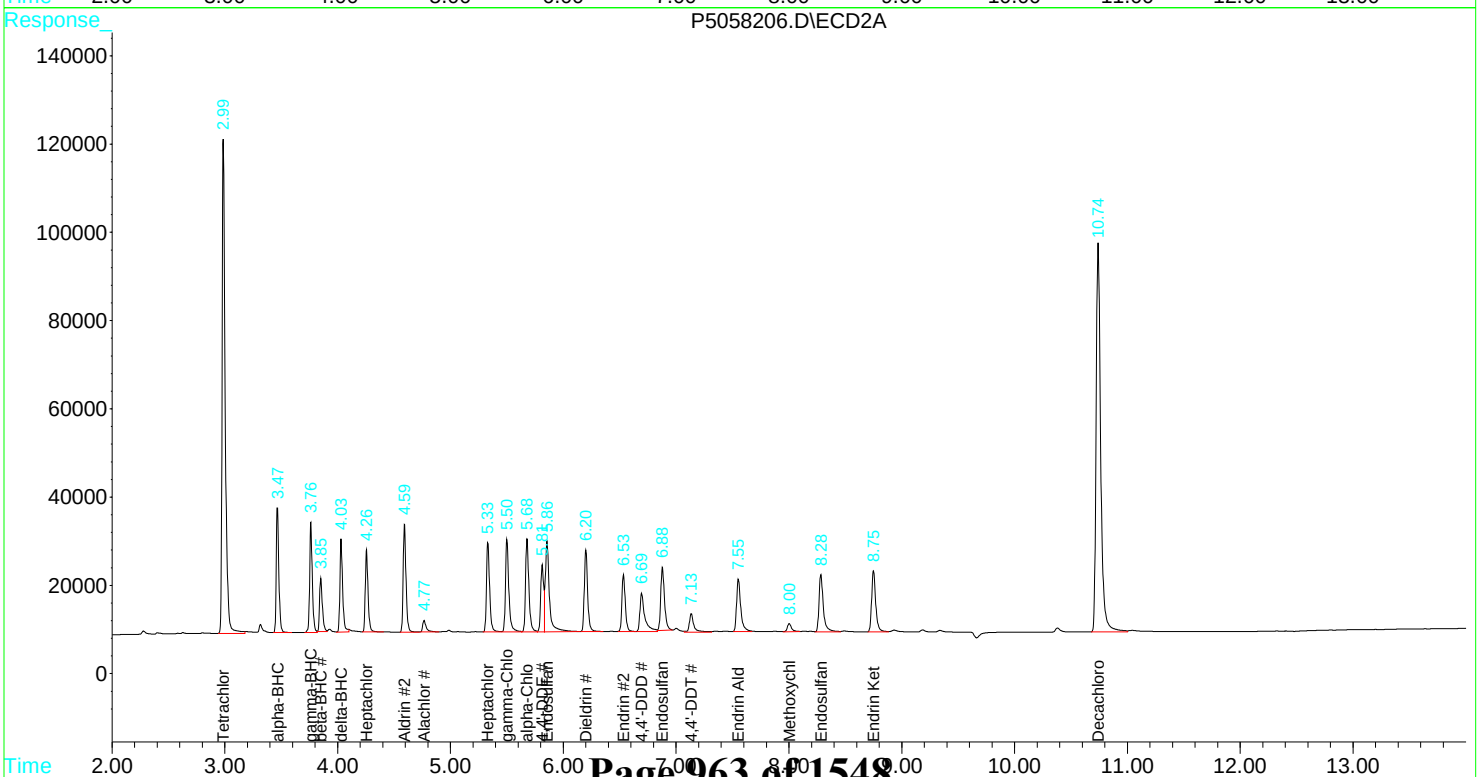
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058206.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058206.D\ECD2A.CH
Acq On : 16 Sep 2019 5:01 pm Operator: CM
Sample : SEQ-CAL3 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:30 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:57:23 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058207.D\ECD1B.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058207.D\ECD2A.CH
Acq On : 16 Sep 2019 5:19 pm Operator: CM
Sample : SEQ-CAL4 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 4:54 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Mon Sep 16 12:11:56 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2993068	2961370	173.750	166.495
	Spiked Amount 200.000	Range 30 - 150		Recovery =		86.88%	83.25%
23) SA	Decachlorobiphen	12.36	10.74	4141710	3246828	190.827	182.746
	Spiked Amount 200.000	Range 30 - 150		Recovery =		95.41%	91.37%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	1704840	1214854	58.359	55.835
3) M	gamma-BHC (Linda	4.26	3.76	1497350	1088158	60.480	53.671
4) M	beta-BHC	4.36	3.85	684756	517276	52.323	51.011
5) M	delta-BHC	4.72	4.03	1474624	999428	59.541	56.756
6) M	Heptachlor	4.79	4.26	1265194	814782	63.463	61.406
7) M	Aldrin	5.22	4.59	1635486	1099114	56.543	51.624
8) M	Alachlor	5.08	4.77	143548	147352	54.484m	56.692
9) M	Heptachlor Epoxi	6.04	5.33	1423412	961436	58.713	54.878
10) M	gamma-Chlordane	6.32	5.50	1519560	1081536	58.478	54.142
11) M	alpha-Chlordane	6.55	5.68	1518616	1068806	58.745	54.078
12) M	Endosulfan I	6.64	5.85	1429774	1214912	57.121	53.661
13) M	4,4'-DDE	6.84	5.81	1447936	774870	59.739	59.480
14) M	Dieldrin	7.08	6.20	1416574	969362	59.700	57.202
15) M	Endrin	7.59	6.53	1108152	693370	64.661	63.266
16) M	4,4'-DDD	7.82	6.69	1020858	695782	63.050	62.249
17) M	Endosulfan II	7.96	6.88	1295226	874486	55.239	57.540
18) M	4,4'-DDT	8.37	7.13	585102	333894	64.200	54.882
19) M	Endrin Aldehyde	8.57	7.55	1050056	740310	66.400	67.117
20) M	Methoxychlor	9.70	8.00	314122	157802	78.929	54.412 #
21) M	Endosulfan sulfa	9.08	8.28	1223406	825482	56.977	55.643
22) M	Endrin Ketone	10.06	8.75	1305456	869584	61.777	59.530

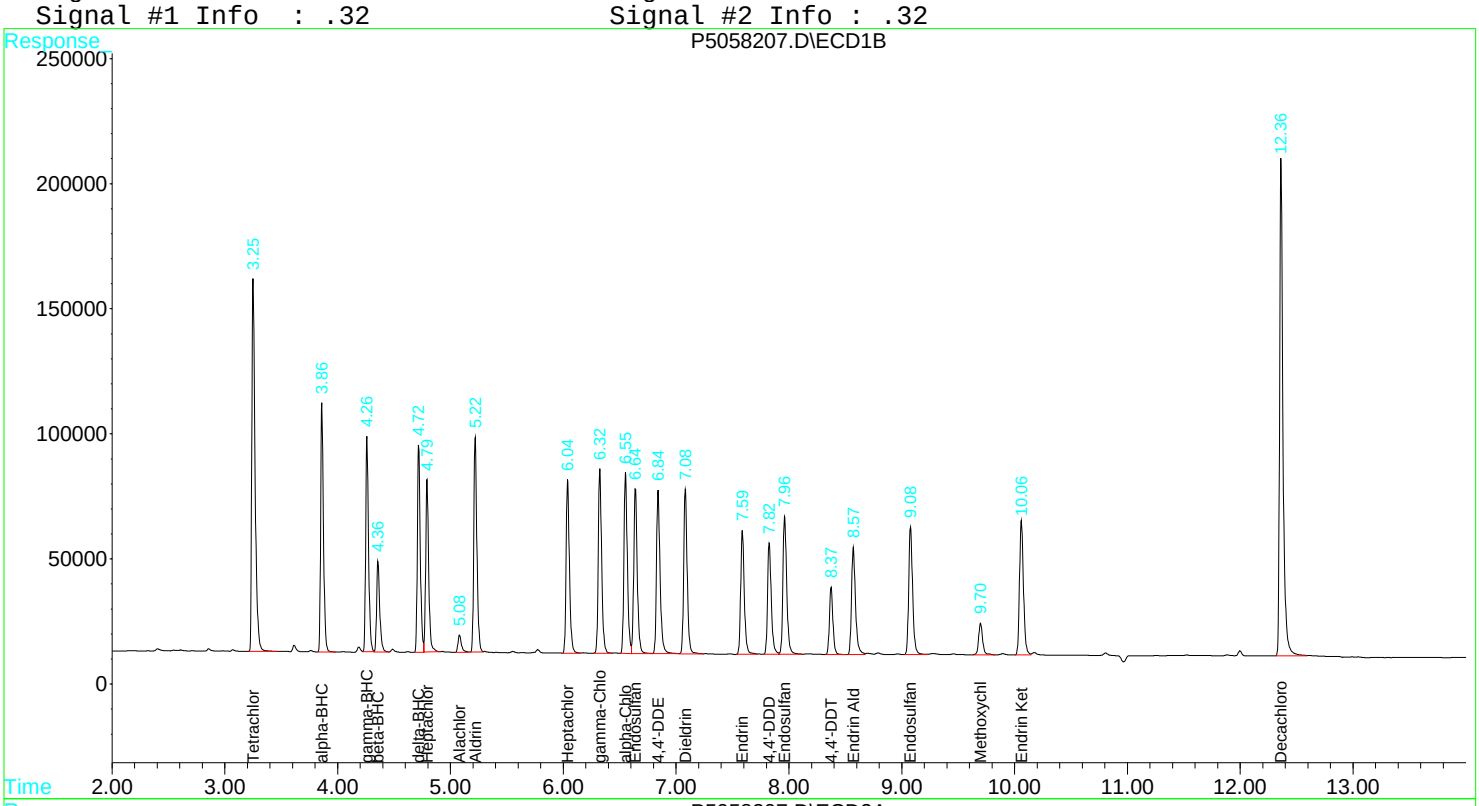
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

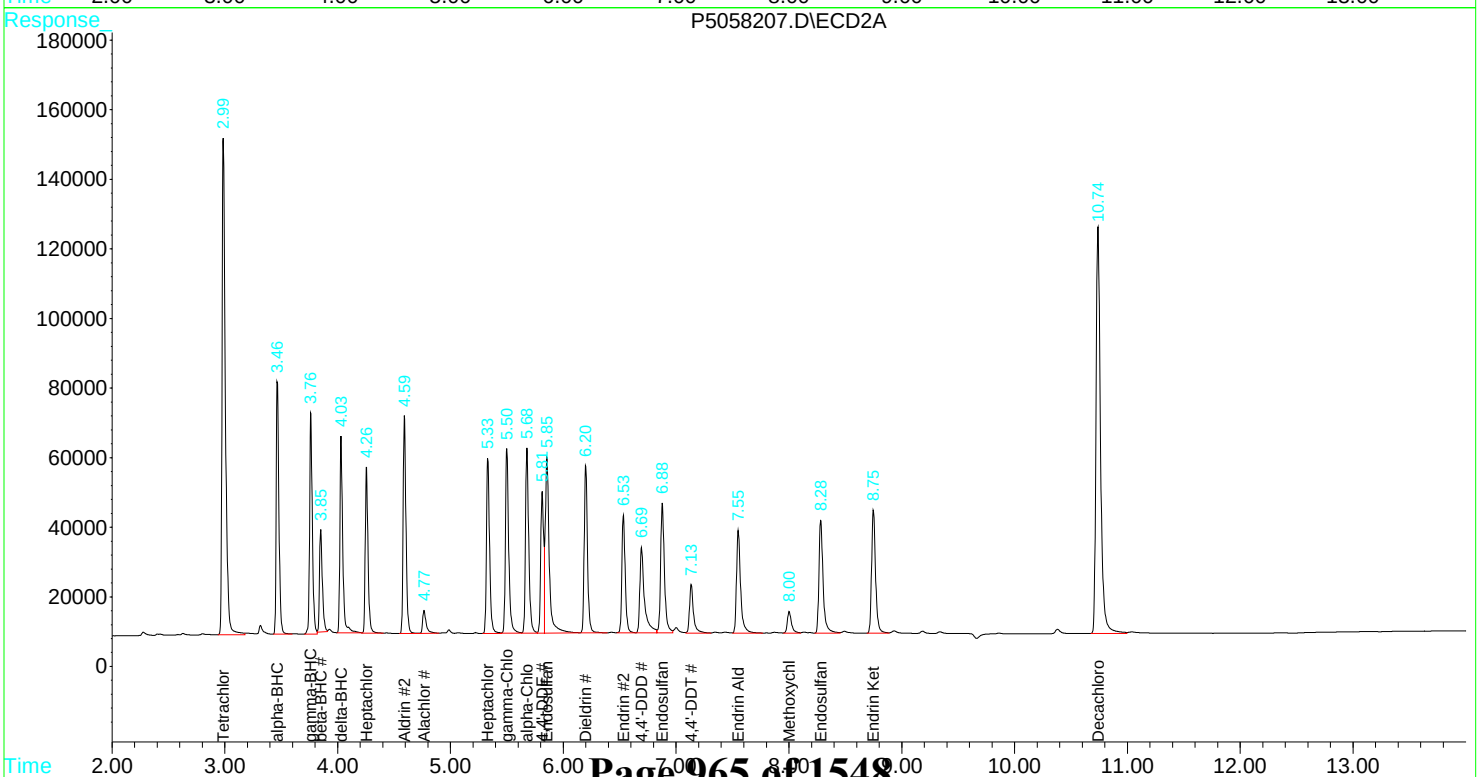
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058207.D\ECD1B.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058207.D\ECD2A.CH
Acq On : 16 Sep 2019 5:19 pm Operator: CM
Sample : SEQ-CAL4 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 4:54 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Mon Sep 16 12:11:56 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058208.D\ECD1B.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058208.D\ECD2A.CH
Acq On : 16 Sep 2019 5:37 pm Operator: CM
Sample : SEQ-CAL5 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:47 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:55:02 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.98	3505966	3464296	201.721	194.189
	Spiked Amount 200.000	Range 30 - 150		Recovery =		100.86%	97.09%
23) SA	Decachlorobiphen	12.36	10.74	4881610	3786596	218.685	208.222
	Spiked Amount 200.000	Range 30 - 150		Recovery =		109.34%	104.11%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	3252418	2259040	109.137	103.244
3) M	gamma-BHC (Linda	4.26	3.76	2846762	2009728	112.457	98.553
4) M	beta-BHC	4.36	3.85	1252088	937464	94.506	91.781
5) M	delta-BHC	4.72	4.03	2856792	1902234	112.773	106.071
6) M	Heptachlor	4.79	4.25	2389590	1489490	115.775	108.946
7) M	Aldrin	5.22	4.59	3072618	2005236	104.948	94.273
8) M	Alachlor	5.08	4.76	267384	266288	100.577	100.442
9) M	Heptachlor Epoxi	6.04	5.33	2608566	1719662	105.376	97.168
10) M	gamma-Chlordane	6.32	5.50	2850134	1956032	107.590	96.964
11) M	alpha-Chlordane	6.55	5.68	2792860	1921606	105.857	96.347
12) M	Endosulfan I	6.64	5.85	2604878	2181356	102.444	95.753
13) M	4,4'-DDE	6.84	5.81	2721722	1414230	109.615	106.289
14) M	Dieldrin	7.08	6.20	2617760	1764458	107.794	102.581
15) M	Endrin	7.59	6.53	2059880	1278768	115.125	112.597
16) M	4,4'-DDD	7.82	6.69	1952358	1347344	116.599	117.111
17) M	Endosulfan II	7.96	6.88	2350732	1575434	98.629	102.009
18) M	4,4'-DDT	8.37	7.13	1206686	723578	129.828	117.410
19) M	Endrin Aldehyde	8.57	7.55	1901654	1324484	119.423	119.371m
20) M	Methoxychlor	9.70	8.00	604218	337968	140.509	115.271
21) M	Endosulfan sulfa	9.08	8.28	2219890	1492974	101.017	98.783
22) M	Endrin Ketone	10.06	8.75	2364702	1584594	108.572	105.962

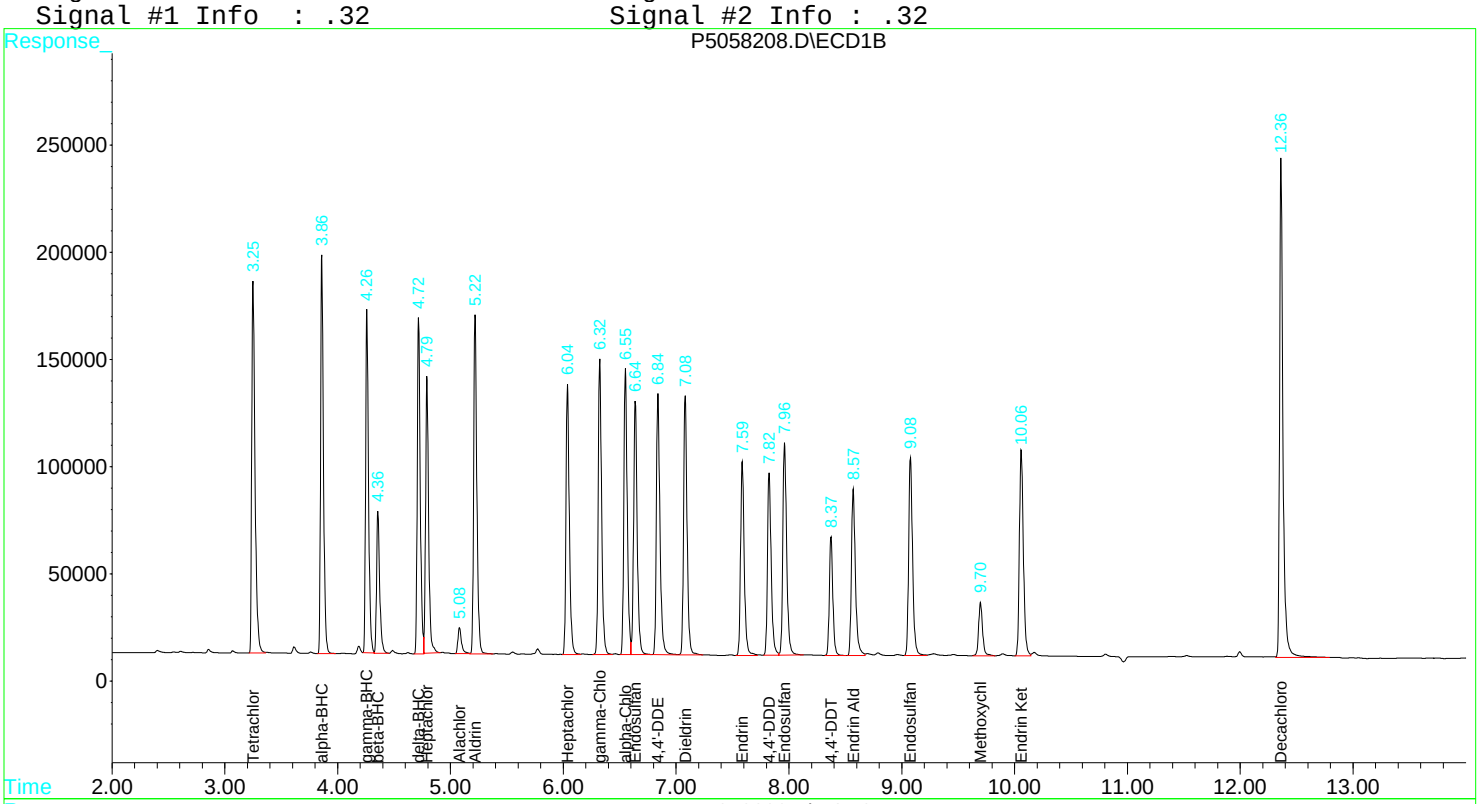
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5058208.D P5091619.M Tue Sep 24 08:43:30 2019 Page 1

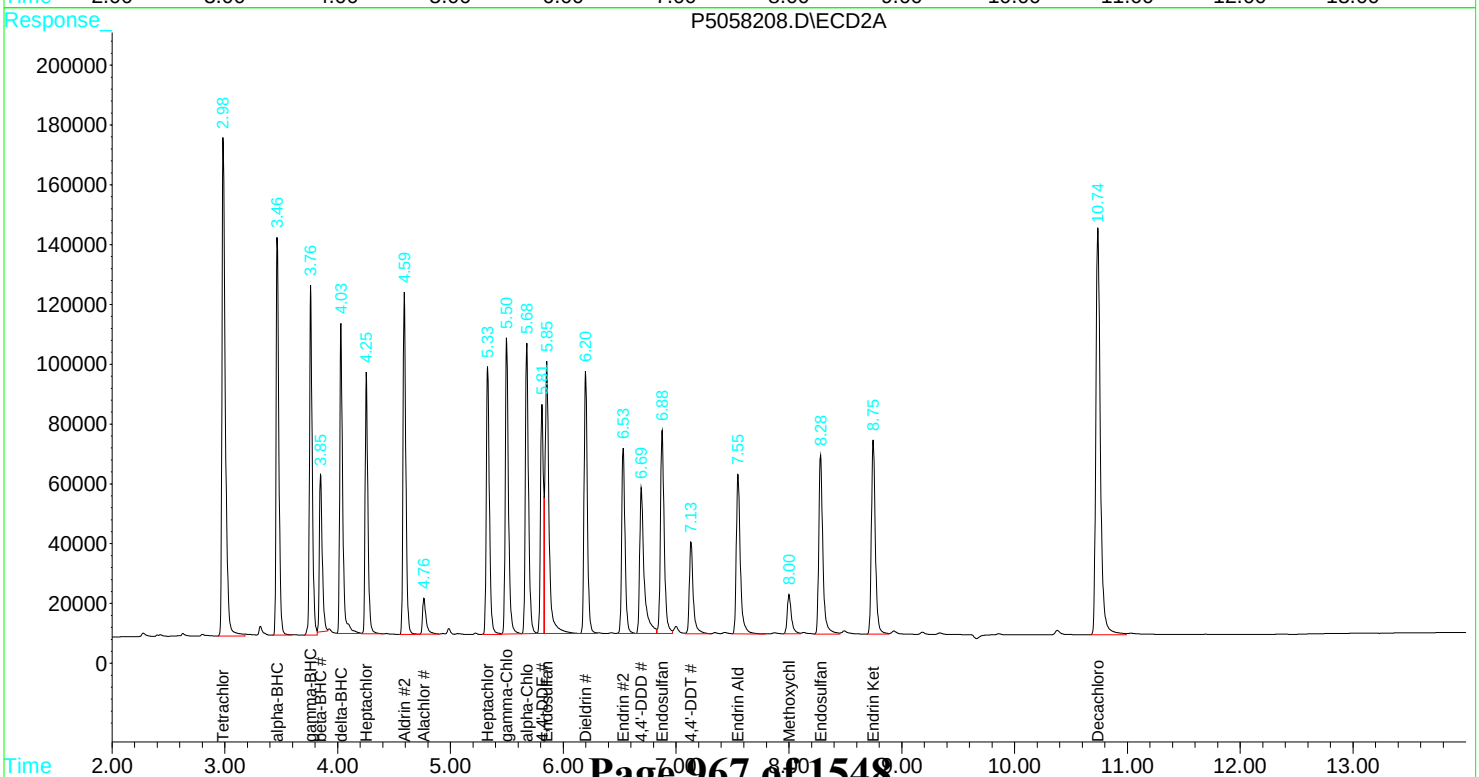
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058208.D\ECD1B.CH Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058208.D\ECD2A.CH
Acq On : 16 Sep 2019 5:37 pm Operator: CM
Sample : SEQ-CAL5 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:47 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:55:02 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058210.D\ECD1B.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058210.D\ECD2A.CH
Acq On : 16 Sep 2019 6:13 pm Operator: CM
Sample : SEQ-CAL6 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:45 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:56:08 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1)	SA Tetrachloro-m-xy	3.25	2.99	4076444	4067166	233.823	228.567
	Spiked Amount 200.000	Range 30 - 150		Recovery =		116.91%	114.28%
23)	SA Decachlorobiphen	12.36	10.74	5679096	4338066	247.095	232.894
	Spiked Amount 200.000	Range 30 - 150		Recovery =		123.55%	116.45%
	Target Compounds						
2)	M alpha-BHC	3.86	3.46	6128778	4139988	203.536	189.376
3)	M gamma-BHC (Linda	4.26	3.76	5349688	3659554	208.573	179.432
4)	M beta-BHC	4.36	3.85	2272756	1691454	170.314	165.185
5)	M delta-BHC	4.72	4.03	5418662	3546106	210.229	196.604
6)	M Heptachlor	4.79	4.25	4475966	2670176	211.889	191.490
7)	M Aldrin	5.22	4.59	5647848	3564464	190.987	167.993
8)	M Alachlor	5.08	4.76	465446	466506	173.064	173.631
9)	M Heptachlor Epoxi	6.04	5.33	4702472	2990460	186.856	167.877
10)	M gamma-Chlordane	6.32	5.50	5283010	3473660	196.120	171.062
11)	M alpha-Chlordane	6.55	5.68	5135504	3390604	191.170	168.875
12)	M Endosulfan I	6.64	5.85	4624646	3734506	179.861	162.465
13)	M 4,4'-DDE	6.84	5.81	5017940	2584508	197.679	192.387
14)	M Dieldrin	7.08	6.20	4732932	3109000	191.764	178.683
15)	M Endrin	7.59	6.53	3723804	2272370	200.908	194.342
16)	M 4,4'-DDD	7.82	6.69	3636476	2485260	210.997	210.696
17)	M Endosulfan II	7.96	6.88	4192148	2731316	173.397	174.436
18)	M 4,4'-DDT	8.37	7.13	2489128	1538660	250.831	238.582
19)	M Endrin Aldehyde	8.57	7.55	3422878	2503238	209.855	221.132m
20)	M Methoxychlor	9.70	8.00	1177246	703818	258.784	231.108
21)	M Endosulfan sulfa	9.08	8.28	3969006	2607438	177.057	169.758
22)	M Endrin Ketone	10.06	8.75	4175034	2750732	187.299	180.335

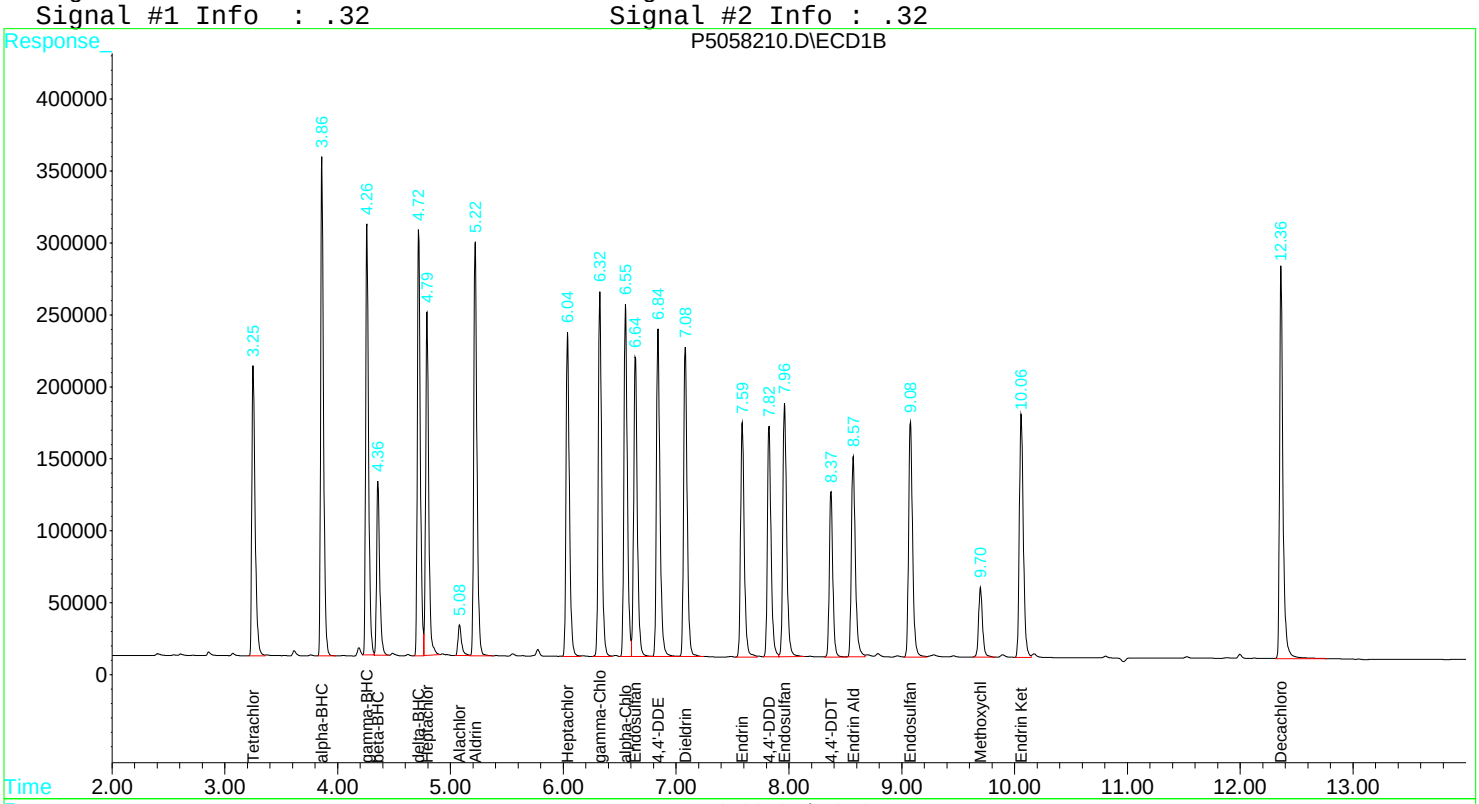
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P5058210.D P5091619.M Tue Sep 17 05:51:05 2019 Page 1

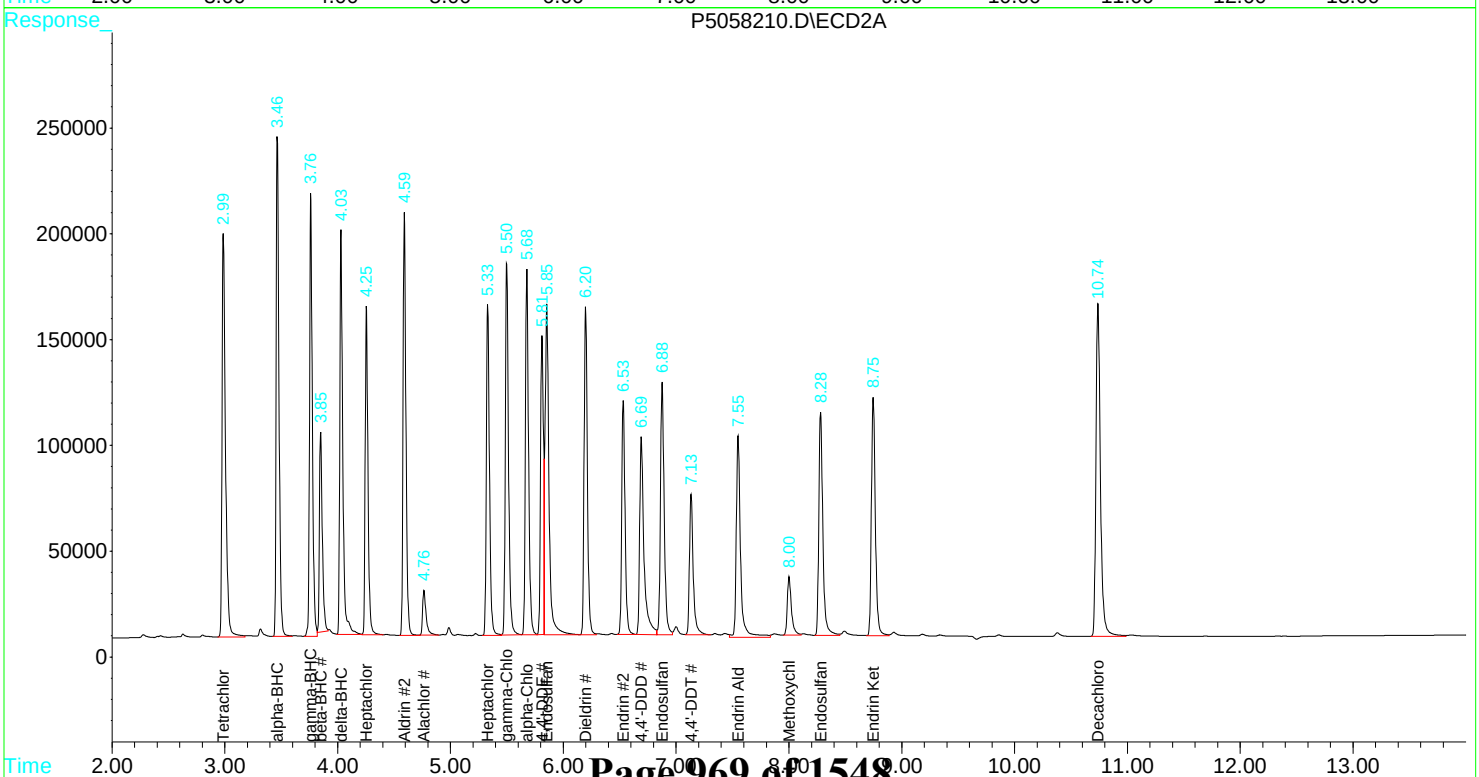
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058210.D\ECD1B.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058210.D\ECD2A.CH
Acq On : 16 Sep 2019 6:13 pm Operator: CM
Sample : SEQ-CAL6 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 5:45 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 04:56:08 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YI90014 **Laboratory ID:** Y9I2404-SCV1

Sequence: Y9I2404 **Standard ID:** Y19H102

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DIFF	QC LIMIT
4,4'-DDD	50.0	54.5	9.0	20.00
4,4'-DDD [2C]	50.0	55.5	11.1	20.00
4,4'-DDE	50.0	52.9	5.8	20.00
4,4'-DDE [2C]	50.0	54.1	8.1	20.00
4,4'-DDT	50.0	54.0	7.9	20.00
4,4'-DDT [2C]	50.0	48.9	-2.2	20.00
Aldrin	50.0	53.5	6.9	20.00
Aldrin [2C]	50.0	52.8	5.6	20.00
alpha-BHC	50.0	54.5	8.9	20.00
alpha-BHC [2C]	50.0	54.4	8.8	20.00
alpha-Chlordane	50.0	51.4	2.9	20.00
alpha-Chlordane [2C]	50.0	50.6	1.1	20.00
beta-BHC	50.0	50.1	0.3	20.00
beta-BHC [2C]	50.0	50.5	1.1	20.00
delta-BHC	50.0	53.1	6.1	20.00
delta-BHC [2C]	50.0	53.4	6.7	20.00
Dieldrin	50.0	53.1	6.2	20.00
Dieldrin [2C]	50.0	52.3	4.7	20.00
Endosulfan I	50.0	52.1	4.1	20.00
Endosulfan I [2C]	50.0	50.5	1.1	20.00
Endosulfan II	50.0	48.9	-2.2	20.00
Endosulfan II [2C]	50.0	51.9	3.8	20.00
Endosulfan sulfate	50.0	50.2	0.5	20.00
Endosulfan sulfate [2C]	50.0	51.4	2.7	20.00
Endrin	50.0	53.4	6.8	20.00
Endrin [2C]	50.0	55.0	10.0	20.00
gamma-BHC (Lindane)	50.0	53.5	6.9	20.00

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8081B

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YI90014 **Laboratory ID:** Y9I2404-SCV1

Sequence: Y9I2404 **Standard ID:** Y19H102

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DIFF	QC LIMIT
gamma-BHC (Lindane) [2C]	50.0	53.9	7.9	20.00
Heptachlor	50.0	54.5	9.0	20.00
Heptachlor [2C]	50.0	53.1	6.2	20.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058211.D\ECD1B.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058211.D\ECD2A.CH
Acq On : 16 Sep 2019 6:31 pm Operator: CM
Sample : SEQ-SCV1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 6:23 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 05:51:18 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2977916	2978254	168.087	167.299
	Spiked Amount 200.000	Range 30 - 150		Recovery =		84.04%	83.65%
23) SA	Decachlorobiphen	12.36	10.74	4664922	3602564	185.504	178.956
	Spiked Amount 200.000	Range 30 - 150		Recovery =		92.75%	89.48%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1716710	1231944	54.460	54.405
3) M	gamma-BHC (Linda	4.26	3.76	1513318	1102360	53.460	53.944
4) M	beta-BHC	4.36	3.85	695174	532298	50.144	50.537
5) M	delta-BHC	4.72	4.03	1483086	1021662	53.063	53.374
6) M	Heptachlor	4.79	4.26	1295622	845310	54.500	53.092
7) M	Aldrin	5.22	4.59	1688604	1137308	53.472	52.818
8) M	Alachlor	5.08	4.77	152054	161698	52.985m	56.462
9) M	Heptachlor Epoxi	6.04	5.33	1472642	977402	53.159	51.234
10) M	gamma-Chlordane	6.33	5.50	1539782	1098216	51.321	49.885
11) M	alpha-Chlordane	6.55	5.68	1539988	1088160	51.441	50.563
12) M	Endosulfan I	6.64	5.86	1447494	1250778	52.062	50.538
13) M	4,4'-DDE	6.84	5.81	1489808	786608	52.916	54.057
14) M	Dieldrin	7.08	6.20	1442038	989972	53.087	52.340
15) M	Endrin	7.59	6.53	1127882	739080	53.411m	54.977
16) M	4,4'-DDD	7.83	6.69	1067568	738520	54.516	55.548
17) M	Endosulfan II	7.96	6.88	1282962	870142	48.903	51.902
18) M	4,4'-DDT	8.38	7.14	665026	368782	53.969	48.893
19) M	Endrin Aldehyde	8.57	7.55	1057592	773606	59.766m	60.513
20) M	Methoxychlor	9.70	8.00	333402	197838	59.065m	57.060
21) M	Endosulfan sulfa	9.08	8.28	1249576	852266	50.240	51.360
22) M	Endrin Ketone	10.06	8.75	1361722	908046	52.863	54.007

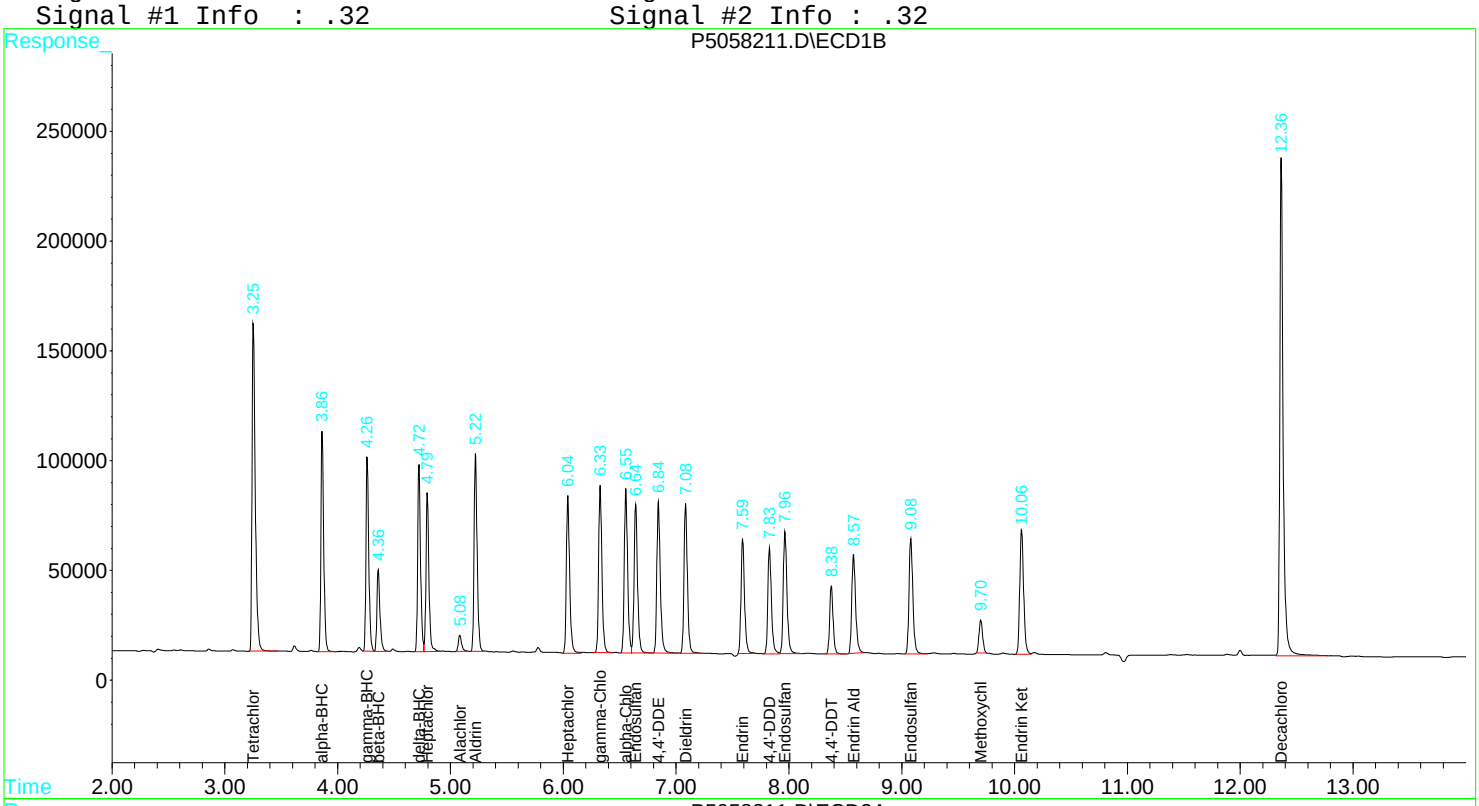
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P5058211.D P5091619.M Tue Sep 17 06:24:13 2019 Page 1

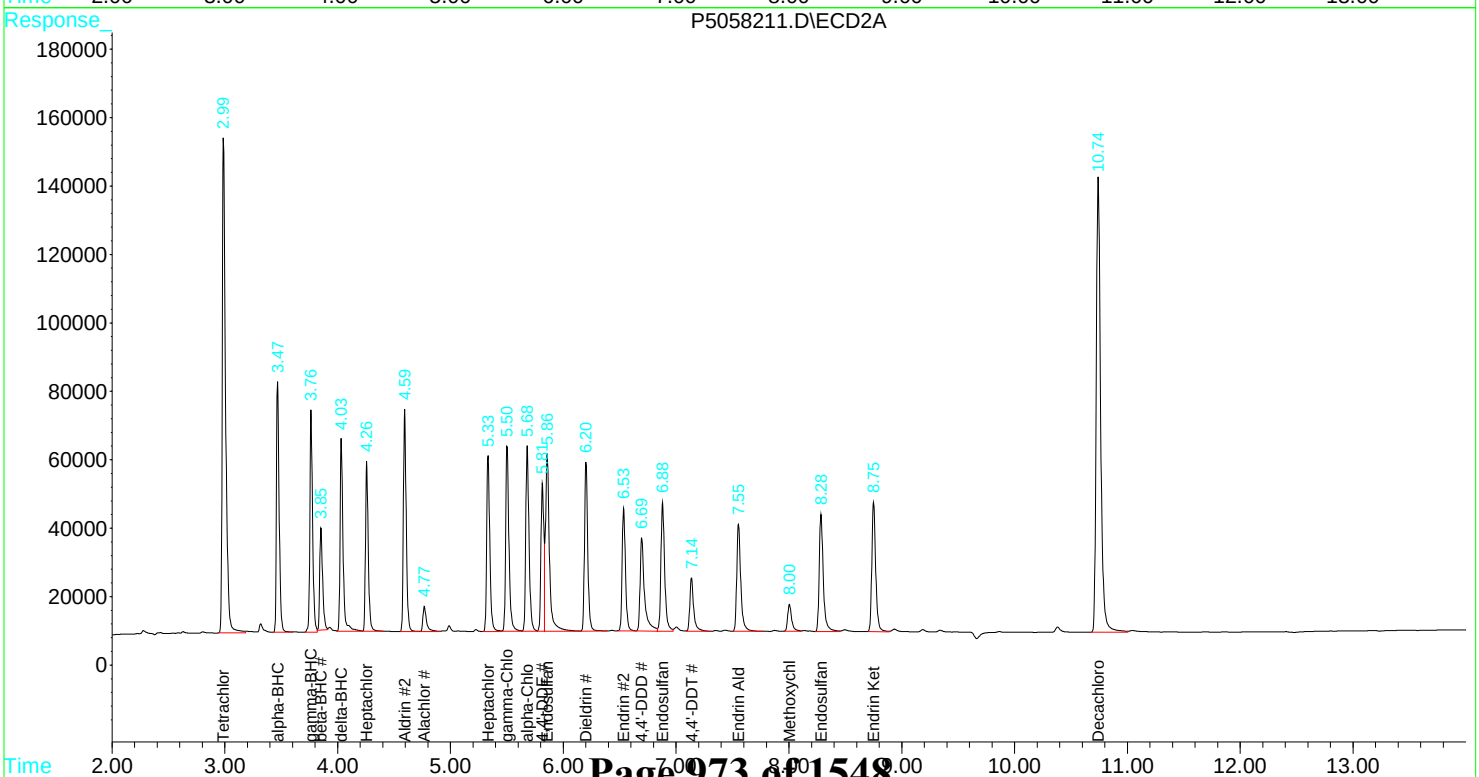
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058211.D\ECD1B.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058211.D\ECD2A.CH
Acq On : 16 Sep 2019 6:31 pm Operator: CM
Sample : SEQ-SCV1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 17 6:23 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 05:51:18 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9I2404	Laboratory ID:	Y9I2404-PEM1
Analyzed:	09/16/2019 15:03	Instrument ID:	GC Dual E
		File ID:	P5058201.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	5.51	15
Endrin	9.83	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	6.59	15
Endrin	12.70	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058201.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058201.D\ECD2A.CH
Acq On : 16 Sep 2019 3:03 pm Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 16 15:41 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Mon Sep 16 12:11:56 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	4287450	4100520	248.889	230.541
	Spiked Amount 200.000	Range 30 - 150		Recovery =		124.44%	115.27%
23) SA	Decachlorobiphen	12.37	10.75f	5904628	4631910	272.053	260.705
	Spiked Amount 200.000	Range 30 - 150		Recovery =		136.03%	130.35%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.84	5.83f	42556	19360	1.756m	1.486m
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.55f	2937026	1920056	171.376	175.194
16) M	4,4'-DDD	7.83	6.71f	204038	177508	12.602m	15.881 #
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.38	7.15f	4231924	2790952	464.343	458.746
19) M	Endrin Aldehyde	8.58	7.57f	118054	109426	7.465m	9.921 #
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.07	8.77f	202236	169846	9.570m	11.627

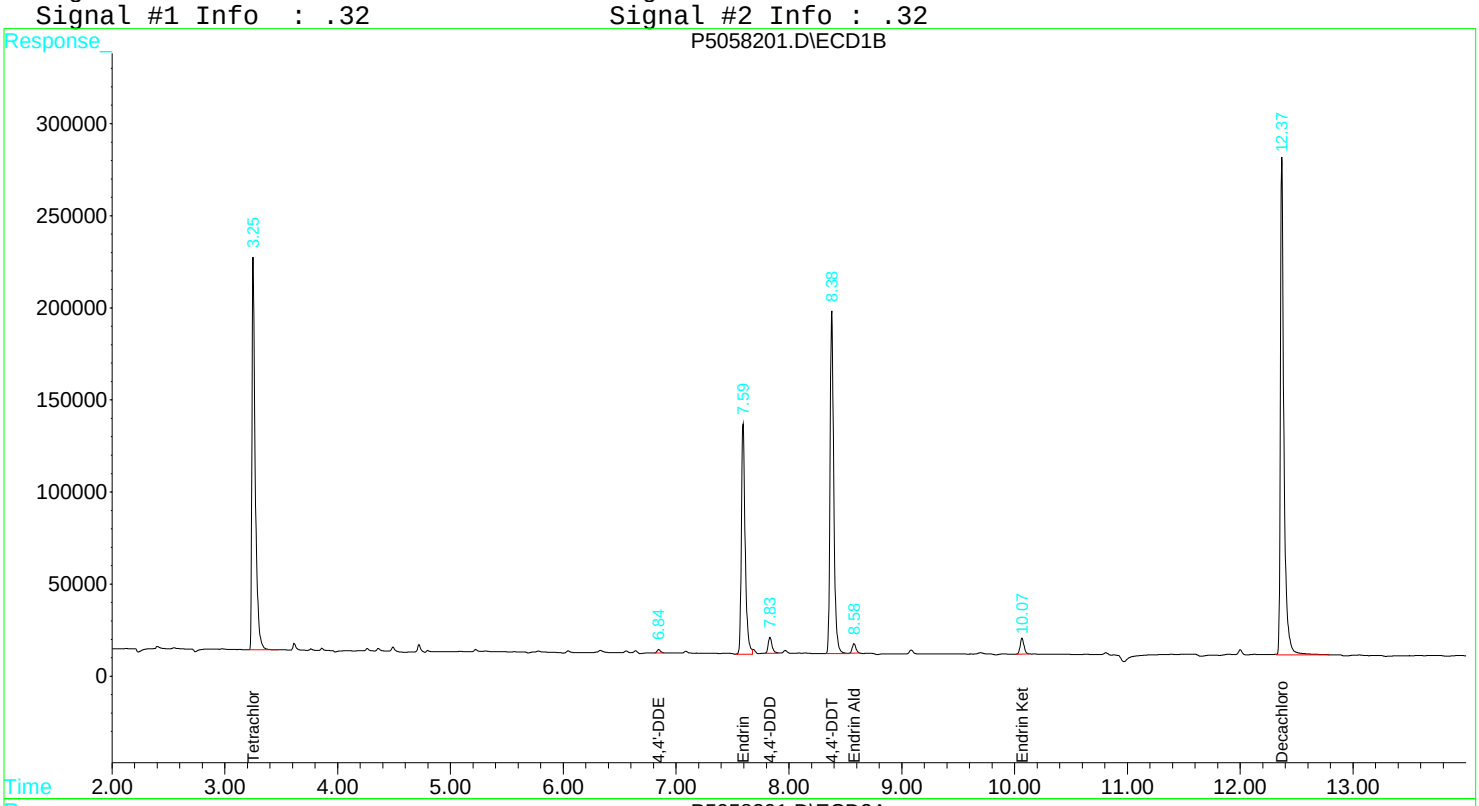
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

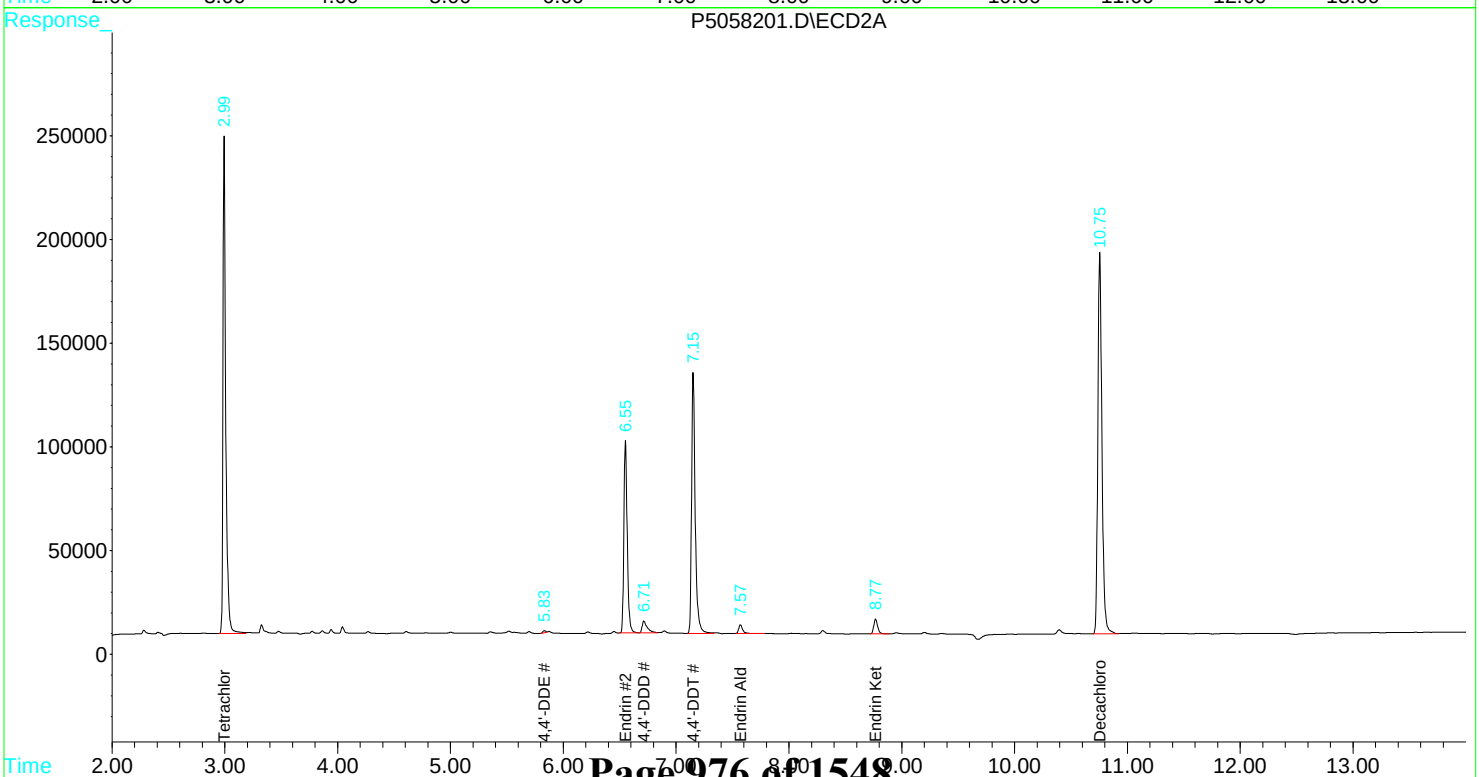
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\091619A\P5058201.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\091619A\P5058201.D\ECD2A.CH
Acq On : 16 Sep 2019 3:03 pm Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-091619A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Sep 16 15:41 2019 Quant Results File: P5091319.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091319.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Mon Sep 16 12:11:56 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9J0822	Laboratory ID:	Y9J0822-PEM1
Analyzed:	10/07/2019 07:39	Instrument ID:	GC Dual E
		File ID:	P5059200.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	3.30	15
Endrin	5.93	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	3.45	15
Endrin	6.00	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059200.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059200.D\ECD2A.CH
Acq On : 7 Oct 2019 7:39 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 7 8:15 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3953724	3298908	223.167	185.311
	Spiked Amount 200.000	Range 30 - 150		Recovery =		111.58%	92.66%
23) SA	Decachlorobiphen	12.36	10.75	4292804	3592386	170.706	178.450
	Spiked Amount 200.000	Range 30 - 150		Recovery =		85.35%	89.22%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.84	5.83	18792	13436	0.667m	0.923m#
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.54	1628018	1151550	77.095m	85.658
16) M	4,4'-DDD	7.83	6.71f	65804	49292	3.360m	3.708m
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.38	7.14	2475244	1754648	228.156	265.738
19) M	Endrin Aldehyde	8.57	7.56	31248	23120	1.427m	1.580m
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.06	8.76	71290	50414	2.768m	2.998m

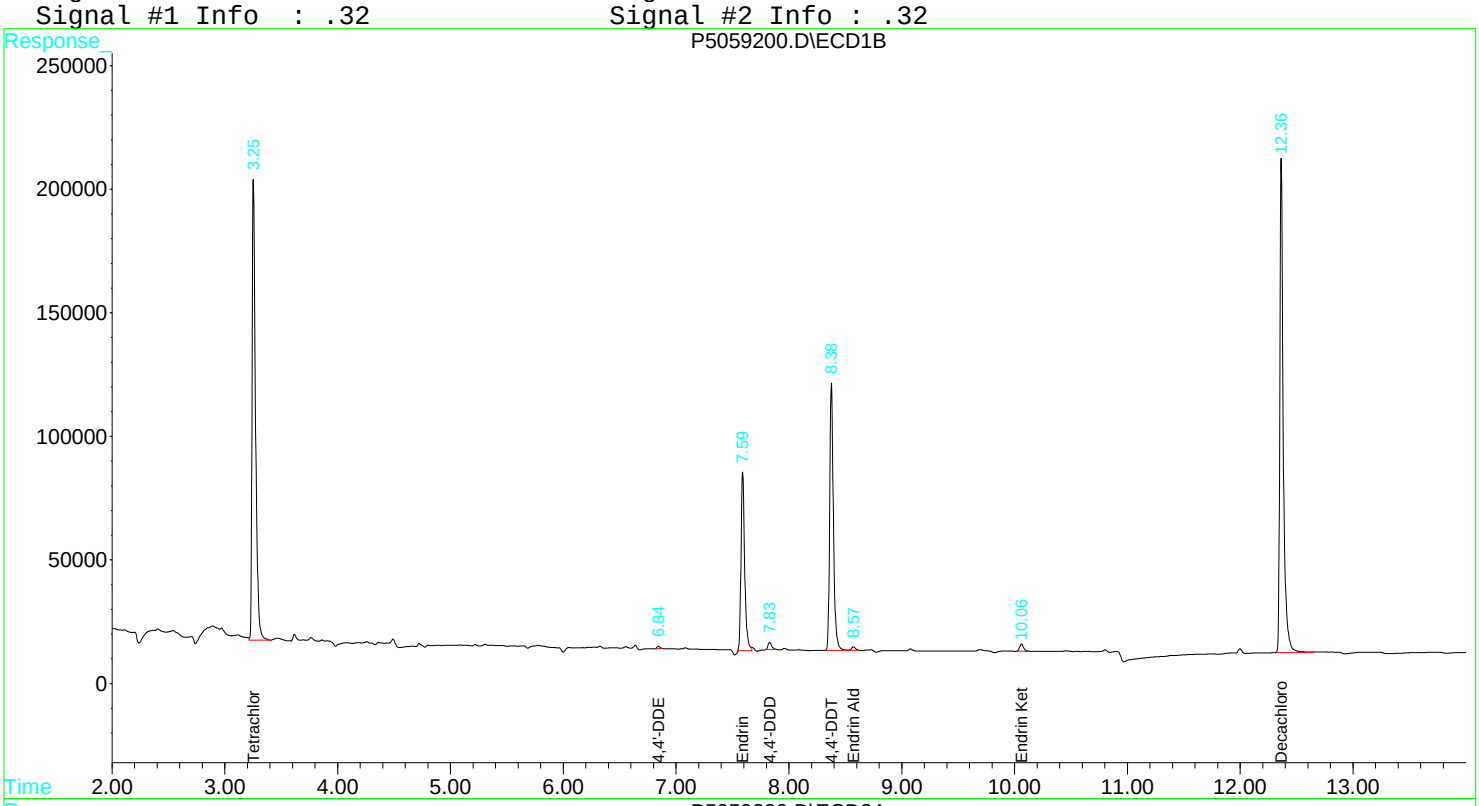
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P5059200.D C5081419.M Fri Oct 11 10:22:20 2019 Page 1

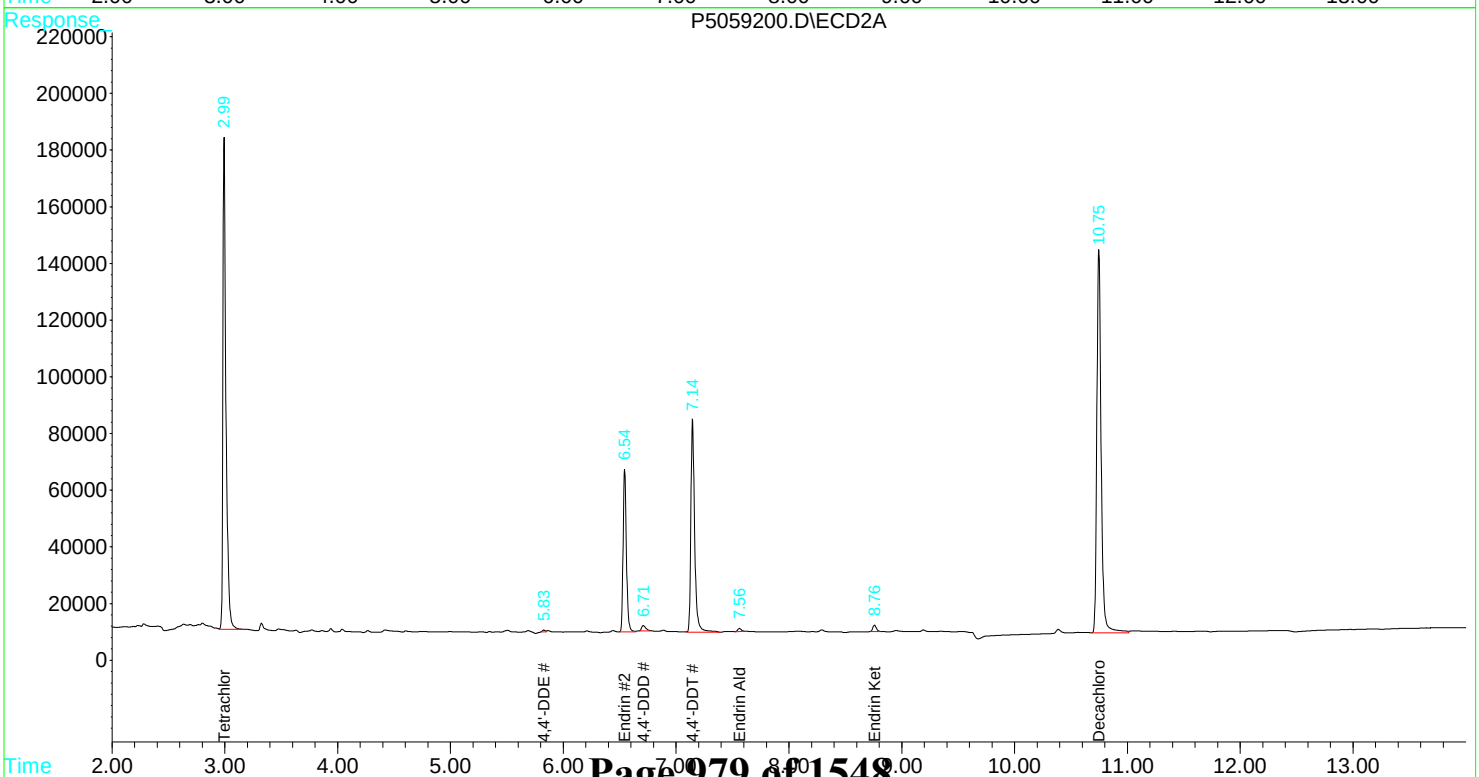
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059200.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059200.D\ECD2A.CH
Acq On : 7 Oct 2019 7:39 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 7 8:15 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9J0912	Laboratory ID:	Y9J0912-PEM1
Analyzed:	10/08/2019 05:02	Instrument ID:	GC Dual E
		File ID:	P5059270.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	6.10	15
Endrin	9.79	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	6.74	15
Endrin	10.65	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059270.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059270.D\ECD2A.CH
Acq On : 8 Oct 2019 5:02 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:09 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

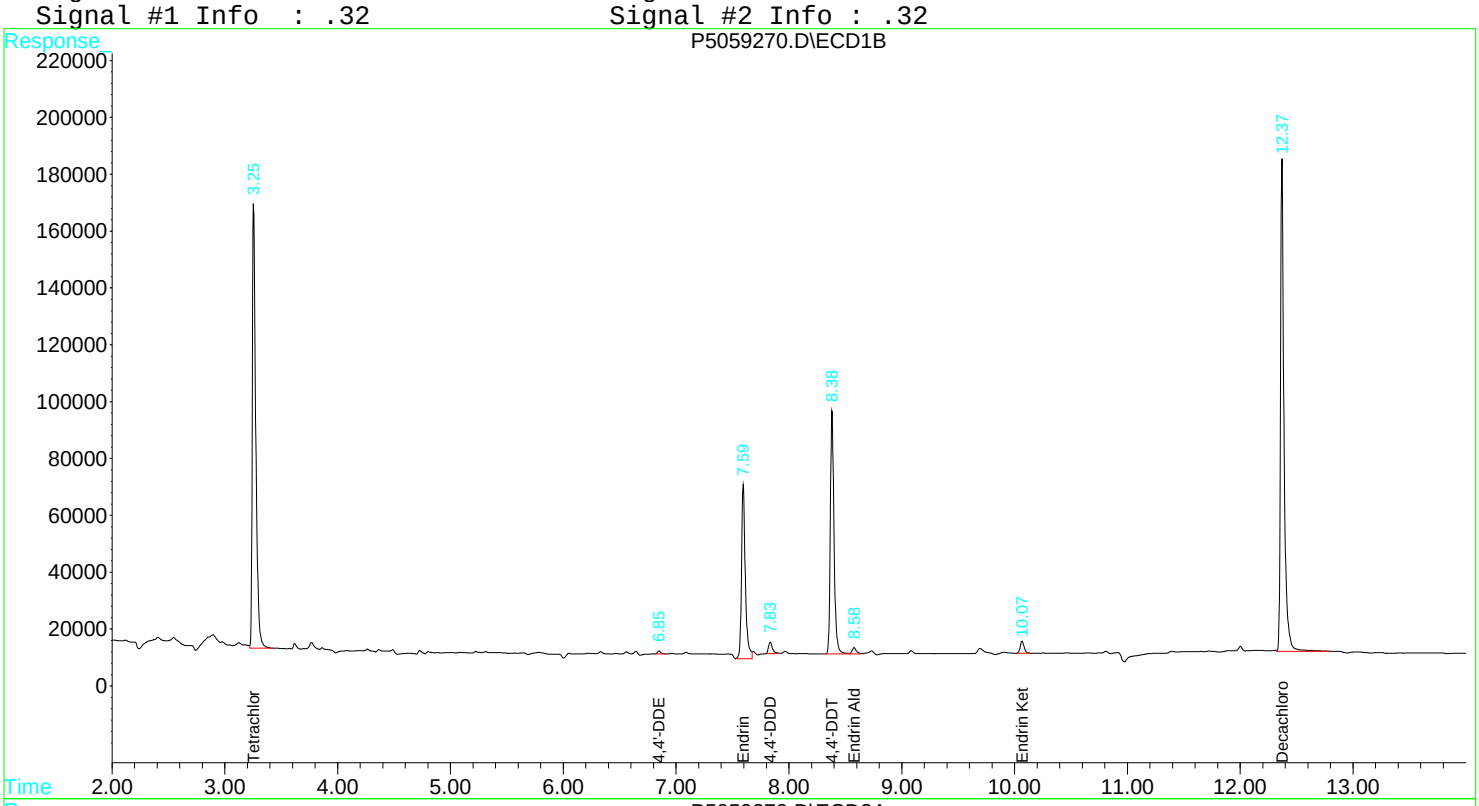
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	3.00	3331808	3145990	188.063	176.721
	Spiked Amount 200.000	Range 30 - 150		Recovery =		94.03%	88.36%
23) SA	Decachlorobiphen	12.37	10.76f	3768642	3201628	149.863	159.040
	Spiked Amount 200.000	Range 30 - 150		Recovery =		74.93%	79.52%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.85	5.84f	25466	19670	0.905m	1.352m#
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.56f	1443926	1028802	68.377	76.528
16) M	4,4'-DDD	7.83	6.72f	100656	84316	5.140m	6.342
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.38	7.16f	1941884	1438054	178.994	217.790
19) M	Endrin Aldehyde	8.58	7.57f	56932	40684	2.601m	2.783m
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.07	8.77f	99848	81902	3.876m	4.871 #

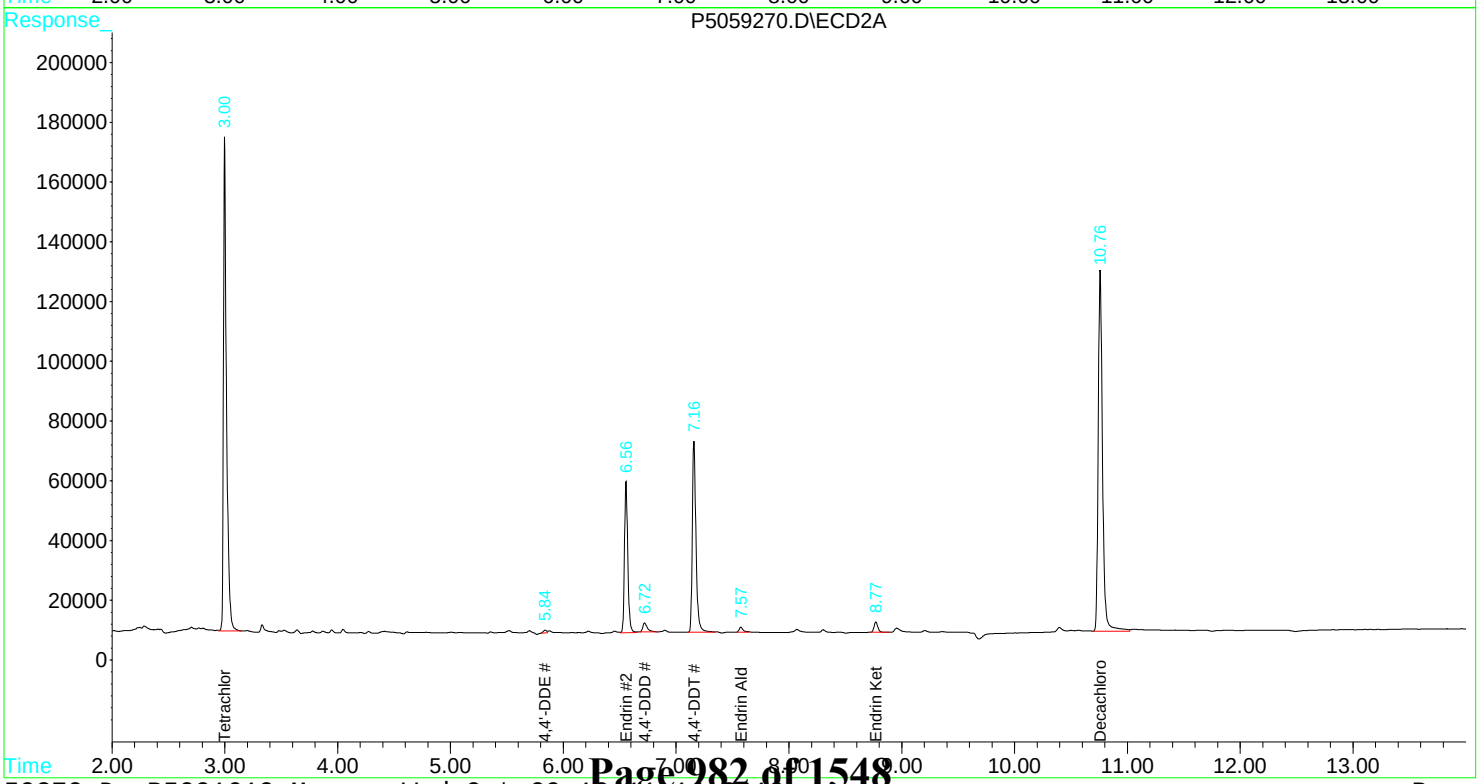
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059270.D P5091619.M Wed Oct 09 12:11:13 2019 Page 1

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059270.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059270.D\ECD2A.CH
Acq On : 8 Oct 2019 5:02 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:09 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9J0912	Laboratory ID:	Y9J0912-PEM2
Analyzed:	10/08/2019 16:11	Instrument ID:	GC Dual E
		File ID:	P5059307.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	0.99	15
Endrin	6.58	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	5.04	15
Endrin	7.35	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059307.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059307.D\ECD2A.CH
Acq On : 8 Oct 2019 4:11 pm Operator: CM
Sample : SEQ-PEM2 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:03 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	4466270	3641694	252.097	204.567
	Spiked Amount 200.000	Range 30 - 150		Recovery =		126.05%	102.28%
23) SA	Decachlorobiphen	12.36	10.75	3669570	3037426	145.923	150.883
	Spiked Amount 200.000	Range 30 - 150		Recovery =		72.96%	75.44%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.84	5.83f	25528	16988	0.907m	1.167m#
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.55f	1862012	1186578	88.175	88.264
16) M	4,4'-DDD	0.00	6.71f	0	74664	N.D.	5.616 #
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.38	7.15f	2540124	1726048	234.136	261.407
19) M	Endrin Aldehyde	8.57	7.57f	48924	31232	2.235m	2.135m
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.06	8.76f	82282	62890	3.194m	3.740m

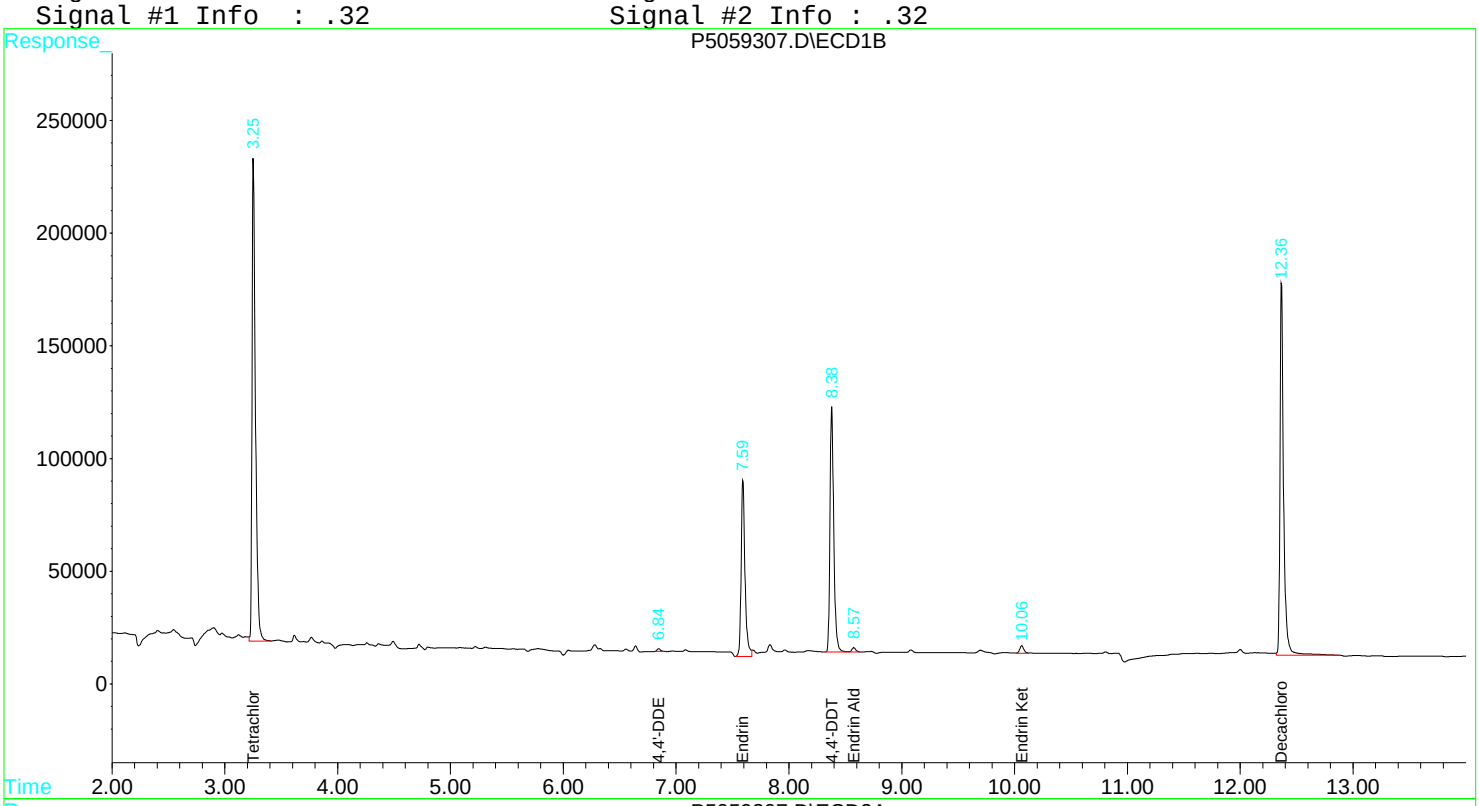
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P5059307.D P5091619.M Wed Oct 09 12:03:42 2019 Page 1

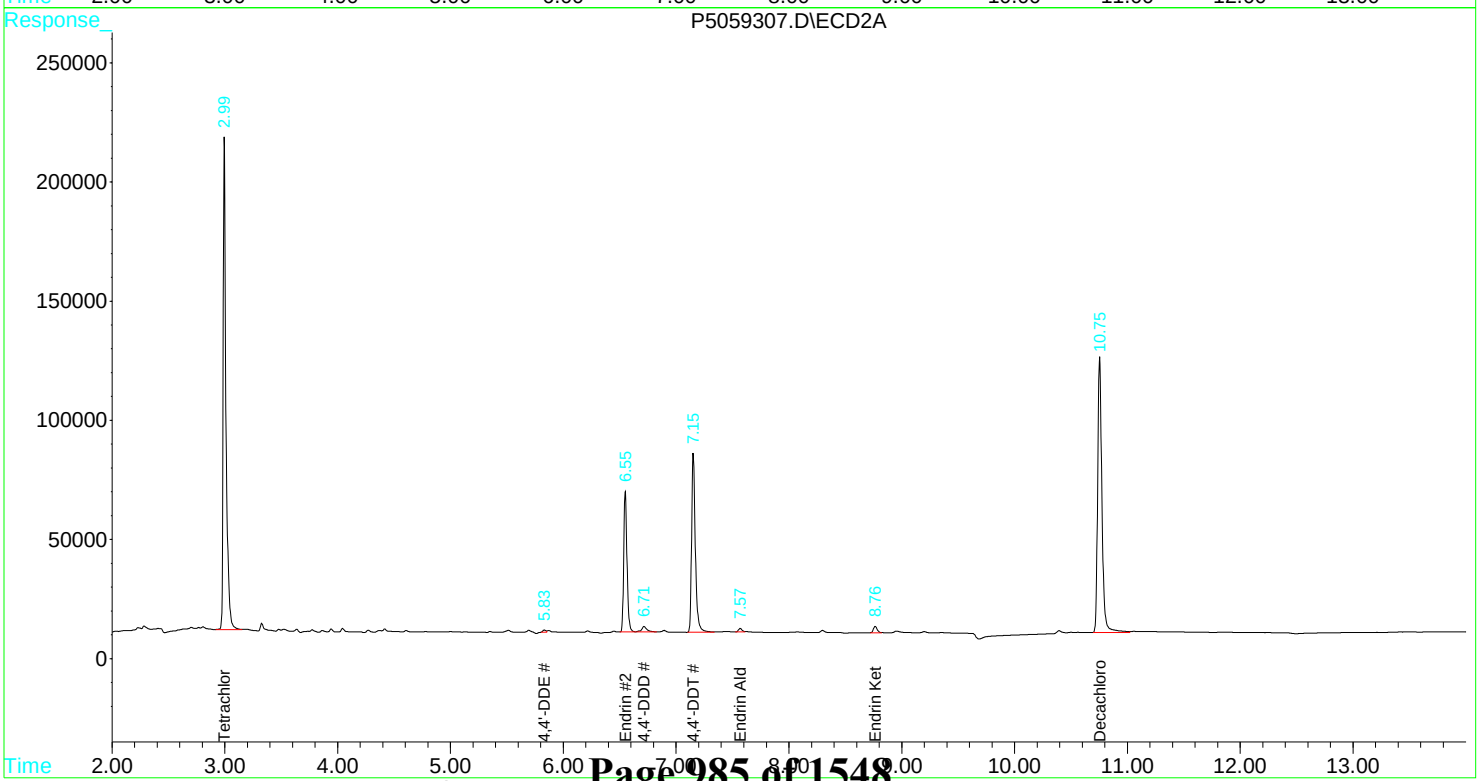
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059307.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059307.D\ECD2A.CH
Acq On : 8 Oct 2019 4:11 pm Operator: CM
Sample : SEQ-PEM2 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:03 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9J1109	Laboratory ID:	Y9J1109-PEM1
Analyzed:	10/09/2019 05:24	Instrument ID:	GC Dual E
		File ID:	P5059351.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	2.62	15
Endrin	12.74	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	1.44	15
Endrin	13.63	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059351.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059351.D\ECD2A.CH
Acq On : 9 Oct 2019 5:24 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 11 10:42 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	5060740	4019206	285.652	225.773
	Spiked Amount 200.000	Range 30 - 150		Recovery =		142.83%	112.89%
23) SA	Decachlorobiphen	12.37	10.75	5103384	3898820	202.939	193.672
	Spiked Amount 200.000	Range 30 - 150		Recovery =		101.47%	96.84%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.85	5.83f	43168	13242	1.533m	0.910m#
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.55	2017856	1056774	95.555m	78.608
16) M	4,4'-DDD	0.00	0.00	0	0	N.D. d	N.D. d
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.38	7.15f	1603100	904390	147.766	136.968
19) M	Endrin Aldehyde	8.57	7.57f	78740	44412	3.597m	3.038m
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.06	8.76	215832	122374	8.379m	7.278m

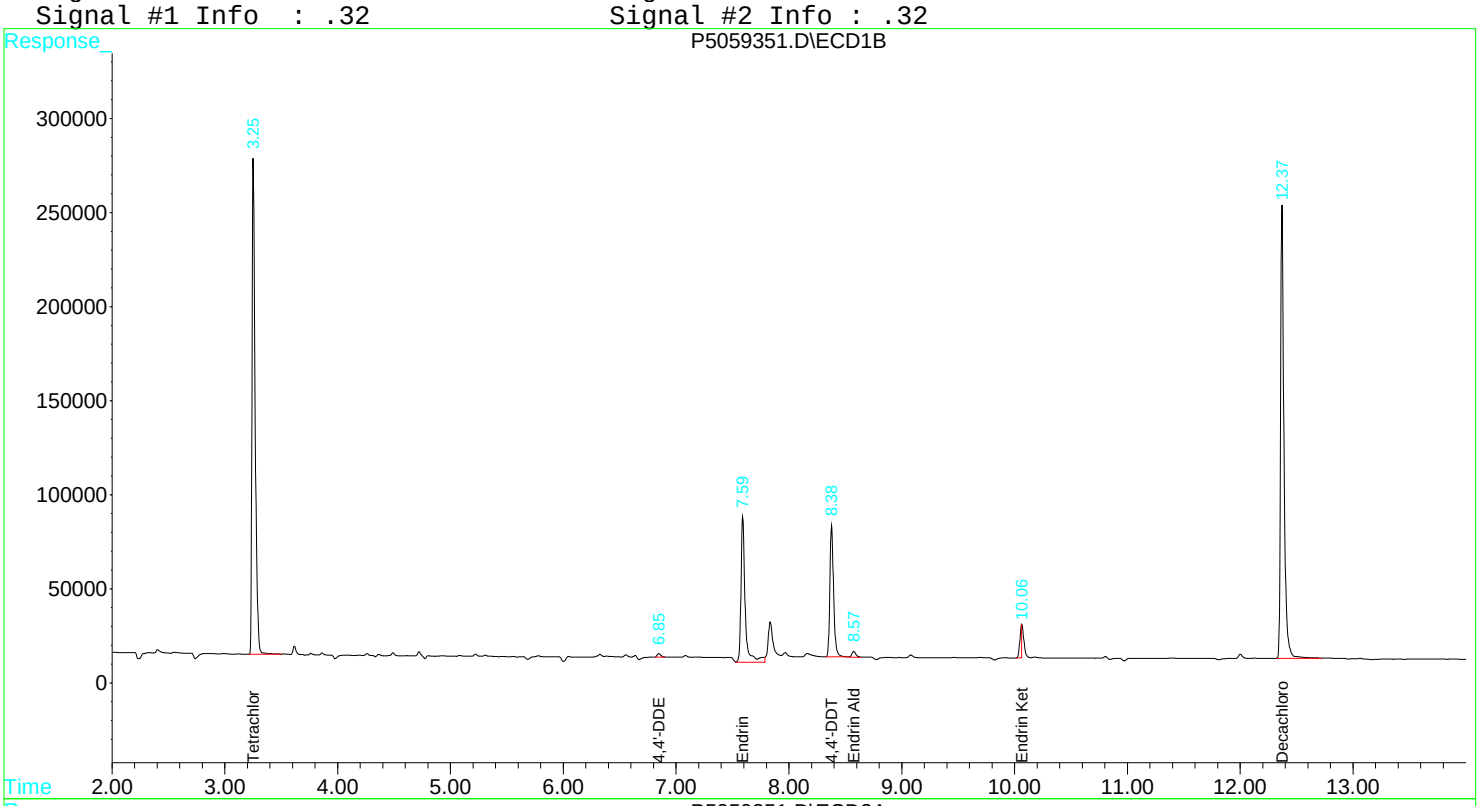
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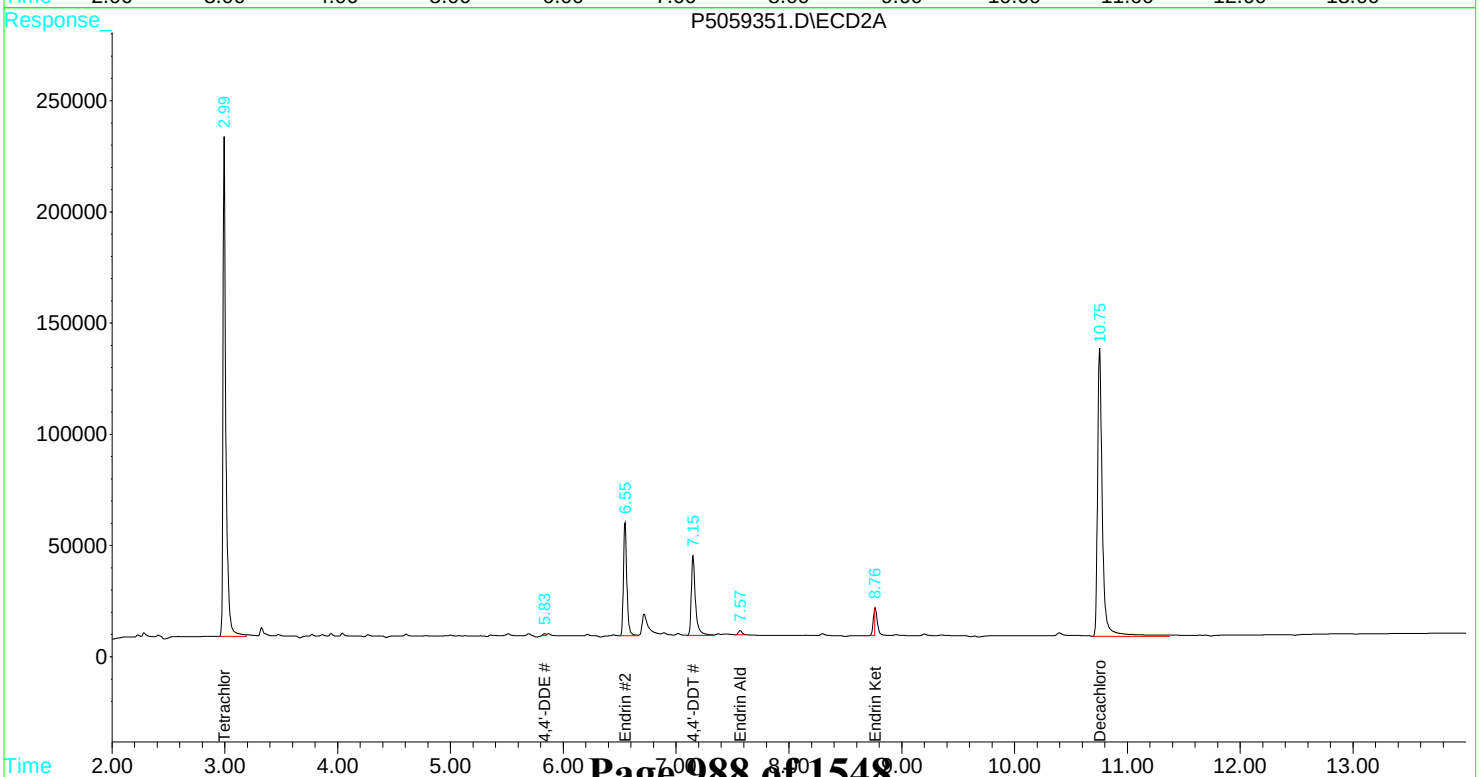
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059351.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059351.D\ECD2A.CH
Acq On : 9 Oct 2019 5:24 am Operator: CM
Sample : SEQ-PEM1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 11 10:42 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Breakdown Report

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Sequence:	Y9J1109	Laboratory ID:	Y9J1109-PEM2
Analyzed:	10/09/2019 17:50	Instrument ID:	GC Dual E
		File ID:	P5059389.D

Column Number: 1

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	2.73	15
Endrin	4.93	15

Column Number: 2

Analyte	% Breakdown	Breakdown Limit
4,4'-DDT	2.74	15
Endrin	5.76	15

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059389.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059389.D\ECD2A.CH
Acq On : 9 Oct 2019 5:50 pm Operator: CM
Sample : SEQ-PEM2 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 18:08 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3082010	3183758	173.963	178.843
	Spiked Amount 200.000	Range 30 - 150		Recovery =		86.98%	89.42%
23) SA	Decachlorobiphen	12.36	10.74	3403640	2867338	135.348	142.434
	Spiked Amount 200.000	Range 30 - 150		Recovery =		67.67%	71.22%
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	6.84	5.82	15342	12416	0.545m	0.853m#
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	7.59	6.54	1741190	1249682	82.454	92.958
16) M	4,4'-DDD	7.83	6.70	59014	44500	3.014m	3.347m
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	8.37	7.14	2653120	2020612	244.552	306.018 #
19) M	Endrin Aldehyde	8.57	7.56	15942	13710	0.728m	0.936m#
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	10.06	8.76	74412	62606	2.889m	3.724m#

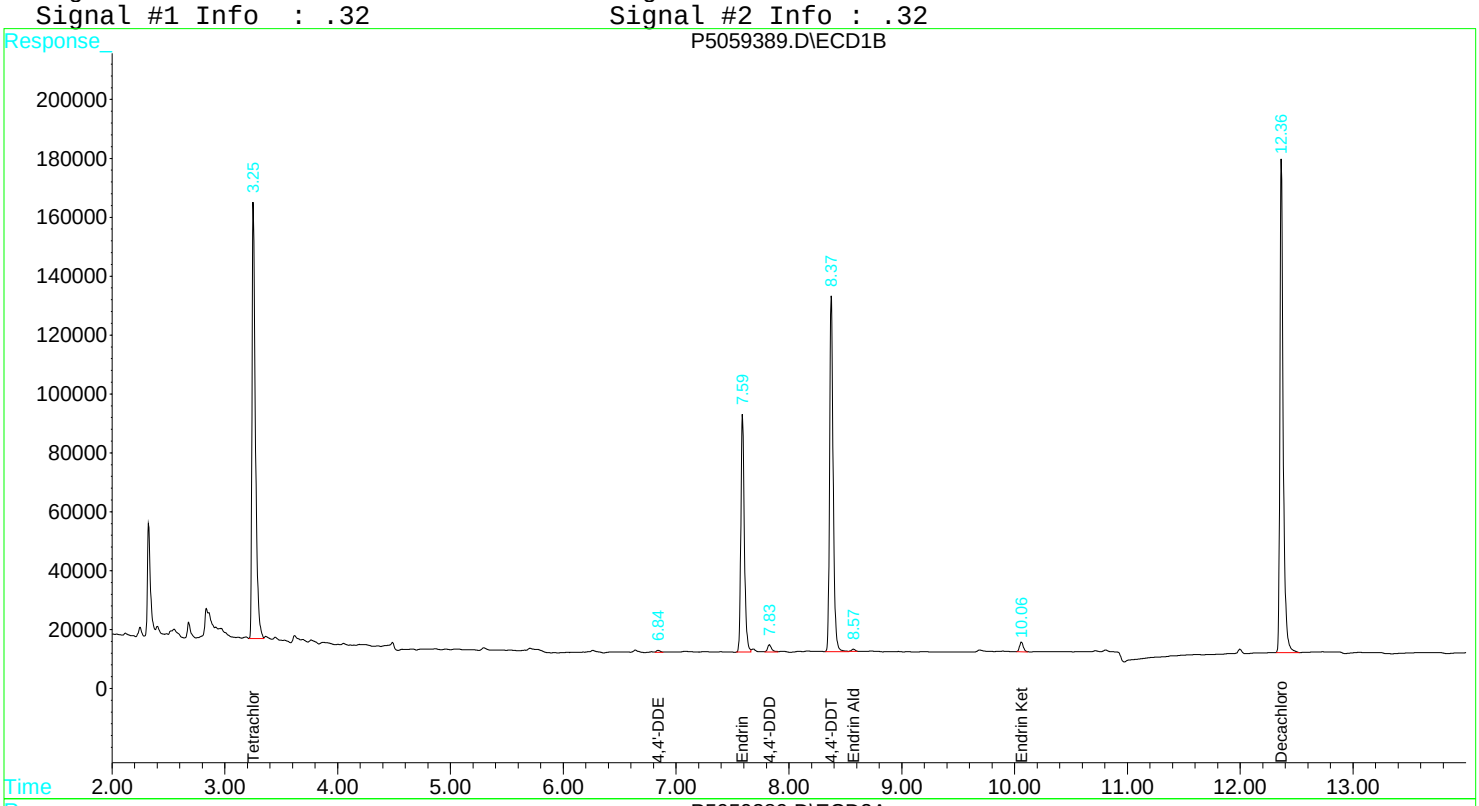
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P5059389.D P5091619.M Wed Oct 09 18:11:34 2019 Page 1

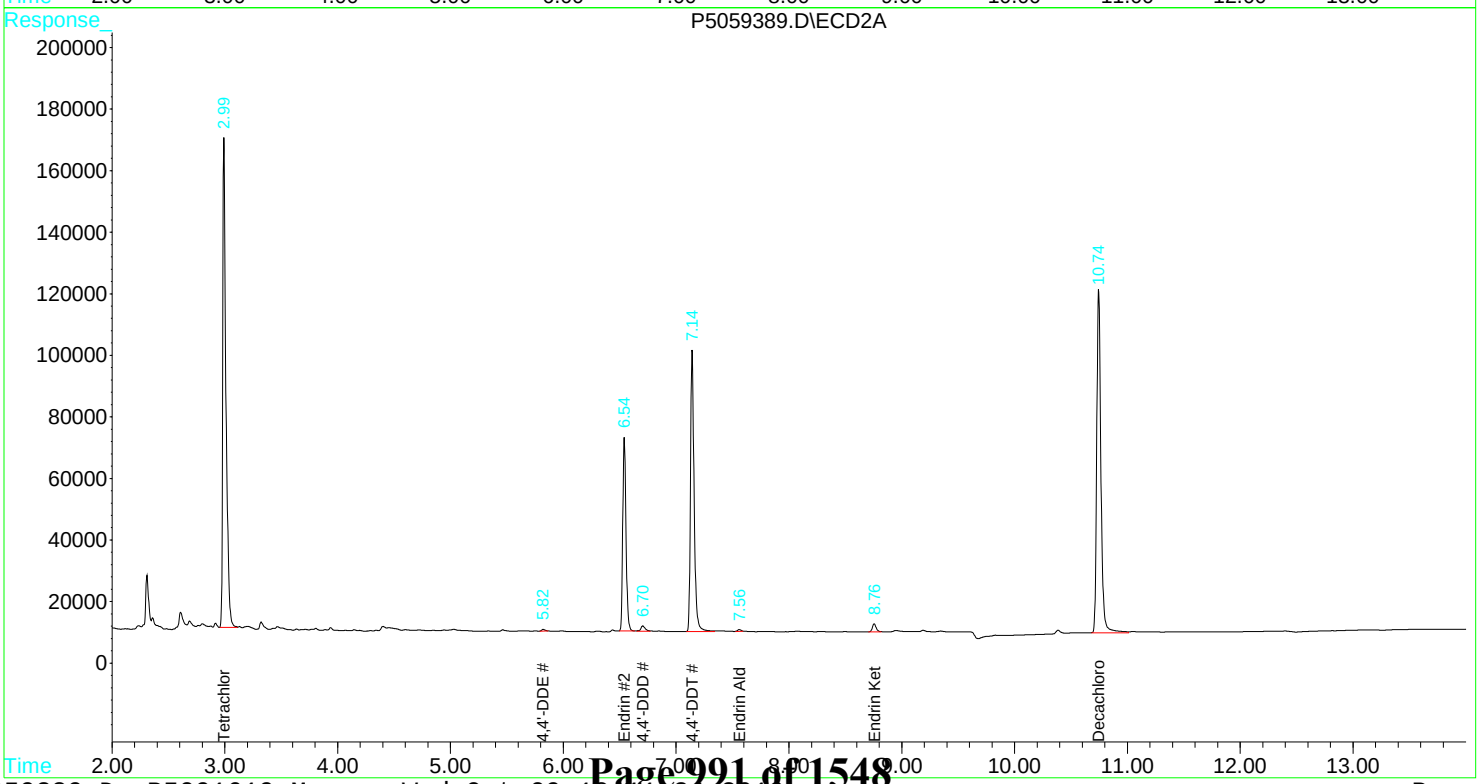
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059389.D\ECD1B.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059389.D\ECD2A.CH
Acq On : 9 Oct 2019 5:50 pm Operator: CM
Sample : SEQ-PEM2 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 18:08 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059201.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV1	Injection Time:	07:57

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	49.2	19582.52	19265.6		-1.6	20
4,4'-DDD [2C]	A	50.0	53.2	13295.11	14139.64		6.4	20
4,4'-DDE	A	50.0	40.8	28154.29	22985.44		-18.4	20
4,4'-DDE [2C]	A	50.0	45.4	14551.49	13210.44		-9.2	20
4,4'-DDT	L	50.0	40.0	10848.91	8687.68		-19.9	20
4,4'-DDT [2C]	L	50.0	43.8	6602.927	5779.44		-12.5	20
Aldrin	A	50.0	41.2	31579.24	26019.76		-17.6	20
Aldrin [2C]	A	50.0	43.8	21532.58	18853.12		-12.4	20
alpha-BHC	A	50.0	48.2	31522.31	30358.36		-3.7	20
alpha-BHC [2C]	A	50.0	50.4	22643.85	22843.6		0.9	20
alpha-Chlordane	L	50.0	40.1	29936.82	23983.6		-19.9	20
alpha-Chlordane [2C]	A	50.0	42.2	21521.08	18183.76		-15.5	20
beta-BHC	A	50.0	40.4	13863.48	11214.52		-19.1	20
beta-BHC [2C]	A	50.0	45.0	10532.94	9470.56		-10.1	20
delta-BHC	A	50.0	40.1	27949.34	22417.84		-19.8	20
delta-BHC [2C]	A	50.0	49.7	19141.49	19033.24		-0.6	20
Dieldrin	L	50.0	41.0	27163.47	22273.36		-18.0	20
Dieldrin [2C]	A	50.0	45.1	18914.25	17055.8		-9.8	20
Endosulfan I	A	50.0	40.1	27803.37	22294.2		-19.8	20
Endosulfan I [2C]	A	50.0	42.4	24749.24	20985.2		-15.2	20
Endosulfan II	L	50.0	42.5	26234.9	22316.6		-14.9	20
Endosulfan II [2C]	L	50.0	46.2	16764.96	15486.76		-7.6	20
Endosulfan sulfate	L	50.0	41.7	24871.89	20734.44		-16.6	20
Endosulfan sulfate [2C]	L	50.0	47.1	16593.81	15616.88		-5.9	20
Endrin	L	50.0	44.2	21117.16	18675.16		-11.6	20
Endrin [2C]	L	50.0	43.4	13443.56	11671.92		-13.2	20
gamma-BHC (Lindane)	A	50.0	43.4	28307.31	24596.8		-13.1	20
gamma-BHC (Lindane) [2C]	A	50.0	49.9	20435.27	20385.72		-0.2	20
Heptachlor	L	50.0	40.8	23772.84	19401.32		-18.4	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059201.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV1	Injection Time:	07:57

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	47.2	15921.55	15039.04		-5.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059201.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059201.D\ECD2A.CH
Acq On : 7 Oct 2019 7:57 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 7 8:28 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2738138	2570734	154.553	144.407
	Spiked Amount 200.000	Range 30 - 150		Recovery =		77.28%	72.20%
23) SA	Decachlorobiphen	12.36	10.73	2907680	2520464	115.626	125.203
	Spiked Amount 200.000	Range 30 - 150		Recovery =		57.81%	62.60%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1517918	1142180	48.154	50.441
3) M	gamma-BHC (Linda	4.26	3.76	1229840	1019286	43.446	49.879
4) M	beta-BHC	4.36	3.85	560726	473528	40.446	44.957
5) M	delta-BHC	4.72	4.03	1120892	951662	40.104	49.717
6) M	Heptachlor	4.79	4.26	970066	751952	40.806m	47.229
7) M	Aldrin	5.22	4.59	1300988	942656	41.198	43.778
8) M	Alachlor	5.08	4.76	140446	152126	48.940m	53.120
9) M	Heptachlor Epoxi	6.04	5.33	1214884	797688	43.854	41.813
10) M	gamma-Chlordane	6.32	5.50	1201326	925578	40.040m	42.043
11) M	alpha-Chlordane	6.55	5.68	1199180	909188	40.057m	42.246
12) M	Endosulfan I	6.64	5.85	1114710	1049260	40.093m	42.396
13) M	4,4'-DDE	6.84	5.81	1149272	660522	40.820m	45.392
14) M	Dieldrin	7.08	6.20	1113668	852790	40.999	45.087
15) M	Endrin	7.58	6.53	933758	583596	44.218	43.411
16) M	4,4'-DDD	7.82	6.69	963280	706982	49.191	53.176
17) M	Endosulfan II	7.96	6.87	1115830	774338	42.532	46.188
18) M	4,4'-DDT	8.37	7.13	434384	288972	40.039m	43.764m
19) M	Endrin Aldehyde	8.57	7.55	881678	690632	40.275m	48.906
20) M	Methoxychlor	9.70	8.00	281932	169476	49.946	57.280
21) M	Endosulfan sulfa	9.07	8.28	1036722	780844	41.682	47.056
22) M	Endrin Ketone	10.06	8.74	1169238	876040	45.390	52.103

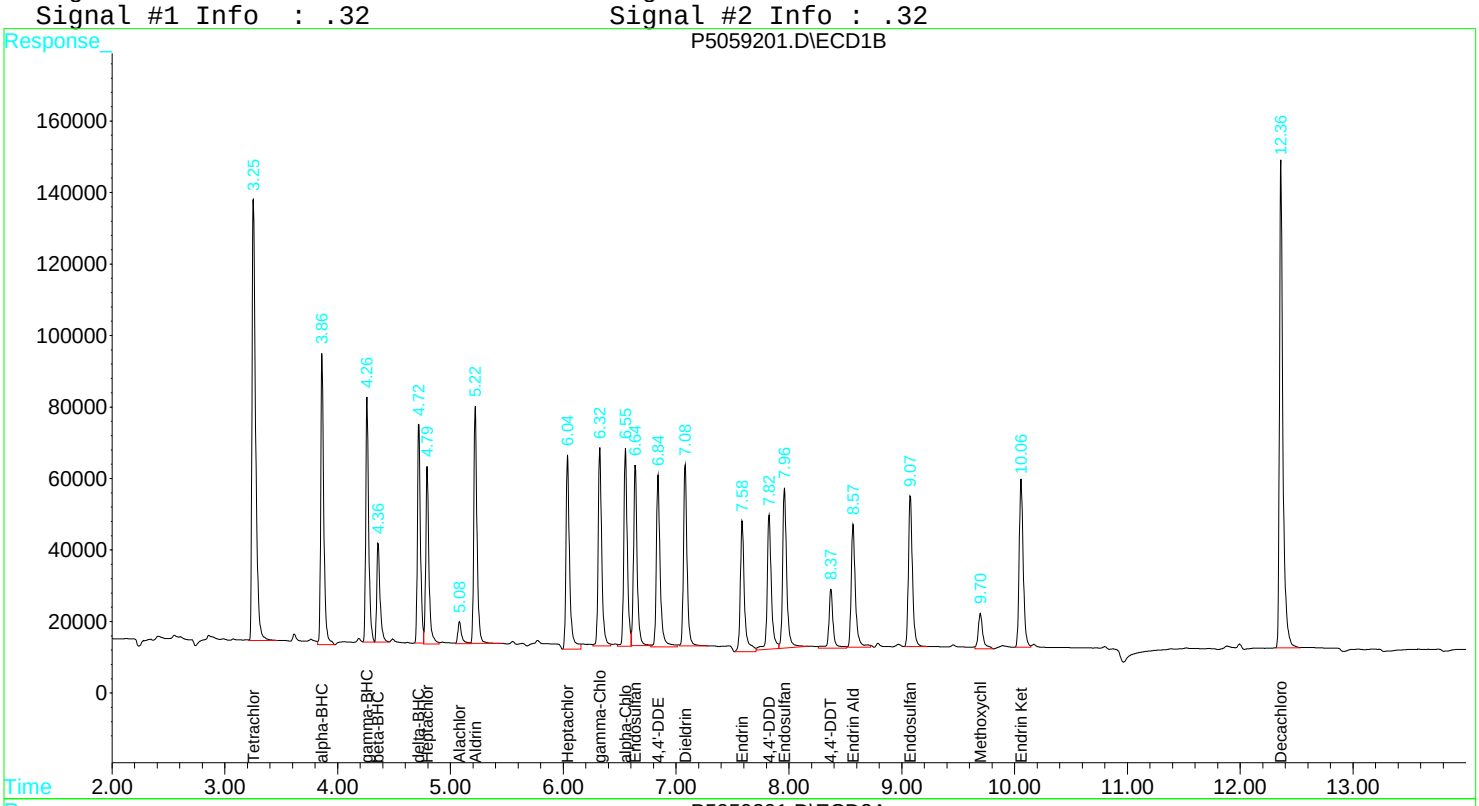
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059201.D C5081419.M Fri Oct 11 10:22:21 2019 Page 1

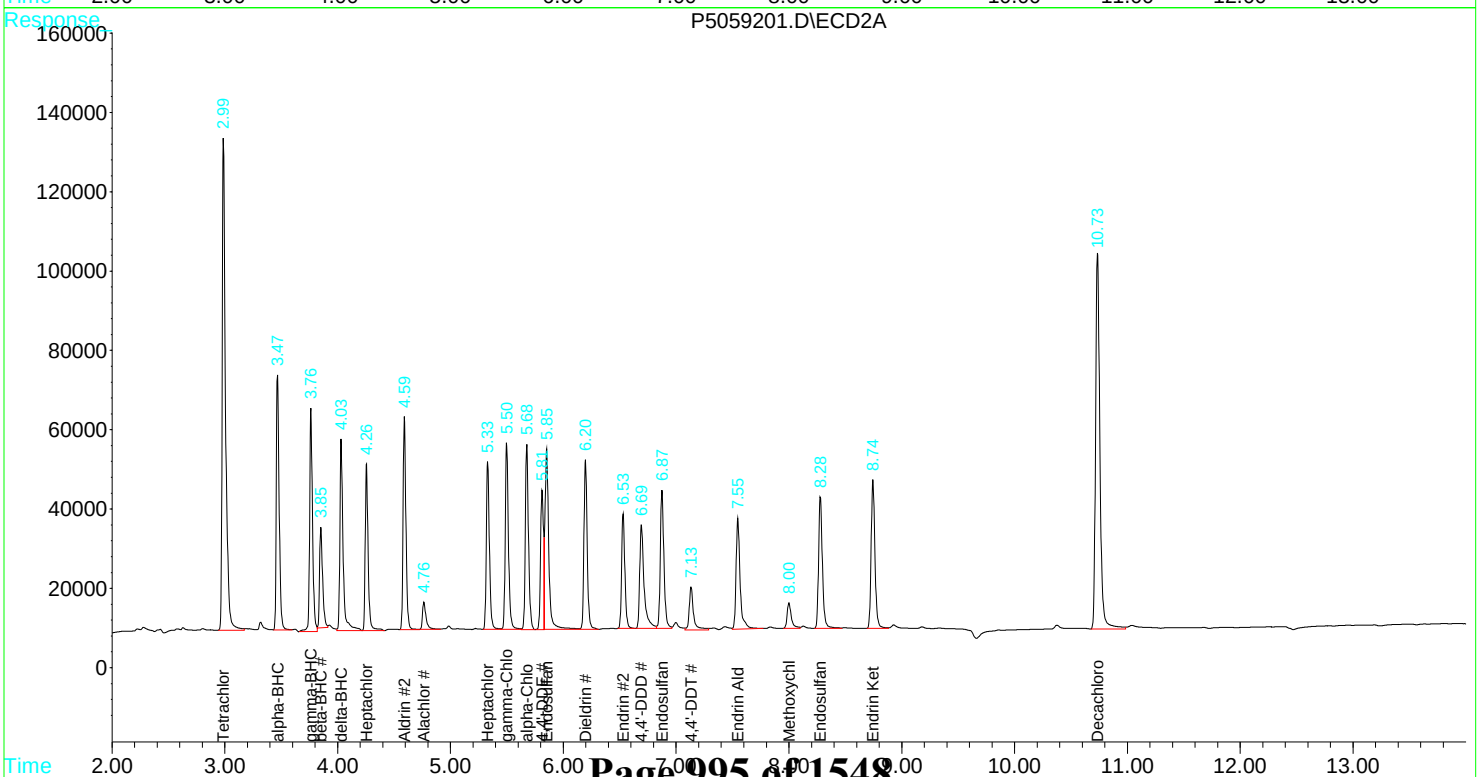
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059201.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059201.D\ECD2A.CH
Acq On : 7 Oct 2019 7:57 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 7 8:28 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059203.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059203.D\ECD2A.CH
Acq On : 7 Oct 2019 8:47 am Operator: CM
Sample : SEQ-CCV2 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:15 2019 Quant Results File: C5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\C5081419.M (Chemstation Integrator)
Title : Chlordane - RTX-CLP & CLP-2 11/02/16
Last Update : Tue Sep 10 08:36:58 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	SA Tetrachloro-m-xy	3.25	3.00	5842750	4428290	0.036	0.167	#
	Spiked Amount 0.200	Range 60 - 150		Recovery =		18.00%#	83.50%	
5)	SA Decachlorobiphen	12.37	10.76	5715580	4467903	0.161	0.195	
	Spiked Amount 0.200	Range 60 - 150		Recovery =		80.50%	97.50%	
	Target Compounds							
2)	T Chlordane-1	6.33	4.77	3935878	1038088	0.496	1.037	#
3)	T Chlordane-2	6.47	5.52	3476706	2824683	0.494m	0.979	#
4)	T Chlordane-3	6.56	5.69	3386096	4181392	0.493	0.925	#

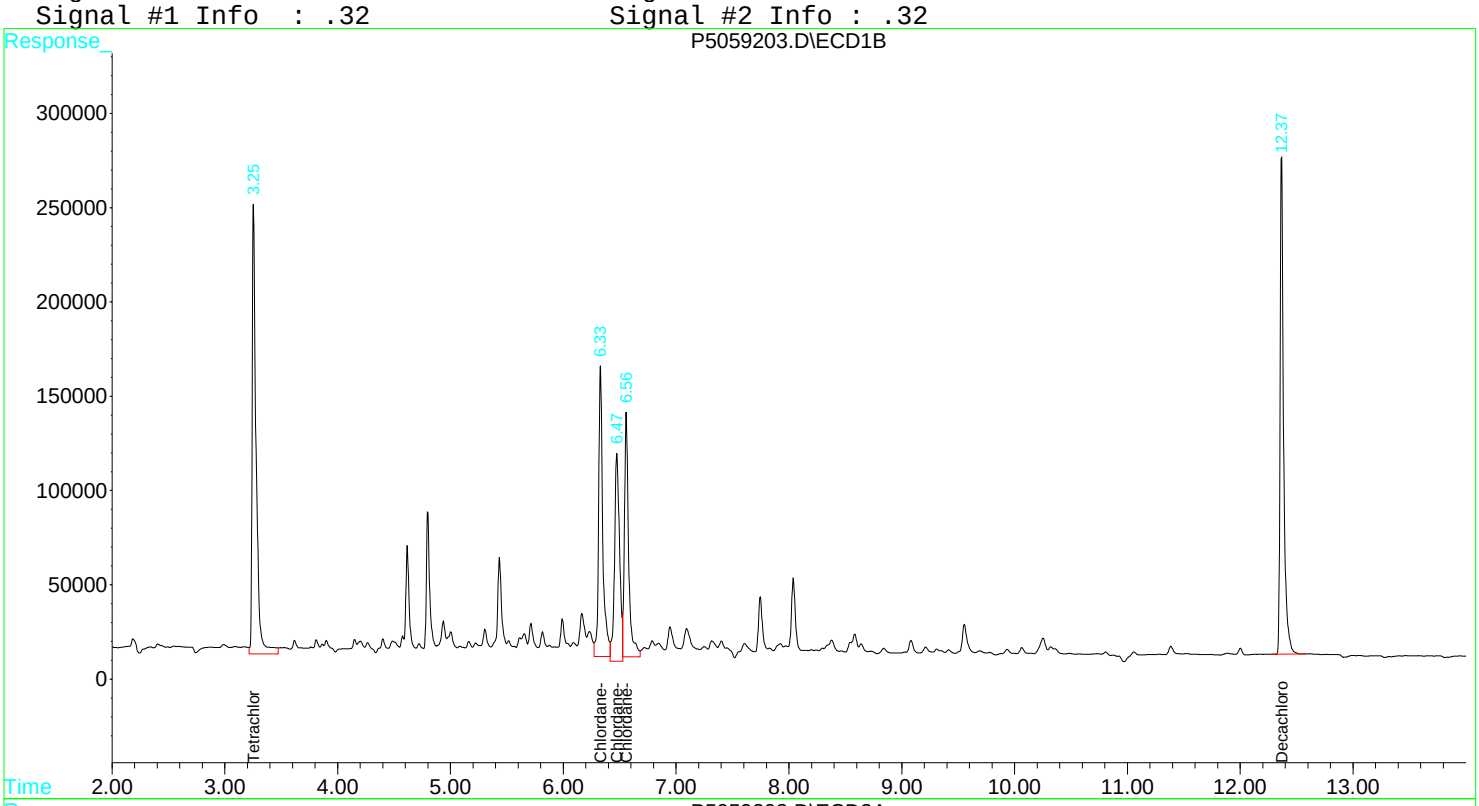
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P5059203.D C5081419.M Fri Oct 11 10:15:48 2019 Page 1

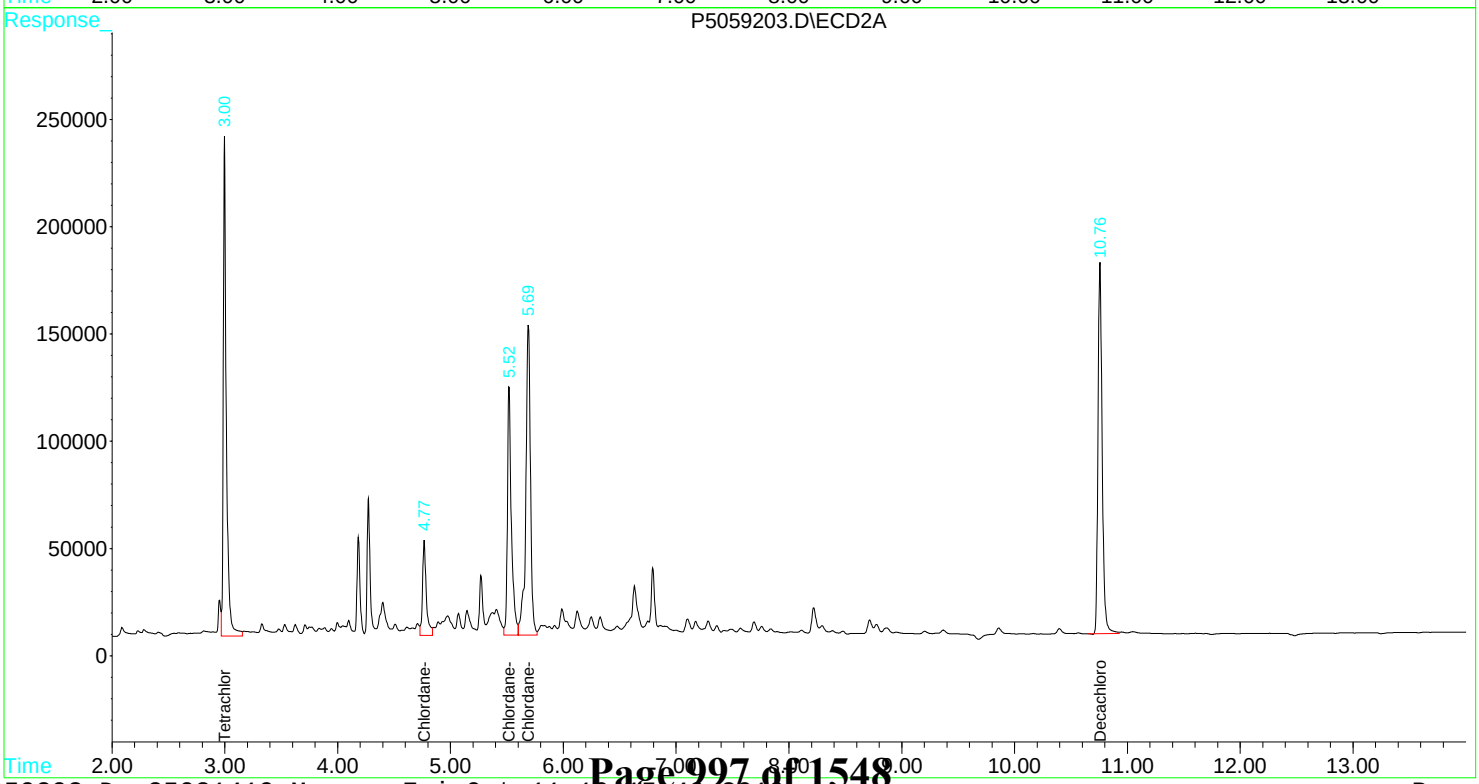
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059203.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059203.D\ECD2A.CH
Acq On : 7 Oct 2019 8:47 am Operator: CM
Sample : SEQ-CCV2 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:15 2019 Quant Results File: C5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\C5081419.M (Chemstation Integrator)
Title : Chlordane - RTX-CLP & CLP-2 11/02/16
Last Update : Tue Sep 10 08:36:58 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059204.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059204.D\ECD2A.CH
Acq On : 7 Oct 2019 9:05 am Operator: CM
Sample : SEQ-CCV3 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14 2019 Quant Results File: T5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\T5081419.M (Chemstation Integrator)
Title : Toxaphene - RTX-CLP & CLP-2 11/24/15
Last Update : Thu Aug 15 12:10:11 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.25	2.99	6609194	6077084	0.619	0.865 #
Spiked Amount 0.200	Range 60 - 150		Recovery =		309.50%#	432.50%#
3) SA Decachlorobiphen	12.36	10.74	7048979	5426987	0.704	0.824
Spiked Amount 0.200	Range 60 - 150		Recovery =		352.00%#	412.00%#
Target Compounds						
2) Toxaphene	8.10	6.86	111.1E6	63639518	1.846m	2.243m

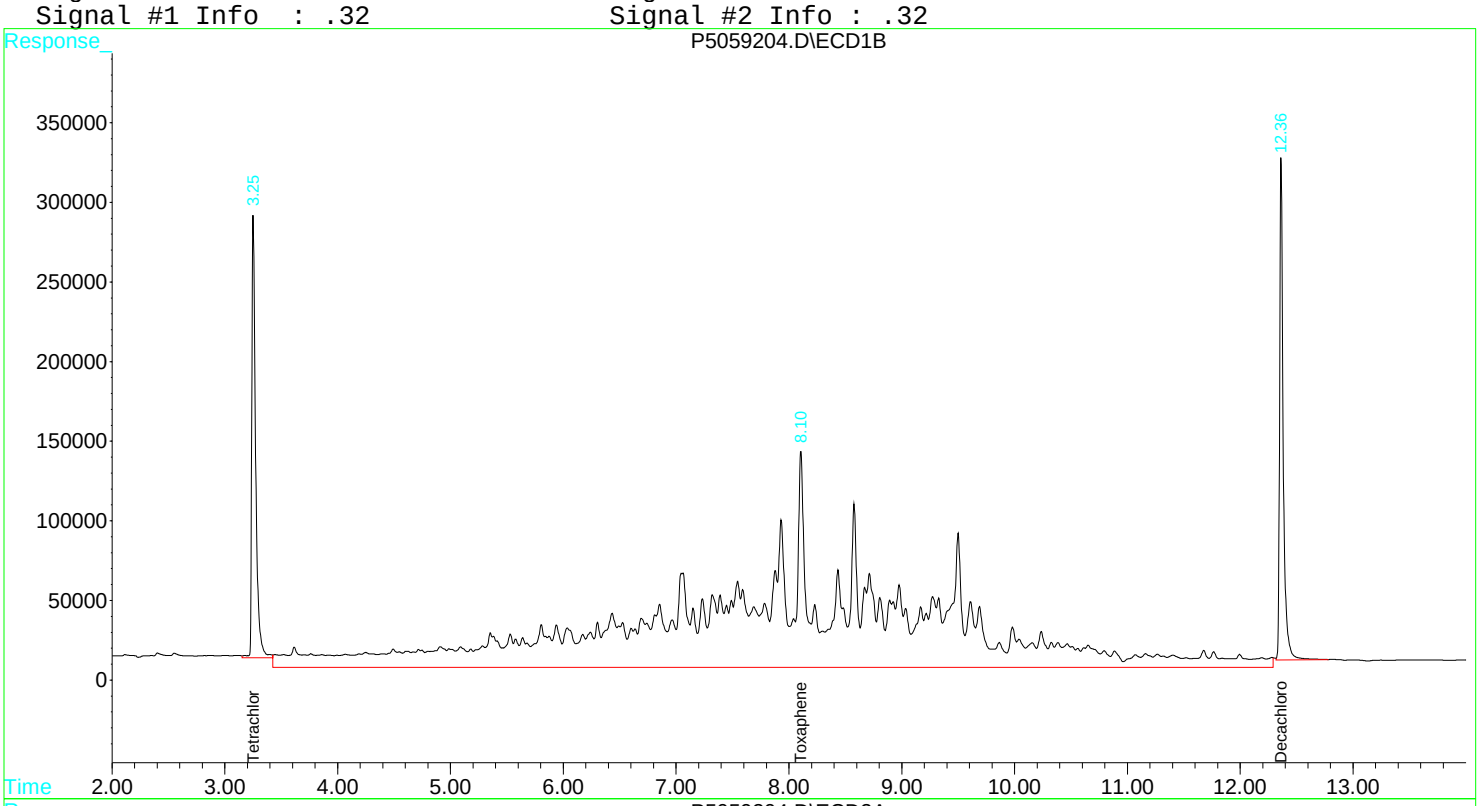
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P5059204.D T5081419.M Fri Oct 11 10:14:49 2019 Page 1

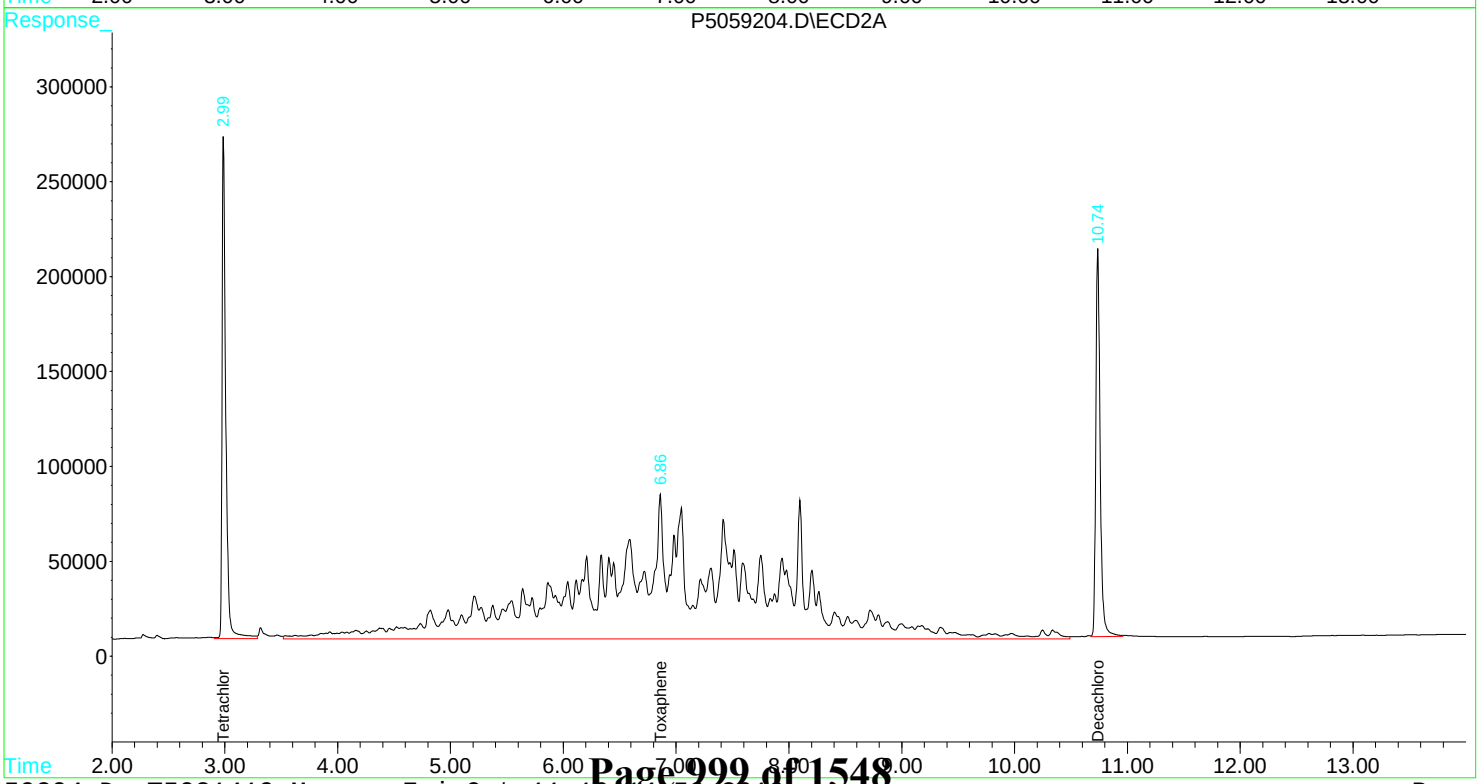
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059204.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059204.D\ECD2A.CH
Acq On : 7 Oct 2019 9:05 am Operator: CM
Sample : SEQ-CCV3 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14 2019 Quant Results File: T5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\T5081419.M (Chemstation Integrator)
Title : Toxaphene - RTX-CLP & CLP-2 11/24/15
Last Update : Thu Aug 15 12:10:11 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059225.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV4	Injection Time:	15:22

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	56.1	19582.52	21955.68		12.1	20
4,4'-DDD [2C]	A	50.0	59.0	13295.11	15697.72		18.1	20
4,4'-DDE	A	50.0	48.0	28154.29	27029.72		-4.0	20
4,4'-DDE [2C]	A	50.0	48.7	14551.49	14183.32		-2.5	20
4,4'-DDT	L	50.0	42.7	10848.91	9262.04		-14.6	20
4,4'-DDT [2C]	L	50.0	40.8	6602.927	5391.08		-18.4	20
Aldrin	A	50.0	48.2	31579.24	30430.16		-3.6	20
Aldrin [2C]	A	50.0	46.5	21532.58	20011.32		-7.1	20
alpha-BHC	A	50.0	54.7	31522.31	34512.24		9.5	20
alpha-BHC [2C]	A	50.0	54.2	22643.85	24537.16		8.4	20
alpha-Chlordane	L	50.0	46.9	29936.82	28075.28		-6.2	20
alpha-Chlordane [2C]	A	50.0	45.5	21521.08	19583.96		-9.0	20
beta-BHC	A	50.0	46.5	13863.48	12889.44		-7.0	20
beta-BHC [2C]	A	50.0	45.7	10532.94	9620.52		-8.7	20
delta-BHC	A	50.0	48.1	27949.34	26875.92		-3.8	20
delta-BHC [2C]	A	50.0	51.9	19141.49	19855.2		3.7	20
Dieldrin	L	50.0	49.3	27163.47	26760.44		-1.5	20
Dieldrin [2C]	A	50.0	48.9	18914.25	18500.64		-2.2	20
Endosulfan I	A	50.0	45.2	27803.37	25151.44		-9.5	20
Endosulfan I [2C]	A	50.0	46.7	24749.24	23140		-6.5	20
Endosulfan II	L	50.0	49.7	26234.9	26068.28		-0.6	20
Endosulfan II [2C]	L	50.0	51.6	16764.96	17313.16		3.3	20
Endosulfan sulfate	L	50.0	51.6	24871.89	25646		3.1	20
Endosulfan sulfate [2C]	L	50.0	53.6	16593.81	17773.76		7.1	20
Endrin	L	50.0	52.9	21117.16	22342.08		5.8	20
Endrin [2C]	L	50.0	46.7	13443.56	12551.96		-6.6	20
gamma-BHC (Lindane)	A	50.0	49.9	28307.31	28268.64		-0.1	20
gamma-BHC (Lindane) [2C]	A	50.0	52.3	20435.27	21360.04		4.5	20
Heptachlor	L	50.0	45.0	23772.84	21379.16		-10.1	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059225.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV4	Injection Time:	15:22

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	49.6	15921.55	15797.92		-0.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059225.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059225.D\ECD2A.CH
Acq On : 7 Oct 2019 3:22 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 7 16:24 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2981538	2609276	168.292	146.572
	Spiked Amount 200.000	Range 30 - 150		Recovery =		84.15%	73.29%
23) SA	Decachlorobiphen	12.36	10.73	3663208	3008552	145.670	149.449
	Spiked Amount 200.000	Range 30 - 150		Recovery =		72.83%	74.72%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	1725612	1226858	54.743	54.181
3) M	gamma-BHC (Linda	4.26	3.76	1413432	1068002	49.932	52.263
4) M	beta-BHC	4.36	3.85	644472	481026	46.487	45.669
5) M	delta-BHC	4.72	4.03	1343796	992760	48.080	51.864
6) M	Heptachlor	4.79	4.25	1068958	789896	44.966	49.612
7) M	Aldrin	5.22	4.59	1521508	1000566	48.181	46.468
8) M	Alachlor	5.08	4.76	141754	158250	49.396m	55.258
9) M	Heptachlor Epoxi	6.04	5.33	1419590	828240	51.244	43.415
10) M	gamma-Chlordane	6.32	5.50	1395766	991944	46.521	45.058
11) M	alpha-Chlordane	6.55	5.67	1403764	979198	46.891	45.499
12) M	Endosulfan I	6.64	5.85	1257572	1157000	45.231	46.749
13) M	4,4'-DDE	6.84	5.81	1351486	709166	48.003	48.735
14) M	Dieldrin	7.08	6.19	1338022	925032	49.258	48.907
15) M	Endrin	7.58	6.53	1117104	627598	52.900	46.684
16) M	4,4'-DDD	7.82	6.69	1097784	784886	56.059	59.036
17) M	Endosulfan II	7.96	6.87	1303414	865658	49.682	51.635
18) M	4,4'-DDT	8.37	7.13	463102	269554	42.687	40.823
19) M	Endrin Aldehyde	8.57	7.55	1053736	789476	48.135	56.221
20) M	Methoxychlor	9.70	8.00	276868	171546	49.049m	57.980m
21) M	Endosulfan sulfa	9.07	8.28	1282300	888688	51.556	53.555
22) M	Endrin Ketone	10.06	8.74	1404512	981262	54.524	58.361

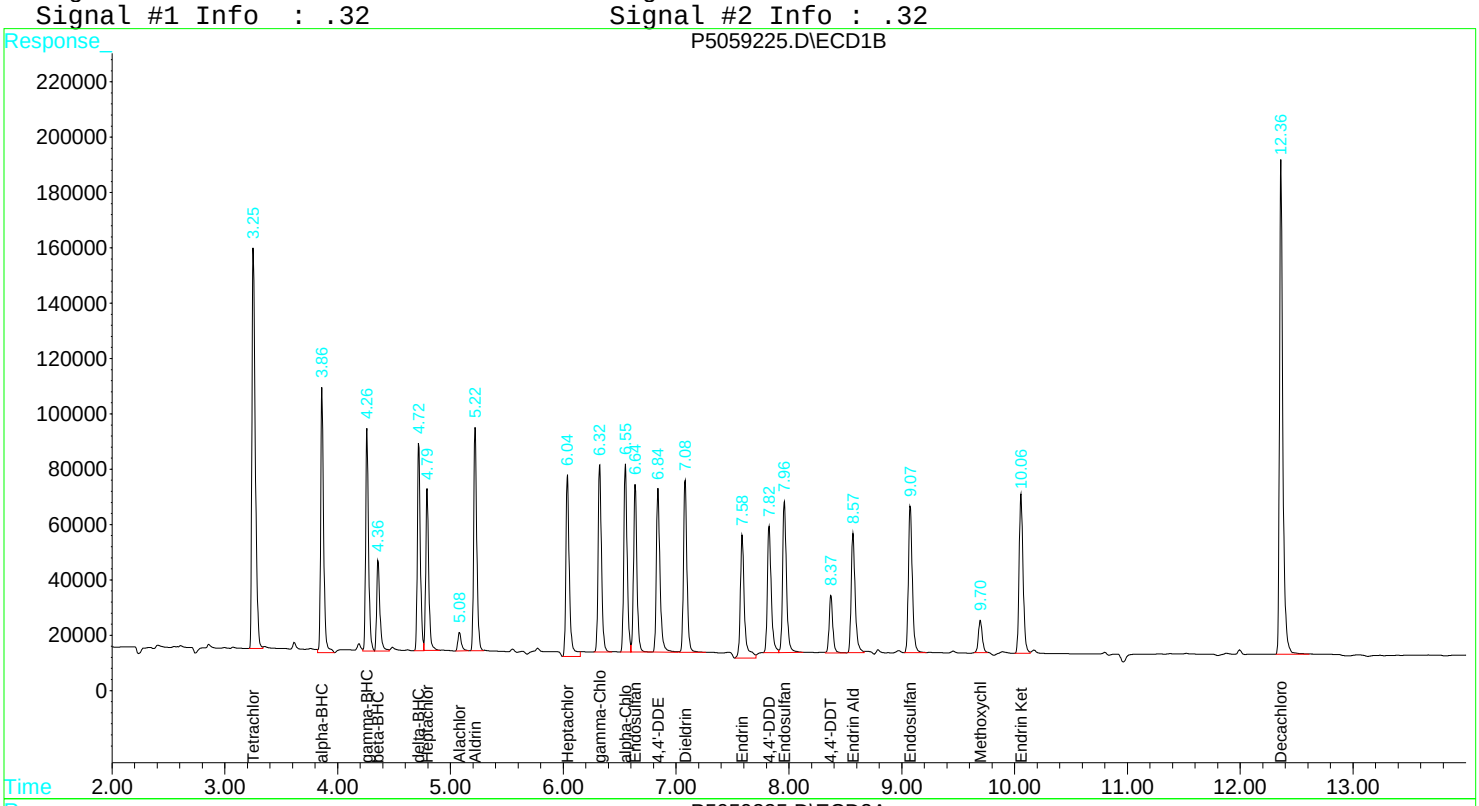
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P5059225.D C5081419.M Fri Oct 11 10:22:26 2019 Page 1

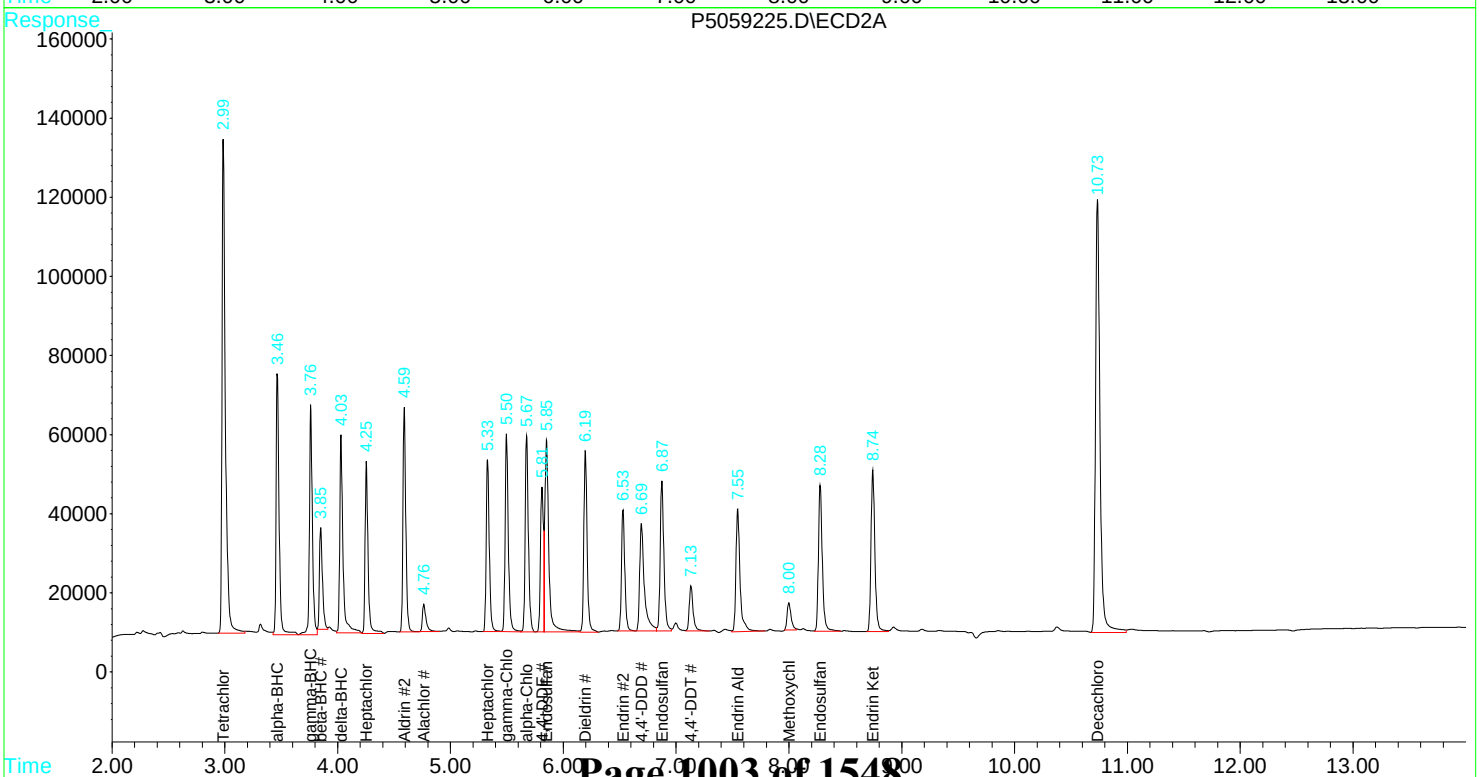
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059225.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059225.D\ECD2A.CH
Acq On : 7 Oct 2019 3:22 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 7 16:24 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059246.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV5	Injection Time:	21:38

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	53.7	19582.52	21045.92		7.5	20
4,4'-DDD [2C]	A	50.0	56.7	13295.11	15065.92		13.3	20
4,4'-DDE	A	50.0	47.4	28154.29	26700.16		-5.2	20
4,4'-DDE [2C]	A	50.0	49.4	14551.49	14370.44		-1.2	20
4,4'-DDT	L	50.0	42.7	10848.91	9262.96		-14.6	20
4,4'-DDT [2C]	L	50.0	41.2	6602.927	5442.88		-17.6	20
Aldrin	A	50.0	49.3	31579.24	31159.2		-1.3	20
Aldrin [2C]	A	50.0	47.6	21532.58	20487.6		-4.9	20
alpha-BHC	A	50.0	56.6	31522.31	35682.88		13.2	20
alpha-BHC [2C]	A	50.0	52.6	22643.85	23843.08		5.3	20
alpha-Chlordane	L	50.0	47.2	29936.82	28245.44		-5.6	20
alpha-Chlordane [2C]	A	50.0	45.5	21521.08	19579.2		-9.0	20
beta-BHC	A	50.0	47.5	13863.48	13159.24		-5.1	20
beta-BHC [2C]	A	50.0	47.7	10532.94	10042.56		-4.7	20
delta-BHC	A	50.0	49.1	27949.34	27466.92		-1.7	20
delta-BHC [2C]	A	50.0	52.5	19141.49	20091.04		5.0	20
Dieldrin	L	50.0	49.0	27163.47	26628.76		-2.0	20
Dieldrin [2C]	A	50.0	48.4	18914.25	18293.44		-3.3	20
Endosulfan I	A	50.0	45.7	27803.37	25397.84		-8.7	20
Endosulfan I [2C]	A	50.0	45.3	24749.24	22420.44		-9.4	20
Endosulfan II	L	50.0	49.0	26234.9	25711.2		-2.0	20
Endosulfan II [2C]	L	50.0	50.2	16764.96	16840.92		0.5	20
Endosulfan sulfate	L	50.0	50.1	24871.89	24900.88		0.1	20
Endosulfan sulfate [2C]	L	50.0	51.5	16593.81	17089.68		3.0	20
Endrin	L	50.0	52.6	21117.16	22223.52		5.2	20
Endrin [2C]	L	50.0	46.7	13443.56	12568.52		-6.5	20
gamma-BHC (Lindane)	A	50.0	51.2	28307.31	28969.64		2.3	20
gamma-BHC (Lindane) [2C]	A	50.0	53.4	20435.27	21819.28		6.8	20
Heptachlor	L	50.0	46.3	23772.84	22023.08		-7.4	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059246.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV5	Injection Time:	21:38

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	50.7	15921.55	16141.72		1.4	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059246.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059246.D\ECD2A.CH
Acq On : 7 Oct 2019 9:38 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 4:22 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.98	3140094	2726156	177.241	153.138
	Spiked Amount 200.000	Range 30 - 150		Recovery =		88.62%	76.57%
23) SA	Decachlorobiphen	12.36	10.73	3426678	2776568	136.264	137.925
	Spiked Amount 200.000	Range 30 - 150		Recovery =		68.13%	68.96%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	1784144	1192154	56.599	52.648
3) M	gamma-BHC (Linda	4.26	3.76	1448482	1090964	51.170	53.386
4) M	beta-BHC	4.36	3.85	657962	502128	47.460	47.672
5) M	delta-BHC	4.72	4.03	1373346	1004552	49.137	52.480
6) M	Heptachlor	4.79	4.25	1101154	807086	46.320	50.691
7) M	Aldrin	5.22	4.59	1557960	1024380	49.335	47.573
8) M	Alachlor	5.08	4.76	144466	162880	50.341m	56.875
9) M	Heptachlor Epoxi	6.04	5.33	1426246	839190	51.484	43.989
10) M	gamma-Chlordane	6.32	5.50	1410396	993462	47.009	45.127
11) M	alpha-Chlordane	6.55	5.67	1412272	978960	47.175	45.488
12) M	Endosulfan I	6.64	5.85	1269892	1121022	45.674	45.295
13) M	4,4'-DDE	6.84	5.81	1335008	718522	47.418	49.378
14) M	Dieldrin	7.08	6.19	1331438	914672	49.016	48.359
15) M	Endrin	7.58	6.53	1111176	628426	52.620	46.746
16) M	4,4'-DDD	7.82	6.69	1052296	753296	53.736	56.660
17) M	Endosulfan II	7.96	6.87	1285560	842046	49.002	50.227
18) M	4,4'-DDT	8.37	7.13	463148	272144	42.691	41.216
19) M	Endrin Aldehyde	8.57	7.54	1027316	758968	46.928	53.954
20) M	Methoxychlor	9.69	8.00	281932	174372	49.946m	58.935m
21) M	Endosulfan sulfa	9.07	8.28	1245044	854484	50.058	51.494
22) M	Endrin Ketone	10.06	8.74	1340326	929764	52.032	55.298

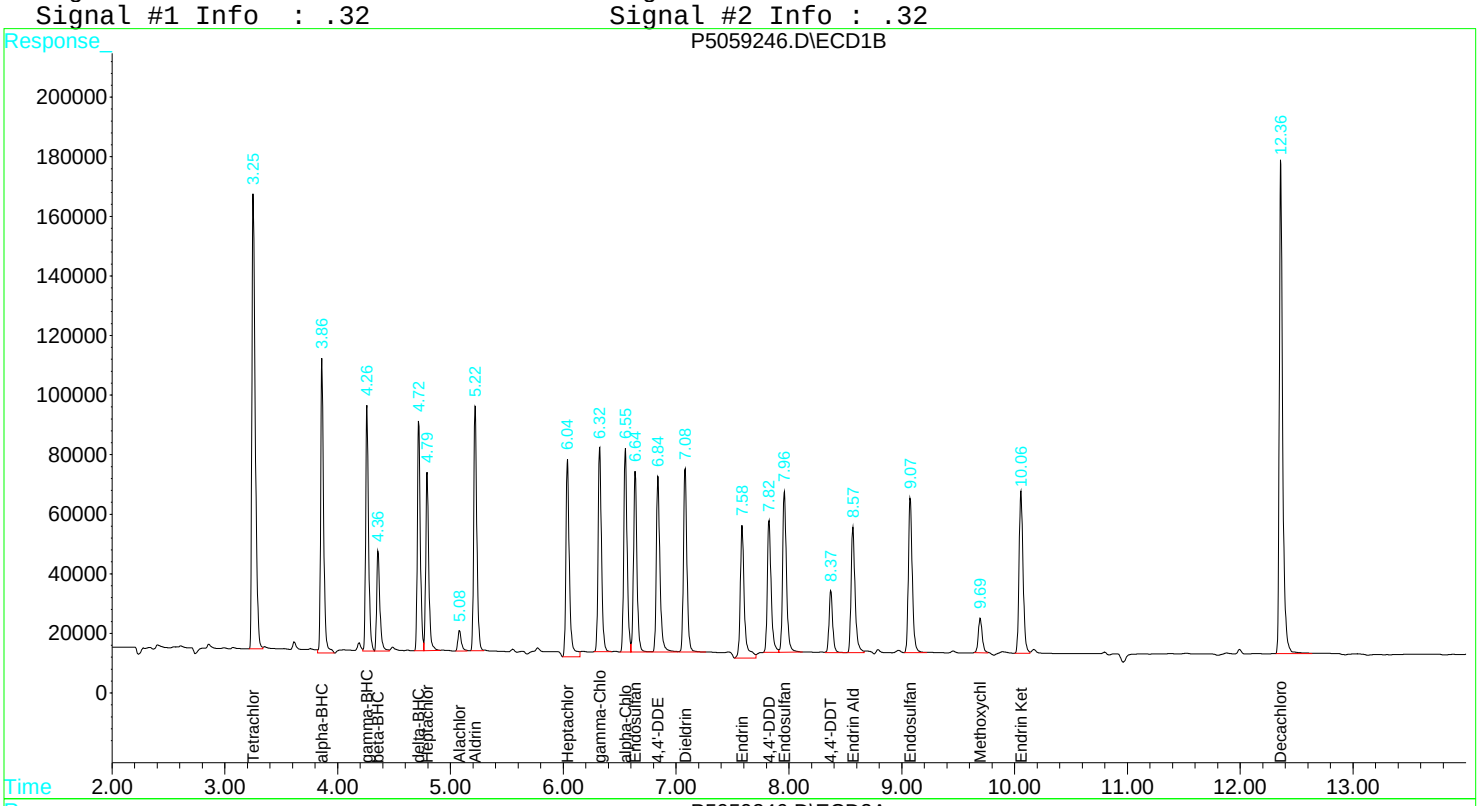
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059246.D C5081419.M Fri Oct 11 10:22:28 2019 Page 1

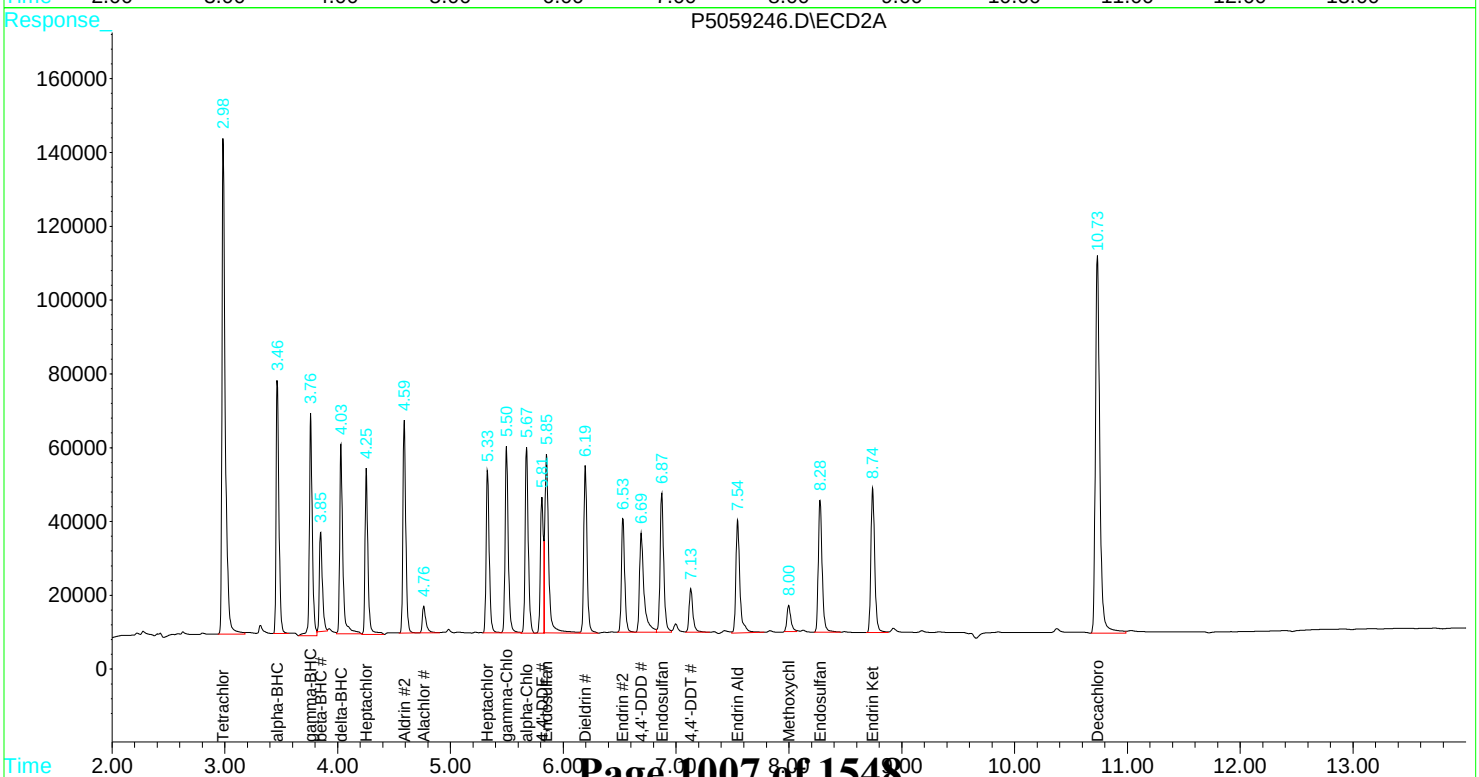
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059246.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059246.D\ECD2A.CH
Acq On : 7 Oct 2019 9:38 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 8 4:22 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059248.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV6	Injection Time:	22:14

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4,4'-DDD	A	50.0	58.4	19582.52	22856.28		16.7	20	
4,4'-DDD [2C]	A	50.0	62.6	13295.11	16651.24		25.2	20	*
4,4'-DDE	A	50.0	49.7	28154.29	28011.24		-0.5	20	
4,4'-DDE [2C]	A	50.0	51.2	14551.49	14905.2		2.4	20	
4,4'-DDT	L	50.0	49.3	10848.91	10693.08		-1.4	20	
4,4'-DDT [2C]	L	50.0	48.9	6602.927	6462.52		-2.1	20	
Aldrin	A	50.0	47.7	31579.24	30119.44		-4.6	20	
Aldrin [2C]	A	50.0	46.9	21532.58	20211.68		-6.1	20	
alpha-BHC	A	50.0	52.4	31522.31	33034.2		4.8	20	
alpha-BHC [2C]	A	50.0	49.7	22643.85	22522.92		-0.5	20	
alpha-Chlordane	L	50.0	48.0	29936.82	28742.88		-4.0	20	
alpha-Chlordane [2C]	A	50.0	47.6	21521.08	20475.96		-4.9	20	
beta-BHC	A	50.0	46.4	13863.48	12858.56		-7.2	20	
beta-BHC [2C]	A	50.0	47.3	10532.94	9957.16		-5.5	20	
delta-BHC	A	50.0	47.7	27949.34	26640.68		-4.7	20	
delta-BHC [2C]	A	50.0	52.4	19141.49	20064.96		4.8	20	
Dieldrin	L	50.0	50.4	27163.47	27358.48		0.7	20	
Dieldrin [2C]	A	50.0	51.1	18914.25	19323.44		2.2	20	
Endosulfan I	A	50.0	46.2	27803.37	25687.24		-7.6	20	
Endosulfan I [2C]	A	50.0	48.6	24749.24	24070.64		-2.7	20	
Endosulfan II	L	50.0	51.9	26234.9	27231.76		3.8	20	
Endosulfan II [2C]	L	50.0	54.3	16764.96	18193.6		8.5	20	
Endosulfan sulfate	L	50.0	54.3	24871.89	27016.16		8.6	20	
Endosulfan sulfate [2C]	L	50.0	56.7	16593.81	18823.16		13.4	20	
Endrin	L	50.0	55.6	21117.16	23469.56		11.1	20	
Endrin [2C]	L	50.0	50.4	13443.56	13541.4		0.7	20	
gamma-BHC (Lindane)	A	50.0	48.2	28307.31	27298.88		-3.6	20	
gamma-BHC (Lindane) [2C]	A	50.0	51.6	20435.27	21106.44		3.3	20	
Heptachlor	L	50.0	45.1	23772.84	21439.56		-9.8	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059248.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/07/19
Lab Sample ID:	Y9J0822-CCV6	Injection Time:	22:14

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	51.0	15921.55	16253.12		2.1	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059248.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059248.D\ECD2A.CH
Acq On : 7 Oct 2019 10:14 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 4:25 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2923638	2587400	165.024	145.343
	Spiked Amount 200.000	Range 30 - 150		Recovery =		82.51%	72.67%
23) SA	Decachlorobiphen	12.36	10.73	3887064	3144508	154.572	156.202
	Spiked Amount 200.000	Range 30 - 150		Recovery =		77.29%	78.10%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1651710	1126146	52.398	49.733
3) M	gamma-BHC (Linda	4.26	3.76	1364944	1055322	48.219	51.642
4) M	beta-BHC	4.36	3.85	642928	497858	46.376	47.267
5) M	delta-BHC	4.72	4.03	1332034	1003248	47.659	52.412
6) M	Heptachlor	4.79	4.26	1071978	812656	45.093	51.041
7) M	Aldrin	5.22	4.59	1505972	1010584	47.689	46.933
8) M	Alachlor	5.08	4.76	136414	161658	47.535m	56.448
9) M	Heptachlor Epoxi	6.04	5.33	1423700	849804	51.392	44.545
10) M	gamma-Chlordane	6.32	5.50	1426932	1032518	47.560	46.901
11) M	alpha-Chlordane	6.55	5.68	1437144	1023798	48.006	47.572
12) M	Endosulfan I	6.64	5.85	1284362	1203532	46.194	48.629
13) M	4,4'-DDE	6.84	5.81	1400562	745260	49.746	51.215
14) M	Dieldrin	7.08	6.20	1367924	966172	50.359	51.082
15) M	Endrin	7.59	6.53	1173478	677070	55.570	50.364
16) M	4,4'-DDD	7.82	6.69	1142814	832562	58.359	62.622m
17) M	Endosulfan II	7.96	6.87	1361588	909680	51.900	54.261
18) M	4,4'-DDT	8.37	7.13	534654	323126	49.282	48.937
19) M	Endrin Aldehyde	8.57	7.55	1114672	838574	50.919	59.886
20) M	Methoxychlor	9.70	8.00	327686	199430	58.052m	67.404m
21) M	Endosulfan sulfa	9.08	8.28	1350808	941158	54.311	56.717
22) M	Endrin Ketone	10.06	8.74	1459424	1021078	56.655	60.729m

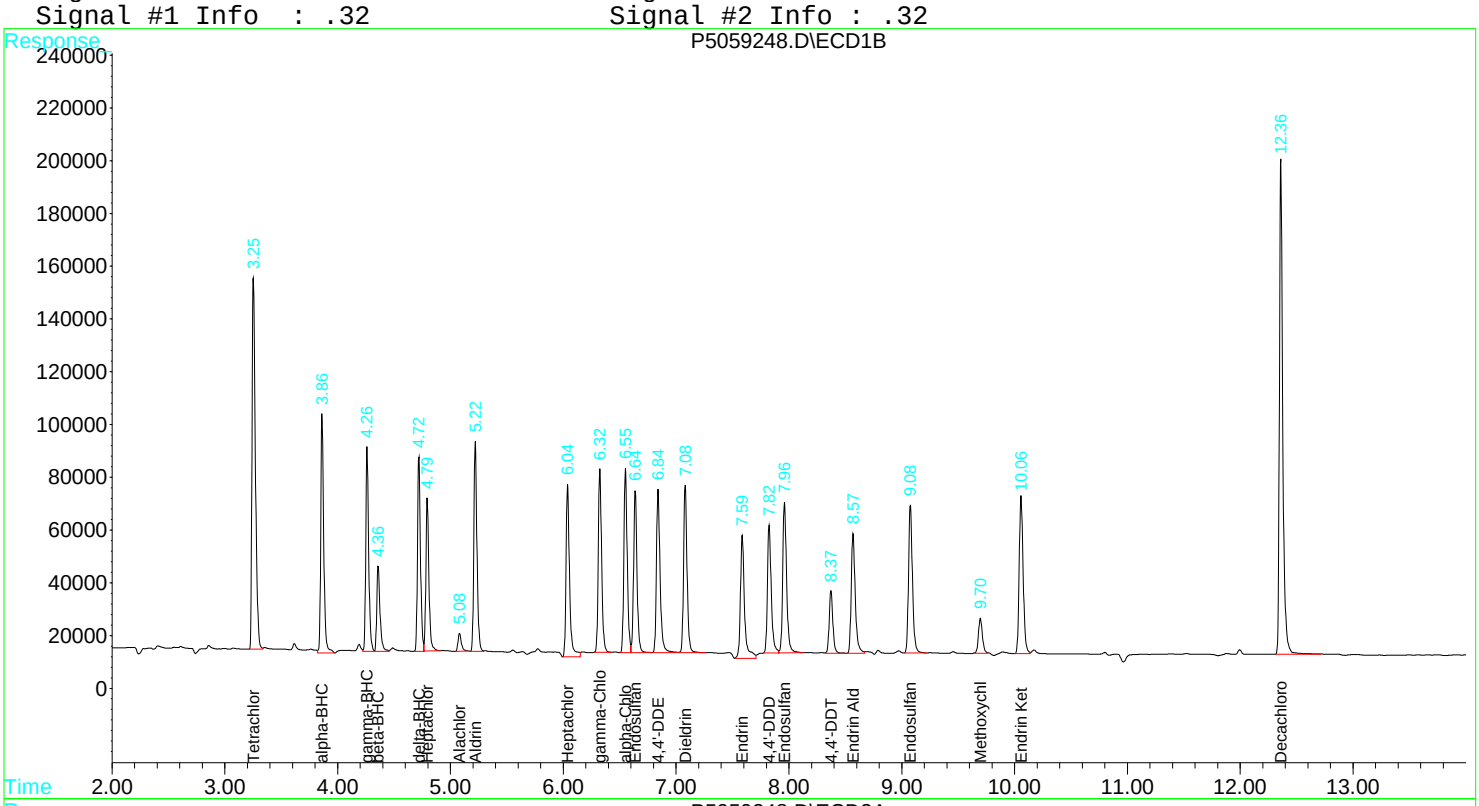
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059248.D C5081419.M Fri Oct 11 10:22:30 2019 Page 1

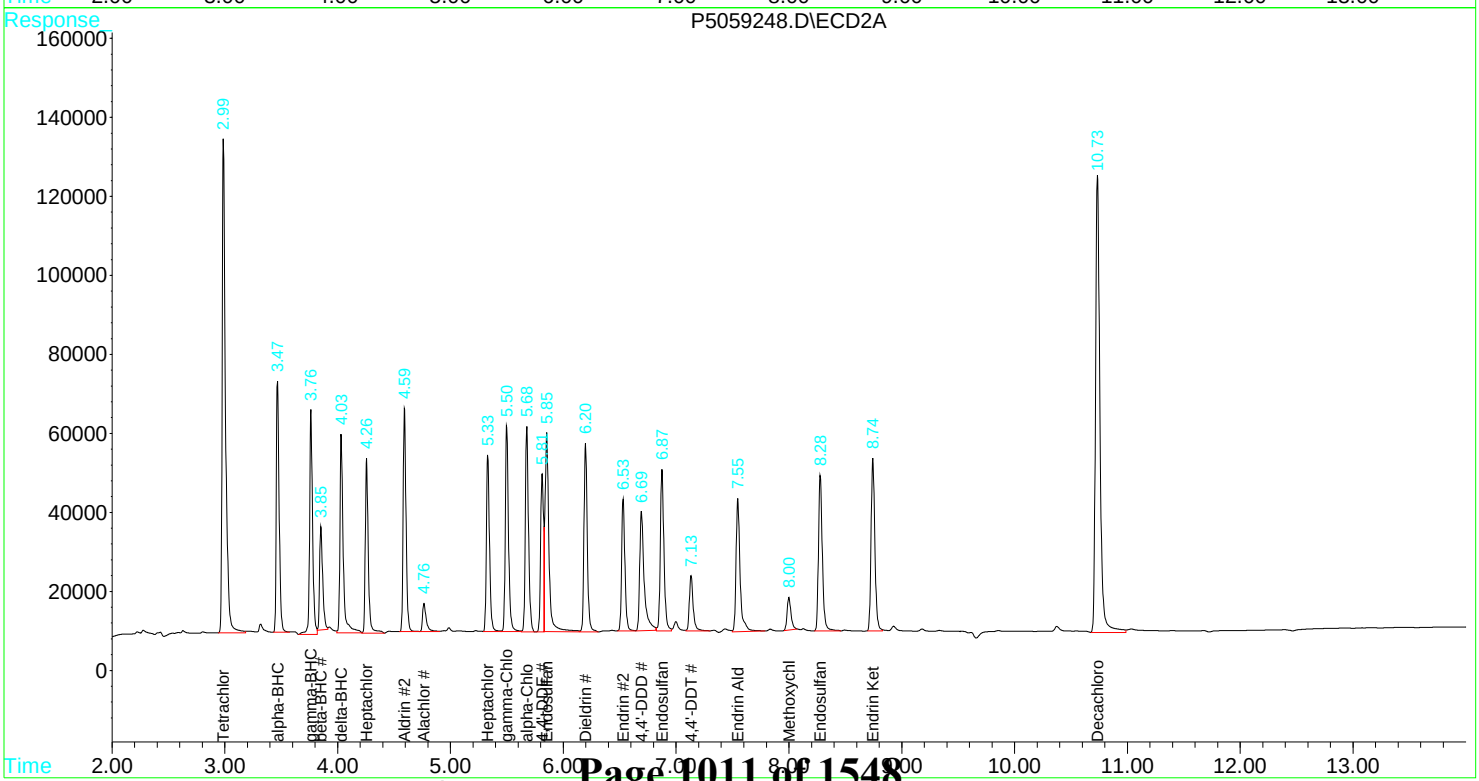
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059248.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059248.D\ECD2A.CH
Acq On : 7 Oct 2019 10:14 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 8 4:25 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059269.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/08/19
Lab Sample ID:	Y9J0822-CCV7	Injection Time:	04:31

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4,4'-DDD	A	50.0	57.6	19582.52	22560.88		15.2	20	
4,4'-DDD [2C]	A	50.0	60.7	13295.11	16133.04		21.3	20	*
4,4'-DDE	A	50.0	50.7	28154.29	28560.4		1.4	20	
4,4'-DDE [2C]	A	50.0	54.2	14551.49	15782.36		8.5	20	
4,4'-DDT	L	50.0	44.2	10848.91	9587.72		-11.6	20	
4,4'-DDT [2C]	L	50.0	43.7	6602.927	5769.96		-12.6	20	
Aldrin	A	50.0	51.8	31579.24	32686.6		3.5	20	
Aldrin [2C]	A	50.0	51.5	21532.58	22163.16		2.9	20	
alpha-BHC	A	50.0	57.5	31522.31	36224.76		14.9	20	
alpha-BHC [2C]	A	50.0	55.8	22643.85	25258.48		11.5	20	
alpha-Chlordane	L	50.0	49.6	29936.82	29707.76		-0.8	20	
alpha-Chlordane [2C]	A	50.0	49.7	21521.08	21384.24		-0.6	20	
beta-BHC	A	50.0	49.0	13863.48	13598.24		-1.9	20	
beta-BHC [2C]	A	50.0	51.1	10532.94	10771.68		2.3	20	
delta-BHC	A	50.0	50.9	27949.34	28458.92		1.8	20	
delta-BHC [2C]	A	50.0	56.7	19141.49	21697.24		13.4	20	
Dieldrin	L	50.0	51.7	27163.47	28103.28		3.5	20	
Dieldrin [2C]	A	50.0	52.9	18914.25	20009.32		5.8	20	
Endosulfan I	A	50.0	48.2	27803.37	26799.2		-3.6	20	
Endosulfan I [2C]	A	50.0	49.7	24749.24	24605.16		-0.6	20	
Endosulfan II	L	50.0	52.8	26234.9	27680.56		5.5	20	
Endosulfan II [2C]	L	50.0	55.2	16764.96	18521.52		10.5	20	
Endosulfan sulfate	L	50.0	54.0	24871.89	26836.8		7.9	20	
Endosulfan sulfate [2C]	L	50.0	57.0	16593.81	18927.16		14.1	20	
Endrin	L	50.0	54.8	21117.16	23133.72		9.6	20	
Endrin [2C]	L	50.0	50.6	13443.56	13604.8		1.2	20	
gamma-BHC (Lindane)	A	50.0	52.6	28307.31	29781.68		5.2	20	
gamma-BHC (Lindane) [2C]	A	50.0	57.3	20435.27	23403.2		14.5	20	
Heptachlor	L	50.0	48.5	23772.84	23060.52		-3.0	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059269.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0822	Injection Date:	10/08/19
Lab Sample ID:	Y9J0822-CCV7	Injection Time:	04:31

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	54.9	15921.55	17474.8		9.8	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059269.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059269.D\ECD2A.CH
Acq On : 8 Oct 2019 4:31 am Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 4:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.98	3200014	2861598	180.624	160.746
	Spiked Amount 200.000	Range 30 - 150		Recovery =		90.31%	80.37%
23) SA	Decachlorobiphen	12.36	10.74	3962568	3134262	157.574	155.693
	Spiked Amount 200.000	Range 30 - 150		Recovery =		78.79%	77.85%
	Target Compounds						
2) M	alpha-BHC	3.86	3.46	1811238	1262924	57.459	55.773
3) M	gamma-BHC (Linda	4.26	3.76	1489084	1170160	52.604	57.262
4) M	beta-BHC	4.36	3.85	679912	538584	49.043	51.133
5) M	delta-BHC	4.72	4.03	1422946	1084862	50.912	56.676
6) M	Heptachlor	4.79	4.25	1153026	873740	48.502	54.878
7) M	Aldrin	5.22	4.59	1634330	1108158	51.753	51.464
8) M	Alachlor	5.08	4.76	149028	165990	51.931m	57.961m
9) M	Heptachlor Epoxi	6.04	5.33	1479470	901542	53.405	47.257
10) M	gamma-Chlordane	6.32	5.50	1486992	1083336	49.562	49.209
11) M	alpha-Chlordane	6.55	5.67	1485388	1069212	49.617	49.682
12) M	Endosulfan I	6.64	5.85	1339960	1230258	48.194	49.709
13) M	4,4'-DDE	6.84	5.81	1428020	789118	50.721	54.229
14) M	Dieldrin	7.08	6.19	1405164	1000466	51.730	52.895
15) M	Endrin	7.58	6.53	1156686	680240	54.775	50.600
16) M	4,4'-DDD	7.82	6.69	1128044	806652	57.605	60.673m
17) M	Endosulfan II	7.96	6.87	1384028	926076	52.755	55.239
18) M	4,4'-DDT	8.37	7.13	479386	288498	44.187	43.692
19) M	Endrin Aldehyde	8.57	7.55	1124008	820152	51.345	58.508m
20) M	Methoxychlor	9.70	8.00	300270	175270	53.195m	59.238m
21) M	Endosulfan sulfa	9.08	8.28	1341840	946358	53.950	57.031
22) M	Endrin Ketone	10.06	8.74	1453528	1010084	56.427	60.075m

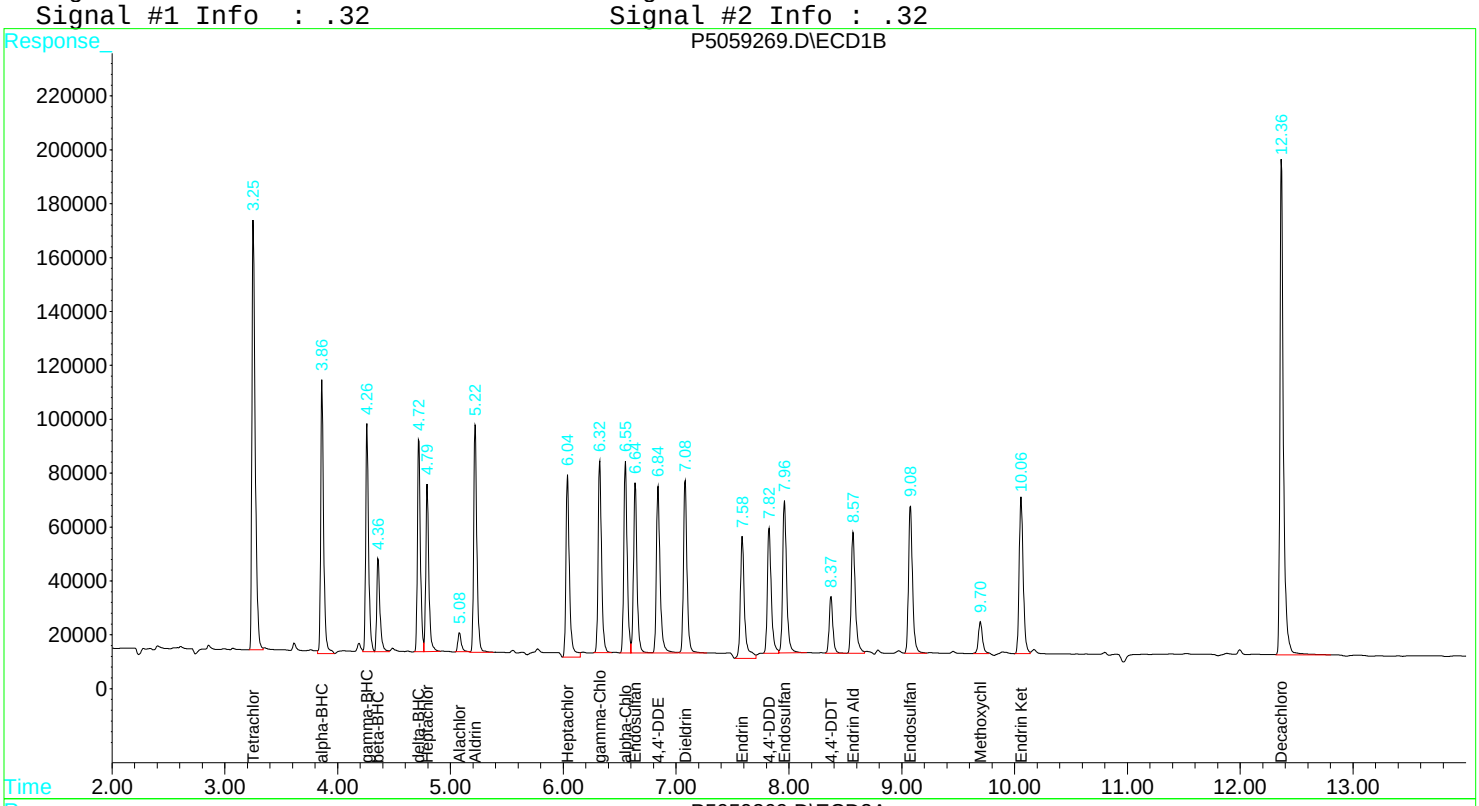
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059269.D C5081419.M Fri Oct 11 10:22:31 2019 Page 1

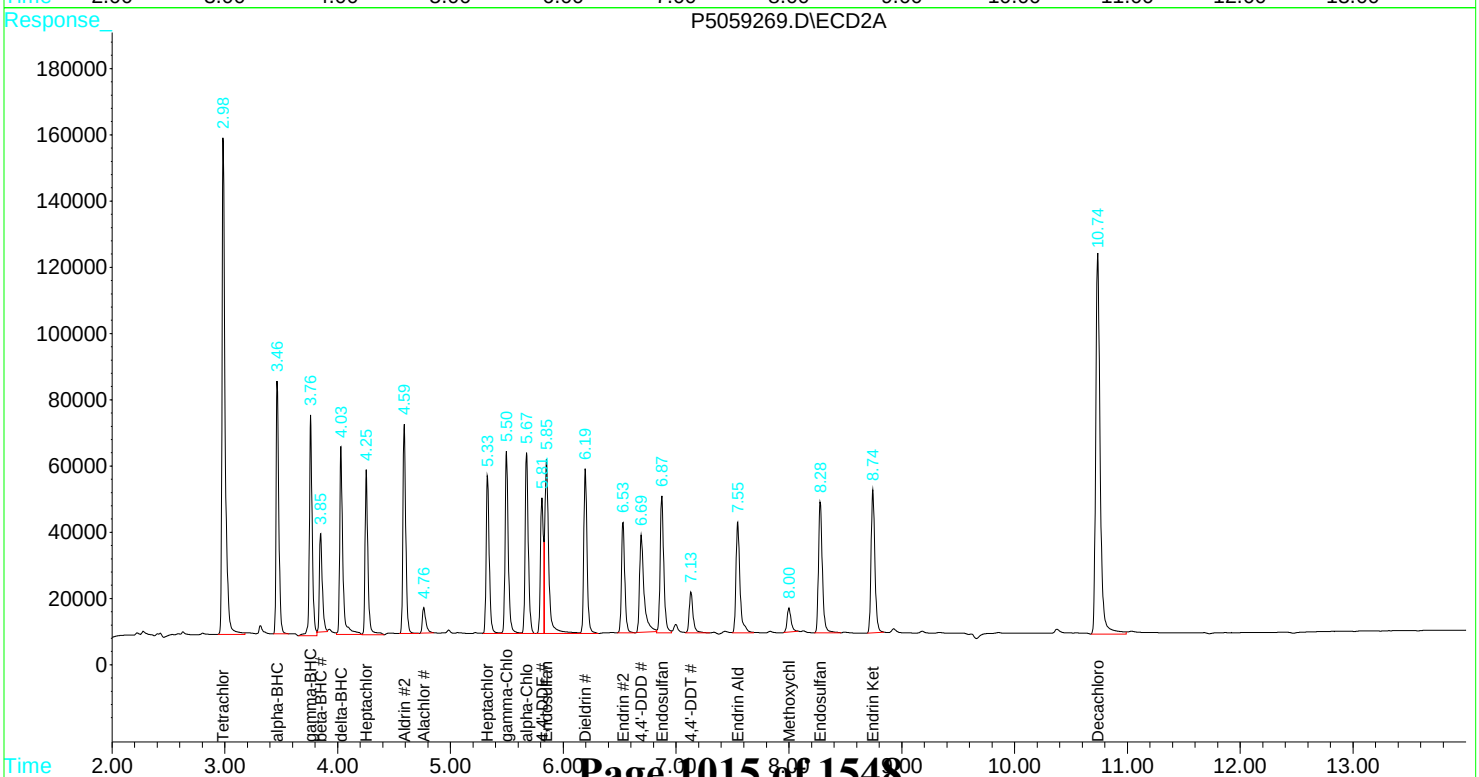
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059269.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059269.D\ECD2A.CH
Acq On : 8 Oct 2019 4:31 am Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 8 4:48 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059271.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV1	Injection Time:	05:20

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	58.3	19582.52	22815.56		16.5	20
4,4'-DDD [2C]	A	50.0	59.5	13295.11	15810.12		18.9	20
4,4'-DDE	A	50.0	45.1	28154.29	25378.12		-9.9	20
4,4'-DDE [2C]	A	50.0	54.2	14551.49	15769.56		8.4	20
4,4'-DDT	L	50.0	49.7	10848.91	10790.76		-0.5	20
4,4'-DDT [2C]	L	50.0	53.3	6602.927	7038.12		6.6	20
Aldrin	A	50.0	47.2	31579.24	29838.4		-5.5	20
Aldrin [2C]	A	50.0	47.0	21532.58	20244.88		-6.0	20
alpha-BHC	A	50.0	52.1	31522.31	32875.72		4.3	20
alpha-BHC [2C]	A	50.0	53.6	22643.85	24268.08		7.2	20
alpha-Chlordane	L	50.0	44.9	29936.82	26880.08		-10.2	20
alpha-Chlordane [2C]	A	50.0	46.9	21521.08	20180.52		-6.2	20
beta-BHC	A	50.0	45.0	13863.48	12469.44		-10.1	20
beta-BHC [2C]	A	50.0	49.6	10532.94	10457.52		-0.7	20
delta-BHC	A	50.0	44.4	27949.34	24845.52		-11.1	20
delta-BHC [2C]	A	50.0	55.1	19141.49	21092.52		10.2	20
Dieldrin	L	50.0	47.2	27163.47	25641.48		-5.6	20
Dieldrin [2C]	A	50.0	50.3	18914.25	19009.68		0.5	20
Endosulfan I	A	50.0	44.5	27803.37	24771.36		-10.9	20
Endosulfan I [2C]	A	50.0	45.4	24749.24	22470.64		-9.2	20
Endosulfan II	L	50.0	49.7	26234.9	26088.28		-0.6	20
Endosulfan II [2C]	L	50.0	52.3	16764.96	17530.4		4.6	20
Endosulfan sulfate	L	50.0	50.1	24871.89	24927.36		0.2	20
Endosulfan sulfate [2C]	L	50.0	54.1	16593.81	17942.08		8.1	20
Endrin	L	50.0	53.1	21117.16	22438.6		6.3	20
Endrin [2C]	L	50.0	51.2	13443.56	13779.4		2.5	20
gamma-BHC (Lindane)	A	50.0	48.3	28307.31	27349.76		-3.4	20
gamma-BHC (Lindane) [2C]	A	50.0	53.9	20435.27	22031.36		7.8	20
Heptachlor	L	50.0	46.3	23772.84	22012.08		-7.4	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059271.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV1	Injection Time:	05:20

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	54.2	15921.55	17273.04		8.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059271.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059271.D\ECD2A.CH
Acq On : 8 Oct 2019 5:20 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 5:46 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2923280	2714248	165.003	152.469
	Spiked Amount 200.000	Range 30 - 150		Recovery =		82.50%	76.23%
23) SA	Decachlorobiphen	12.37	10.74	3652530	2931420	145.245	145.617
	Spiked Amount 200.000	Range 30 - 150		Recovery =		72.62%	72.81%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1643786	1213404	52.147	53.586
3) M	gamma-BHC (Linda	4.26	3.76	1367488	1101568	48.309	53.905
4) M	beta-BHC	4.36	3.85	623472	522876	44.972	49.642
5) M	delta-BHC	4.72	4.03	1242276	1054626	44.447	55.096
6) M	Heptachlor	4.79	4.26	1100604	863652	46.297	54.244
7) M	Aldrin	5.22	4.59	1491920	1012244	47.244	47.010
8) M	Alachlor	5.08	4.77	143970	170202	50.168m	59.431
9) M	Heptachlor Epoxi	6.04	5.33	1361516	871612	49.147	45.688
10) M	gamma-Chlordane	6.32	5.50	1340882	1022218	44.692	46.433
11) M	alpha-Chlordane	6.55	5.68	1344004	1009026	44.895	46.885
12) M	Endosulfan I	6.64	5.85	1238568	1123532	44.547	45.397
13) M	4,4'-DDE	6.84	5.81	1268906	788478	45.070	54.185
14) M	Dieldrin	7.08	6.20	1282074	950484	47.198	50.252
15) M	Endrin	7.59	6.53	1121930	688970	53.129	51.249
16) M	4,4'-DDD	7.82	6.69	1140778	790506	58.255	59.458m
17) M	Endosulfan II	7.96	6.88	1304414	876520	49.721	52.283
18) M	4,4'-DDT	8.37	7.13	539538	351906	49.732	53.295
19) M	Endrin Aldehyde	8.57	7.55	1023806	800688	46.768	57.056
20) M	Methoxychlor	9.70	8.00	334946	230310	59.338m	77.841m#
21) M	Endosulfan sulfa	9.08	8.28	1246368	897104	50.112	54.063
22) M	Endrin Ketone	10.06	8.75	1375246	996590	53.388	59.273

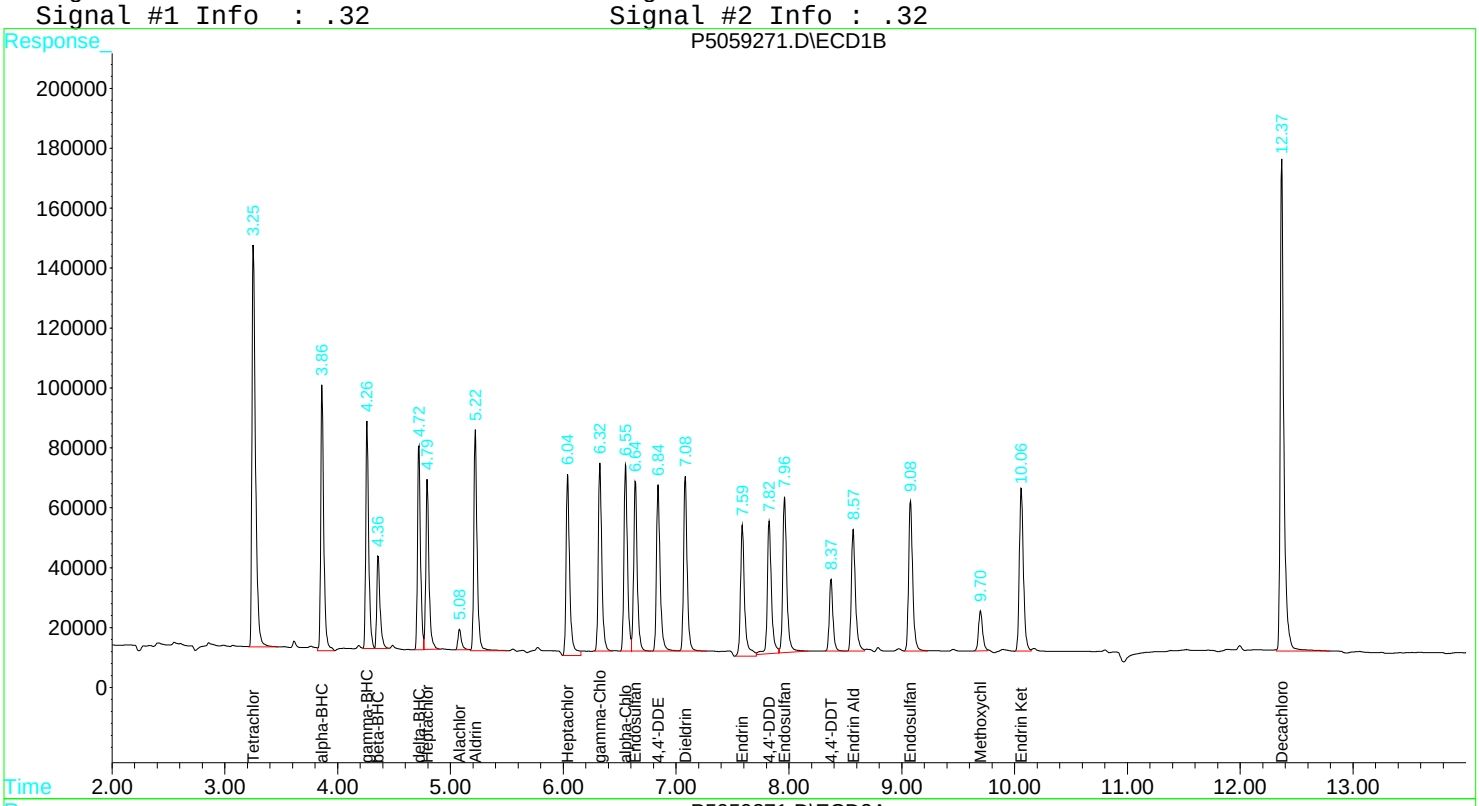
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

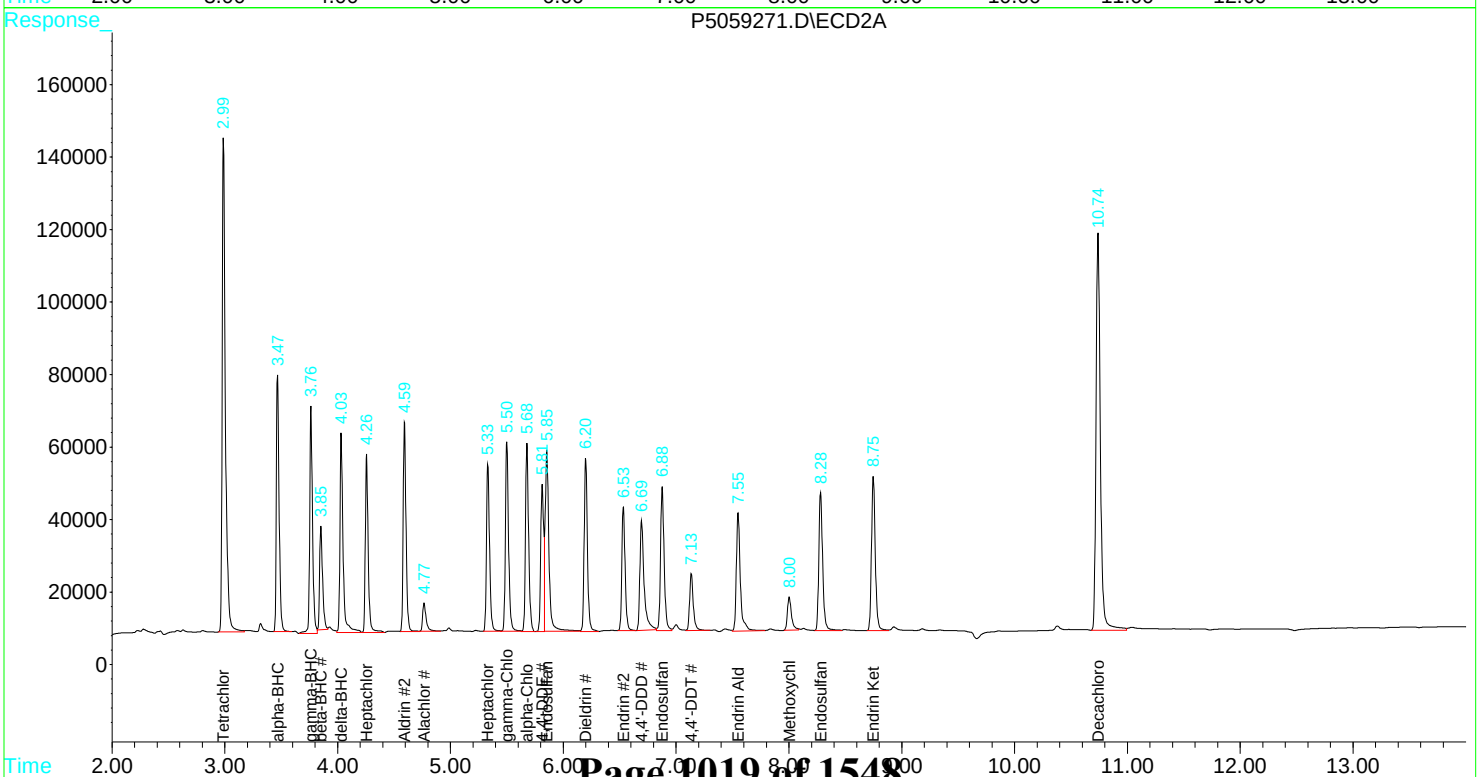
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059271.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059271.D\ECD2A.CH
Acq On : 8 Oct 2019 5:20 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 5:46 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059294.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV4	Injection Time:	12:13

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	40.2	19582.52	15749.76		-19.6	20
4,4'-DDD [2C]	A	50.0	49.0	13295.11	13042.24		-1.9	20
4,4'-DDE	A	50.0	40.3	28154.29	22680.24		-19.4	20
4,4'-DDE [2C]	A	50.0	40.4	14551.49	11772.04		-19.1	20
4,4'-DDT	L	50.0	41.3	10848.91	8955.24		-17.5	20
4,4'-DDT [2C]	L	50.0	43.7	6602.927	5766.52		-12.7	20
Aldrin	A	50.0	40.3	31579.24	25440.68		-19.4	20
Aldrin [2C]	A	50.0	40.1	21532.58	17266.36		-19.8	20
alpha-BHC	A	50.0	42.9	31522.31	27027.8		-14.3	20
alpha-BHC [2C]	A	50.0	45.0	22643.85	20362.68		-10.1	20
alpha-Chlordane	L	50.0	41.2	29936.82	24679.6		-17.6	20
alpha-Chlordane [2C]	A	50.0	40.4	21521.08	17391.76		-19.2	20
beta-BHC	A	50.0	41.1	13863.48	11405.72		-17.7	20
beta-BHC [2C]	A	50.0	40.3	10532.94	8485.16		-19.4	20
delta-BHC	A	50.0	40.4	27949.34	22559.2		-19.3	20
delta-BHC [2C]	A	50.0	44.8	19141.49	17169.04		-10.3	20
Dieldrin	L	50.0	41.1	27163.47	22304.12		-17.9	20
Dieldrin [2C]	A	50.0	41.0	18914.25	15526.04		-17.9	20
Endosulfan I	A	50.0	40.2	27803.37	22355.16		-19.6	20
Endosulfan I [2C]	A	50.0	41.8	24749.24	20671.32		-16.5	20
Endosulfan II	L	50.0	40.7	26234.9	21360.56		-18.6	20
Endosulfan II [2C]	L	50.0	43.2	16764.96	14468.4		-13.7	20
Endosulfan sulfate	L	50.0	40.0	24871.89	19921.24		-19.9	20
Endosulfan sulfate [2C]	L	50.0	46.0	16593.81	15274.28		-8.0	20
Endrin	L	50.0	42.8	21117.16	18079.08		-14.4	20
Endrin [2C]	L	50.0	42.0	13443.56	11296.64		-16.0	20
gamma-BHC (Lindane)	A	50.0	40.1	28307.31	22675.16		-19.9	20
gamma-BHC (Lindane) [2C]	A	50.0	45.9	20435.27	18770.84		-8.1	20
Heptachlor	L	50.0	42.8	23772.84	20348.72		-14.4	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059294.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV4	Injection Time:	12:13

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	43.7	15921.55	13930.44		-12.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059294.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059294.D\ECD2A.CH
Acq On : 8 Oct 2019 12:13 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 12:36 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2613750	2314484	147.532	130.013
	Spiked Amount 200.000	Range 30 - 150		Recovery =		73.77%	65.01%
23) SA	Decachlorobiphen	12.36	10.74	2704886	2412446	107.562	119.837
	Spiked Amount 200.000	Range 30 - 150		Recovery =		53.78%	59.92%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1351390	1018134	42.871	44.963
3) M	gamma-BHC (Linda	4.26	3.76	1133758	938542	40.052m	45.928
4) M	beta-BHC	4.36	3.85	570286	424258	41.136m	40.279
5) M	delta-BHC	4.72	4.03	1127960	858452	40.357m	44.848
6) M	Heptachlor	4.72f	4.26	1017436	696522	42.798m	43.747
7) M	Aldrin	5.22	4.59	1272034	863318	40.281m	40.094m
8) M	Alachlor	5.08	4.76	118206	136386	41.191m	47.623
9) M	Heptachlor Epoxi	6.04	5.33	1142778	754252	41.251m	39.537m
10) M	gamma-Chlordane	6.32	5.50	1227454	868108	40.911m	39.433m
11) M	alpha-Chlordane	6.55	5.68	1233980	869588	41.219m	40.406m
12) M	Endosulfan I	6.64	5.85	1117758	1033566	40.202m	41.762m
13) M	4,4'-DDE	6.84	5.81	1134012	588602	40.278m	40.450
14) M	Dieldrin	7.08	6.20	1115206	776302	41.055m	41.043
15) M	Endrin	7.58	6.53	903954	564832	42.807	42.015
16) M	4,4'-DDD	7.82	6.69	787488	652112	40.214	49.049
17) M	Endosulfan II	7.96	6.88	1068028	723420	40.710m	43.151
18) M	4,4'-DDT	8.37	7.13	447762	288326	41.273m	43.666m
19) M	Endrin Aldehyde	8.57	7.55	876668	652530	40.046m	46.109
20) M	Methoxychlor	9.69	8.00	266510	168384	47.214	56.911m
21) M	Endosulfan sulfa	9.07	8.28	996062	763714	40.048m	46.024m
22) M	Endrin Ketone	10.05	8.74	1036622	804116	40.242	47.825

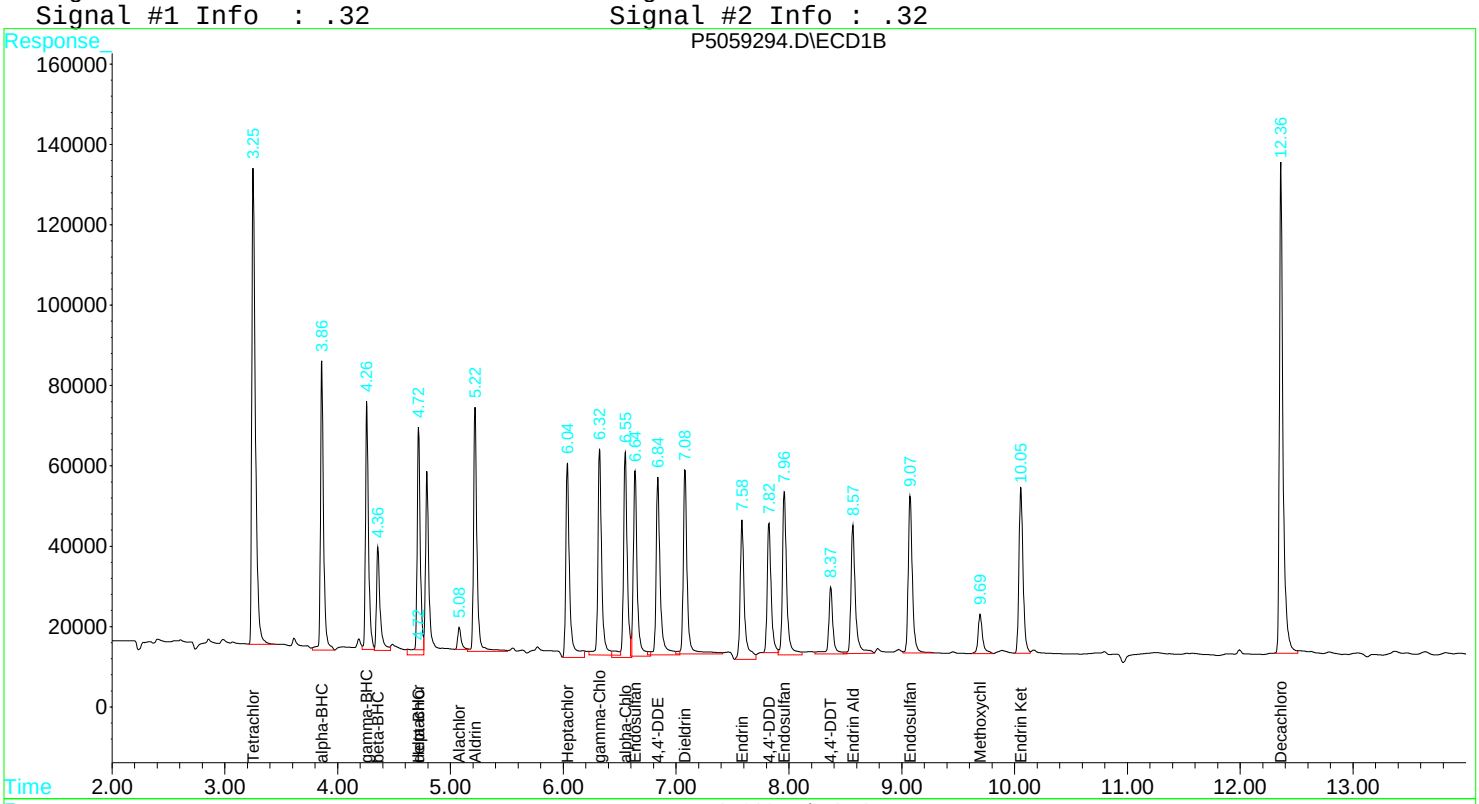
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059294.D P5091619.M Tue Oct 08 12:36:53 2019 Page 1

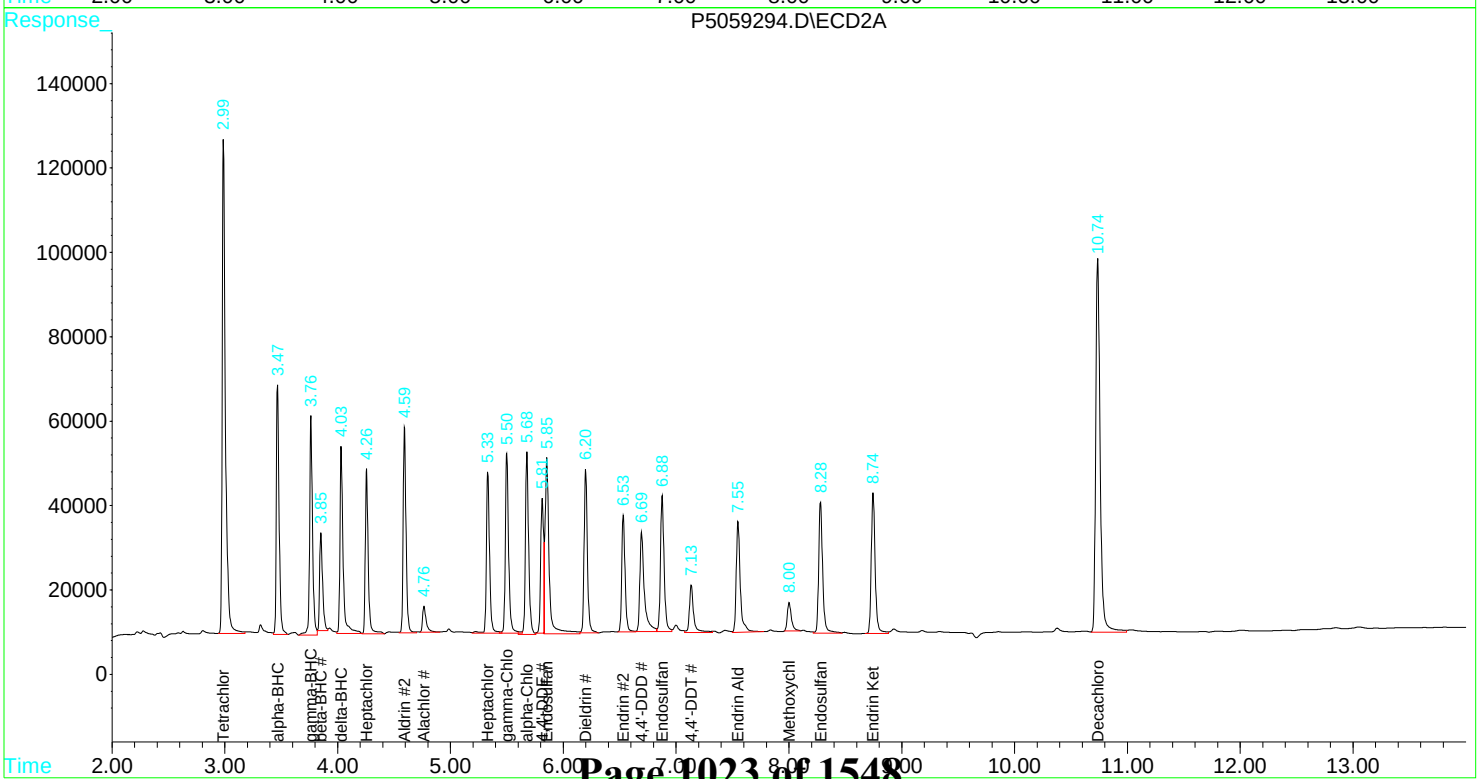
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059294.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059294.D\ECD2A.CH
Acq On : 8 Oct 2019 12:13 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 12:36 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059306.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV5	Injection Time:	15:47

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	58.5	19582.52	22911.84		17.0	20
4,4'-DDD [2C]	A	50.0	58.2	13295.11	15484.84		16.5	20
4,4'-DDE	A	50.0	44.7	28154.29	25154.8		-10.7	20
4,4'-DDE [2C]	A	50.0	52.4	14551.49	15258.92		4.9	20
4,4'-DDT	L	50.0	54.5	10848.91	11833.32		9.1	20
4,4'-DDT [2C]	L	50.0	56.4	6602.927	7448.2		12.8	20
Aldrin	A	50.0	46.1	31579.24	29128.72		-7.8	20
Aldrin [2C]	A	50.0	44.5	21532.58	19143.44		-11.1	20
alpha-BHC	A	50.0	51.7	31522.31	32609.8		3.4	20
alpha-BHC [2C]	A	50.0	50.5	22643.85	22888.92		1.1	20
alpha-Chlordane	L	50.0	44.0	29936.82	26360.76		-11.9	20
alpha-Chlordane [2C]	A	50.0	44.3	21521.08	19083.4		-11.3	20
beta-BHC	A	50.0	45.0	13863.48	12490.92		-9.9	20
beta-BHC [2C]	A	50.0	46.4	10532.94	9769.6		-7.2	20
delta-BHC	A	50.0	45.6	27949.34	25495.44		-8.8	20
delta-BHC [2C]	A	50.0	53.1	19141.49	20328.36		6.2	20
Dieldrin	L	50.0	46.5	27163.47	25277.68		-6.9	20
Dieldrin [2C]	A	50.0	48.0	18914.25	18146.72		-4.1	20
Endosulfan I	A	50.0	43.4	27803.37	24158.52		-13.1	20
Endosulfan I [2C]	A	50.0	42.9	24749.24	21252.48		-14.1	20
Endosulfan II	L	50.0	48.5	26234.9	25450.08		-3.0	20
Endosulfan II [2C]	L	50.0	49.9	16764.96	16740.32		-0.1	20
Endosulfan sulfate	L	50.0	49.2	24871.89	24469.52		-1.6	20
Endosulfan sulfate [2C]	L	50.0	52.4	16593.81	17393.96		4.8	20
Endrin	L	50.0	57.2	21117.16	24165		14.4	20
Endrin [2C]	L	50.0	52.3	13443.56	14065.88		4.6	20
gamma-BHC (Lindane)	A	50.0	48.4	28307.31	27412.44		-3.2	20
gamma-BHC (Lindane) [2C]	A	50.0	52.7	20435.27	21522		5.3	20
Heptachlor	L	50.0	46.5	23772.84	22118.6		-7.0	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059306.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV5	Injection Time:	15:47

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	53.6	15921.55	17065		7.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059306.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059306.D\ECD2A.CH
Acq On : 8 Oct 2019 3:47 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 16:05 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3017952	2567278	170.347	144.213
	Spiked Amount 200.000	Range 30 - 150		Recovery =		85.17%	72.11%
23) SA	Decachlorobiphen	12.36	10.74	3086762	2718544	122.747	135.043
	Spiked Amount 200.000	Range 30 - 150		Recovery =		61.37%	67.52%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1630490	1144446	51.725	50.541
3) M	gamma-BHC (Linda	4.26	3.76	1370622	1076100	48.419	52.659
4) M	beta-BHC	4.36	3.85	624546	488480	45.050	46.376
5) M	delta-BHC	4.72	4.03	1274772	1016418	45.610	53.100
6) M	Heptachlor	4.79	4.26	1105930	853250	46.521	53.591
7) M	Aldrin	5.22	4.59	1456436	957172	46.120	44.452
8) M	Alachlor	5.08	4.77	143070	152746	49.855m	53.336
9) M	Heptachlor Epoxi	6.04	5.33	1356528	814440	48.967	42.692
10) M	gamma-Chlordane	6.32	5.50	1322640	961864	44.084	43.692
11) M	alpha-Chlordane	6.55	5.68	1318038	954170	44.027	44.337
12) M	Endosulfan I	6.64	5.85	1207926	1062624	43.445	42.936
13) M	4,4'-DDE	6.84	5.81	1257740	762946	44.673	52.431
14) M	Dieldrin	7.08	6.20	1263884	907336	46.529	47.971
15) M	Endrin	7.58	6.53	1208250	703294	57.217	52.315
16) M	4,4'-DDD	7.82	6.69	1145592	774242	58.501	58.235
17) M	Endosulfan II	7.96	6.88	1272504	837016	48.504	49.927
18) M	4,4'-DDT	8.37	7.13	591666	372410	54.537	56.401
19) M	Endrin Aldehyde	8.57	7.55	995710	765562	45.484	54.443
20) M	Methoxychlor	9.70	8.00	350684	238234	62.126m	80.519m#
21) M	Endosulfan sulfa	9.07	8.28	1223476	869698	49.191	52.411
22) M	Endrin Ketone	10.06	8.75	1293462	932444	50.213	55.458

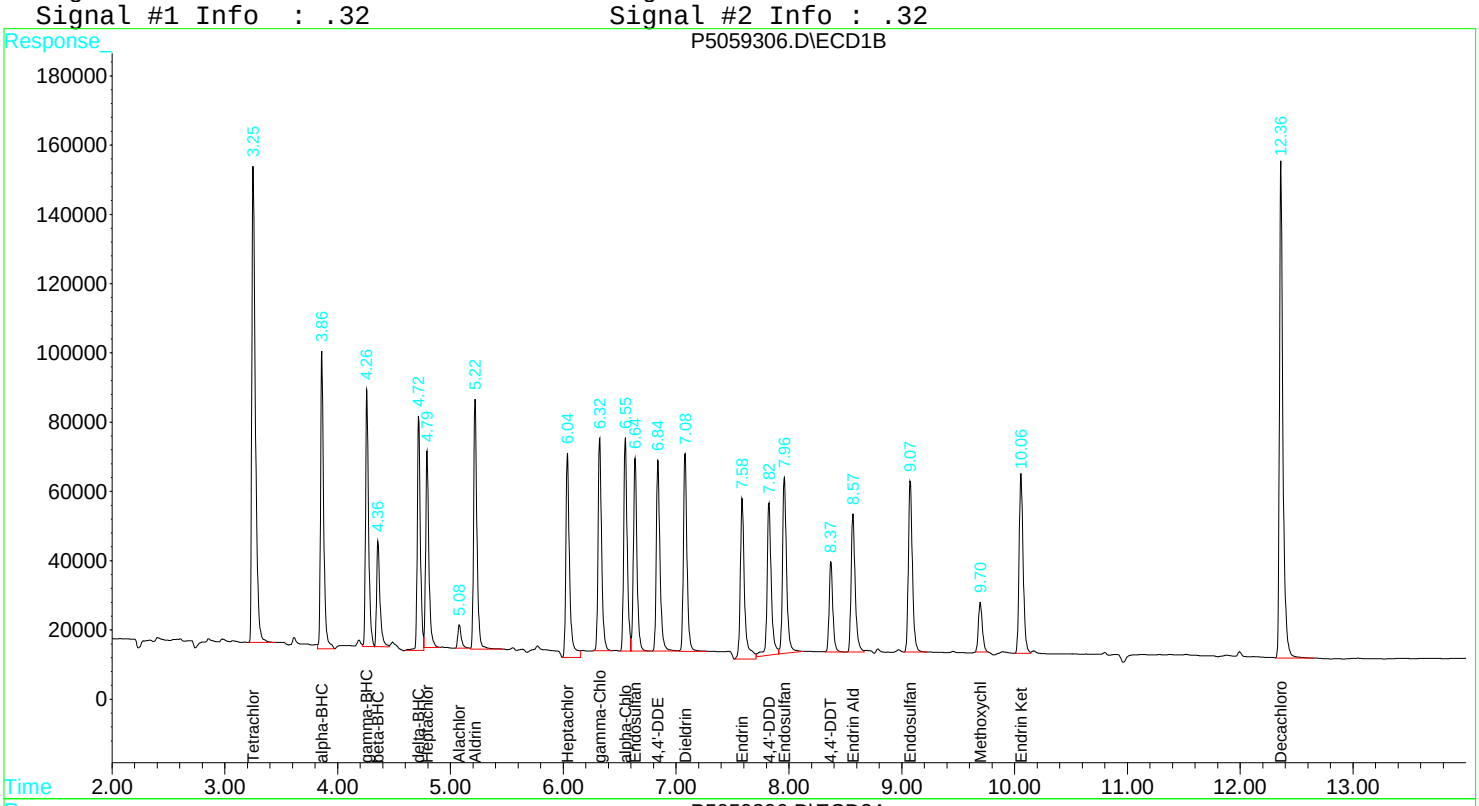
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P5059306.D P5091619.M Tue Oct 08 16:06:12 2019 Page 1

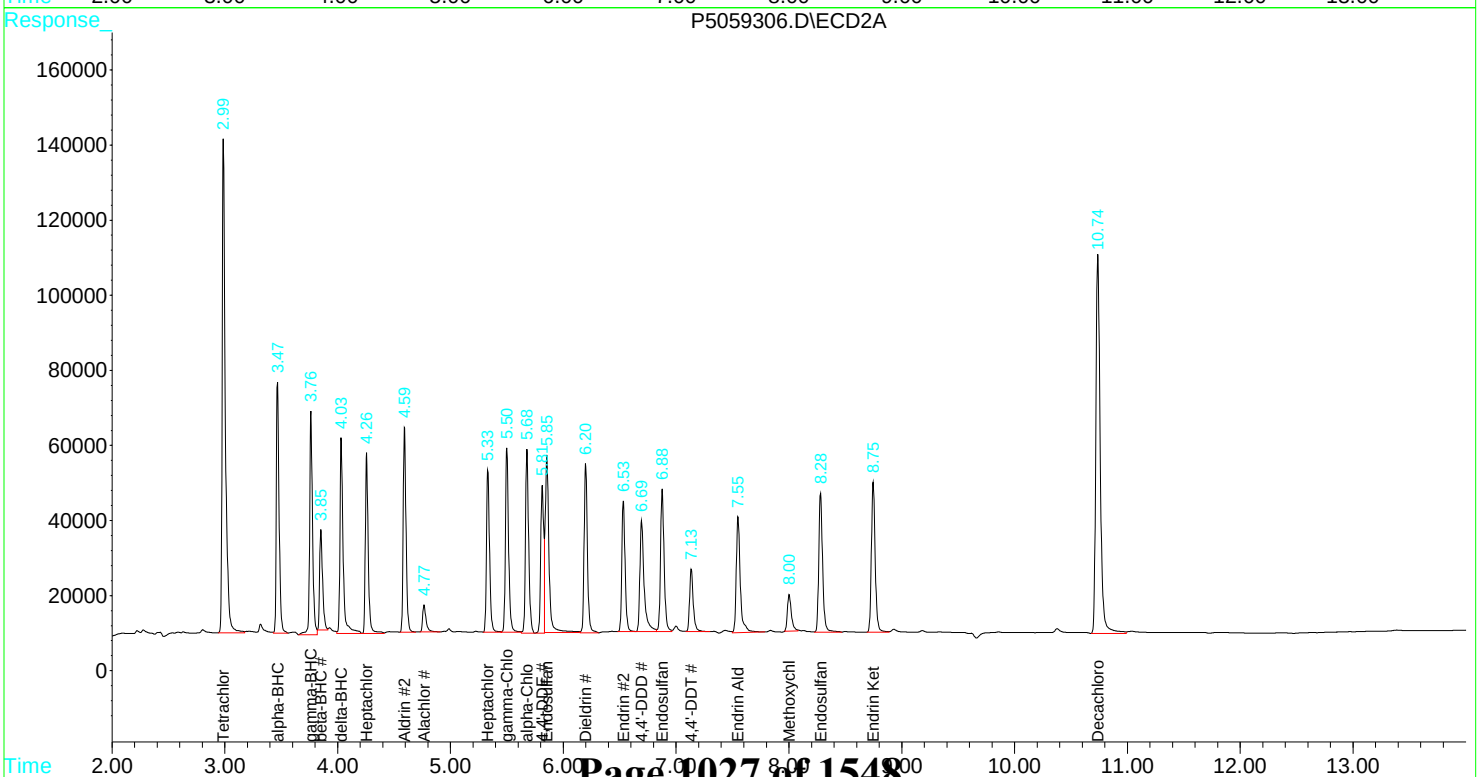
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059306.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059306.D\ECD2A.CH
Acq On : 8 Oct 2019 3:47 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 16:05 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059308.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV6	Injection Time:	16:29

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	52.5	19582.52	20552.48		5.0	20
4,4'-DDD [2C]	A	50.0	51.3	13295.11	13652.52		2.7	20
4,4'-DDE	A	50.0	40.3	28154.29	22698.32		-19.4	20
4,4'-DDE [2C]	A	50.0	47.1	14551.49	13718.88		-5.7	20
4,4'-DDT	L	50.0	44.3	10848.91	9605.44		-11.5	20
4,4'-DDT [2C]	L	50.0	44.8	6602.927	5911.28		-10.5	20
Aldrin	A	50.0	42.4	31579.24	26793.84		-15.2	20
Aldrin [2C]	A	50.0	42.4	21532.58	18271.08		-15.1	20
alpha-BHC	A	50.0	48.8	31522.31	30769.84		-2.4	20
alpha-BHC [2C]	A	50.0	49.2	22643.85	22289.36		-1.6	20
alpha-Chlordane	L	50.0	40.1	29936.82	24032.92		-19.7	20
alpha-Chlordane [2C]	A	50.0	41.2	21521.08	17748.76		-17.5	20
beta-BHC	A	50.0	43.7	13863.48	12128.68		-12.5	20
beta-BHC [2C]	A	50.0	44.6	10532.94	9399.32		-10.8	20
delta-BHC	A	50.0	40.6	27949.34	22714.36		-18.7	20
delta-BHC [2C]	A	50.0	49.8	19141.49	19061.88		-0.4	20
Dieldrin	L	50.0	41.6	27163.47	22579.64		-16.9	20
Dieldrin [2C]	A	50.0	44.2	18914.25	16725.72		-11.6	20
Endosulfan I	A	50.0	40.8	27803.37	22703.48		-18.3	20
Endosulfan I [2C]	A	50.0	40.6	24749.24	20073.72		-18.9	20
Endosulfan II	L	50.0	44.6	26234.9	23388.92		-10.8	20
Endosulfan II [2C]	L	50.0	44.7	16764.96	14989.12		-10.6	20
Endosulfan sulfate	L	50.0	42.2	24871.89	20983.28		-15.6	20
Endosulfan sulfate [2C]	L	50.0	46.0	16593.81	15272.56		-8.0	20
Endrin	L	50.0	49.5	21117.16	20886.36		-1.1	20
Endrin [2C]	L	50.0	46.4	13443.56	12475.56		-7.2	20
gamma-BHC (Lindane)	A	50.0	44.9	28307.31	25404.48		-10.3	20
gamma-BHC (Lindane) [2C]	A	50.0	49.6	20435.27	20280.64		-0.8	20
Heptachlor	L	50.0	42.0	23772.84	19954.96		-16.1	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059308.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV6	Injection Time:	16:29

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	48.6	15921.55	15466.72		-2.9	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059308.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059308.D\ECD2A.CH
Acq On : 8 Oct 2019 4:29 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:28 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2804528	2510248	158.301	141.009
	Spiked Amount 200.000	Range 30 - 150		Recovery =		79.15%	70.50%
23) SA	Decachlorobiphen	12.36	10.74	2684966	2285032	106.769	113.508
	Spiked Amount 200.000	Range 30 - 150		Recovery =		53.38%	56.75%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1538492	1114468	48.806	49.217
3) M	gamma-BHC (Linda	4.26	3.76	1270224	1014032	44.873	49.622
4) M	beta-BHC	4.36	3.85	606434	469966	43.743	44.619
5) M	delta-BHC	4.72	4.03	1135718	953094	40.635	49.792
6) M	Heptachlor	4.79	4.26	997748	773336	41.970	48.572
7) M	Aldrin	5.22	4.59	1339692	913554	42.423	42.427
8) M	Alachlor	5.08	4.77	135270	148656	47.137m	51.908
9) M	Heptachlor Epoxi	6.04	5.33	1253976	785176	45.265	41.158
10) M	gamma-Chlordane	6.32	5.50	1204210	895842	40.136	40.693
11) M	alpha-Chlordane	6.55	5.68	1201646	887438	40.139m	41.236
12) M	Endosulfan I	6.64	5.86	1135174	1003686	40.829m	40.554
13) M	4,4'-DDE	6.84	5.81	1134916	685944	40.311m	47.139m
14) M	Dieldrin	7.08	6.20	1128982	836286	41.563	44.215
15) M	Endrin	7.58	6.53	1044318	623778	49.454	46.400
16) M	4,4'-DDD	7.82	6.69	1027624	682626	52.477	51.344
17) M	Endosulfan II	7.96	6.88	1169446	749456	44.576	44.704
18) M	4,4'-DDT	8.37	7.14	480272	295564	44.269	44.763
19) M	Endrin Aldehyde	8.57	7.55	883306	659144	40.350m	46.594m
20) M	Methoxychlor	9.70	8.00	327904	203902	58.091	68.916
21) M	Endosulfan sulfa	9.07	8.28	1049164	763628	42.183	46.019
22) M	Endrin Ketone	10.06	8.75	1144698	843094	44.438	50.143

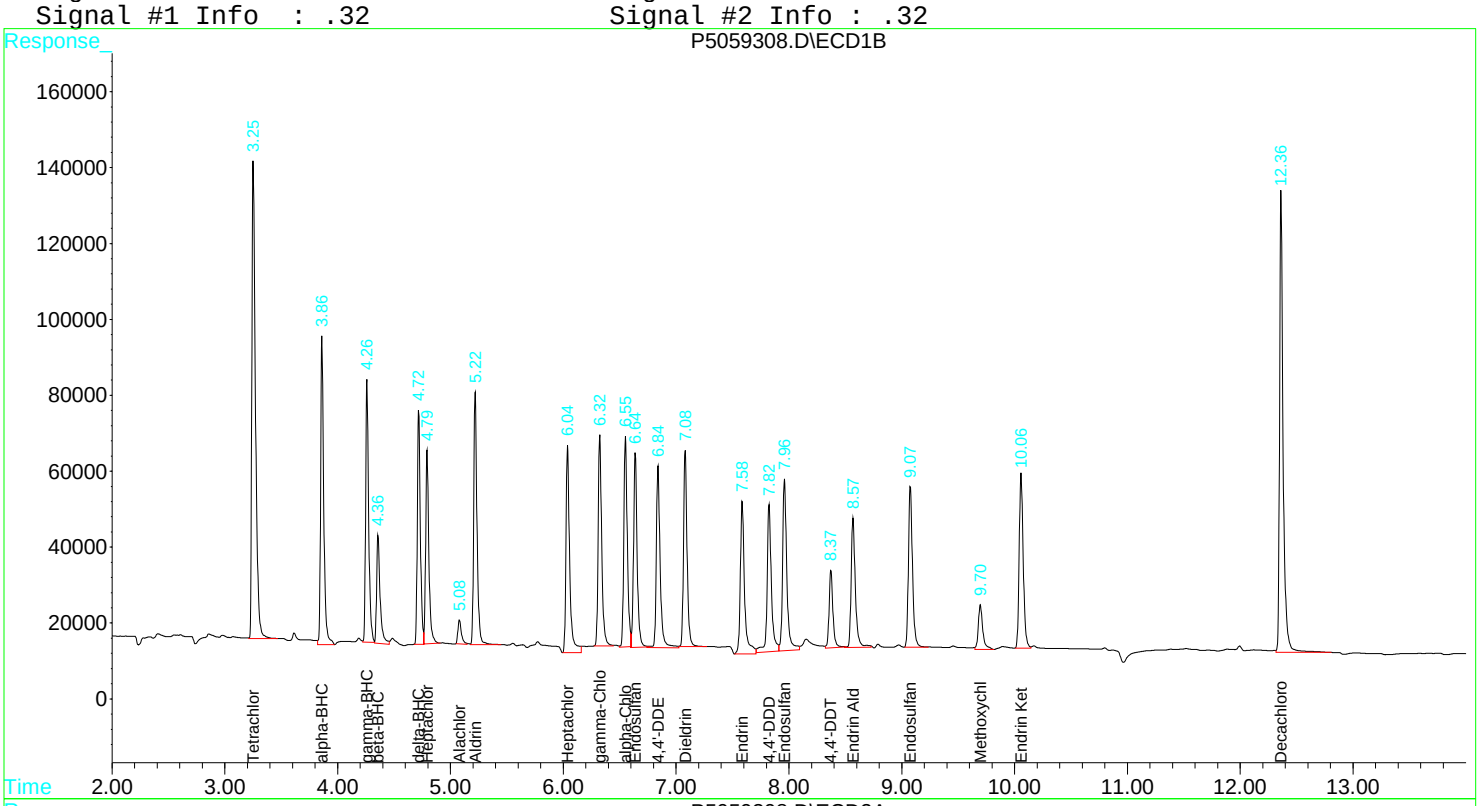
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P5059308.D P5091619.M Wed Oct 09 12:28:30 2019 Page 1

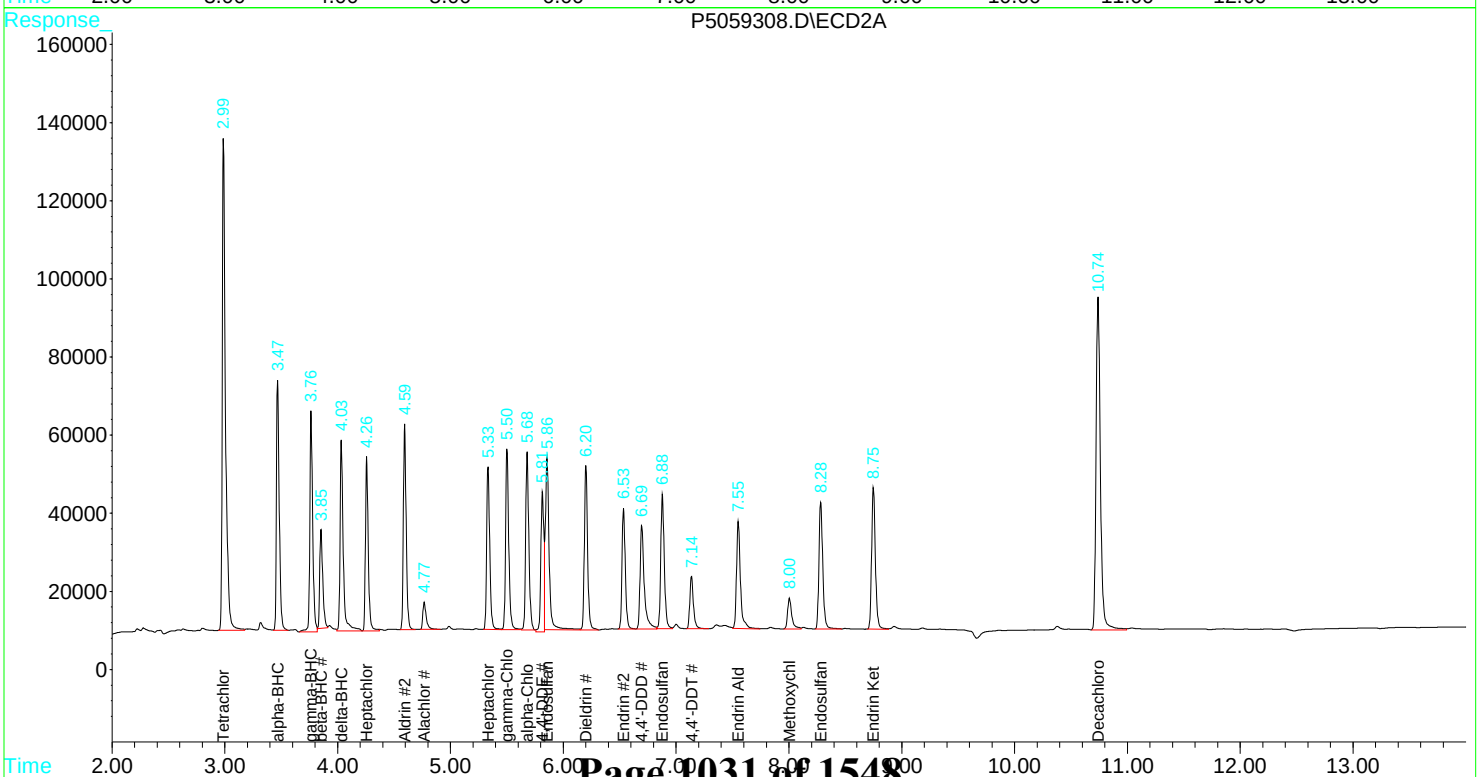
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059308.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059308.D\ECD2A.CH
Acq On : 8 Oct 2019 4:29 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:28 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059329.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV7	Injection Time:	22:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	50.4	19582.52	19723.16		0.7	20
4,4'-DDD [2C]	A	50.0	51.0	13295.11	13566.12		2.0	20
4,4'-DDE	A	50.0	40.5	28154.29	22796.68		-19.0	20
4,4'-DDE [2C]	A	50.0	44.5	14551.49	12945.44		-11.0	20
4,4'-DDT	L	50.0	40.8	10848.91	8844.6		-18.5	20
4,4'-DDT [2C]	L	50.0	40.5	6602.927	5348.36		-19.0	20
Aldrin	A	50.0	44.8	31579.24	28321.16		-10.3	20
Aldrin [2C]	A	50.0	45.7	21532.58	19684.6		-8.6	20
alpha-BHC	A	50.0	51.2	31522.31	32248.04		2.3	20
alpha-BHC [2C]	A	50.0	51.6	22643.85	23376.24		3.2	20
alpha-Chlordane	L	50.0	41.2	29936.82	24668.88		-17.6	20
alpha-Chlordane [2C]	A	50.0	43.4	21521.08	18661.44		-13.3	20
beta-BHC	A	50.0	42.1	13863.48	11668.72		-15.8	20
beta-BHC [2C]	A	50.0	44.8	10532.94	9447.12		-10.3	20
delta-BHC	A	50.0	42.5	27949.34	23765.24		-15.0	20
delta-BHC [2C]	A	50.0	50.7	19141.49	19398.56		1.3	20
Dieldrin	L	50.0	43.2	27163.47	23475.12		-13.6	20
Dieldrin [2C]	A	50.0	46.0	18914.25	17406.52		-8.0	20
Endosulfan I	A	50.0	41.2	27803.37	22915.64		-17.6	20
Endosulfan I [2C]	A	50.0	43.9	24749.24	21732.88		-12.2	20
Endosulfan II	L	50.0	43.2	26234.9	22687.48		-13.5	20
Endosulfan II [2C]	L	50.0	46.3	16764.96	15514.48		-7.5	20
Endosulfan sulfate	L	50.0	42.9	24871.89	21318.28		-14.3	20
Endosulfan sulfate [2C]	L	50.0	47.1	16593.81	15638.48		-5.8	20
Endrin	L	50.0	48.3	21117.16	20397.08		-3.4	20
Endrin [2C]	L	50.0	44.8	13443.56	12051.04		-10.4	20
gamma-BHC (Lindane)	A	50.0	45.5	28307.31	25767.08		-9.0	20
gamma-BHC (Lindane) [2C]	A	50.0	52.0	20435.27	21257.24		4.0	20
Heptachlor	L	50.0	40.8	23772.84	19382.08		-18.5	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059329.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/08/19
Lab Sample ID:	Y9J0912-CCV7	Injection Time:	22:46

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	47.6	15921.55	15173.04		-4.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059329.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059329.D\ECD2A.CH
Acq On : 8 Oct 2019 10:46 pm Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 4:49 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3036094	2651452	171.371	148.941
	Spiked Amount 200.000	Range 30 - 150		Recovery =		85.69%	74.47%
23) SA	Decachlorobiphen	12.36	10.74	2941248	2421832	116.961	120.304
	Spiked Amount 200.000	Range 30 - 150		Recovery =		58.48%	60.15%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1612402	1168812	51.151	51.617
3) M	gamma-BHC (Linda	4.26	3.76	1288354	1062862	45.513	52.011
4) M	beta-BHC	4.36	3.85	583436	472356	42.084	44.846
5) M	delta-BHC	4.72	4.03	1188262	969928	42.515	50.672
6) M	Heptachlor	4.79	4.26	969104	758652	40.765	47.649
7) M	Aldrin	5.22	4.59	1416058	984230	44.841	45.709
8) M	Alachlor	5.08	4.77	134276	157926	46.790m	55.145
9) M	Heptachlor Epoxi	6.04	5.33	1296352	804036	46.795	42.146
10) M	gamma-Chlordane	6.32	5.50	1252592	947278	41.749	43.029
11) M	alpha-Chlordane	6.55	5.68	1233444	933072	41.202	43.356
12) M	Endosulfan I	6.64	5.85	1145782	1086644	41.210	43.906
13) M	4,4'-DDE	6.84	5.81	1139834	647272	40.485	44.481
14) M	Dieldrin	7.08	6.20	1173756	870326	43.211	46.014
15) M	Endrin	7.59	6.53	1019854	602552	48.295	44.821
16) M	4,4'-DDD	7.82	6.70	986158	678306	50.359	51.019
17) M	Endosulfan II	7.96	6.88	1134374	775724	43.239	46.271
18) M	4,4'-DDT	8.37	7.13	442230	267418	40.763m	40.500m
19) M	Endrin Aldehyde	8.57	7.55	890336	665300	40.671m	47.045
20) M	Methoxychlor	9.70	8.00	296706	172172	52.564	58.191
21) M	Endosulfan sulfa	9.08	8.28	1065914	781924	42.856	47.121
22) M	Endrin Ketone	10.06	8.75	1154148	843662	44.805	50.177

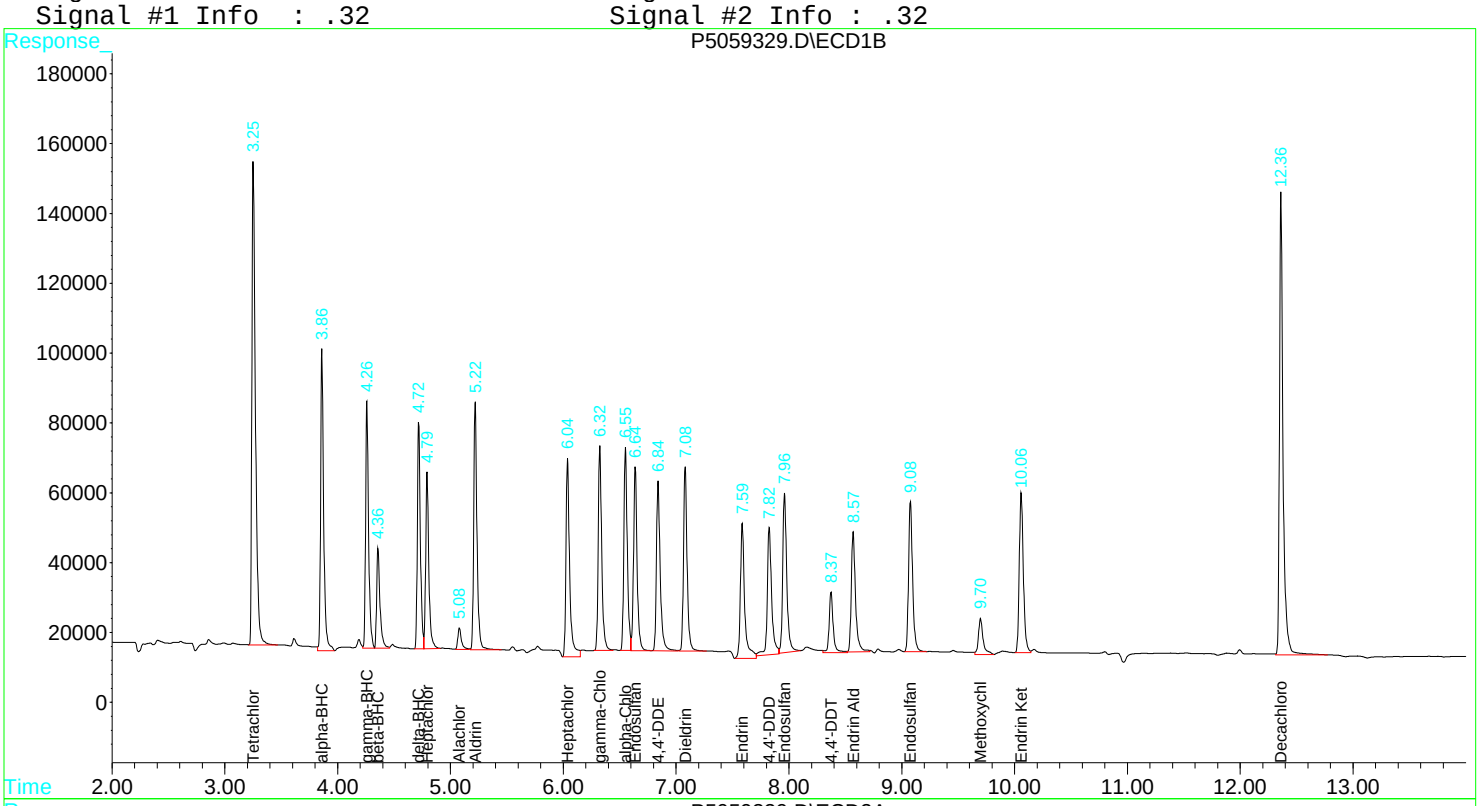
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P5059329.D P5091619.M Wed Oct 09 04:51:50 2019 Page 1

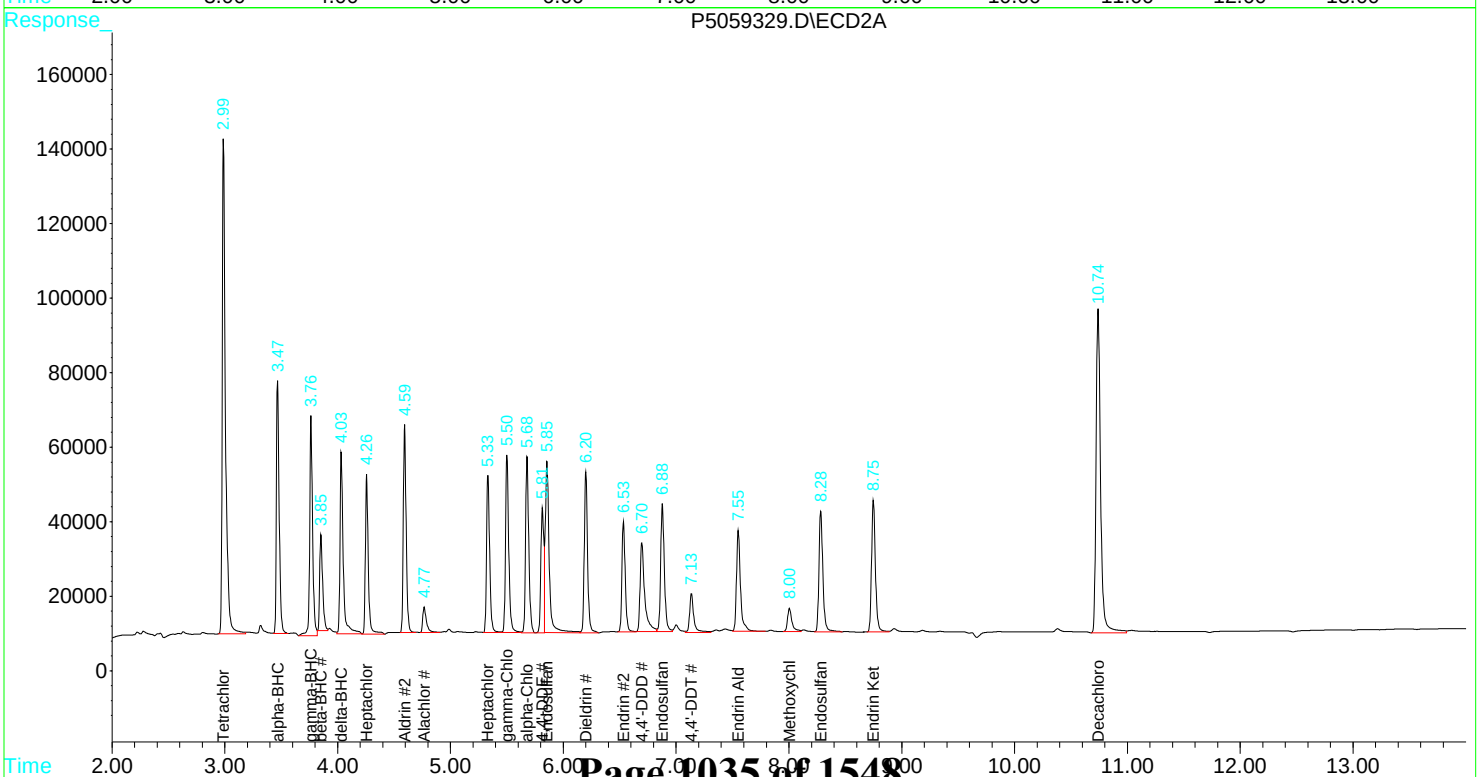
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059329.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059329.D\ECD2A.CH
Acq On : 8 Oct 2019 10:46 pm Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 4:49 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059350.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/09/19
Lab Sample ID:	Y9J0912-CCV8	Injection Time:	05:02

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	51.2	19582.52	20061.72		2.4	20
4,4'-DDD [2C]	A	50.0	51.9	13295.11	13798		3.8	20
4,4'-DDE	A	50.0	45.9	28154.29	25853.36		-8.2	20
4,4'-DDE [2C]	A	50.0	44.5	14551.49	12964.8		-10.9	20
4,4'-DDT	L	50.0	40.3	10848.91	8748.76		-19.4	20
4,4'-DDT [2C]	L	50.0	40.1	6602.927	5294.24		-19.8	20
Aldrin	A	50.0	49.5	31579.24	31248.72		-1.0	20
Aldrin [2C]	A	50.0	46.0	21532.58	19808.8		-8.0	20
alpha-BHC	A	50.0	56.6	31522.31	35658.4		13.1	20
alpha-BHC [2C]	A	50.0	50.7	22643.85	22969.56		1.4	20
alpha-Chlordane	L	50.0	46.6	29936.82	27911.2		-6.8	20
alpha-Chlordane [2C]	A	50.0	43.6	21521.08	18771.88		-12.8	20
beta-BHC	A	50.0	46.7	13863.48	12960.64		-6.5	20
beta-BHC [2C]	A	50.0	44.9	10532.94	9467.88		-10.1	20
delta-BHC	A	50.0	47.6	27949.34	26596.28		-4.8	20
delta-BHC [2C]	A	50.0	49.9	19141.49	19093.4		-0.3	20
Dieldrin	L	50.0	48.1	27163.47	26118.84		-3.8	20
Dieldrin [2C]	A	50.0	46.3	18914.25	17523.32		-7.4	20
Endosulfan I	A	50.0	44.8	27803.37	24912.08		-10.4	20
Endosulfan I [2C]	A	50.0	44.6	24749.24	22064.08		-10.8	20
Endosulfan II	L	50.0	47.2	26234.9	24744.24		-5.7	20
Endosulfan II [2C]	L	50.0	47.4	16764.96	15881.04		-5.3	20
Endosulfan sulfate	L	50.0	48.0	24871.89	23885.48		-4.0	20
Endosulfan sulfate [2C]	L	50.0	48.2	16593.81	15984.84		-3.7	20
Endrin	L	50.0	52.4	21117.16	22111.44		4.7	20
Endrin [2C]	L	50.0	44.7	13443.56	12023.96		-10.6	20
gamma-BHC (Lindane)	A	50.0	50.6	28307.31	28646.16		1.2	20
gamma-BHC (Lindane) [2C]	A	50.0	51.5	20435.27	21031.64		2.9	20
Heptachlor	L	50.0	44.4	23772.84	21112.04		-11.2	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059350.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J0912	Injection Date:	10/09/19
Lab Sample ID:	Y9J0912-CCV8	Injection Time:	05:02

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	47.8	15921.55	15222.4		-4.4	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059350.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059350.D\ECD2A.CH
Acq On : 9 Oct 2019 5:02 am Operator: CM
Sample : SEQ-CCV8 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 5:19 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3128302	2626158	176.576	147.520
	Spiked Amount 200.000	Range 30 - 150		Recovery =		88.29%	73.76%
23) SA	Decachlorobiphen	12.36	10.74	3224758	2501660	128.235	124.269
	Spiked Amount 200.000	Range 30 - 150		Recovery =		64.12%	62.13%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1782920	1148478	56.561	50.719
3) M	gamma-BHC (Linda	4.26	3.76	1432308	1051582	50.599	51.459
4) M	beta-BHC	4.36	3.85	648032	473394	46.744	44.944
5) M	delta-BHC	4.72	4.03	1329814	954670	47.579	49.874
6) M	Heptachlor	4.79	4.26	1055602	761120	44.404	47.804
7) M	Aldrin	5.22	4.59	1562436	990440	49.477	45.997
8) M	Alachlor	5.08	4.77	151674	158742	52.853m	55.430
9) M	Heptachlor Epoxi	6.04	5.33	1425436	802672	51.455	42.075
10) M	gamma-Chlordane	6.32	5.50	1400216	954130	46.669	43.340
11) M	alpha-Chlordane	6.55	5.68	1395560	938594	46.617	43.613
12) M	Endosulfan I	6.64	5.86	1245604	1103204	44.800	44.575
13) M	4,4'-DDE	6.84	5.81	1292668	648240	45.914	44.548
14) M	Dieldrin	7.08	6.20	1305942	876166	48.077	46.323
15) M	Endrin	7.59	6.53	1105572	601198	52.354	44.720
16) M	4,4'-DDD	7.82	6.70	1003086	689900	51.224	51.891
17) M	Endosulfan II	7.96	6.88	1237212	794052	47.159	47.364
18) M	4,4'-DDT	8.37	7.14	437438	264712	40.321m	40.090m
19) M	Endrin Aldehyde	8.57	7.55	973578	685938	44.473	48.561
20) M	Methoxychlor	9.70	8.00	329324	169956	58.342	57.442
21) M	Endosulfan sulfa	9.08	8.28	1194274	799242	48.017	48.165
22) M	Endrin Ketone	10.06	8.75	1287024	856752	49.963	50.956

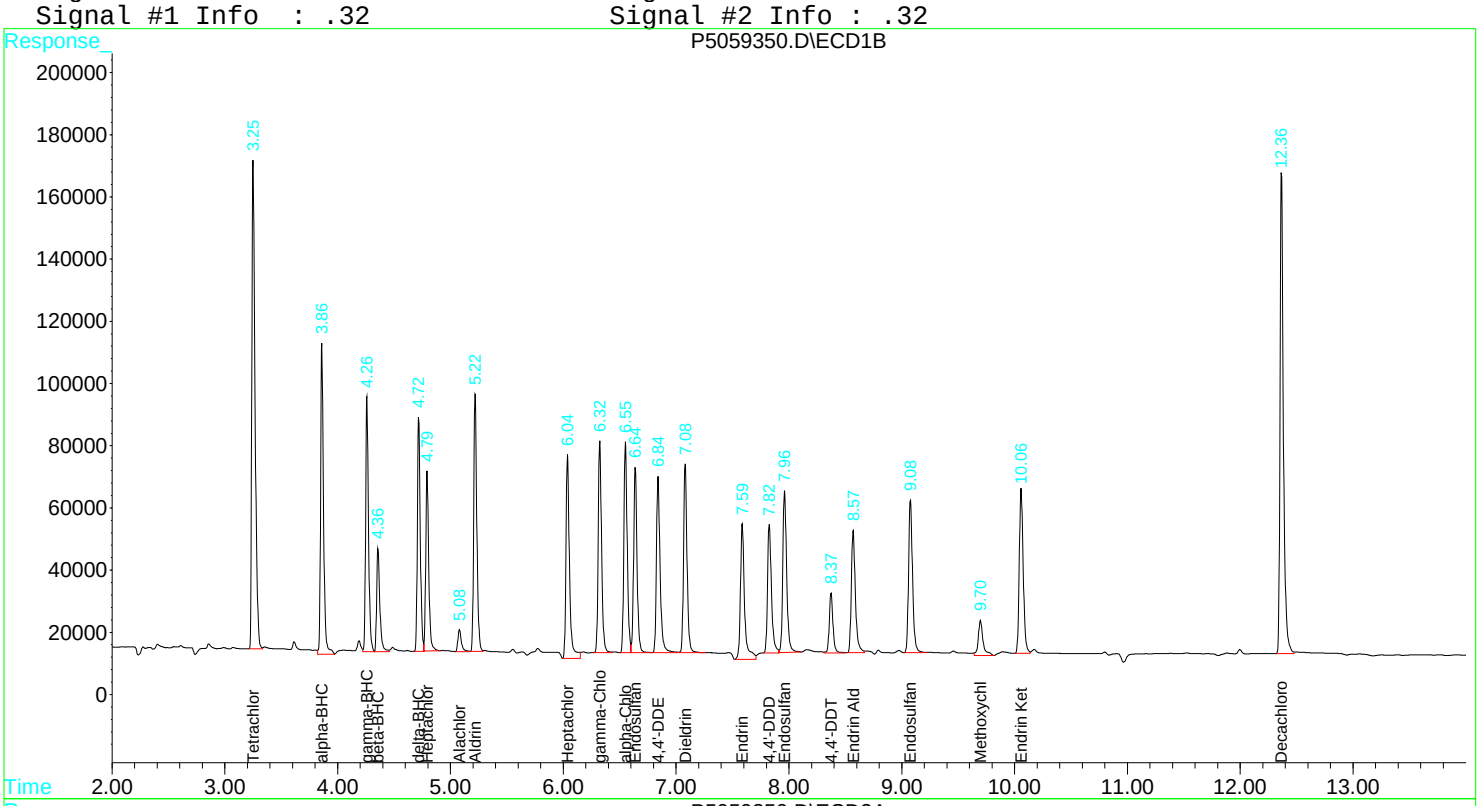
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059350.D P5091619.M Wed Oct 09 05:20:29 2019 Page 1

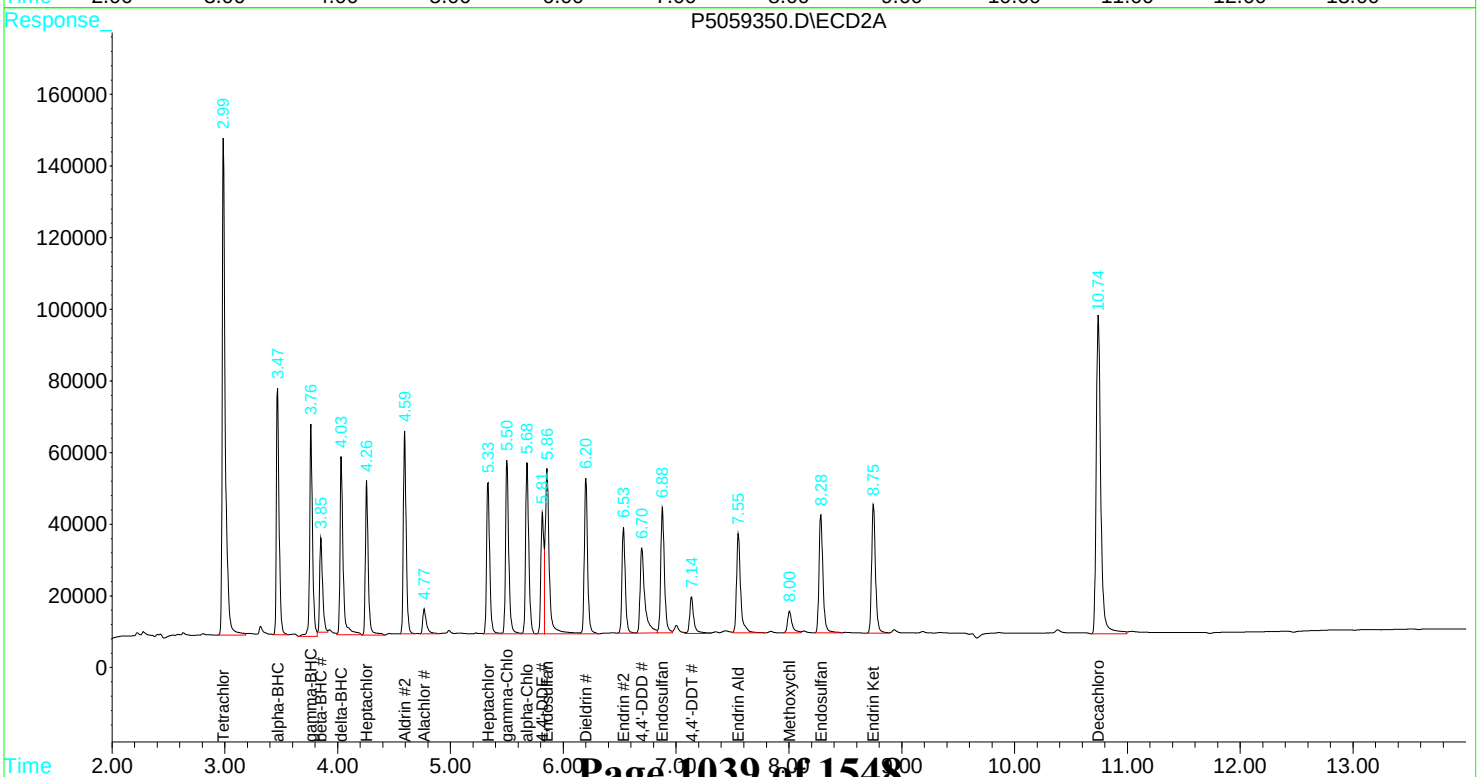
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P5059350.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P5059350.D\ECD2A.CH
Acq On : 9 Oct 2019 5:02 am Operator: CM
Sample : SEQ-CCV8 Inst : GC DUAL E
Misc : QBPEST5-100819A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 5:19 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059352.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV1	Injection Time:	05:42

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	55.5	19582.52	21735.64		11.0	20
4,4'-DDD [2C]	A	50.0	53.8	13295.11	14313.04		7.7	20
4,4'-DDE	A	50.0	49.6	28154.29	27912.16		-0.9	20
4,4'-DDE [2C]	A	50.0	45.7	14551.49	13300.52		-8.6	20
4,4'-DDT	L	50.0	44.2	10848.91	9581.52		-11.7	20
4,4'-DDT [2C]	L	50.0	40.7	6602.927	5379.28		-18.5	20
Aldrin	A	50.0	53.2	31579.24	33609.6		6.4	20
Aldrin [2C]	A	50.0	47.5	21532.58	20469.36		-4.9	20
alpha-BHC	A	50.0	56.2	31522.31	35401.08		12.3	20
alpha-BHC [2C]	A	50.0	52.2	22643.85	23641.28		4.4	20
alpha-Chlordane	L	50.0	50.2	29936.82	30035.68		0.3	20
alpha-Chlordane [2C]	A	50.0	45.4	21521.08	19540.24		-9.2	20
beta-BHC	A	50.0	49.8	13863.48	13804.76		-0.4	20
beta-BHC [2C]	A	50.0	47.0	10532.94	9910.6		-5.9	20
delta-BHC	A	50.0	50.8	27949.34	28388.44		1.6	20
delta-BHC [2C]	A	50.0	51.8	19141.49	19817.08		3.5	20
Dieldrin	L	50.0	52.1	27163.47	28303.8		4.2	20
Dieldrin [2C]	A	50.0	48.2	18914.25	18228.96		-3.6	20
Endosulfan I	A	50.0	47.8	27803.37	26570.28		-4.4	20
Endosulfan I [2C]	A	50.0	46.7	24749.24	23119.24		-6.6	20
Endosulfan II	L	50.0	52.1	26234.9	27351.48		4.3	20
Endosulfan II [2C]	L	50.0	49.1	16764.96	16477.24		-1.7	20
Endosulfan sulfate	L	50.0	51.5	24871.89	25618.76		3.0	20
Endosulfan sulfate [2C]	L	50.0	49.9	16593.81	16547.2		-0.3	20
Endrin	L	50.0	57.0	21117.16	24065.92		14.0	20
Endrin [2C]	L	50.0	47.0	13443.56	12642.8		-6.0	20
gamma-BHC (Lindane)	A	50.0	54.3	28307.31	30759.16		8.7	20
gamma-BHC (Lindane) [2C]	A	50.0	53.1	20435.27	21717.16		6.3	20
Heptachlor	L	50.0	48.2	23772.84	22893.6		-3.7	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059352.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV1	Injection Time:	05:42

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	50.1	15921.55	15948.76		0.2	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059352.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059352.D\ECD2A.CH
Acq On : 9 Oct 2019 5:42 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 5:58 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3219136	2674674	181.703	150.246
	Spiked Amount 200.000	Range 30 - 150		Recovery =		90.85%	75.12%
23) SA	Decachlorobiphen	12.36	10.74	3483958	2623662	138.542	130.329
	Spiked Amount 200.000	Range 30 - 150		Recovery =		69.27%	65.16%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1770054	1182064	56.152m	52.202
3) M	gamma-BHC (Linda	4.26	3.76	1537958	1085858	54.331	53.136
4) M	beta-BHC	4.36	3.85	690238	495530	49.788	47.046
5) M	delta-BHC	4.72	4.03	1419422	990854	50.786	51.765
6) M	Heptachlor	4.79	4.26	1144680	797438	48.151	50.085
7) M	Aldrin	5.22	4.59	1680480	1023468	53.215	47.531
8) M	Alachlor	5.08	4.77	169698	166646	59.134m	58.190
9) M	Heptachlor Epoxi	6.04	5.33	1533792	827924	55.366	43.398
10) M	gamma-Chlordane	6.32	5.50	1508608	989872	50.282	44.964
11) M	alpha-Chlordane	6.55	5.68	1501784	977012	50.165	45.398
12) M	Endosulfan I	6.64	5.86	1328514	1155962	47.782	46.707
13) M	4,4'-DDE	6.84	5.82	1395608	665026	49.570	45.702
14) M	Dieldrin	7.08	6.20	1415190	911448	52.099	48.188
15) M	Endrin	7.59	6.53	1203296	632140	56.982	47.022
16) M	4,4'-DDD	7.83	6.70	1086782	715652	55.498m	53.828m
17) M	Endosulfan II	7.96	6.88	1367574	823862	52.128	49.142
18) M	4,4'-DDT	8.37	7.14	479076	268964	44.159	40.734m
19) M	Endrin Aldehyde	8.57	7.55	1041370	712130	47.570	50.490
20) M	Methoxychlor	9.70	8.01	276672	174042	49.015m	58.823m
21) M	Endosulfan sulfa	9.08	8.28	1280938	827360	51.501	49.860
22) M	Endrin Ketone	10.06	8.75	1374706	897398	53.367	53.373

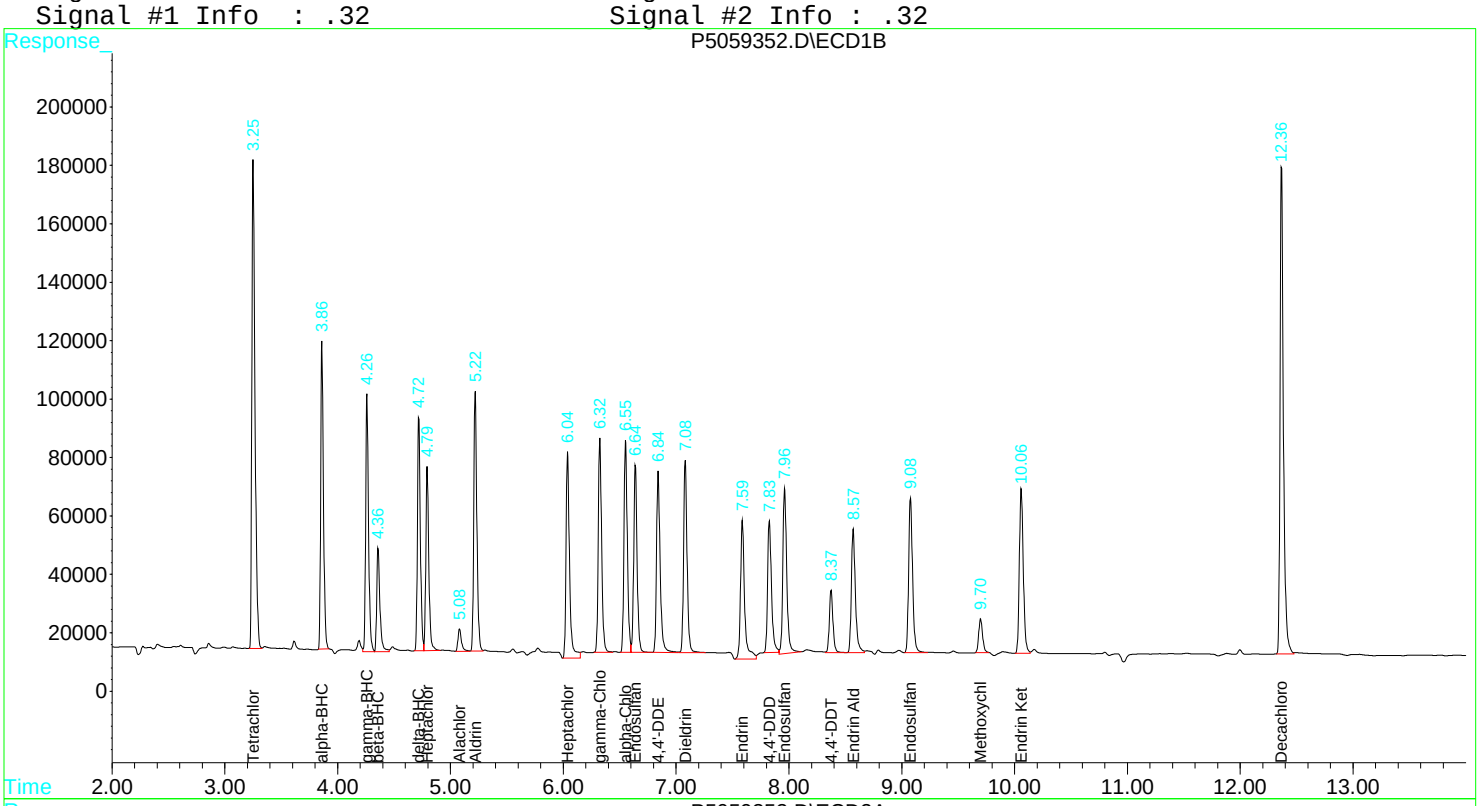
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P5059352.D P5091619.M Wed Oct 09 05:58:43 2019 Page 1

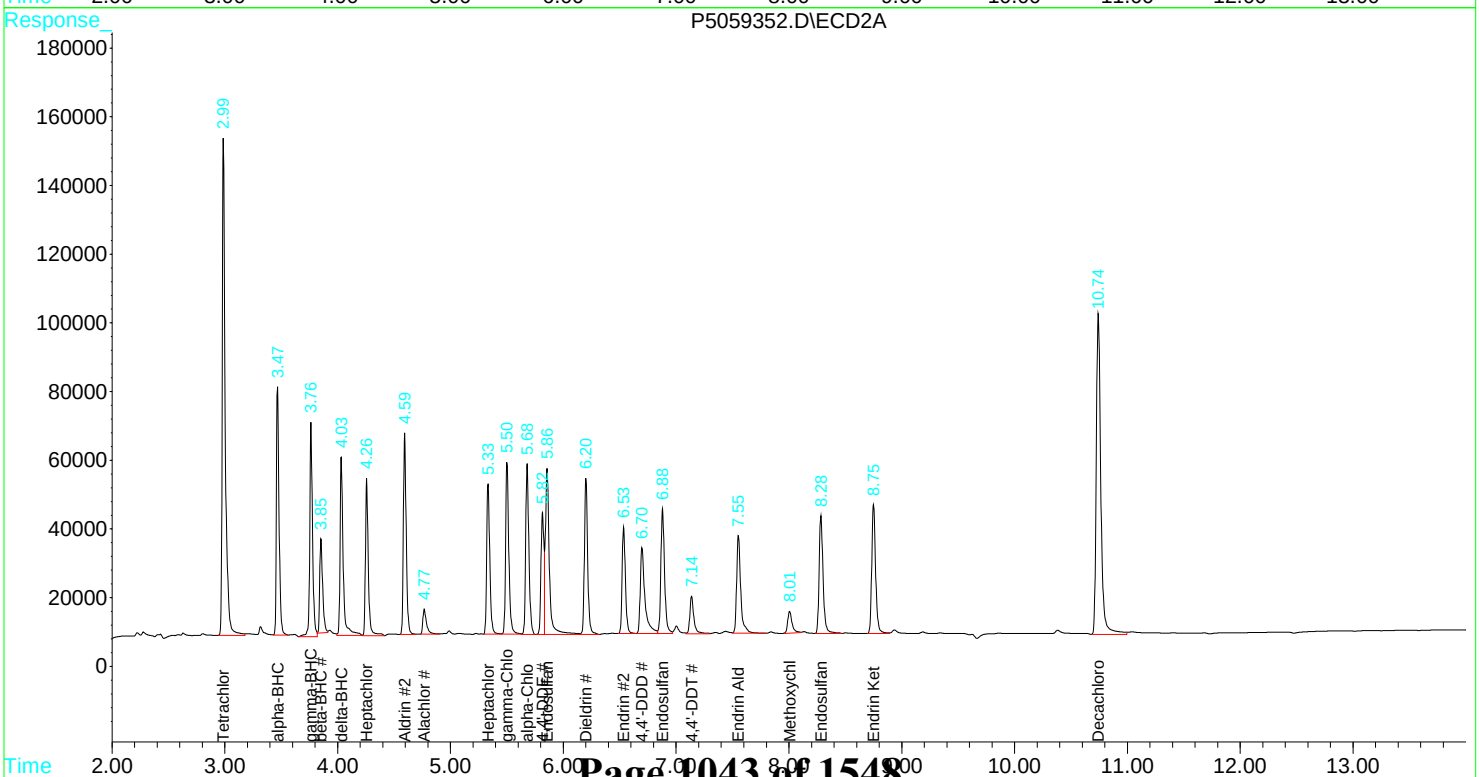
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059352.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059352.D\ECD2A.CH
Acq On : 9 Oct 2019 5:42 am Operator: CM
Sample : SEQ-CCV1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 5:58 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059353.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059353.D\ECD2A.CH
Acq On : 9 Oct 2019 6:05 am Operator: CM
Sample : SEQ-CCV2 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:31 2019 Quant Results File: C5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\C5081419.M (Chemstation Integrator)
Title : Chlordane - RTX-CLP & CLP-2 11/02/16
Last Update : Tue Sep 10 08:36:58 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	SA Tetrachloro-m-xy	3.25	2.99	6487997	4924037	0.040	0.186	#
	Spiked Amount 0.200	Range 60 - 150		Recovery =		20.00%#	93.00%	
5)	SA Decachlorobiphen	12.37	10.75	7752022	5662758	0.218	0.247	
	Spiked Amount 0.200	Range 60 - 150		Recovery =		109.00%	123.50%	
	Target Compounds							
2)	T Chlordane-1	6.33	4.76	4048365	1041304	0.510	1.041	#
3)	T Chlordane-2	6.47	5.51	3406883	2867758	0.484	0.994	#
4)	T Chlordane-3	6.55	5.68	3312999	4552438	0.483m	1.007	#

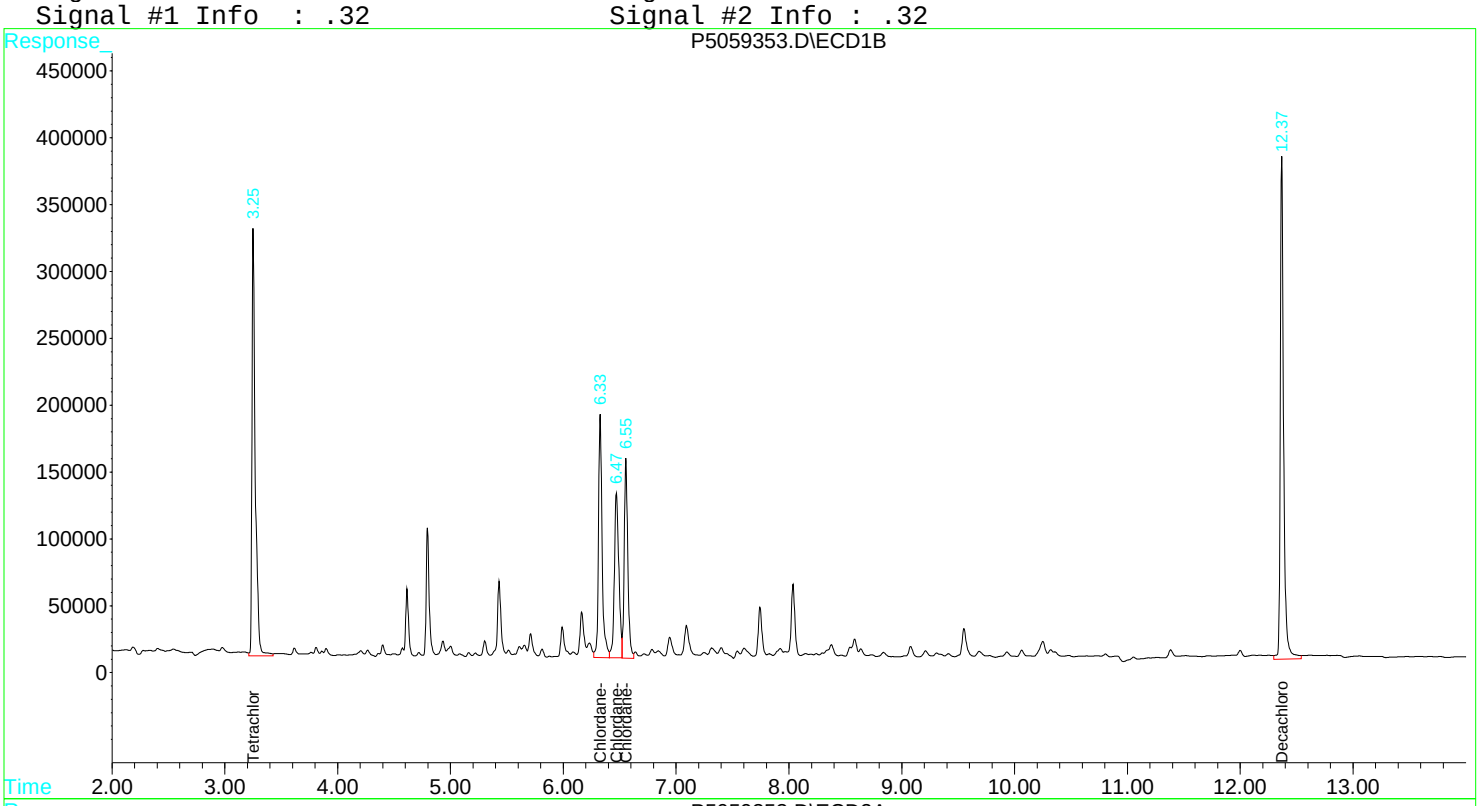
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P5059353.D C5081419.M Fri Oct 11 10:31:40 2019 Page 1

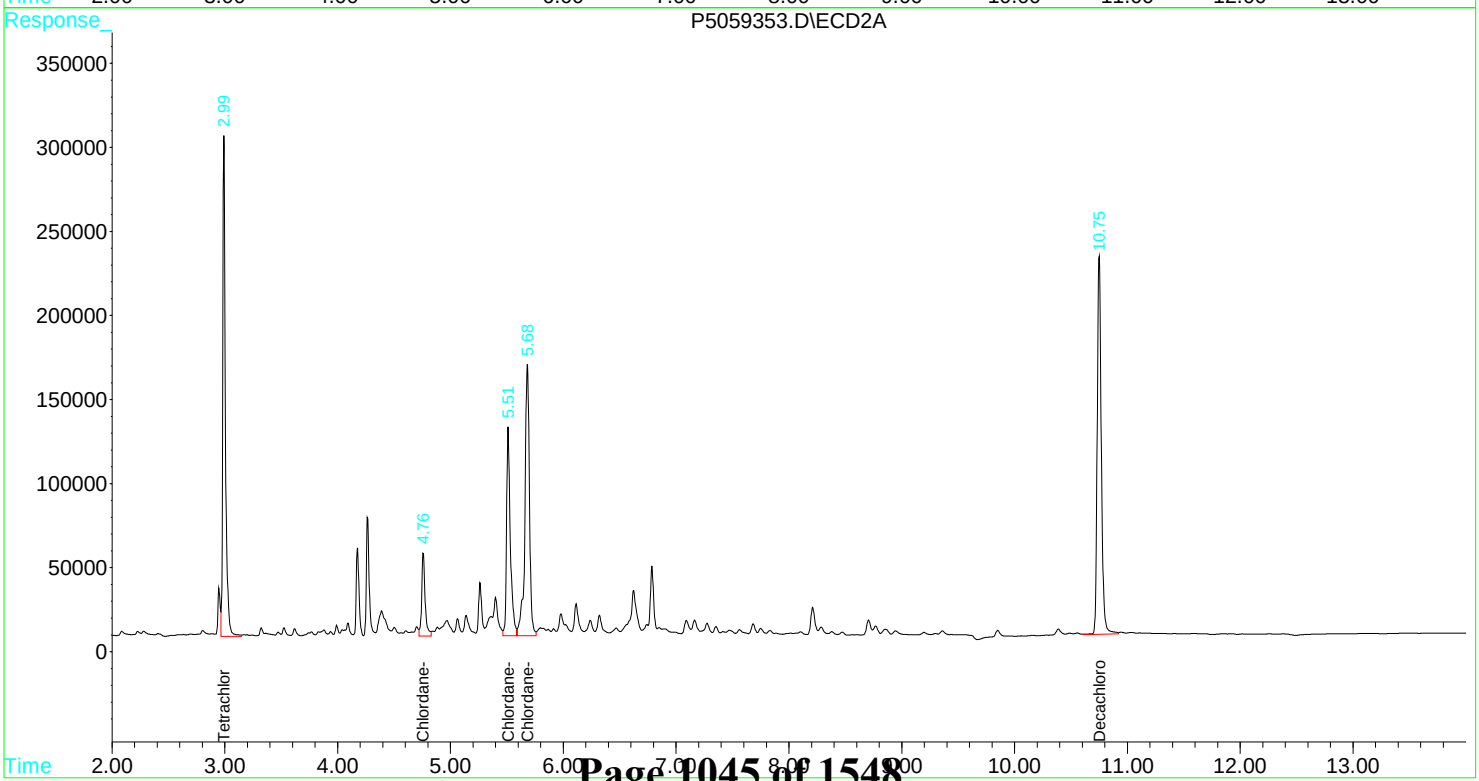
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059353.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059353.D\ECD2A.CH
Acq On : 9 Oct 2019 6:05 am Operator: CM
Sample : SEQ-CCV2 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:31 2019 Quant Results File: C5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\C5081419.M (Chemstation Integrator)
Title : Chlordane - RTX-CLP & CLP-2 11/02/16
Last Update : Tue Sep 10 08:36:58 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059354.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059354.D\ECD2A.CH
Acq On : 9 Oct 2019 6:22 am Operator: CM
Sample : SEQ-CCV3 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:32 2019 Quant Results File: T5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\T5081419.M (Chemstation Integrator)
Title : Toxaphene - RTX-CLP & CLP-2 11/24/15
Last Update : Thu Aug 15 12:10:11 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) SA Tetrachloro-m-xy	3.25	2.99	7176579	6481895	0.672	0.922 #
Spiked Amount 0.200	Range 60 - 150		Recovery =		336.00%#	461.00%#
3) SA Decachlorobiphen	12.37	10.74	8072278	6034566	0.807	0.916
Spiked Amount 0.200	Range 60 - 150		Recovery =		403.50%#	458.00%#
Target Compounds						
2) Toxaphene	8.11	6.86	120.2E6	75274448	1.997m	2.653m#

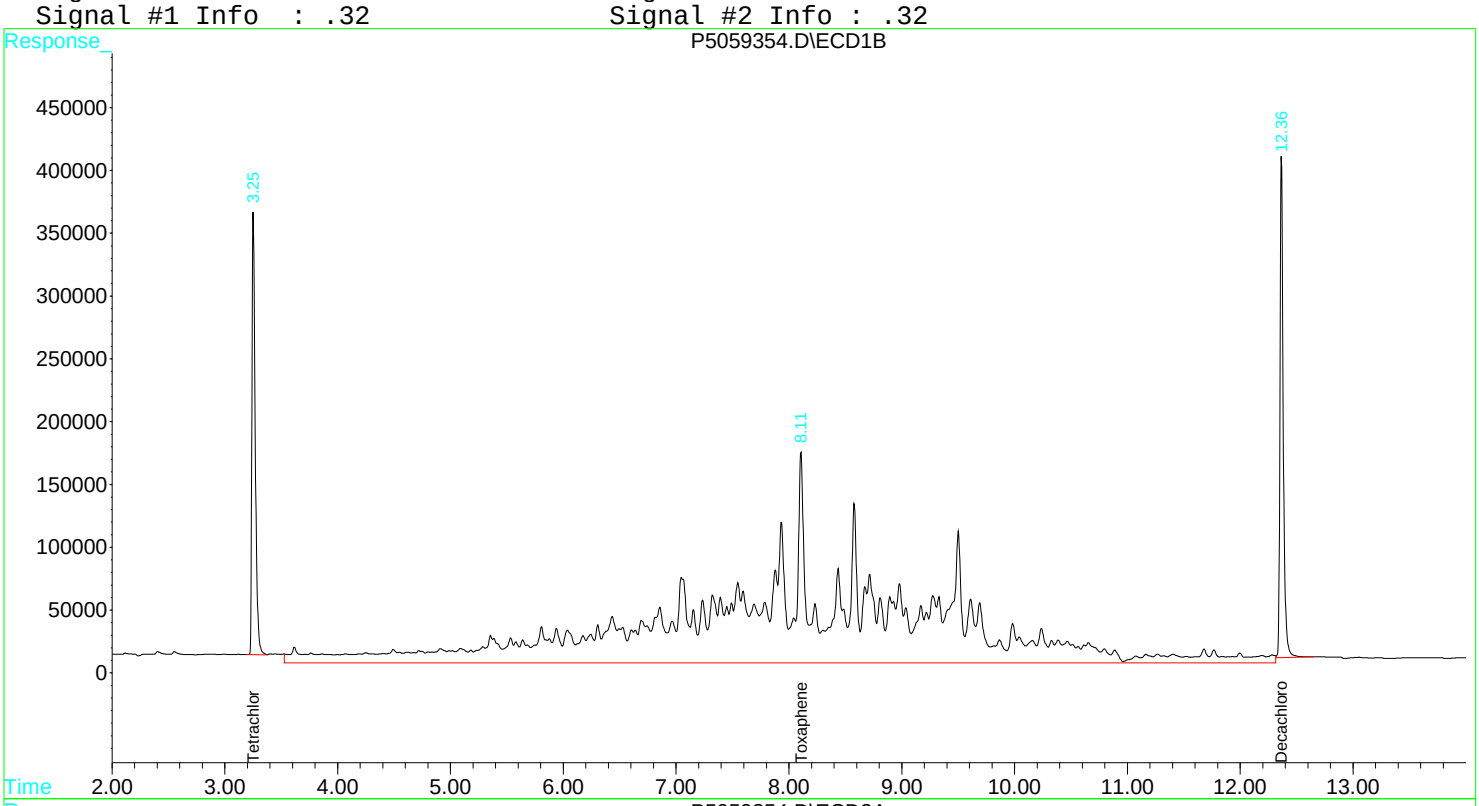
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059354.D T5081419.M Fri Oct 11 10:32:34 2019 Page 1

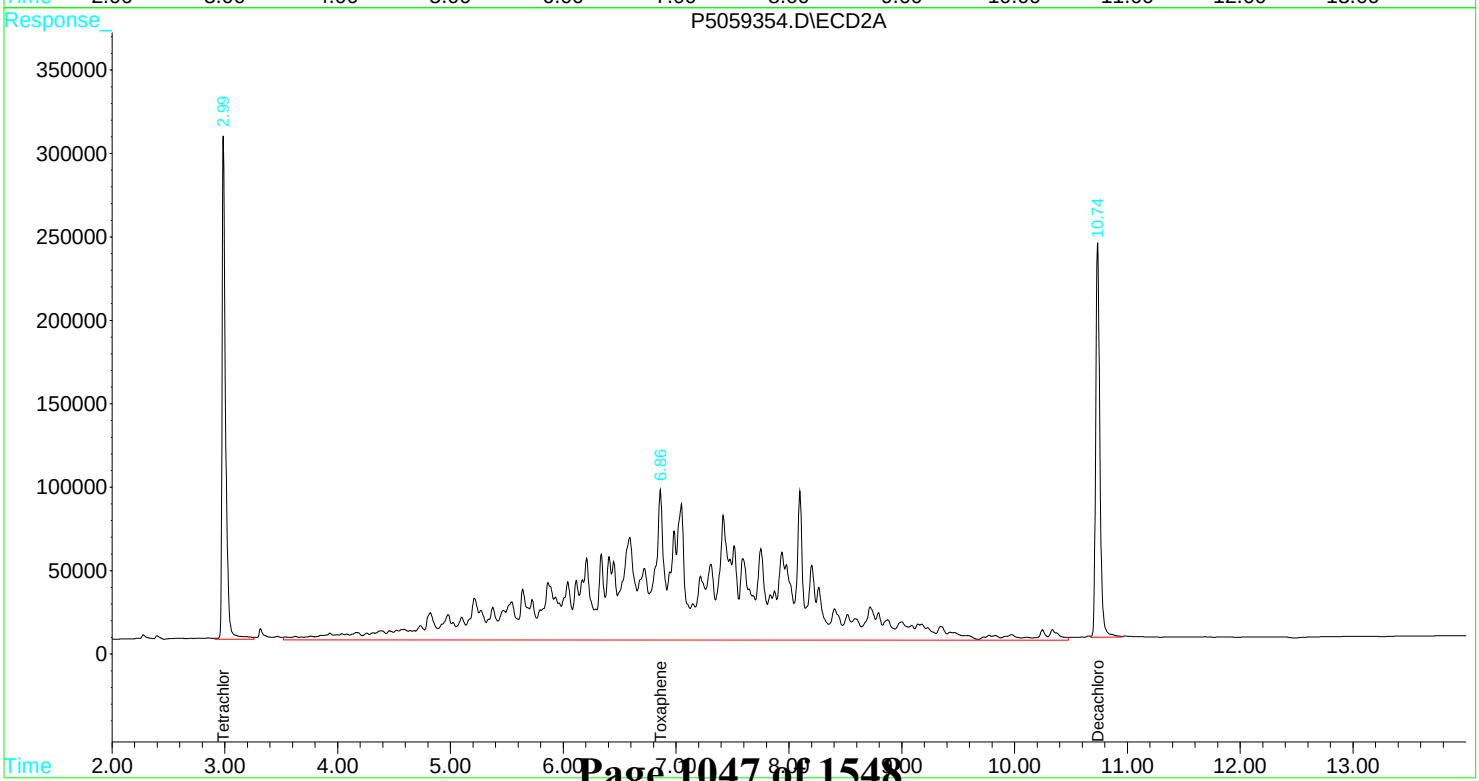
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059354.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059354.D\ECD2A.CH
Acq On : 9 Oct 2019 6:22 am Operator: CM
Sample : SEQ-CCV3 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:32 2019 Quant Results File: T5081419.RES

Quant Method : C:\HPCHEM\1\METHODS\T5081419.M (Chemstation Integrator)
Title : Toxaphene - RTX-CLP & CLP-2 11/24/15
Last Update : Thu Aug 15 12:10:11 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : RTX-CLPesticides Signal #2 Phase: RTX-CLP2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059376.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV4	Injection Time:	12:57

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	53.8	19582.52	21088.12		7.7	20
4,4'-DDD [2C]	A	50.0	54.7	13295.11	14557.84		9.5	20
4,4'-DDE	A	50.0	45.9	28154.29	25862.2		-8.1	20
4,4'-DDE [2C]	A	50.0	44.6	14551.49	12968.76		-10.9	20
4,4'-DDT	L	50.0	43.9	10848.91	9514.72		-12.3	20
4,4'-DDT [2C]	L	50.0	41.2	6602.927	5438.28		-17.6	20
Aldrin	A	50.0	47.6	31579.24	30056.64		-4.8	20
Aldrin [2C]	A	50.0	45.0	21532.58	19373.52		-10.0	20
alpha-BHC	A	50.0	54.0	31522.31	34061.24		8.1	20
alpha-BHC [2C]	A	50.0	50.0	22643.85	22645.2		0.006	20
alpha-Chlordane	L	50.0	46.1	29936.82	27623.04		-7.7	20
alpha-Chlordane [2C]	A	50.0	44.0	21521.08	18916.96		-12.1	20
beta-BHC	A	50.0	45.7	13863.48	12670.24		-8.6	20
beta-BHC [2C]	A	50.0	44.9	10532.94	9457.8		-10.2	20
delta-BHC	A	50.0	45.8	27949.34	25596.52		-8.4	20
delta-BHC [2C]	A	50.0	50.2	19141.49	19210.2		0.4	20
Dieldrin	L	50.0	48.2	27163.47	26199.04		-3.6	20
Dieldrin [2C]	A	50.0	47.0	18914.25	17793.16		-5.9	20
Endosulfan I	A	50.0	43.9	27803.37	24413.28		-12.2	20
Endosulfan I [2C]	A	50.0	45.9	24749.24	22720.64		-8.2	20
Endosulfan II	L	50.0	49.6	26234.9	26011.32		-0.9	20
Endosulfan II [2C]	L	50.0	48.4	16764.96	16226.08		-3.2	20
Endosulfan sulfate	L	50.0	49.8	24871.89	24773.84		-0.4	20
Endosulfan sulfate [2C]	L	50.0	50.5	16593.81	16764.36		1.0	20
Endrin	L	50.0	53.6	21117.16	22641.92		7.2	20
Endrin [2C]	L	50.0	46.0	13443.56	12381.48		-7.9	20
gamma-BHC (Lindane)	A	50.0	49.1	28307.31	27780.4		-1.9	20
gamma-BHC (Lindane) [2C]	A	50.0	51.0	20435.27	20840.12		2.0	20
Heptachlor	L	50.0	44.0	23772.84	20922.28		-12.0	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059376.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV4	Injection Time:	12:57

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	48.8	15921.55	15525		-2.5	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059376.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059376.D\ECD2A.CH
Acq On : 9 Oct 2019 12:57 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 13:13 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2966616	2563234	167.450	143.986
	Spiked Amount 200.000	Range 30 - 150		Recovery =		83.72%	71.99%
23) SA	Decachlorobiphen	12.36	10.74	3640814	2871304	144.779	142.631
	Spiked Amount 200.000	Range 30 - 150		Recovery =		72.39%	71.32%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1703062	1132260	54.027	50.003
3) M	gamma-BHC (Linda	4.26	3.76	1389020	1042006	49.069	50.991
4) M	beta-BHC	4.36	3.85	633512	472890	45.696	44.896
5) M	delta-BHC	4.72	4.03	1279826	960510	45.791	50.179
6) M	Heptachlor	4.79	4.26	1046114	776250	44.005	48.755
7) M	Aldrin	5.22	4.59	1502832	968676	47.589	44.987
8) M	Alachlor	5.08	4.77	151964	160966	52.954m	56.206
9) M	Heptachlor Epoxi	6.04	5.33	1405688	796362	50.742	41.744
10) M	gamma-Chlordane	6.32	5.50	1380796	958652	46.022	43.546
11) M	alpha-Chlordane	6.55	5.68	1381152	945848	46.136	43.950
12) M	Endosulfan I	6.64	5.85	1220664	1136032	43.903	45.902
13) M	4,4'-DDE	6.84	5.81	1293110	648438	45.929	44.562
14) M	Dieldrin	7.08	6.20	1309952	889658	48.225	47.036
15) M	Endrin	7.58	6.53	1132096	619074	53.610	46.050
16) M	4,4'-DDD	7.82	6.69	1054406	727892	53.844m	54.749
17) M	Endosulfan II	7.96	6.88	1300566	811304	49.574	48.393
18) M	4,4'-DDT	8.37	7.13	475736	271914	43.851	41.181m
19) M	Endrin Aldehyde	8.57	7.55	1008628	729684	46.074	51.786
20) M	Methoxychlor	9.70	8.00	308252	180734	54.609m	61.085m
21) M	Endosulfan sulfa	9.07	8.28	1238692	838218	49.803	50.514
22) M	Endrin Ketone	10.06	8.75	1347674	907262	52.317	53.960

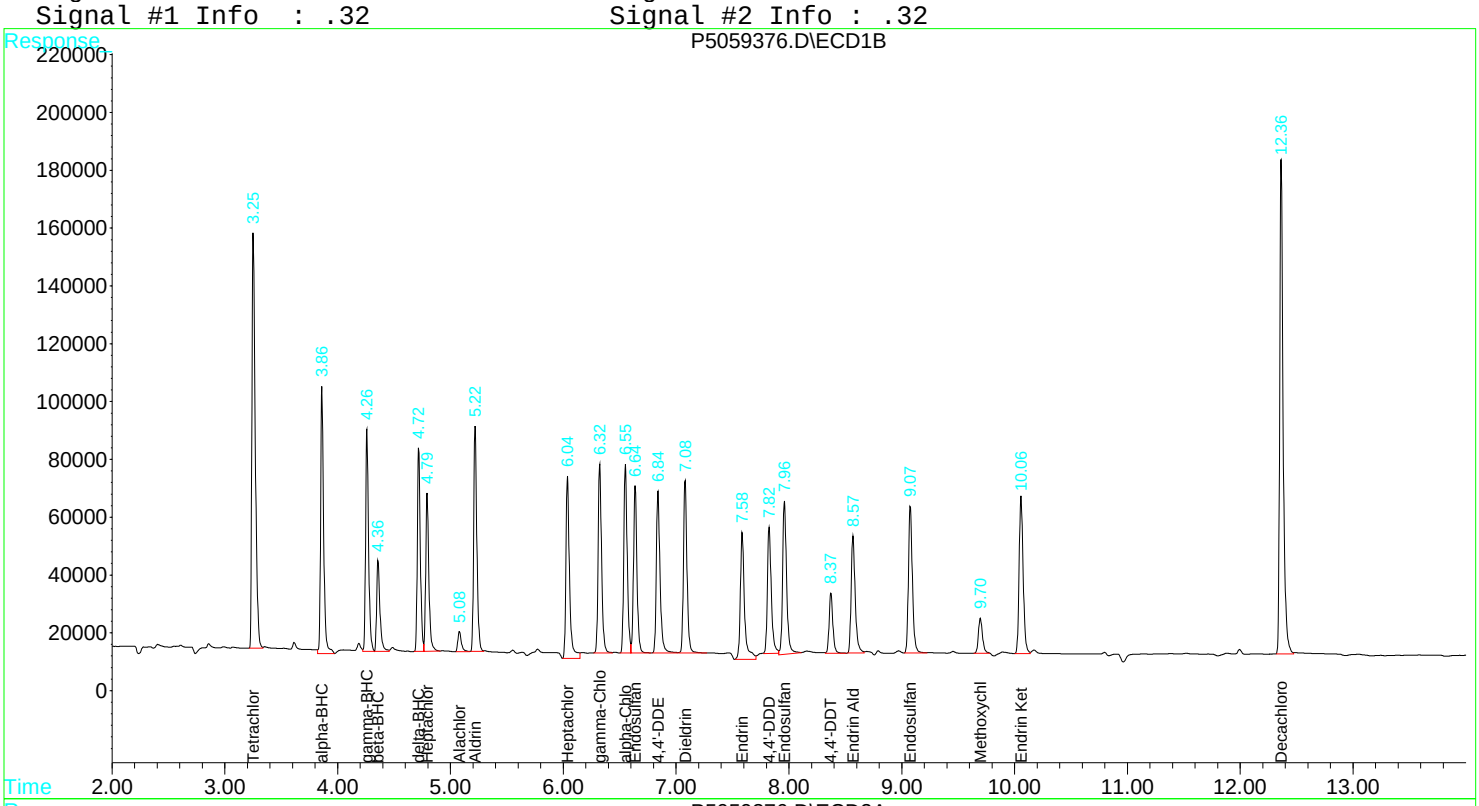
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P5059376.D P5091619.M Wed Oct 09 13:13:57 2019 Page 1

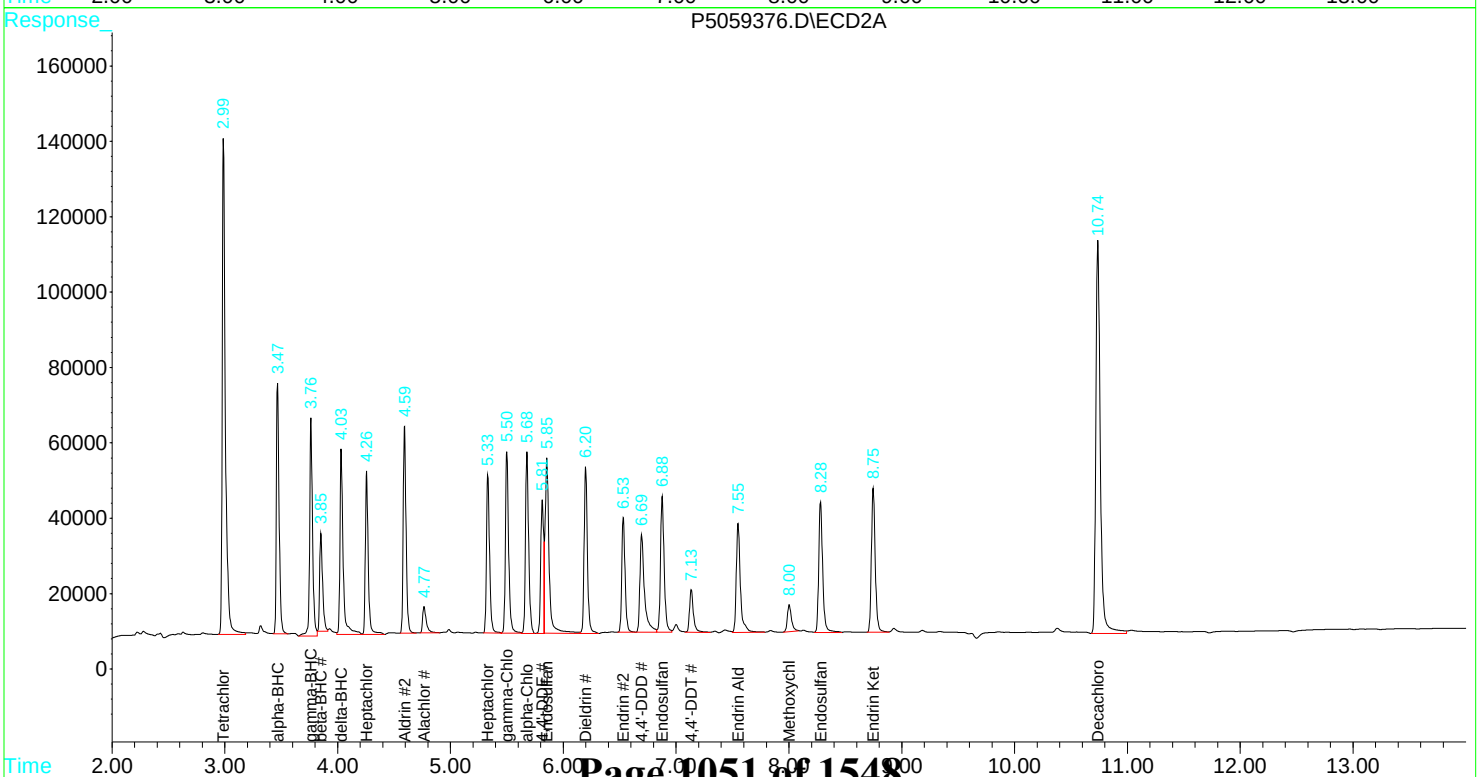
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059376.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059376.D\ECD2A.CH
Acq On : 9 Oct 2019 12:57 pm Operator: CM
Sample : SEQ-CCV4 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 13:13 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059388.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV5	Injection Time:	16:51

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4,4'-DDD	A	50.0	40.0	19582.52	15671.48		-20.0	20	
4,4'-DDD [2C]	A	50.0	43.8	13295.11	11645.64		-12.4	20	
4,4'-DDE	A	50.0	41.9	28154.29	23589.36		-16.2	20	
4,4'-DDE [2C]	A	50.0	45.8	14551.49	13329.8		-8.4	20	
4,4'-DDT	L	50.0	73.2	10848.91	15889.76		46.5	20	*
4,4'-DDT [2C]	L	50.0	82.0	6602.927	10834.56		64.1	20	*
Aldrin	A	50.0	40.9	31579.24	25829.16		-18.2	20	
Aldrin [2C]	A	50.0	40.1	21532.58	17264.4		-19.8	20	
alpha-BHC	A	50.0	49.6	31522.31	31257.8		-0.8	20	
alpha-BHC [2C]	A	50.0	46.3	22643.85	20985.4		-7.3	20	
alpha-Chlordane	L	50.0	40.3	29936.82	24133.16		-19.4	20	
alpha-Chlordane [2C]	A	50.0	37.7	21521.08	16224.88		-24.6	20	*
beta-BHC	A	50.0	42.0	13863.48	11642.08		-16.0	20	
beta-BHC [2C]	A	50.0	42.6	10532.94	8970.4		-14.8	20	
delta-BHC	A	50.0	40.2	27949.34	22459.2		-19.6	20	
delta-BHC [2C]	A	50.0	45.4	19141.49	17388.12		-9.2	20	
Dieldrin	L	50.0	40.3	27163.47	21877.72		-19.5	20	
Dieldrin [2C]	A	50.0	41.0	18914.25	15507.52		-18.0	20	
Endosulfan I	A	50.0	40.1	27803.37	22273.56		-19.9	20	
Endosulfan I [2C]	A	50.0	34.7	24749.24	17152.36		-30.7	20	*
Endosulfan II	L	50.0	40.2	26234.9	21084.72		-19.6	20	
Endosulfan II [2C]	L	50.0	42.6	16764.96	14286.68		-14.8	20	
Endosulfan sulfate	L	50.0	43.5	24871.89	21638.84		-13.0	20	
Endosulfan sulfate [2C]	L	50.0	46.1	16593.81	15300.08		-7.8	20	
Endrin	L	50.0	55.1	21117.16	23267		10.2	20	
Endrin [2C]	L	50.0	52.4	13443.56	14084.04		4.8	20	
gamma-BHC (Lindane)	A	50.0	47.4	28307.31	26808.12		-5.3	20	
gamma-BHC (Lindane) [2C]	A	50.0	47.7	20435.27	19502.32		-4.6	20	
Heptachlor	L	50.0	46.3	23772.84	22018.76		-7.4	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059388.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV5	Injection Time:	16:51

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	55.8	15921.55	17764.48		11.6	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059388.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059388.D\ECD2A.CH
Acq On : 9 Oct 2019 4:51 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 17:12 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	2683824	2396858	151.487	134.640
	Spiked Amount 200.000	Range 30 - 150		Recovery =		75.74%	67.32%
23) SA	Decachlorobiphen	12.37	10.74	2599304	2124664	103.363	105.542
	Spiked Amount 200.000	Range 30 - 150		Recovery =		51.68%	52.77%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1562890	1049270	49.580	46.338
3) M	gamma-BHC (Linda	4.26	3.77	1340406	975116	47.352	47.717
4) M	beta-BHC	4.36	3.86	582104	448520	41.988	42.583
5) M	delta-BHC	4.72	4.04	1122960	869406	40.178m	45.420
6) M	Heptachlor	4.80	4.26	1100938	888224	46.311	55.788
7) M	Aldrin	5.22	4.60	1291458	863220	40.896m	40.089m
8) M	Alachlor	5.08	4.77	149150	132872	51.973	46.396
9) M	Heptachlor Epoxi	6.04	5.34	1122590	764060	40.523m	40.051m
10) M	gamma-Chlordane	6.33	5.51	1202662	839126	40.085m	38.116m
11) M	alpha-Chlordane	6.55	5.68	1206658	811244	40.307m	37.695m
12) M	Endosulfan I	6.64	5.86	1113678	857618	40.056m	34.652m
13) M	4,4'-DDE	6.84	5.82	1179468	666490	41.893m	45.802
14) M	Dieldrin	7.08	6.20	1093886	775376	40.270	40.994
15) M	Endrin	7.59	6.54	1163350	704202	55.090	52.382
16) M	4,4'-DDD	7.83	6.70	783574	582282	40.014	43.797
17) M	Endosulfan II	7.96	6.88	1054236	714334	40.184m	42.609
18) M	4,4'-DDT	8.38	7.14	794488	541728	73.232m	82.044
19) M	Endrin Aldehyde	8.57	7.55	849672	655026	38.813	46.292
20) M	Methoxychlor	9.70	8.01	543258	351186	96.242	118.695
21) M	Endosulfan sulfa	9.08	8.28	1081942	765004	43.501	46.102
22) M	Endrin Ketone	10.06	8.75	1139082	805568	44.220	47.912

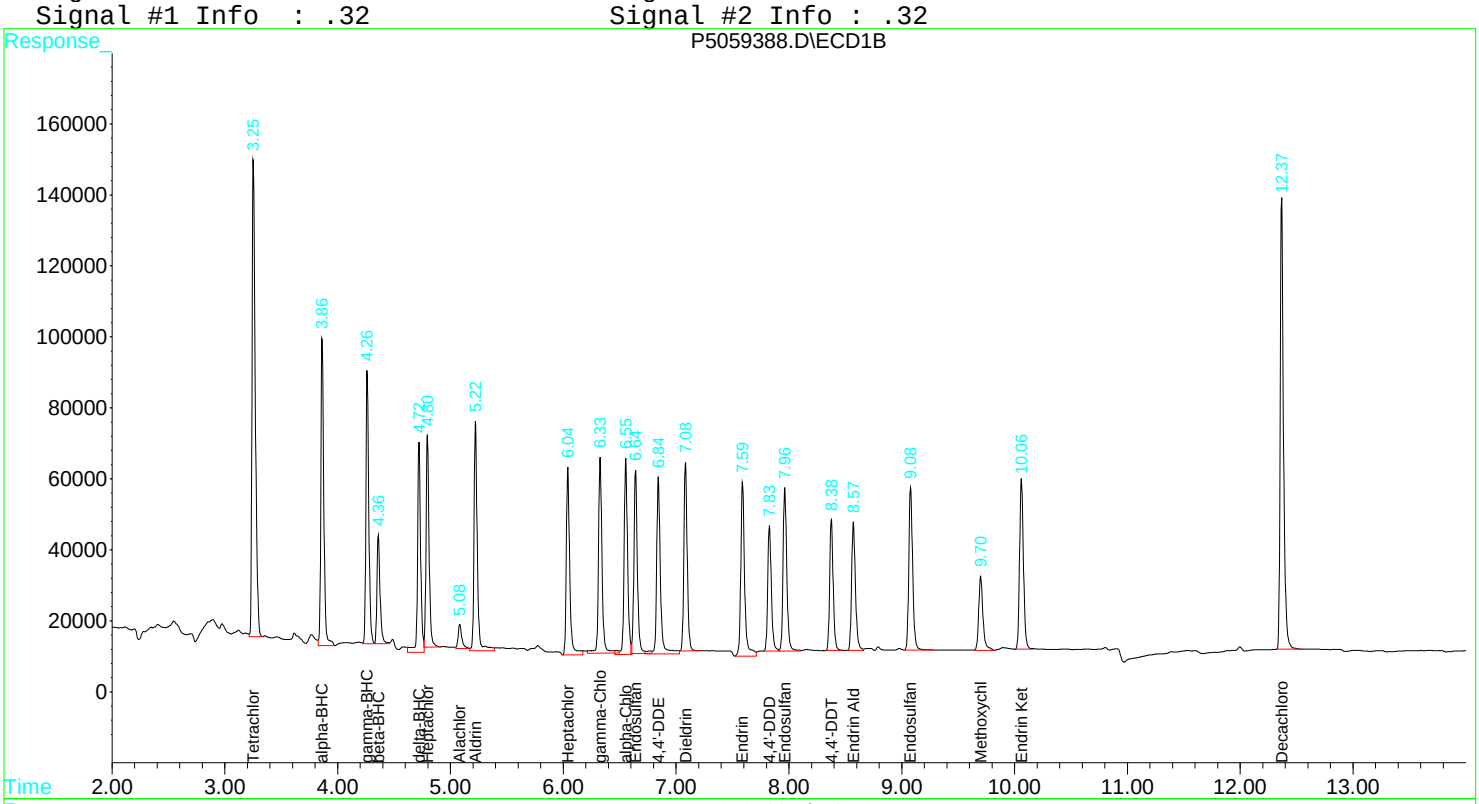
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059388.D P5091619.M Wed Oct 09 17:12:54 2019 Page 1

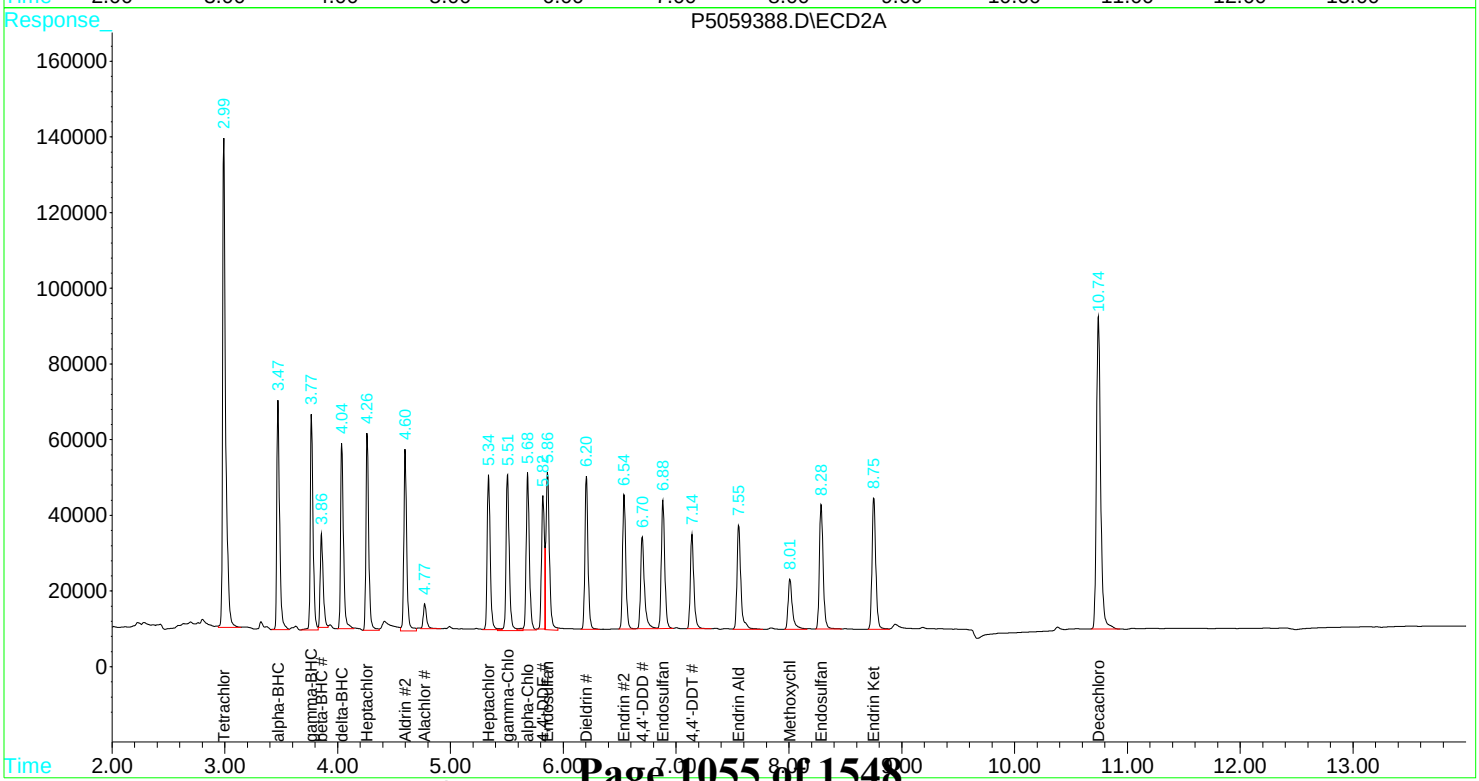
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059388.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059388.D\ECD2A.CH
Acq On : 9 Oct 2019 4:51 pm Operator: CM
Sample : SEQ-CCV5 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 17:12 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059390.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV6	Injection Time:	18:08

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	49.4	19582.52	19331.68		-1.3	20
4,4'-DDD [2C]	A	50.0	58.2	13295.11	15472.64		16.4	20
4,4'-DDE	A	50.0	43.2	28154.29	24333.96		-13.6	20
4,4'-DDE [2C]	A	50.0	52.3	14551.49	15208.72		4.5	20
4,4'-DDT	L	50.0	40.3	10848.91	8739.72		-19.4	20
4,4'-DDT [2C]	L	50.0	49.2	6602.927	6493.64		-1.7	20
Aldrin	A	50.0	44.2	31579.24	27911.4		-11.6	20
Aldrin [2C]	A	50.0	46.4	21532.58	19966.56		-7.3	20
alpha-BHC	A	50.0	50.6	31522.31	31918.24		1.3	20
alpha-BHC [2C]	A	50.0	54.1	22643.85	24514.84		8.3	20
alpha-Chlordane	L	50.0	43.1	29936.82	25799.64		-13.8	20
alpha-Chlordane [2C]	A	50.0	45.5	21521.08	19573.44		-9.0	20
beta-BHC	A	50.0	43.4	13863.48	12037.32		-13.2	20
beta-BHC [2C]	A	50.0	46.9	10532.94	9870.88		-6.3	20
delta-BHC	A	50.0	41.5	27949.34	23192.8		-17.0	20
delta-BHC [2C]	A	50.0	49.7	19141.49	19022.84		-0.6	20
Dieldrin	L	50.0	45.6	27163.47	24752.04		-8.9	20
Dieldrin [2C]	A	50.0	48.8	18914.25	18447.12		-2.5	20
Endosulfan I	A	50.0	44.9	27803.37	24945.08		-10.3	20
Endosulfan I [2C]	A	50.0	43.6	24749.24	21567.52		-12.9	20
Endosulfan II	L	50.0	43.0	26234.9	22585.44		-13.9	20
Endosulfan II [2C]	L	50.0	48.8	16764.96	16351.52		-2.5	20
Endosulfan sulfate	L	50.0	43.4	24871.89	21600.56		-13.2	20
Endosulfan sulfate [2C]	L	50.0	48.9	16593.81	16218.16		-2.3	20
Endrin	L	50.0	41.5	21117.16	17507.92		-17.1	20
Endrin [2C]	L	50.0	46.6	13443.56	12518.52		-6.9	20
gamma-BHC (Lindane)	A	50.0	47.3	28307.31	26778.36		-5.4	20
gamma-BHC (Lindane) [2C]	A	50.0	50.9	20435.27	20820.6		1.9	20
Heptachlor	L	50.0	42.7	23772.84	20291.44		-14.6	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059390.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/09/19
Lab Sample ID:	Y9J1109-CCV6	Injection Time:	18:08

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	47.1	15921.55	15012.2		-5.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059390.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059390.D\ECD2A.CH
Acq On : 9 Oct 2019 6:08 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 18:24 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

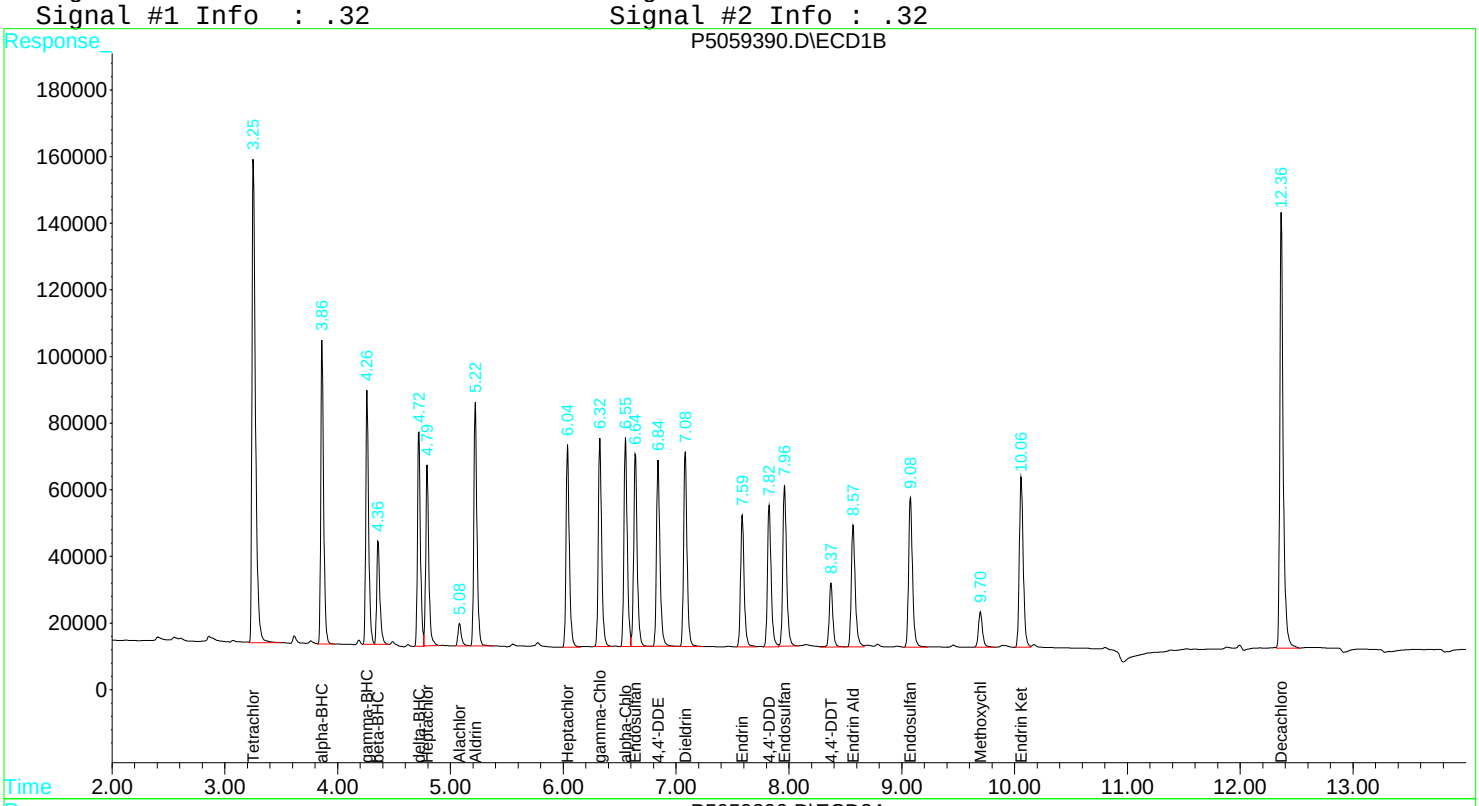
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3152480	3006592	177.941	168.891
	Spiked Amount 200.000	Range 30 - 150		Recovery =		88.97%	84.45%
23) SA	Decachlorobiphen	12.36	10.74	2731530	2321116	108.621	115.301
	Spiked Amount 200.000	Range 30 - 150		Recovery =		54.31%	57.65%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1595912	1225742	50.628	54.131
3) M	gamma-BHC (Linda	4.26	3.76	1338918	1041030	47.299	50.943
4) M	beta-BHC	4.36	3.85	601866	493544	43.414	46.857
5) M	delta-BHC	4.72	4.03	1159640	951142	41.491	49.690
6) M	Heptachlor	4.79	4.26	1014572	750610	42.678	47.144
7) M	Aldrin	5.22	4.59	1395570	998328	44.193	46.364
8) M	Alachlor	5.08	4.77	142830	166036	49.771m	57.977
9) M	Heptachlor Epoxi	6.04	5.33	1234286	932652	44.555	48.888
10) M	gamma-Chlordane	6.32	5.50	1282820	982216	42.757	44.616
11) M	alpha-Chlordane	6.55	5.68	1289982	978672	43.090	45.475
12) M	Endosulfan I	6.64	5.86	1247254	1078376	44.860	43.572
13) M	4,4'-DDE	6.84	5.81	1216698	760436	43.215	52.258
14) M	Dieldrin	7.08	6.20	1237602	922356	45.561	48.765
15) M	Endrin	7.59	6.53	875396	625926	41.454	46.560
16) M	4,4'-DDD	7.82	6.69	966584	773632	49.360	58.189
17) M	Endosulfan II	7.96	6.88	1129272	817576	43.045	48.767
18) M	4,4'-DDT	8.37	7.13	436986	324682	40.279m	49.172
19) M	Endrin Aldehyde	8.57	7.55	889950	692812	40.653	49.067
20) M	Methoxychlor	9.70	8.00	265414	168566	47.020	56.973m
21) M	Endosulfan sulfa	9.08	8.28	1080028	810908	43.424	48.868
22) M	Endrin Ketone	10.06	8.75	1237978	930768	48.059	55.358

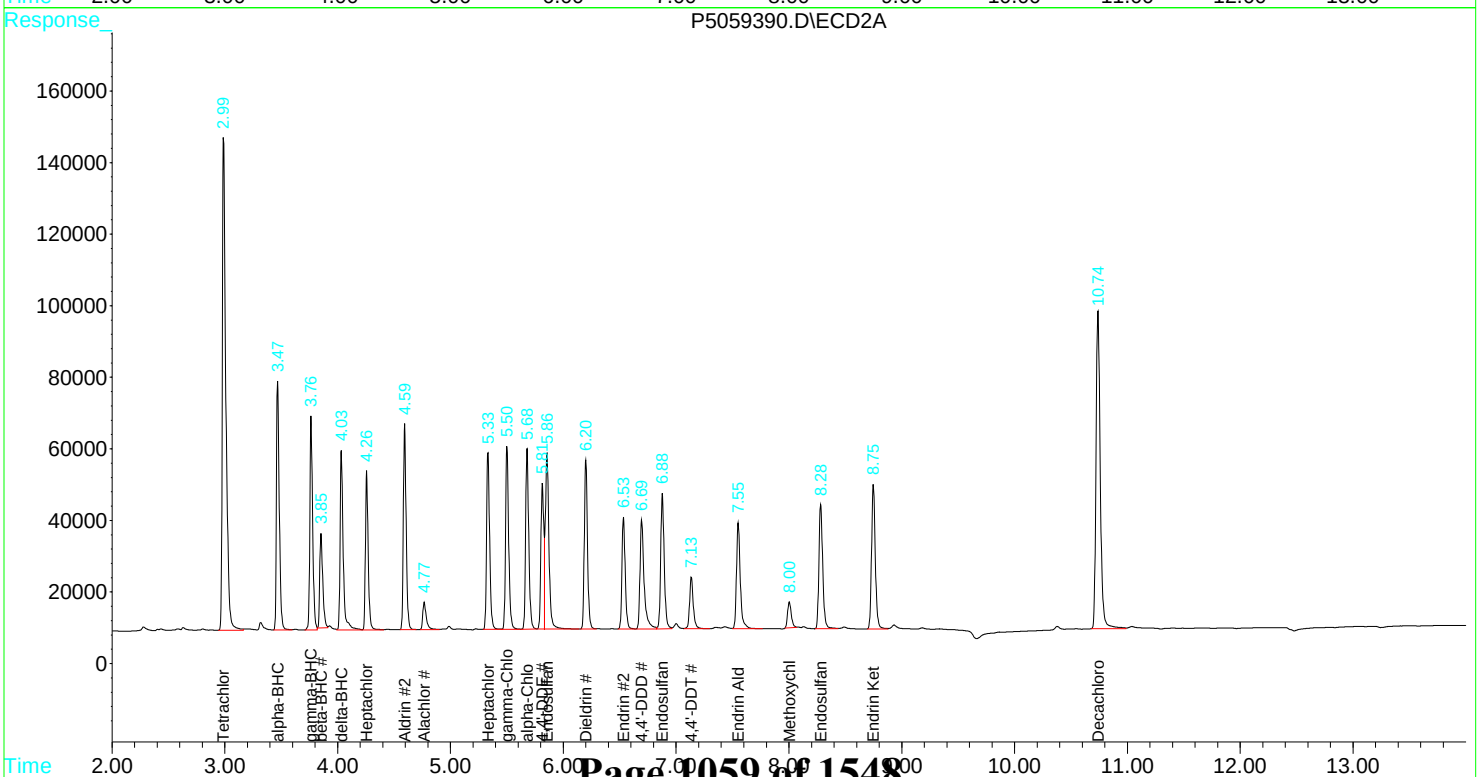
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059390.D P5091619.M Wed Oct 09 18:24:14 2019 Page 1

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059390.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059390.D\ECD2A.CH
Acq On : 9 Oct 2019 6:08 pm Operator: CM
Sample : SEQ-CCV6 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 18:24 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059411.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/10/19
Lab Sample ID:	Y9J1109-CCV7	Injection Time:	00:25

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
4,4'-DDD	A	50.0	63.8	19582.52	25000.28		27.7	20 *
4,4'-DDD [2C]	A	50.0	65.9	13295.11	17533.28		31.9	20 *
4,4'-DDE	A	50.0	58.1	28154.29	32708.84		16.2	20
4,4'-DDE [2C]	A	50.0	52.1	14551.49	15164.8		4.2	20
4,4'-DDT	L	50.0	43.8	10848.91	9498.16		-12.4	20
4,4'-DDT [2C]	L	50.0	47.2	6602.927	6227.36		-5.7	20
Aldrin	A	50.0	58.6	31579.24	37007.72		17.2	20
Aldrin [2C]	A	50.0	53.7	21532.58	23115.44		7.4	20
alpha-BHC	A	50.0	61.6	31522.31	38854.92		23.3	20 *
alpha-BHC [2C]	A	50.0	58.7	22643.85	26568.76		17.3	20
alpha-Chlordane	L	50.0	57.3	29936.82	34320.52		14.6	20
alpha-Chlordane [2C]	A	50.0	52.9	21521.08	22766		5.8	20
beta-BHC	A	50.0	52.6	13863.48	14595.36		5.3	20
beta-BHC [2C]	A	50.0	51.2	10532.94	10792.2		2.5	20
delta-BHC	A	50.0	55.4	27949.34	30954.84		10.8	20
delta-BHC [2C]	A	50.0	54.9	19141.49	21011.12		9.8	20
Dieldrin	L	50.0	59.6	27163.47	32392.76		19.3	20
Dieldrin [2C]	A	50.0	55.2	18914.25	20896.48		10.5	20
Endosulfan I	A	50.0	57.8	27803.37	32114.28		15.5	20
Endosulfan I [2C]	A	50.0	54.9	24749.24	27162.28		9.7	20
Endosulfan II	L	50.0	56.0	26234.9	29379.48		12.0	20
Endosulfan II [2C]	L	50.0	56.6	16764.96	18967.64		13.1	20
Endosulfan sulfate	L	50.0	56.5	24871.89	28128.76		13.1	20
Endosulfan sulfate [2C]	L	50.0	56.0	16593.81	18597		12.1	20
Endrin	L	50.0	51.4	21117.16	21720		2.9	20
Endrin [2C]	L	50.0	49.9	13443.56	13416.12		-0.2	20
gamma-BHC (Lindane)	A	50.0	57.2	28307.31	32366.48		14.3	20
gamma-BHC (Lindane) [2C]	A	50.0	55.7	20435.27	22747		11.3	20
Heptachlor	L	50.0	53.8	23772.84	25594.2		7.7	20

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059411.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/10/19
Lab Sample ID:	Y9J1109-CCV7	Injection Time:	00:25

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	49.5	15921.55	15769.96		-1.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059411.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059411.D\ECD2A.CH
Acq On : 10 Oct 2019 12:25 am Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 10 4:27 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3691000	3300112	208.337	185.379
	Spiked Amount 200.000	Range 30 - 150		Recovery =		104.17%	92.69%
23) SA	Decachlorobiphen	12.36	10.74	3705058	2858074	147.334	141.974
	Spiked Amount 200.000	Range 30 - 150		Recovery =		73.67%	70.99%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1942746	1328438	61.631m	58.667
3) M	gamma-BHC (Linda	4.26	3.76	1618324	1137350	57.170	55.656
4) M	beta-BHC	4.36	3.85	729768	539610	52.640	51.231
5) M	delta-BHC	4.72	4.03	1547742	1050556	55.377	54.884
6) M	Heptachlor	4.79	4.26	1279710	788498	53.831	49.524
7) M	Aldrin	5.22	4.59	1850386	1155772	58.595	53.676
8) M	Alachlor	5.08	4.77	165010	170350	57.500m	59.483m
9) M	Heptachlor Epoxi	6.04	5.33	1601640	1033174	57.815	54.157
10) M	gamma-Chlordane	6.32	5.50	1717018	1137332	57.228	51.662
11) M	alpha-Chlordane	6.55	5.68	1716026	1138300	57.322	52.892
12) M	Endosulfan I	6.64	5.85	1605714	1358114	57.753	54.875
13) M	4,4'-DDE	6.84	5.81	1635442	758240	58.089	52.107
14) M	Dieldrin	7.08	6.20	1619638	1044824	59.626	55.240
15) M	Endrin	7.58	6.53	1086000	670806	51.427	49.898
16) M	4,4'-DDD	7.82	6.69	1250014	876664	63.833m	65.939
17) M	Endosulfan II	7.96	6.88	1468974	948382	55.993	56.569
18) M	4,4'-DDT	8.37	7.13	474908	311368	43.775	47.156
19) M	Endrin Aldehyde	8.57	7.55	1161392	810306	53.053	57.773
20) M	Methoxychlor	9.70	8.00	291736	172582	51.683	58.330
21) M	Endosulfan sulfa	9.08	8.28	1406438	929850	56.547	56.036
22) M	Endrin Ketone	10.06	8.75	1541442	1045482	59.839m	62.181

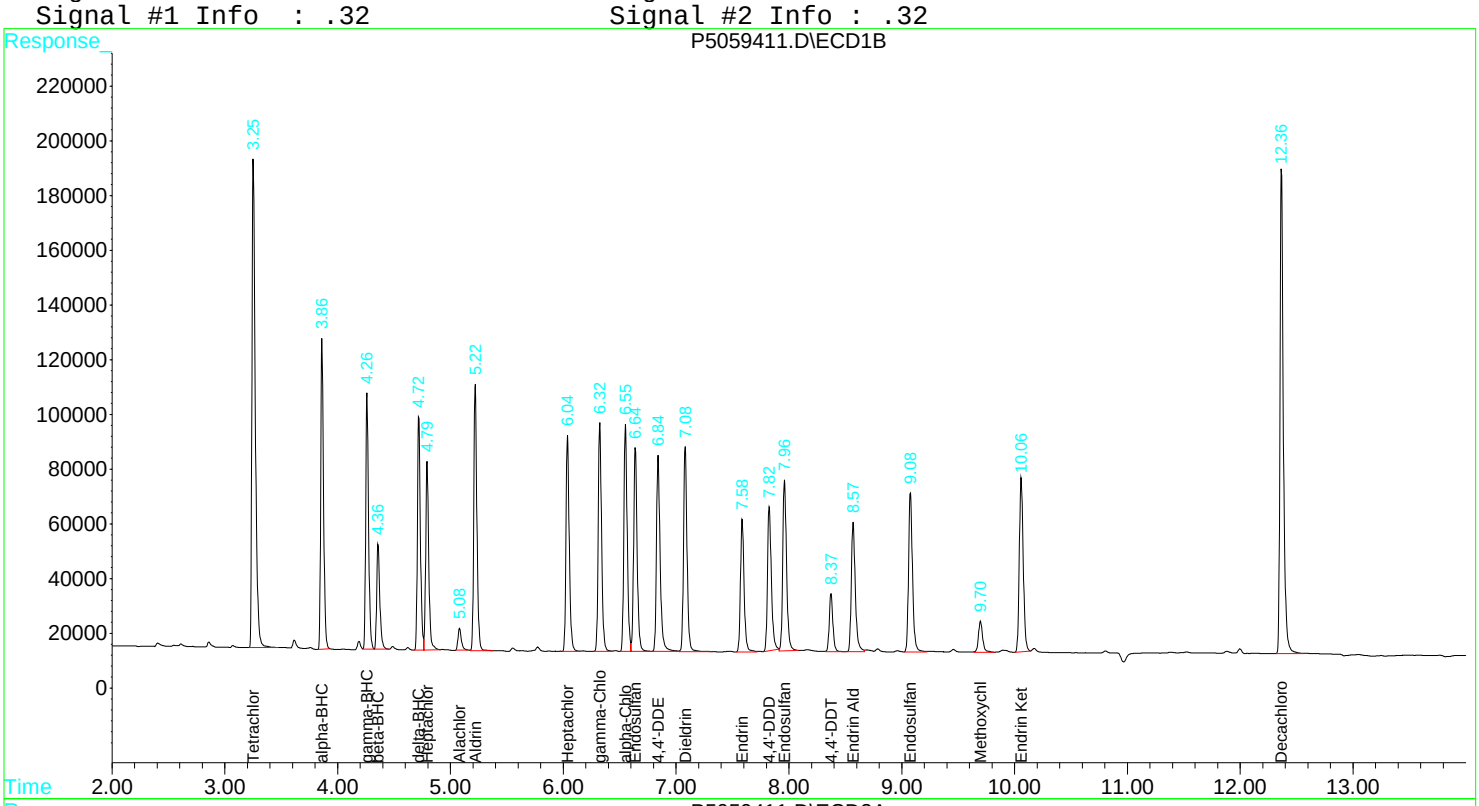
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059411.D P5091619.M Thu Oct 10 04:27:49 2019 Page 1

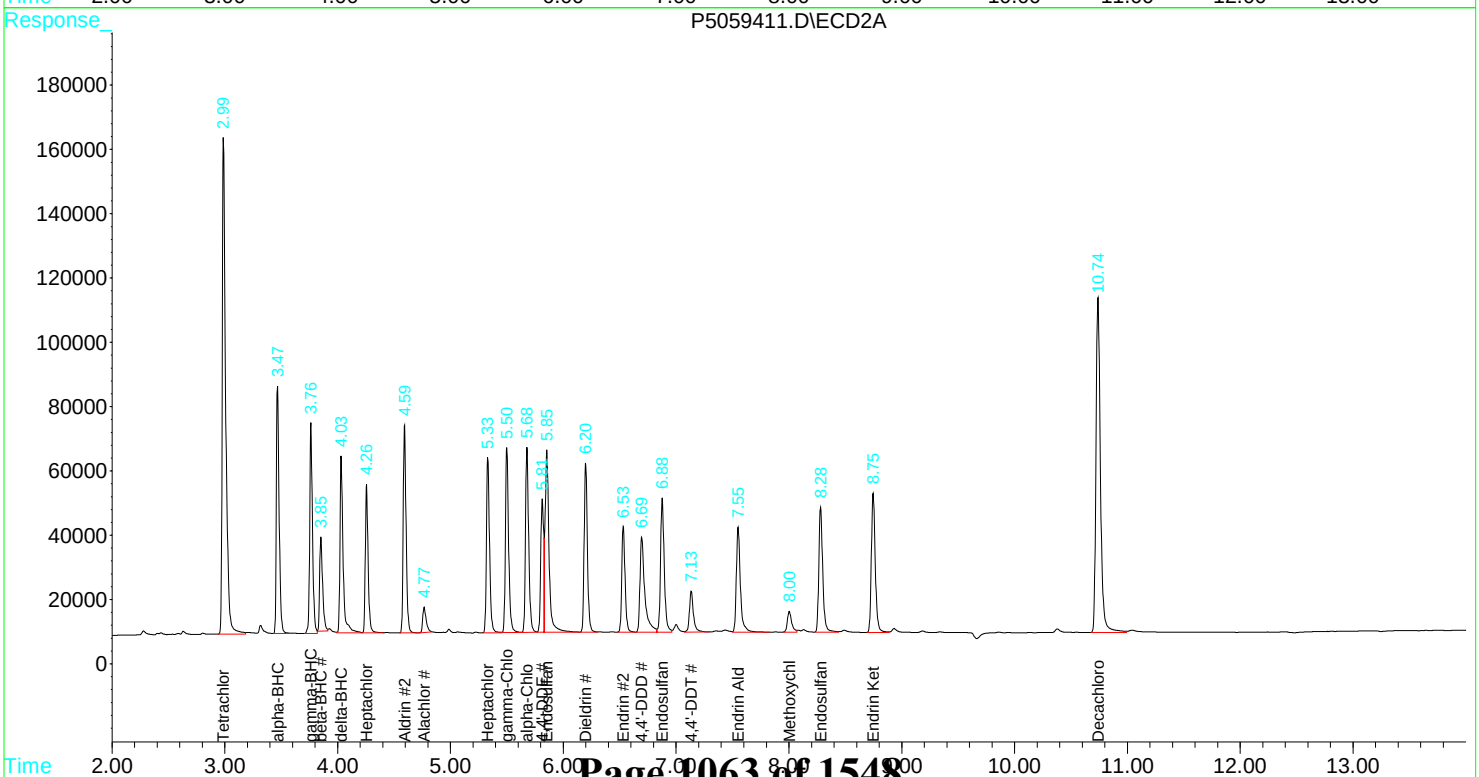
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059411.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059411.D\ECD2A.CH
Acq On : 10 Oct 2019 12:25 am Operator: CM
Sample : SEQ-CCV7 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 10 4:27 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059425.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/10/19
Lab Sample ID:	Y9J1109-CCV8	Injection Time:	04:36

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
4,4'-DDD	A	50.0	56.9	19582.52	22283.68		13.8	20	
4,4'-DDD [2C]	A	50.0	59.2	13295.11	15751.84		18.5	20	
4,4'-DDE	A	50.0	53.6	28154.29	30177.72		7.2	20	
4,4'-DDE [2C]	A	50.0	50.9	14551.49	14823.44		1.9	20	
4,4'-DDT	L	50.0	37.4	10848.91	8109.28		-25.3	20	*
4,4'-DDT [2C]	L	50.0	41.7	6602.927	5503.72		-16.6	20	
Aldrin	A	50.0	56.1	31579.24	35412.52		12.1	20	
Aldrin [2C]	A	50.0	53.5	21532.58	23029.2		7.0	20	
alpha-BHC	A	50.0	56.8	31522.31	35828.88		13.7	20	
alpha-BHC [2C]	A	50.0	55.1	22643.85	24970.16		10.3	20	
alpha-Chlordane	L	50.0	52.7	29936.82	31560.2		5.4	20	
alpha-Chlordane [2C]	A	50.0	50.4	21521.08	21681.72		0.7	20	
beta-BHC	A	50.0	48.2	13863.48	13360.12		-3.6	20	
beta-BHC [2C]	A	50.0	47.9	10532.94	10087.2		-4.2	20	
delta-BHC	A	50.0	50.1	27949.34	28030.96		0.3	20	
delta-BHC [2C]	A	50.0	51.6	19141.49	19750.8		3.2	20	
Dieldrin	L	50.0	54.1	27163.47	29406.56		8.3	20	
Dieldrin [2C]	A	50.0	52.1	18914.25	19692.72		4.1	20	
Endosulfan I	A	50.0	53.8	27803.37	29918.92		7.6	20	
Endosulfan I [2C]	A	50.0	51.4	24749.24	25443.08		2.8	20	
Endosulfan II	L	50.0	51.4	26234.9	26990.56		2.9	20	
Endosulfan II [2C]	L	50.0	53.2	16764.96	17830.44		6.4	20	
Endosulfan sulfate	L	50.0	51.5	24871.89	25596.28		2.9	20	
Endosulfan sulfate [2C]	L	50.0	52.7	16593.81	17487.68		5.4	20	
Endrin	L	50.0	45.0	21117.16	18994.88		-10.0	20	
Endrin [2C]	L	50.0	45.2	13443.56	12156.4		-9.6	20	
gamma-BHC (Lindane)	A	50.0	52.1	28307.31	29517.44		4.3	20	
gamma-BHC (Lindane) [2C]	A	50.0	54.3	20435.27	22188.44		8.6	20	
Heptachlor	L	50.0	47.5	23772.84	22561.44		-5.1	20	

FORM VII

CONTINUING CALIBRATION CHECK

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GC Dual E	Calibration:	YI90014
Lab File ID:	P5059425.D	Calibration Date:	09/16/19 08:56
Sequence:	Y9J1109	Injection Date:	10/10/19
Lab Sample ID:	Y9J1109-CCV8	Injection Time:	04:36

		CONC. (ng/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Heptachlor [2C]	A	50.0	45.7	15921.55	14541.96		-8.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059425.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059425.D\ECD2A.CH
Acq On : 10 Oct 2019 4:36 am Operator: CM
Sample : SEQ-CCV8 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 10 5:01 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	3625544	3296836	204.643	185.195
	Spiked Amount 200.000	Range 30 - 150		Recovery =		102.32%	92.60%
23) SA	Decachlorobiphen	12.37	10.74	3496412	2703372	139.037	134.289
	Spiked Amount 200.000	Range 30 - 150		Recovery =		69.52%	67.14%
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	1791444	1248508	56.831	55.137
3) M	gamma-BHC (Linda	4.26	3.76	1475872	1109422	52.137	54.290
4) M	beta-BHC	4.36	3.85	668006	504360	48.185	47.884
5) M	delta-BHC	4.72	4.03	1401548	987540	50.146	51.592
6) M	Heptachlor	4.79	4.26	1128072	727098	47.452	45.668
7) M	Aldrin	5.22	4.59	1770626	1151460	56.069	53.475
8) M	Alachlor	0.00	4.77	0	176026	N.D.	61.465 #
9) M	Heptachlor Epoxi	6.04	5.33	1453878	972848	52.481	50.995
10) M	gamma-Chlordane	6.32	5.50	1574800	1085178	52.488	49.293
11) M	alpha-Chlordane	6.55	5.68	1578010	1084086	52.711	50.373
12) M	Endosulfan I	6.64	5.86	1495946	1272154	53.804	51.402
13) M	4,4'-DDE	6.84	5.81	1508886	741172	53.593	50.934
14) M	Dieldrin	7.08	6.20	1470328	984636	54.129	52.058
15) M	Endrin	7.59	6.53	949744	607820	44.975	45.213
16) M	4,4'-DDD	7.83	6.70	1114184	787592	56.897	59.239
17) M	Endosulfan II	7.96	6.88	1349528	891522	51.440	53.178
18) M	4,4'-DDT	8.37	7.13	405464	275186	37.374	41.676
19) M	Endrin Aldehyde	8.57	7.55	1094884	773882	50.015	55.061
20) M	Methoxychlor	9.70	8.00	250864	155270	44.442	52.479
21) M	Endosulfan sulfa	9.08	8.28	1279814	874384	51.456	52.693
22) M	Endrin Ketone	10.06	8.75	1372096	937528	53.265	55.760

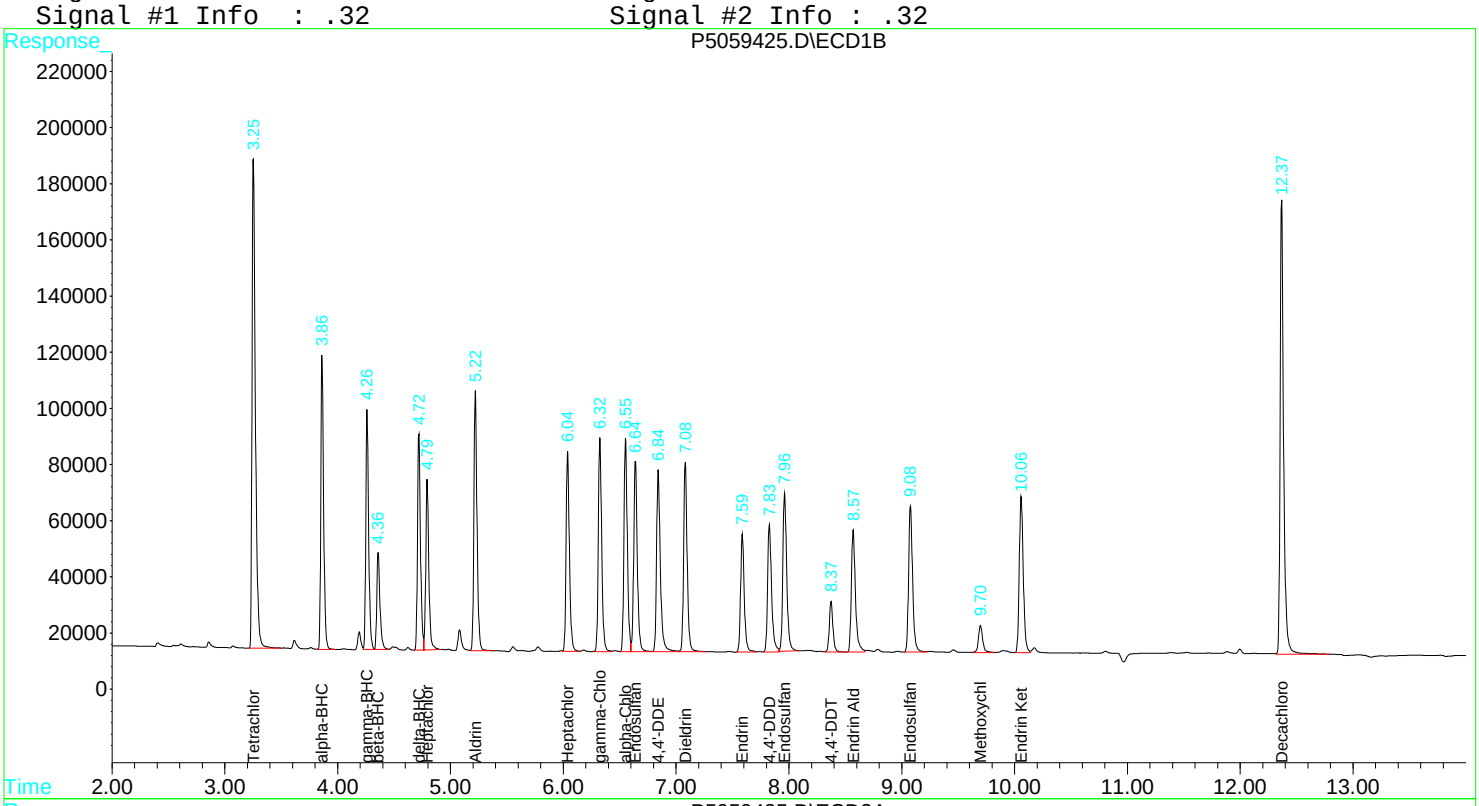
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

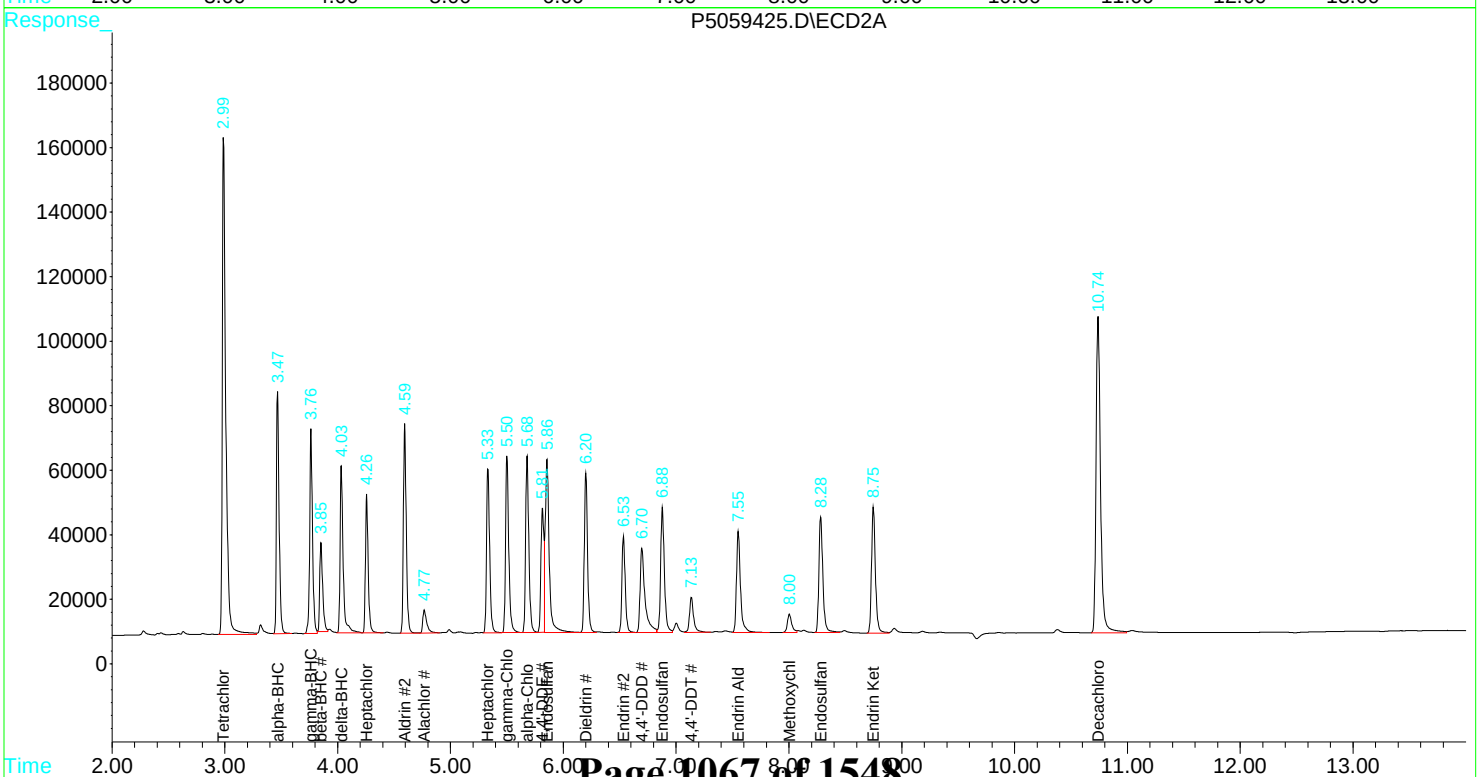
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059425.D\ECD1B.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059425.D\ECD2A.CH
Acq On : 10 Oct 2019 4:36 am Operator: CM
Sample : SEQ-CCV8 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 10 5:01 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9I2404	Instrument:	GC Dual E
		Calibration:	YI90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	Y9I2404-PEM1	P5058201.D	09/16/19 15:03
Cal Standard	Y9I2404-CAL1	P5058204.D	09/16/19 16:25
Cal Standard	Y9I2404-CAL2	P5058205.D	09/16/19 16:43
Cal Standard	Y9I2404-CAL3	P5058206.D	09/16/19 17:01
Cal Standard	Y9I2404-CAL4	P5058207.D	09/16/19 17:19
Cal Standard	Y9I2404-CAL5	P5058208.D	09/16/19 17:37
Cal Standard	Y9I2404-CAL6	P5058210.D	09/16/19 18:13
Secondary Cal Check	Y9I2404-SCV1	P5058211.D	09/16/19 18:31

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0822	Instrument:	GC Dual E
		Calibration:	YI90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	Y9J0822-PEM1	P5059200.D	10/07/19 07:39
Calibration Check	Y9J0822-CCV1	P5059201.D	10/07/19 07:57
Calibration Check	Y9J0822-CCV2	P5059203.D	10/07/19 08:47
Calibration Check	Y9J0822-CCV3	P5059204.D	10/07/19 09:05
Calibration Check	Y9J0822-CCV4	P5059225.D	10/07/19 15:22
Calibration Check	Y9J0822-CCV5	P5059246.D	10/07/19 21:38
Calibration Check	Y9J0822-CCV6	P5059248.D	10/07/19 22:14
Blank	BJ90321-BLK1	P5059265.D	10/08/19 03:19
LCS	BJ90321-BS1	P5059266.D	10/08/19 03:37
Calibration Check	Y9J0822-CCV7	P5059269.D	10/08/19 04:31

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0912	Instrument:	GC Dual E
		Calibration:	YI90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	Y9J0912-PEM1	P5059270.D	10/08/19 05:02
Calibration Check	Y9J0912-CCV1	P5059271.D	10/08/19 05:20
Calibration Check	Y9J0912-CCV4	P5059294.D	10/08/19 12:13
Calibration Check	Y9J0912-CCV5	P5059306.D	10/08/19 15:47
Performance Mix	Y9J0912-PEM2	P5059307.D	10/08/19 16:11
Calibration Check	Y9J0912-CCV6	P5059308.D	10/08/19 16:29
Calibration Check	Y9J0912-CCV7	P5059329.D	10/08/19 22:46
SB27_6-8	19J0144-04	P5059331.D	10/08/19 23:22
SB28_0-2	19J0144-05	P5059332.D	10/08/19 23:40
SB28_5.5-7.5	19J0144-06	P5059333.D	10/08/19 23:58
Calibration Check	Y9J0912-CCV8	P5059350.D	10/09/19 05:02

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J1109	Instrument:	GC Dual E
		Calibration:	YI90014

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Performance Mix	Y9J1109-PEM1	P5059351.D	10/09/19 05:24
Calibration Check	Y9J1109-CCV1	P5059352.D	10/09/19 05:42
Calibration Check	Y9J1109-CCV2	P5059353.D	10/09/19 06:05
Calibration Check	Y9J1109-CCV3	P5059354.D	10/09/19 06:22
Blank	BJ90322-BLK1	P5059371.D	10/09/19 11:27
LCS	BJ90322-BS1	P5059372.D	10/09/19 11:45
Calibration Check	Y9J1109-CCV4	P5059376.D	10/09/19 12:57
SB19_0-2	19J0144-01	P5059378.D	10/09/19 13:32
SB19_8-9	19J0144-02	P5059379.D	10/09/19 13:50
SB27_0-2	19J0144-03	P5059380.D	10/09/19 14:08
Calibration Check	Y9J1109-CCV5	P5059388.D	10/09/19 16:51
Performance Mix	Y9J1109-PEM2	P5059389.D	10/09/19 17:50
Calibration Check	Y9J1109-CCV6	P5059390.D	10/09/19 18:08
Calibration Check	Y9J1109-CCV7	P5059411.D	10/10/19 00:25
Calibration Check	Y9J1109-CCV8	P5059425.D	10/10/19 04:36

METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: PEST
METHOD: EPA 8081B

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK1	File ID:	P5059265.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 03:19	Instrument:	GC Dual E		
Batch:	BJ90321	Sequence:	Y9J0822	Calibration:	YI90014

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00164	U
72-54-8	4,4'-DDD [2C]	0.00164	U
72-55-9	4,4'-DDE	0.00164	U
72-55-9	4,4'-DDE [2C]	0.00164	U
50-29-3	4,4'-DDT	0.00164	U
50-29-3	4,4'-DDT [2C]	0.00164	U
309-00-2	Aldrin	0.00164	U
309-00-2	Aldrin [2C]	0.00164	U
319-84-6	alpha-BHC	0.00164	U
319-84-6	alpha-BHC [2C]	0.00164	U
5103-71-9	alpha-Chlordane	0.00164	U
5103-71-9	alpha-Chlordane [2C]	0.00164	U
319-85-7	beta-BHC	0.00164	U
319-85-7	beta-BHC [2C]	0.00164	U
319-86-8	delta-BHC	0.00164	U
319-86-8	delta-BHC [2C]	0.00164	U
60-57-1	Dieldrin	0.00164	U
60-57-1	Dieldrin [2C]	0.00164	U
959-98-8	Endosulfan I	0.00164	U
959-98-8	Endosulfan I [2C]	0.00164	U
33213-65-9	Endosulfan II	0.00164	U
33213-65-9	Endosulfan II [2C]	0.00164	U
1031-07-8	Endosulfan sulfate	0.00164	U
1031-07-8	Endosulfan sulfate [2C]	0.00164	U
72-20-8	Endrin	0.00164	U
72-20-8	Endrin [2C]	0.00164	U
58-89-9	gamma-BHC (Lindane)	0.00164	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00164	U
76-44-8	Heptachlor	0.00164	U
76-44-8	Heptachlor [2C]	0.00164	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK1	File ID:	P5059265.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 03:19	Instrument:	GC Dual E		
Batch:	BJ90321	Sequence:	Y9J0822	Calibration:	YI90014

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0686	103	30 - 150	
Decachlorobiphenyl [2C]	0.0664	0.0703	106	30 - 150	
Tetrachloro-m-xylene	0.0664	0.0730	110	30 - 150	
Tetrachloro-m-xylene [2C]	0.0664	0.0708	107	30 - 150	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059265.D\ECD1B.CH Vial: 61
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059265.D\ECD2A.CH
Acq On : 8 Oct 2019 3:19 am Operator: CM
Sample : BJ90321-BLK1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 11:39 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

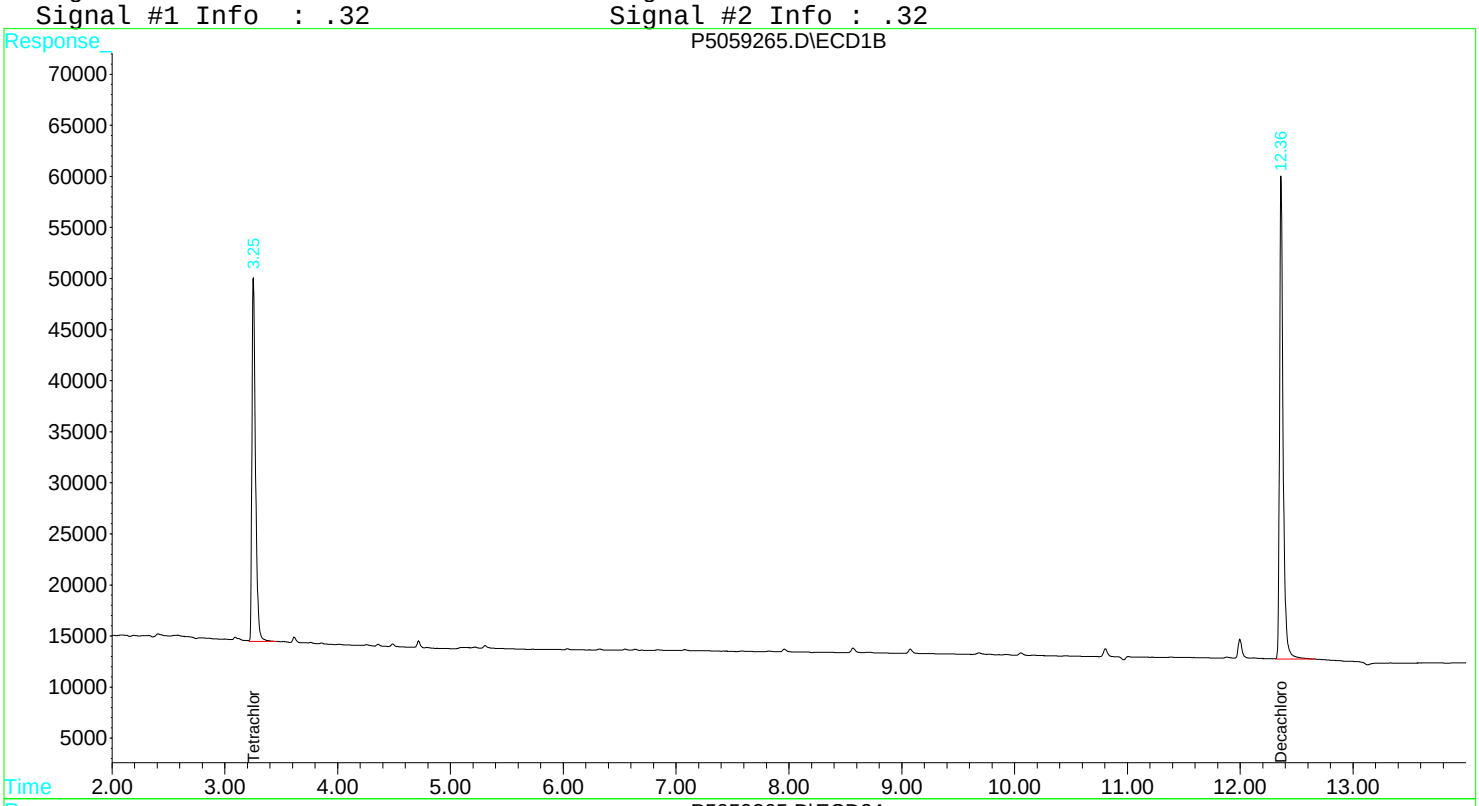
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	778330	759102	43.933	42.641
	Spiked Amount 200.000	Range 30 - 150		Recovery =		21.97%#	21.32%#
23) SA	Decachlorobiphen	12.36	10.74	1038244	852142	41.286	42.330
	Spiked Amount 200.000	Range 30 - 150		Recovery =		20.64%#	21.16%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

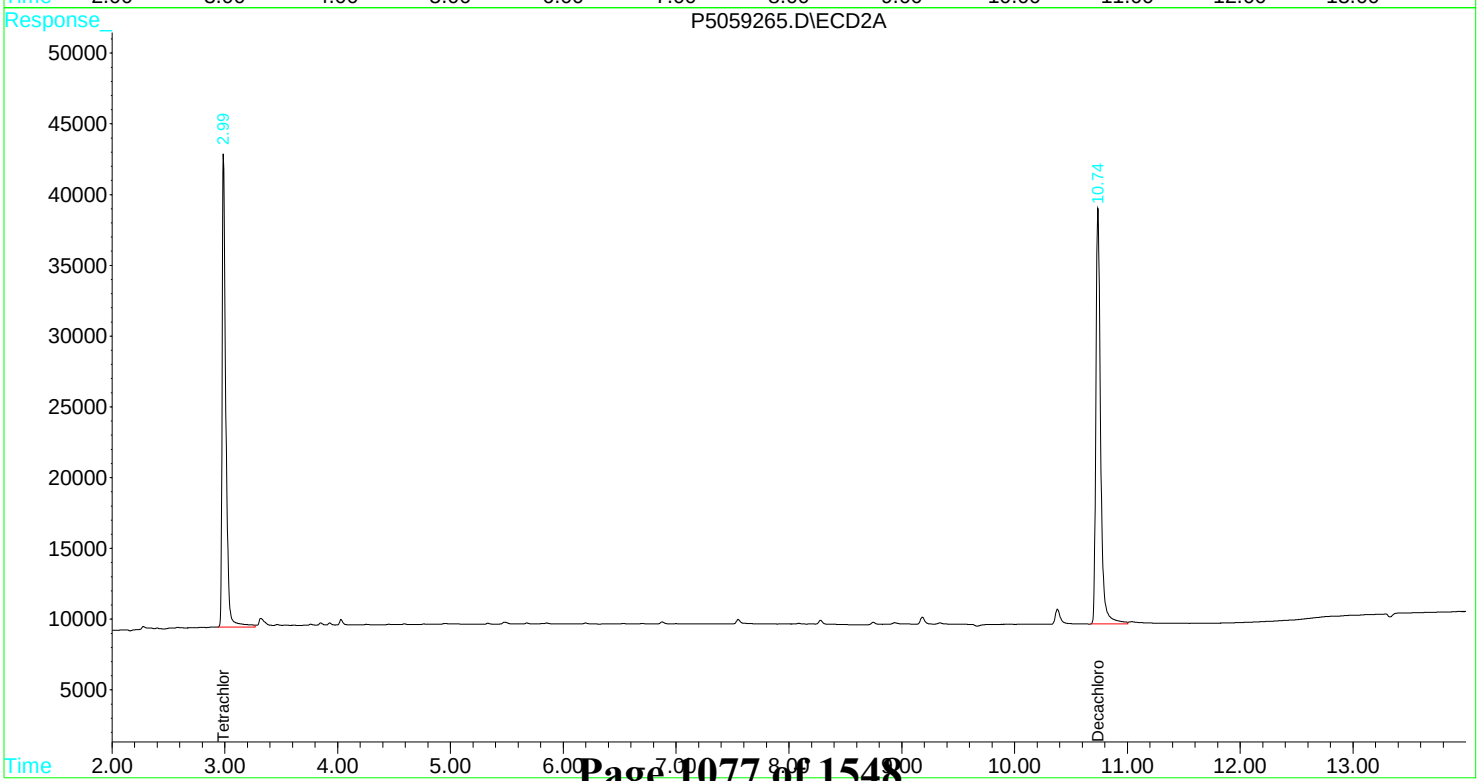
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059265.D P5091619.M Tue Oct 08 11:39:47 2019 Page 1

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059265.D\ECD1B.CH Vial: 61
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059265.D\ECD2A.CH
Acq On : 8 Oct 2019 3:19 am Operator: CM
Sample : BJ90321-BLK1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 11:39 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: PEST
METHOD: EPA 8081B

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK1	File ID:	P5059371.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/09/19 11:27	Instrument:	GC Dual E		
Batch:	BJ90322	Sequence:	Y9J1109	Calibration:	YI90014

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
72-54-8	4,4'-DDD	0.00164	U
72-54-8	4,4'-DDD [2C]	0.00164	U
72-55-9	4,4'-DDE	0.00164	U
72-55-9	4,4'-DDE [2C]	0.00164	U
50-29-3	4,4'-DDT	0.00164	U
50-29-3	4,4'-DDT [2C]	0.00164	U
309-00-2	Aldrin	0.00164	U
309-00-2	Aldrin [2C]	0.00164	U
319-84-6	alpha-BHC	0.00164	U
319-84-6	alpha-BHC [2C]	0.00164	U
5103-71-9	alpha-Chlordane	0.00164	U
5103-71-9	alpha-Chlordane [2C]	0.00164	U
319-85-7	beta-BHC	0.00164	U
319-85-7	beta-BHC [2C]	0.00164	U
319-86-8	delta-BHC	0.00164	U
319-86-8	delta-BHC [2C]	0.00164	U
60-57-1	Dieldrin	0.00164	U
60-57-1	Dieldrin [2C]	0.00164	U
959-98-8	Endosulfan I	0.00164	U
959-98-8	Endosulfan I [2C]	0.00164	U
33213-65-9	Endosulfan II	0.00164	U
33213-65-9	Endosulfan II [2C]	0.00164	U
1031-07-8	Endosulfan sulfate	0.00164	U
1031-07-8	Endosulfan sulfate [2C]	0.00164	U
72-20-8	Endrin	0.00164	U
72-20-8	Endrin [2C]	0.00164	U
58-89-9	gamma-BHC (Lindane)	0.00164	U
58-89-9	gamma-BHC (Lindane) [2C]	0.00164	U
76-44-8	Heptachlor	0.00164	U
76-44-8	Heptachlor [2C]	0.00164	U

FORM I

METHOD BLANK DATA SHEET

EPA 8081B

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK1	File ID:	P5059371.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/09/19 11:27	Instrument:	GC Dual E		
Batch:	BJ90322	Sequence:	Y9J1109	Calibration:	YI90014

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0586	88.1	30 - 150	
Decachlorobiphenyl [2C]	0.0664	0.0615	92.5	30 - 150	
Tetrachloro-m-xylene	0.0664	0.0718	108	30 - 150	
Tetrachloro-m-xylene [2C]	0.0664	0.0674	102	30 - 150	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059371.D\ECD1B.CH Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059371.D\ECD2A.CH
Acq On : 9 Oct 2019 11:27 am Operator: CM
Sample : BJ90322-BLK1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:55 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	766280	722760	43.252	40.600
	Spiked Amount 200.000	Range 30 - 150		Recovery =		21.63%#	20.30%#
23) SA	Decachlorobiphen	12.36	10.74	886644	745198	35.258	37.017
	Spiked Amount 200.000	Range 30 - 150		Recovery =		17.63%#	18.51%#
	Target Compounds						
2) M	alpha-BHC	0.00	0.00	0	0	N.D.	N.D.
3) M	gamma-BHC (Linda	0.00	0.00	0	0	N.D.	N.D.
4) M	beta-BHC	0.00	0.00	0	0	N.D.	N.D.
5) M	delta-BHC	0.00	0.00	0	0	N.D.	N.D.
6) M	Heptachlor	0.00	0.00	0	0	N.D.	N.D.
7) M	Aldrin	0.00	0.00	0	0	N.D.	N.D.
8) M	Alachlor	0.00	0.00	0	0	N.D.	N.D.
9) M	Heptachlor Epoxi	0.00	0.00	0	0	N.D.	N.D.
10) M	gamma-Chlordane	0.00	0.00	0	0	N.D.	N.D.
11) M	alpha-Chlordane	0.00	0.00	0	0	N.D.	N.D.
12) M	Endosulfan I	0.00	0.00	0	0	N.D.	N.D.
13) M	4,4'-DDE	0.00	0.00	0	0	N.D.	N.D.
14) M	Dieldrin	0.00	0.00	0	0	N.D.	N.D.
15) M	Endrin	0.00	0.00	0	0	N.D.	N.D.
16) M	4,4'-DDD	0.00	0.00	0	0	N.D.	N.D.
17) M	Endosulfan II	0.00	0.00	0	0	N.D.	N.D.
18) M	4,4'-DDT	0.00	0.00	0	0	N.D.	N.D.
19) M	Endrin Aldehyde	0.00	0.00	0	0	N.D.	N.D.
20) M	Methoxychlor	0.00	0.00	0	0	N.D.	N.D.
21) M	Endosulfan sulfa	0.00	0.00	0	0	N.D.	N.D.
22) M	Endrin Ketone	0.00	0.00	0	0	N.D.	N.D.

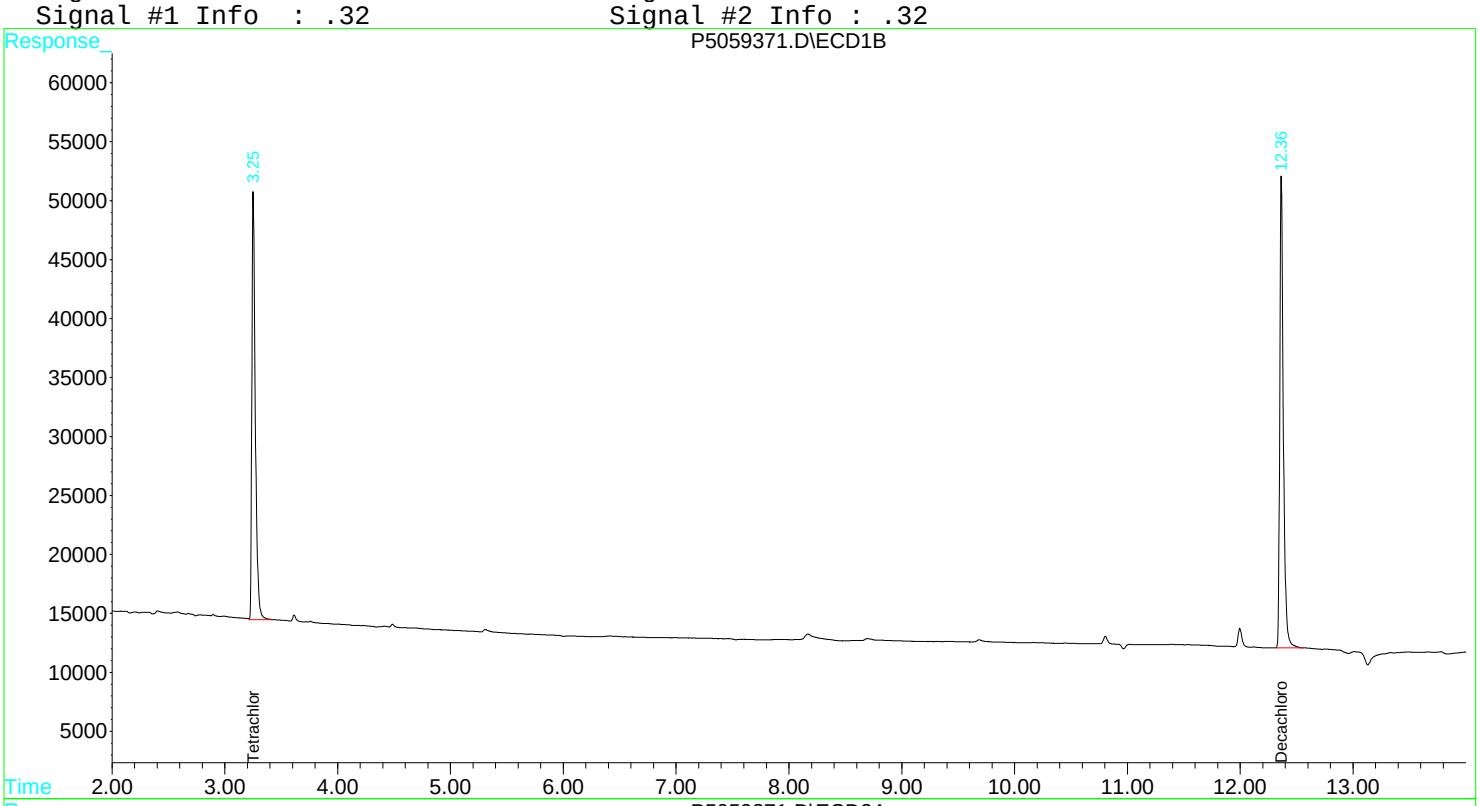
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P5059371.D P5091619.M Wed Oct 09 12:56:02 2019 Page 1

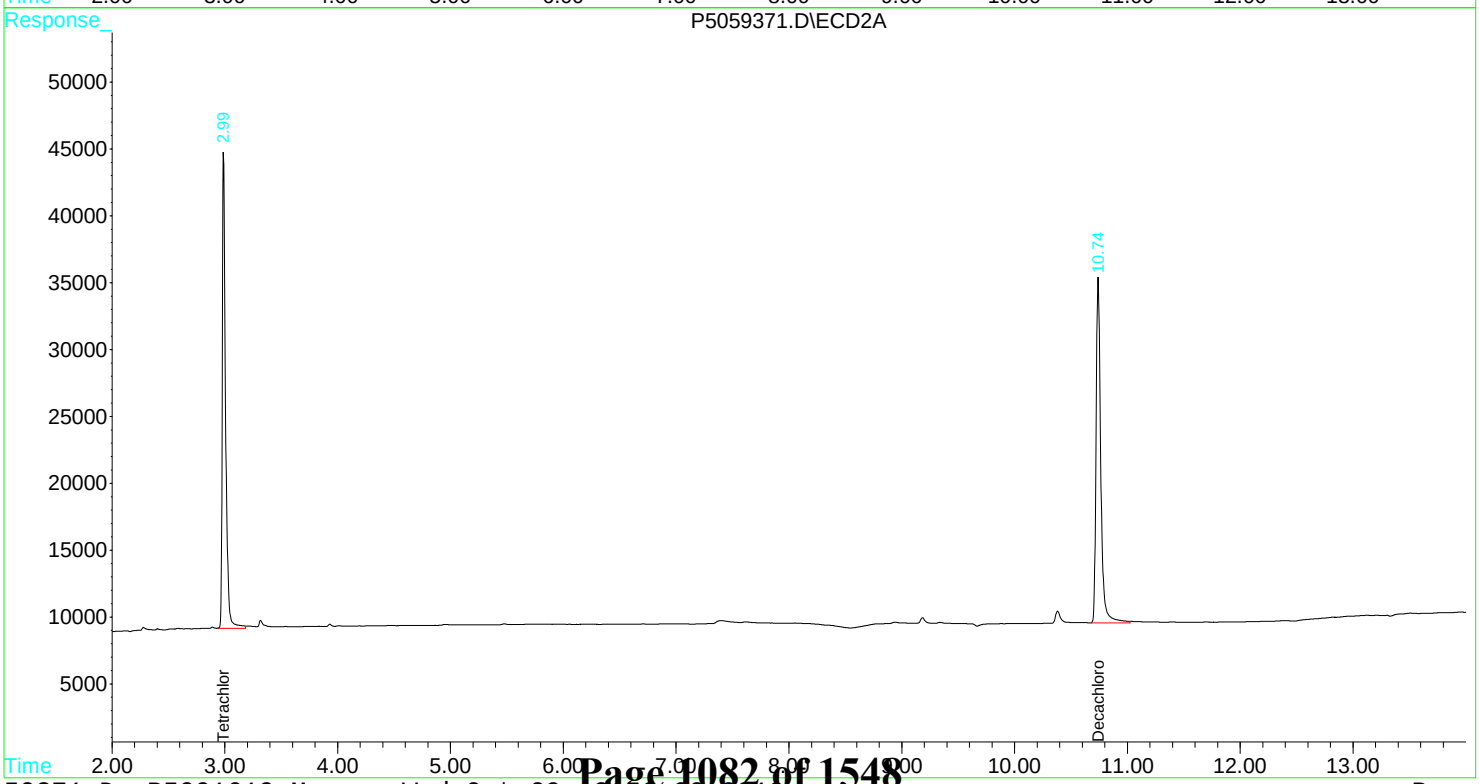
Quantitation Report (QT Reviewed)

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Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059371.D\ECD2A.CH
Acq On : 9 Oct 2019 11:27 am Operator: CM
Sample : BJ90322-BLK1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:55 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 19J0144
CLASS: PEST
METHOD: EPA 8081B

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059266.D\ECD1B.CH Vial: 62
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059266.D\ECD2A.CH
Acq On : 8 Oct 2019 3:37 am Operator: CM
Sample : BJ90321-BS1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 11:40 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	750106	735614	42.339	41.322
	Spiked Amount 200.000	Range 30 - 150		Recovery =		21.17%#	20.66%#
23) SA	Decachlorobiphen	12.36	10.74	1094438	901112	43.521	44.762
	Spiked Amount 200.000	Range 30 - 150		Recovery =		21.76%#	22.38%#
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	572088	414832	18.149	18.320
3) M	gamma-BHC (Linda	4.26	3.76	493660	376986	17.439	18.448
4) M	beta-BHC	4.36	3.85	248174	190090	17.901	18.047
5) M	delta-BHC	4.72	4.03	446072	313386	15.960	16.372
6) M	Heptachlor	4.79	4.26	402440	271036	16.929	17.023
7) M	Aldrin	5.22	4.59	611334	413370	19.359	19.197
8) M	Alachlor	5.08	4.77	55712	67092	19.414	23.427
9) M	Heptachlor Epoxi	6.04	5.33	535506	376570	19.330	19.739
10) M	gamma-Chlordane	6.32	5.50	578578	421734	19.284	19.157
11) M	alpha-Chlordane	6.55	5.68	589456	422898	19.690	19.650
12) M	Endosulfan I	6.64	5.85	565262	508100	20.331	20.530
13) M	4,4'-DDE	6.84	5.81	560444	259938	19.906	17.863
14) M	Dieldrin	7.08	6.20	541668	369956	19.941	19.560
15) M	Endrin	7.59	6.53	382630	233202	18.119	17.347
16) M	4,4'-DDD	7.83	6.69	403530	286376	20.607	21.540
17) M	Endosulfan II	7.96	6.88	529992	347768	20.202	20.744
18) M	4,4'-DDT	8.37	7.13	106296	63326	9.798	9.591
19) M	Endrin Aldehyde	8.57	7.55	374674	269804	17.115	18.673
20) M	Methoxychlor	9.70	8.00	70330	36344	12.459	12.284
21) M	Endosulfan sulfa	9.08	8.28	477892	331860	19.214	19.999
22) M	Endrin Ketone	10.06	8.74	539328	383920	20.937	22.834

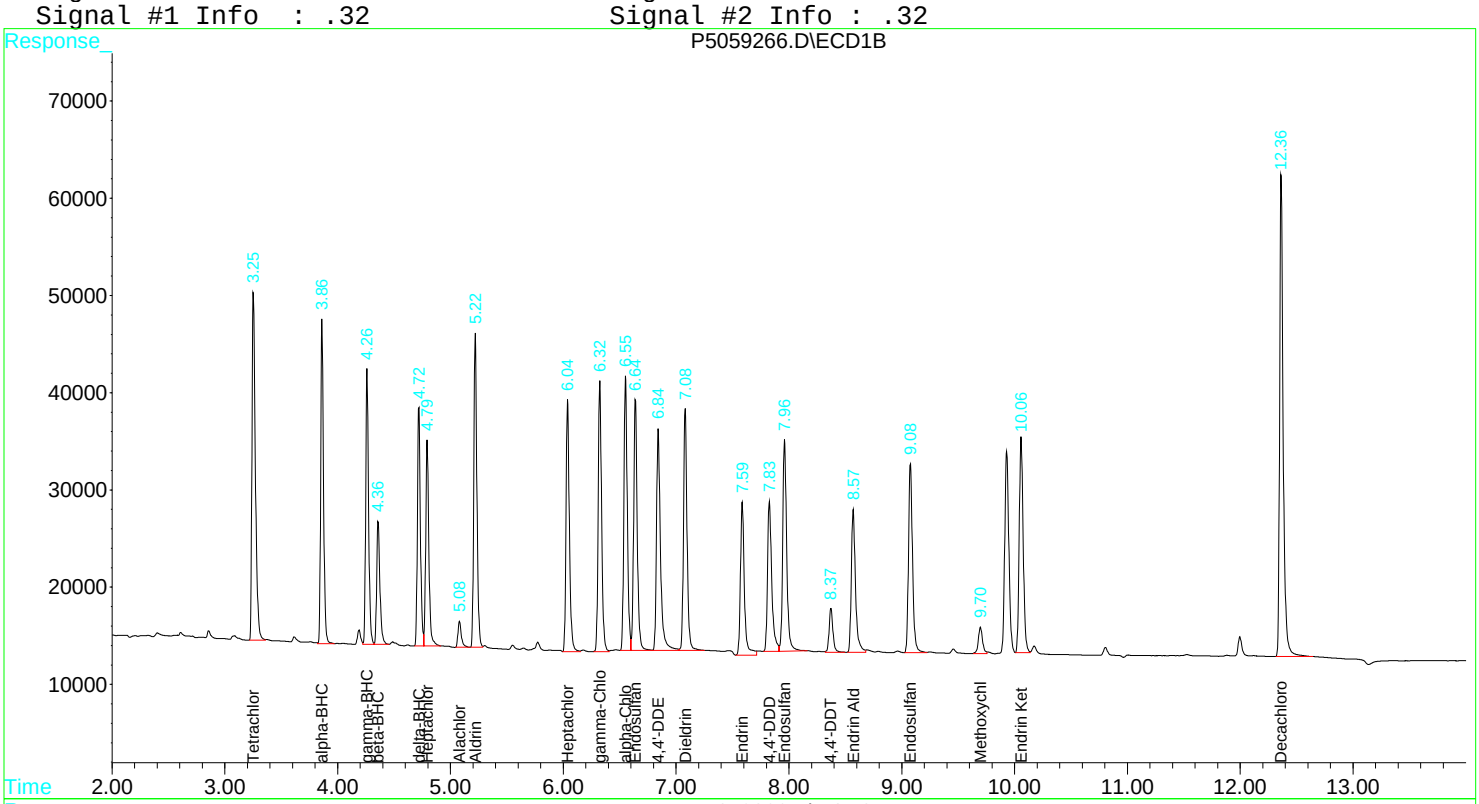
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P5059266.D P5091619.M Tue Oct 08 11:40:18 2019 Page 1

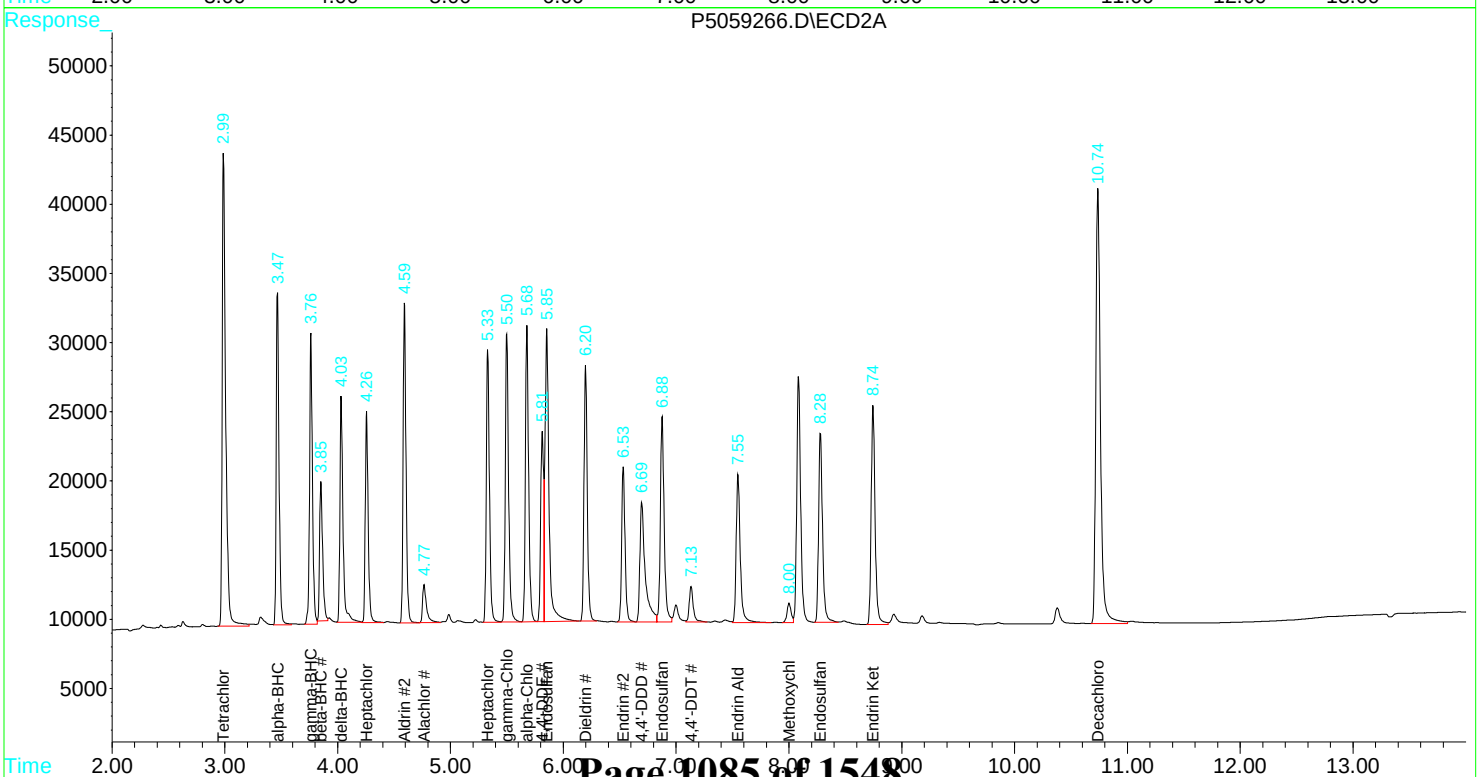
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P5059266.D\ECD1B.CH Vial: 62
Signal #2 : C:\HPCHEM\1\DATA\100719A\P5059266.D\ECD2A.CH
Acq On : 8 Oct 2019 3:37 am Operator: CM
Sample : BJ90321-BS1 Inst : GC DUAL E
Misc : QBPEST5-100719A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 8 11:40 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 19J0144
CLASS: PEST
METHOD: EPA 8081B

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059372.D\ECD1B.CH Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059372.D\ECD2A.CH
Acq On : 9 Oct 2019 11:45 am Operator: CM
Sample : BJ90322-BS1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:57 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Initial Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

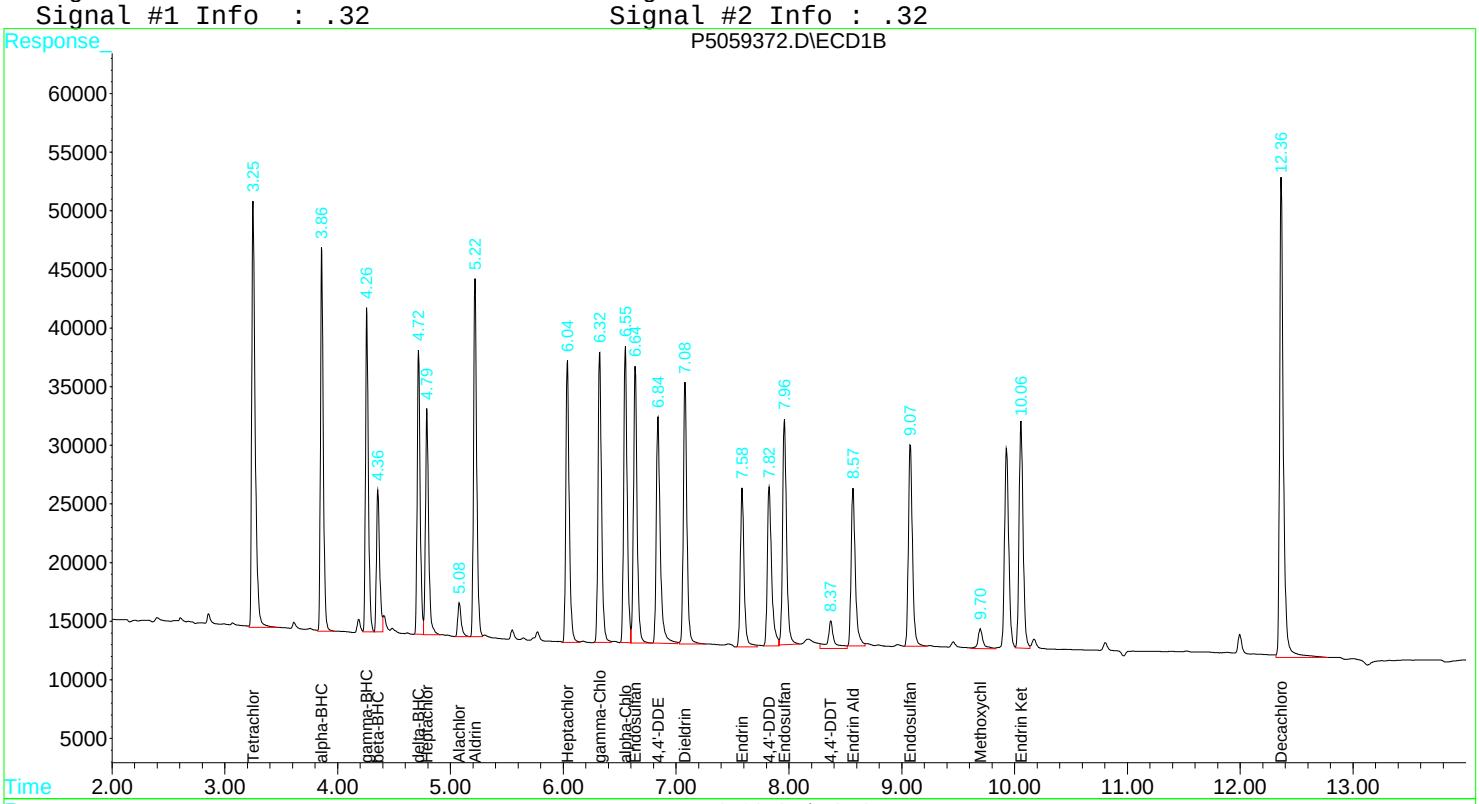
	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1) SA	Tetrachloro-m-xy	3.25	2.99	768536	716642	43.380	40.256
	Spiked Amount 200.000	Range 30 - 150		Recovery =		21.69%#	20.13%#
23) SA	Decachlorobiphen	12.36	10.74	955442	750588	37.994	37.285
	Spiked Amount 200.000	Range 30 - 150		Recovery =		19.00%#	18.64%#
	Target Compounds						
2) M	alpha-BHC	3.86	3.47	565828	400562	17.950	17.690
3) M	gamma-BHC (Linda	4.26	3.76	479986	356992	16.956	17.469
4) M	beta-BHC	4.36	3.85	234764	180922	16.934	17.177
5) M	delta-BHC	4.72	4.03	436004	314654	15.600	16.438
6) M	Heptachlor	4.79	4.26	373898	238222	15.728	14.962
7) M	Aldrin	5.22	4.59	583410	383170	18.474	17.795
8) M	Alachlor	5.08	4.77	62226	75376	21.684	26.320
9) M	Heptachlor Epoxi	6.04	5.33	505920	346000	18.262	18.137
10) M	gamma-Chlordane	6.32	5.50	530560	374886	17.684	17.029
11) M	alpha-Chlordane	6.55	5.68	536316	376954	17.915	17.516
12) M	Endosulfan I	6.64	5.86	519220	465978	18.675	18.828
13) M	4,4'-DDE	6.84	5.81	479438	213974	17.029	14.705
14) M	Dieldrin	7.08	6.20	493982	333598	18.186	17.637
15) M	Endrin	7.58	6.53	315482	195638	14.940	14.553
16) M	4,4'-DDD	7.82	6.70	360438	246870	18.406	18.568
17) M	Endosulfan II	7.96	6.88	468676	300846	17.865	17.945
18) M	4,4'-DDT	8.37	7.13	89608	46578	8.260m	7.054m
19) M	Endrin Aldehyde	8.57	7.55	346316	248252	15.820	17.162
20) M	Methoxychlor	9.70	8.00	53892	25338	9.547m	8.564m
21) M	Endosulfan sulfa	9.07	8.28	425402	286210	17.104	17.248
22) M	Endrin Ketone	10.06	8.75	481892	332032	18.707	19.748

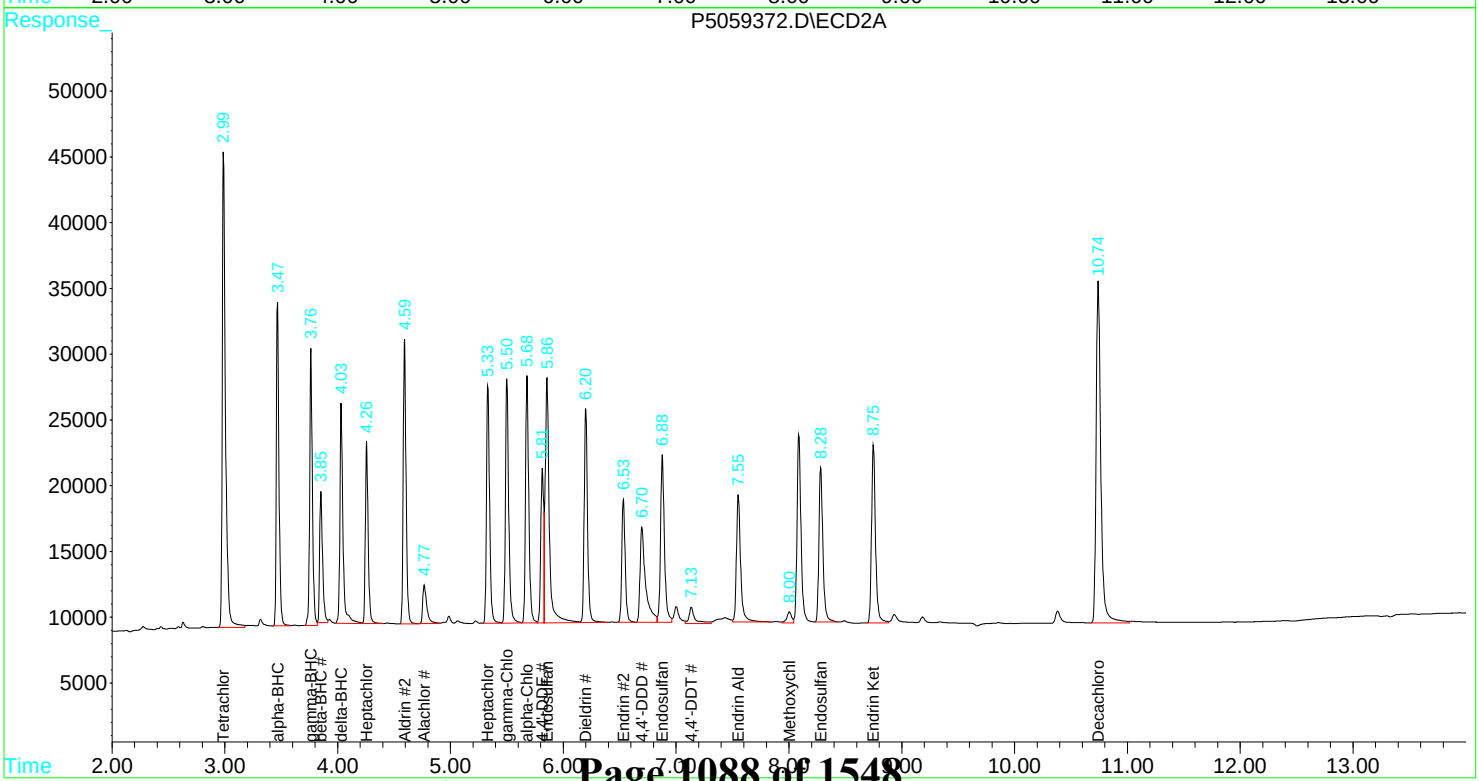
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P5059372.D P5091619.M Wed Oct 09 12:58:16 2019 Page 1

Signal #1 : C:\HPCHEM\1\DATA\100919A\P5059372.D\ECD1B.CH Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\100919A\P5059372.D\ECD2A.CH
Acq On : 9 Oct 2019 11:45 am Operator: CM
Sample : BJ90322-BS1 Inst : GC DUAL E
Misc : QBPEST5-100919A Multiplr: 1.00
IntFile Signal #1: RTEINT.P IntFile Signal #2: rteint2.p
Quant Time: Oct 9 12:57 2019 Quant Results File: P5091619.RES

Quant Method : C:\HPCHEM\1\METHODS\P5091619.M (RTE Integrator)
Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
Last Update : Tue Sep 17 06:27:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : PESTN1UL.M

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





BENCHSHEETS

SDG: 19J0144

CLASS: PEST

METHOD: EPA 8081B

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90321

Preparation Date: 10/04/2019 13:49

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:52:46PM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0144-04 A	PCB, 8082 MASTER	30.5	10				
19J0144-04 A	PEST, 8081 MASTER	30.5	10				
19J0144-05 A	PCB, 8082 MASTER	30.2	10				
19J0144-05 A	PEST, 8081 MASTER	30.2	10				
19J0144-06 A	PCB, 8082 MASTER	30.3	10				
19J0144-06 A	PEST, 8081 MASTER	30.3	10				
19J0146-04 A	Polychlorinated Biphenyls (PCB)	30.2	10				Added for BatchQC in: BJ90
19J0146-04 A	Pesticides, 8081 target list	30.2	10				Added for BatchQC in: BJ90
19J0146-04 A	PCB, 8082 MASTER	30.2	10				
19J0146-04 A	PEST, 8081 MASTER	30.2	10				
19J0146-05 A	PEST, 8081 MASTER	30.3	10				
19J0146-05 A	PCB, 8082 MASTER	30.3	10				
19J0146-06 A	PCB, 8082 MASTER	30.3	10				
19J0146-06 A	PEST, 8081 MASTER	30.3	10				
19J0146-07 A	PCB, 8082 MASTER	30.6	10				
19J0146-07 A	PEST, 8081 MASTER	30.6	10				
19J0148-01 E	PCB, 8082 MASTER	30.6	10				Added for BatchQC in: BJ90
19J0148-01 E	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0148-01 E	PEST, 8081 MASTER	30.6	10				Added for BatchQC in: BJ90
19J0148-01 E	Pesticides, 8081 target list	30.6	10				
19J0149-01 E	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0149-01 E	Pesticides, 8081 target list	30.6	10				
19J0152-01 A	Pesticides, 8081 target list	30.3	10				
19J0152-01 A	Polychlorinated Biphenyls (PCB)	30.3	10				
19J0152-03 A	Pesticides, 8081 target list	30.1	10				
19J0152-03 A	Polychlorinated Biphenyls (PCB)	30.1	10				
19J0183-01 A	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0209-01 A	Polychlorinated Biphenyls (PCB)	30.1	10				
19J0209-09 A	Pesticides, 8081 target list	30.1	10				
19J0209-13 A	Polychlorinated Biphenyls (PCB)	30.5	10				
19J0209-21 A	Pesticides, 8081 target list	30.5	10				
19J0209-25 A	Polychlorinated Biphenyls (PCB)	30.3	10				
19J0209-33 A	Pesticides, 8081 target list	30.3	10				

Preparations Performed by **DKC** **Date:** **10/04/2019 13:49**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90321

Preparation Date: 10/04/2019 13:49

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:52:46PM

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0209-37 A	Polychlorinated Biphenyls (PCB)	30.5	10				
19J0209-45 A	Pesticides, 8081 target list	30.5	10				
BJ90321-BLK1	QC	30.1	10				
BJ90321-BLK2	QC	30.1	10				Added 10/8/2019 by SR
BJ90321-BS1	QC	30.1	10	Y19I373		100	
BJ90321-BS2	QC	30.1	10	Y19I309		100	
BJ90321-MS1	QC	30.1	10	Y19I373	19J0148-01	100	
BJ90321-MS2	QC	30.1	10	Y19I309	19J0146-04	100	
BJ90321-MSD1	QC	30.1	10	Y19I373	19J0148-01	100	
BJ90321-MSD2	QC	30.1	10	Y19I309	19J0146-04	100	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G258	ACETONE	0000222367	Y19G286	Ottawa Sand Mix	072319
Y19I221	Sodium Sulfate, Anhydrous	0000238269	Y19I228	HEXANE	DW967-US

Preparations Performed by **DKC** **Date:** **10/04/2019 13:49**

BENCHSHEETS

SDG: 19J0144

CLASS: PEST

METHOD: EPA 8081B

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90322

Preparation Date: 10/04/2019 13:53

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:57AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0077-01 A	PEST, 8081 MASTER	30.3	10				Added for BatchQC in: BJ90
19J0077-01 A	PCB, 8082 MASTER	30.3	10				Added for BatchQC in: BJ90
19J0077-01RE1 A	Polychlorinated Biphenyls (PCB)	30	10				Added for BatchQC in: BJ90
19J0077-01RE1 A	Pesticides, 8081 target list	30	10				Added for BatchQC in: BJ90
19J0078-03 A	Pesticides, 8081 target list	30.1	10				From BJ90509 by CTD on 1
19J0078-03 A	Polychlorinated Biphenyls (PCB)	30.1	10				From BJ90509 by CTD on 1
19J0086-01 A	PCB, 8082 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0086-01 A	PEST, 8081 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0095-01 B	Pesticides, 8081 target list	30.3	10				From BJ90509 by CTD on 1
19J0095-01 B	Polychlorinated Biphenyls (PCB)	30.3	10				From BJ90509 by CTD on 1
19J0095-02 B	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0095-02 B	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0095-03 B	Polychlorinated Biphenyls (PCB)	30.5	10				From BJ90509 by CTD on 1
19J0095-03 B	Pesticides, 8081 target list	30.5	10				From BJ90509 by CTD on 1
19J0095-04 B	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0095-04 B	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0111-01 B	Polychlorinated Biphenyls (PCB)	1.12	10				OILY RAGS
19J0113-01 A	Pesticides, 8081 target list	30.4	10				From BJ90509 by CTD on 1
19J0113-01 A	Polychlorinated Biphenyls (PCB)	30.4	10				From BJ90509 by CTD on 1
19J0113-02 A	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0113-02 A	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0115-01 A	Polychlorinated Biphenyls (PCB)	30.3	10				From BJ90509 by CTD on 1
19J0115-01 A	Pesticides, 8081 target list	30.3	10				From BJ90509 by CTD on 1
19J0115-02 A	Polychlorinated Biphenyls (PCB)	30.6	10				From BJ90509 by CTD on 1
19J0115-02 A	Pesticides, 8081 target list	30.6	10				From BJ90509 by CTD on 1
19J0144-01 A	PEST, 8081 MASTER	30.2	10				From BJ90509 by CTD on 1
19J0144-01 A	PCB, 8082 MASTER	30.2	10				From BJ90509 by CTD on 1
19J0144-02 A	PEST, 8081 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0144-02 A	PCB, 8082 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0144-03 A	PCB, 8082 MASTER	30.7	10				From BJ90509 by CTD on 1
19J0144-03 A	PEST, 8081 MASTER	30.7	10				From BJ90509 by CTD on 1
BJ90322-BLK1	QC	30.1	10				
BJ90322-BLK2	QC	30.1	10				

Preparations Performed by **ZTS** **Date:** **10/04/2019 13:53**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90322

Preparation Date: 10/04/2019 13:53

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:57AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
BJ90322-BS1	QC	30.1	10	Y19I373		100	
BJ90322-BS2	QC	30.1	10	Y19I309		100	
BJ90322-MS1	QC	30.1	10	Y19I373	19J0077-01	100	
BJ90322-MS2	QC	30.1	10	Y19I309	19J0077-01	100	
BJ90322-MSD1	QC	30.1	10	Y19I373	19J0077-01	100	
BJ90322-MSD2	QC	30.1	10	Y19I309	19J0077-01	100	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G258	ACETONE	0000222367	Y19G286	Ottawa Sand Mix	072319
Y19I221	Sodium Sulfate, Anhydrous	0000238269	Y19I229	HEXANE	DW845-US

Preparations Performed by **ZTS** **Date:** **10/04/2019 13:53**

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: ARO
METHOD: EPA 8082A

DATA PACKAGE COVER PAGE

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0815 Instrument: ECD#1

Calibration: YE90020

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0815-CCV7)			Lab File ID: P1057810.D		Analyzed: 10/07/19 16:35			
Tetrachloro-m-xylene	0.160	112	0 - 200	2.65	2.63	0.0200	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	124	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	92.5	0 - 200	8.8	8.781666	0.0183	+/-0.05	
Decachlorobiphenyl [2C]	0.160	81.2	0 - 200	7.61	7.63	-0.0200	+/-0.05	
Aroclor Reference (Y9J0815-ARC2)			Lab File ID: P1057811.D		Analyzed: 10/07/19 16:48			
Tetrachloro-m-xylene	0.200	122		2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.200	132		2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.200	99.5		8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.200	92.5		7.6	7.63	-0.0300	+/-0.05	
Blank (BJ90321-BLK2)			Lab File ID: P1057812.D		Analyzed: 10/07/19 17:03			
Tetrachloro-m-xylene	0.0664	108	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0664	118	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0664	86.0	30 - 120	8.8	8.781666	0.0183	+/-0.05	
Decachlorobiphenyl [2C]	0.0664	82.0	30 - 120	7.6	7.63	-0.0300	+/-0.05	
LCS (BJ90321-BS2)			Lab File ID: P1057813.D		Analyzed: 10/07/19 17:17			
Tetrachloro-m-xylene	0.0664	94.0	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0664	102	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0664	75.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0664	70.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	
SB27_6-8 (19J0144-04)			Lab File ID: P1057816.D		Analyzed: 10/07/19 18:05			
Tetrachloro-m-xylene	0.0784	88.0	30 - 120	2.65	2.63	0.0200	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0784	95.5	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0784	63.0	30 - 120	8.8	8.781666	0.0183	+/-0.05	
Decachlorobiphenyl [2C]	0.0784	57.5	30 - 120	7.61	7.63	-0.0200	+/-0.05	
SB28_0-2 (19J0144-05)			Lab File ID: P1057817.D		Analyzed: 10/07/19 18:18			
Tetrachloro-m-xylene	0.0717	103	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0717	109	30 - 120	2.07	2.07	0.0000	+/-0.05	
Decachlorobiphenyl	0.0717	77.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0717	70.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	
SB28_5.5-7.5 (19J0144-06)			Lab File ID: P1057818.D		Analyzed: 10/07/19 18:32			
Tetrachloro-m-xylene	0.0724	87.5	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0724	92.5	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0724	65.5	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0724	61.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0815	Instrument:	ECD#1
		Calibration:	YE90020

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0815-CCV8)				Lab File ID: P1057830.D		Analyzed: 10/07/19 21:14		
Tetrachloro-m-xylene	0.160	122	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	132	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	92.5	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	86.2	0 - 200	7.6	7.63	-0.0300	+/-0.05	
Calibration Check (Y9J0815-CCV9)				Lab File ID: P1057851.D		Analyzed: 10/08/19 01:59		
Tetrachloro-m-xylene	0.160	124	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	134	0 - 200	2.07	2.07	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	95.6	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	88.1	0 - 200	7.6	7.63	-0.0300	+/-0.05	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0838 Instrument: ECD#1

Calibration: YE90020

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0838-CCV1)			Lab File ID: P1057876.D		Analyzed: 10/08/19 09:28			
Tetrachloro-m-xylene	0.160	112	0 - 200	2.65	2.63	0.0200	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	121	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	90.6	0 - 200	8.8	8.781666	0.0183	+/-0.05	
Decachlorobiphenyl [2C]	0.160	81.9	0 - 200	7.6	7.63	-0.0300	+/-0.05	
Calibration Check (Y9J0838-CCV2)			Lab File ID: P1057896.D		Analyzed: 10/08/19 14:00			
Tetrachloro-m-xylene	0.160	126	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	133	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	95.6	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	84.4	0 - 200	7.6	7.63	-0.0300	+/-0.05	
Blank (BJ90322-BLK2)			Lab File ID: P1057901.D		Analyzed: 10/08/19 15:14			
Tetrachloro-m-xylene	0.0664	116	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0664	120	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0664	78.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0664	72.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	
LCS (BJ90322-BS2)			Lab File ID: P1057902.D		Analyzed: 10/08/19 15:28			
Tetrachloro-m-xylene	0.0664	107	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0664	114	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0664	69.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0664	63.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	
Calibration Check (Y9J0838-CCV3)			Lab File ID: P1057917.D		Analyzed: 10/08/19 17:43			
Tetrachloro-m-xylene	0.160	105	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	111	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	71.2	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	64.4	0 - 200	7.6	7.63	-0.0300	+/-0.05	
Calibration Check (Y9J0838-CCV4)			Lab File ID: P1057946.D		Analyzed: 10/08/19 22:27			
Tetrachloro-m-xylene	0.160	127	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	138	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	103	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	94.4	0 - 200	7.6	7.63	-0.0300	+/-0.05	
Calibration Check (Y9J0838-CCV5)			Lab File ID: P1057966.D		Analyzed: 10/09/19 02:58			
Tetrachloro-m-xylene	0.160	107	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	111	0 - 200	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.160	85.6	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	77.5	0 - 200	7.6	7.63	-0.0300	+/-0.05	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0838 Instrument: ECD#1

Calibration: YE90020

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB19_0-2 (19J0144-01)			Lab File ID: P1057977.D		Analyzed: 10/09/19 05:27			
Tetrachloro-m-xylene	0.0695	59.5	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0695	61.0	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0695	39.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0695	36.0	30 - 120	7.61	7.63	-0.0200	+/-0.05	
SB19_8-9 (19J0144-02)			Lab File ID: P1057978.D		Analyzed: 10/09/19 05:41			
Tetrachloro-m-xylene	0.0750	92.5	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0750	96.5	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0750	56.5	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0750	52.5	30 - 120	7.6	7.63	-0.0300	+/-0.05	
SB27_0-2 (19J0144-03)			Lab File ID: P1057979.D		Analyzed: 10/09/19 05:54			
Tetrachloro-m-xylene	0.0692	88.0	30 - 120	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.0692	86.0	30 - 120	2.06	2.07	-0.0100	+/-0.05	
Decachlorobiphenyl	0.0692	60.0	30 - 120	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.0692	55.5	30 - 120	7.61	7.63	-0.0200	+/-0.05	
Calibration Check (Y9J0838-CCV6)			Lab File ID: P1057980.D		Analyzed: 10/09/19 06:08			
Tetrachloro-m-xylene	0.160	107	0 - 200	2.64	2.63	0.0100	+/-0.05	
Tetrachloro-m-xylene [2C]	0.160	114	0 - 200	2.07	2.07	0.0000	+/-0.05	
Decachlorobiphenyl	0.160	81.9	0 - 200	8.79	8.781666	0.0083	+/-0.05	
Decachlorobiphenyl [2C]	0.160	75.0	0 - 200	7.6	7.63	-0.0300	+/-0.05	

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90321	Laboratory ID:	BJ90321-BS2
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	0.332	0.335	101	40 - 130
Aroclor 1016 [2C]	0.332	0.352	106	0 - 200
Aroclor 1260	0.332	0.325	97.8	40 - 130
Aroclor 1260 [2C]	0.332	0.321	96.7	0 - 200

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90322	Laboratory ID:	BJ90322-BS2
Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	0.332	0.359	108	40 - 130
Aroclor 1016 [2C]	0.332	0.352	106	0 - 200
Aroclor 1260	0.332	0.324	97.7	40 - 130
Aroclor 1260 [2C]	0.332	0.307	92.3	0 - 200

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90321 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB27_6-8	19J0144-04	P1057816.D	10/04/19 13:49	
SB28_0-2	19J0144-05	P1057817.D	10/04/19 13:49	
SB28_5.5-7.5	19J0144-06	P1057818.D	10/04/19 13:49	
Blank	BJ90321-BLK2	P1057812.D	10/04/19 13:49	Added 10/8/2019 by SR
LCS	BJ90321-BS2	P1057813.D	10/04/19 13:49	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90322 Batch Matrix: Soil Preparation: EPA 3550C

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	P1057977.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
SB19_8-9	19J0144-02	P1057978.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
SB27_0-2	19J0144-03	P1057979.D	10/04/19 13:53	From BJ90509 by CTD on 10/08/2019
Blank	BJ90322-BLK2	P1057901.D	10/04/19 13:53	
LCS	BJ90322-BS2	P1057902.D	10/04/19 13:53	

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK2	File ID:	P1057812.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/07/19 17:03	Instrument:	ECD#1		
Batch:	BJ90321	Sequence:	Y9J0815	Calibration:	YE90020

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0166	U
12674-11-2	Aroclor 1016 [2C]	0.0166	U
11104-28-2	Aroclor 1221	0.0166	U
11104-28-2	Aroclor 1221 [2C]	0.0166	U
11141-16-5	Aroclor 1232	0.0166	U
11141-16-5	Aroclor 1232 [2C]	0.0166	U
53469-21-9	Aroclor 1242	0.0166	U
53469-21-9	Aroclor 1242 [2C]	0.0166	U
12672-29-6	Aroclor 1248	0.0166	U
12672-29-6	Aroclor 1248 [2C]	0.0166	U
11097-69-1	Aroclor 1254	0.0166	U
11097-69-1	Aroclor 1254 [2C]	0.0166	U
11096-82-5	Aroclor 1260	0.0166	U
11096-82-5	Aroclor 1260 [2C]	0.0166	U
37324-23-5	Aroclor 1262	0.0166	U
37324-23-5	Aroclor 1262 [2C]	0.0166	U
11100-14-4	Aroclor 1268	0.0166	U
11100-14-4	Aroclor 1268 [2C]	0.0166	U
1336-36-3	Total PCBs	0.0166	U
1336-36-3	Total PCBs [2C]	0.0166	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0571	86.0	30 - 120	
Decachlorobiphenyl [2C]	0.0664	0.0545	82.0	30 - 120	
Tetrachloro-m-xylene	0.0664	0.0718	108	30 - 120	
Tetrachloro-m-xylene [2C]	0.0664	0.0781	118	30 - 120	

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK2	File ID:	P1057901.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 15:14	Instrument:	ECD#1		
Batch:	BJ90322	Sequence:	Y9J0838	Calibration:	YE90020

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0166	U
12674-11-2	Aroclor 1016 [2C]	0.0166	U
11104-28-2	Aroclor 1221	0.0166	U
11104-28-2	Aroclor 1221 [2C]	0.0166	U
11141-16-5	Aroclor 1232	0.0166	U
11141-16-5	Aroclor 1232 [2C]	0.0166	U
53469-21-9	Aroclor 1242	0.0166	U
53469-21-9	Aroclor 1242 [2C]	0.0166	U
12672-29-6	Aroclor 1248	0.0166	U
12672-29-6	Aroclor 1248 [2C]	0.0166	U
11097-69-1	Aroclor 1254	0.0166	U
11097-69-1	Aroclor 1254 [2C]	0.0166	U
11096-82-5	Aroclor 1260	0.0166	U
11096-82-5	Aroclor 1260 [2C]	0.0166	U
37324-23-5	Aroclor 1262	0.0166	U
37324-23-5	Aroclor 1262 [2C]	0.0166	U
11100-14-4	Aroclor 1268	0.0166	U
11100-14-4	Aroclor 1268 [2C]	0.0166	U
1336-36-3	Total PCBs	0.0166	U
1336-36-3	Total PCBs [2C]	0.0166	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	0.0664	0.0518	78.0	30 - 120	
Decachlorobiphenyl [2C]	0.0664	0.0482	72.5	30 - 120	
Tetrachloro-m-xylene	0.0664	0.0771	116	30 - 120	
Tetrachloro-m-xylene [2C]	0.0664	0.0801	120	30 - 120	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9E1632	Instrument:	ECD#1
		Calibration:	YE90020

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	Y9E1632-CAL1	P1049336.D	05/15/19 16:45
Cal Standard	Y9E1632-CAL2	P1049337.D	05/15/19 16:59
Cal Standard	Y9E1632-CAL3	P1049338.D	05/15/19 17:12
Cal Standard	Y9E1632-CAL4	P1049339.D	05/15/19 17:26
Cal Standard	Y9E1632-CAL5	P1049340.D	05/15/19 17:39
Cal Standard	Y9E1632-CAL6	P1049341.D	05/15/19 17:53
Secondary Cal Check	Y9E1632-SCV1	P1049342.D	05/15/19 18:06

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0815	Instrument:	ECD#1
		Calibration:	YE90020

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	Y9J0815-CCV7	P1057810.D	10/07/19 16:35
Aroclor Reference	Y9J0815-ARC2	P1057811.D	10/07/19 16:48
Blank	BJ90321-BLK2	P1057812.D	10/07/19 17:03
LCS	BJ90321-BS2	P1057813.D	10/07/19 17:17
SB27_6-8	19J0144-04	P1057816.D	10/07/19 18:05
SB28_0-2	19J0144-05	P1057817.D	10/07/19 18:18
SB28_5.5-7.5	19J0144-06	P1057818.D	10/07/19 18:32
Calibration Check	Y9J0815-CCV8	P1057830.D	10/07/19 21:14
Calibration Check	Y9J0815-CCV9	P1057851.D	10/08/19 01:59

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0838	Instrument:	ECD#1
		Calibration:	YE90020

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	Y9J0838-CCV1	P1057876.D	10/08/19 09:28
Aroclor Reference	Y9J0838-ARC1	P1057877.D	10/08/19 09:42
Calibration Check	Y9J0838-CCV2	P1057896.D	10/08/19 14:00
Blank	BJ90322-BLK2	P1057901.D	10/08/19 15:14
LCS	BJ90322-BS2	P1057902.D	10/08/19 15:28
Calibration Check	Y9J0838-CCV3	P1057917.D	10/08/19 17:43
Calibration Check	Y9J0838-CCV4	P1057946.D	10/08/19 22:27
Calibration Check	Y9J0838-CCV5	P1057966.D	10/09/19 02:58
SB19_0-2	19J0144-01	P1057977.D	10/09/19 05:27
SB19_8-9	19J0144-02	P1057978.D	10/09/19 05:41
SB27_0-2	19J0144-03	P1057979.D	10/09/19 05:54
Calibration Check	Y9J0838-CCV6	P1057980.D	10/09/19 06:08

HOLDING TIME SUMMARY

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/04/19 13:53	2.05	14.00	10/09/19 05:27	4.65	40.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/04/19 13:53	2.04	14.00	10/09/19 05:41	4.66	40.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/04/19 13:53	2.14	14.00	10/09/19 05:54	4.67	40.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/04/19 13:49	2.13	14.00	10/07/19 18:05	3.18	40.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/04/19 13:49	2.08	14.00	10/07/19 18:18	3.19	40.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/04/19 13:49	2.07	14.00	10/07/19 18:32	3.20	40.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** ECD#1

Analyte	LOD	LOQ	Units
Aroclor 1016	0.0167	0.0167	mg/kg
Aroclor 1016 [2C]	0.0167	0.0167	mg/kg
Aroclor 1221	0.0167	0.0167	mg/kg
Aroclor 1221 [2C]	0.0167	0.0167	mg/kg
Aroclor 1232	0.0167	0.0167	mg/kg
Aroclor 1232 [2C]	0.0167	0.0167	mg/kg
Aroclor 1242	0.0167	0.0167	mg/kg
Aroclor 1242 [2C]	0.0167	0.0167	mg/kg
Aroclor 1248	0.0167	0.0167	mg/kg
Aroclor 1248 [2C]	0.0167	0.0167	mg/kg
Aroclor 1254	0.0167	0.0167	mg/kg
Aroclor 1254 [2C]	0.0167	0.0167	mg/kg
Aroclor 1260	0.0167	0.0167	mg/kg
Aroclor 1260 [2C]	0.0167	0.0167	mg/kg
Aroclor 1262	0.0167	0.0167	mg/kg
Aroclor 1262 [2C]	0.0167	0.0167	mg/kg
Aroclor 1268	0.0167	0.0167	mg/kg
Aroclor 1268 [2C]	0.0167	0.0167	mg/kg
Total PCBs	0.0167	0.0167	mg/kg
Total PCBs [2C]	0.0167	0.0167	mg/kg

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: P1057977.D

Sampled: 10/02/19 12:45 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:27

Solids: 95.31 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0174	U
11104-28-2	Aroclor 1221	1	0.0174	U
11141-16-5	Aroclor 1232	1	0.0174	U
53469-21-9	Aroclor 1242	1	0.0174	U
12672-29-6	Aroclor 1248	1	0.0174	U
11097-69-1	Aroclor 1254	1	0.0174	U
11096-82-5	Aroclor 1260	1	0.0174	U
37324-23-5	Aroclor 1262	1	0.0174	U
11100-14-4	Aroclor 1268	1	0.0174	U
1336-36-3	Total PCBs	1	0.0174	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0695	0.0413	59.5	30 - 120	
Decachlorobiphenyl	0.0695	0.0271	39.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057977.D\ECD1A.CH Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057977.D\ECD2B.CH
Acq On : 10-9-2019 5:27:41 AM Operator: SR
Sample : 19J0144-01 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	778.3E6	1013.2E6	0.119	0.122
Spiked Amount 0.200	Range 30 - 150		Recovery =		59.50%	61.00%
45) S Decachlorobiphen	8.79	7.61	313.1E6	390.9E6	0.078	0.072
Spiked Amount 0.200	Range 30 - 150		Recovery =		39.00%	36.00%
Target Compounds						

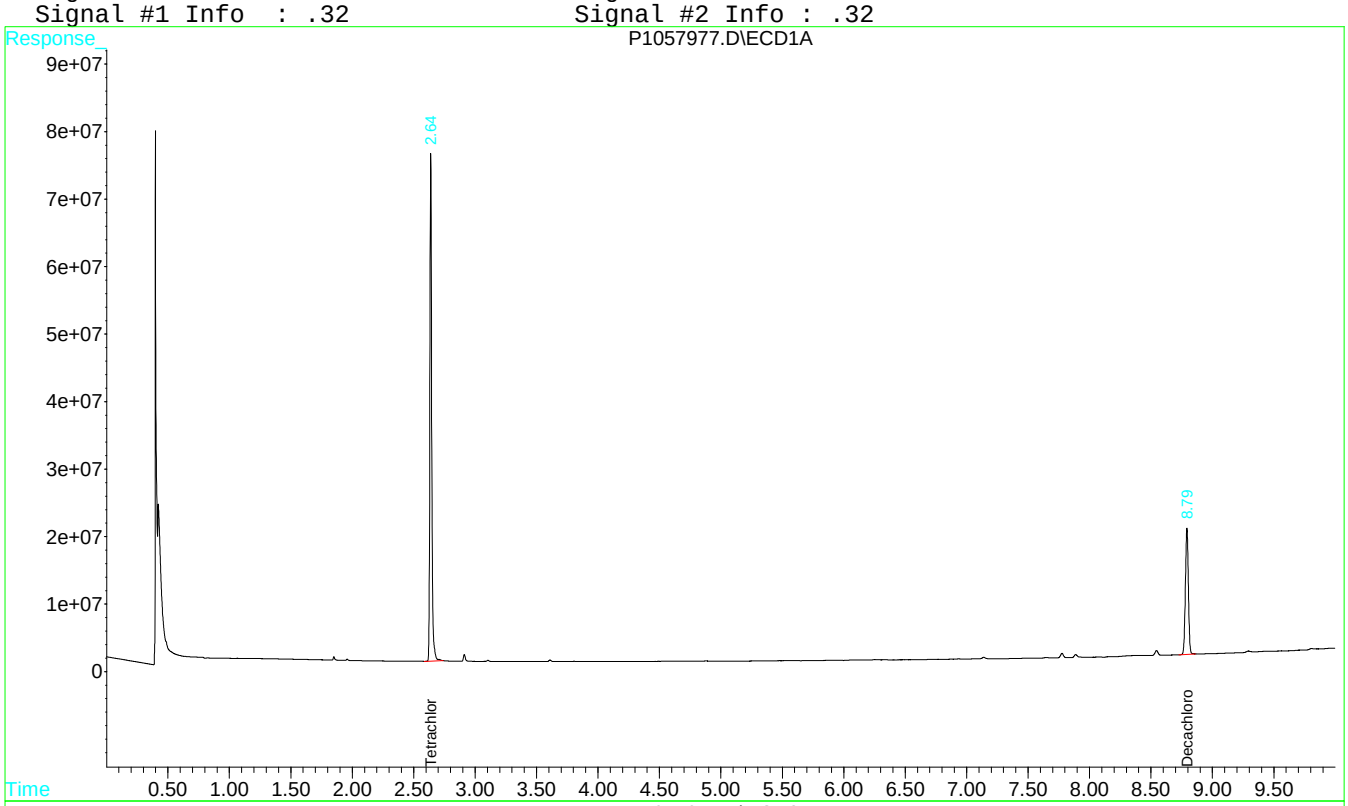
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P1057977.D P1051519.M Wed Oct 09 09:56:41 2019 Page 1

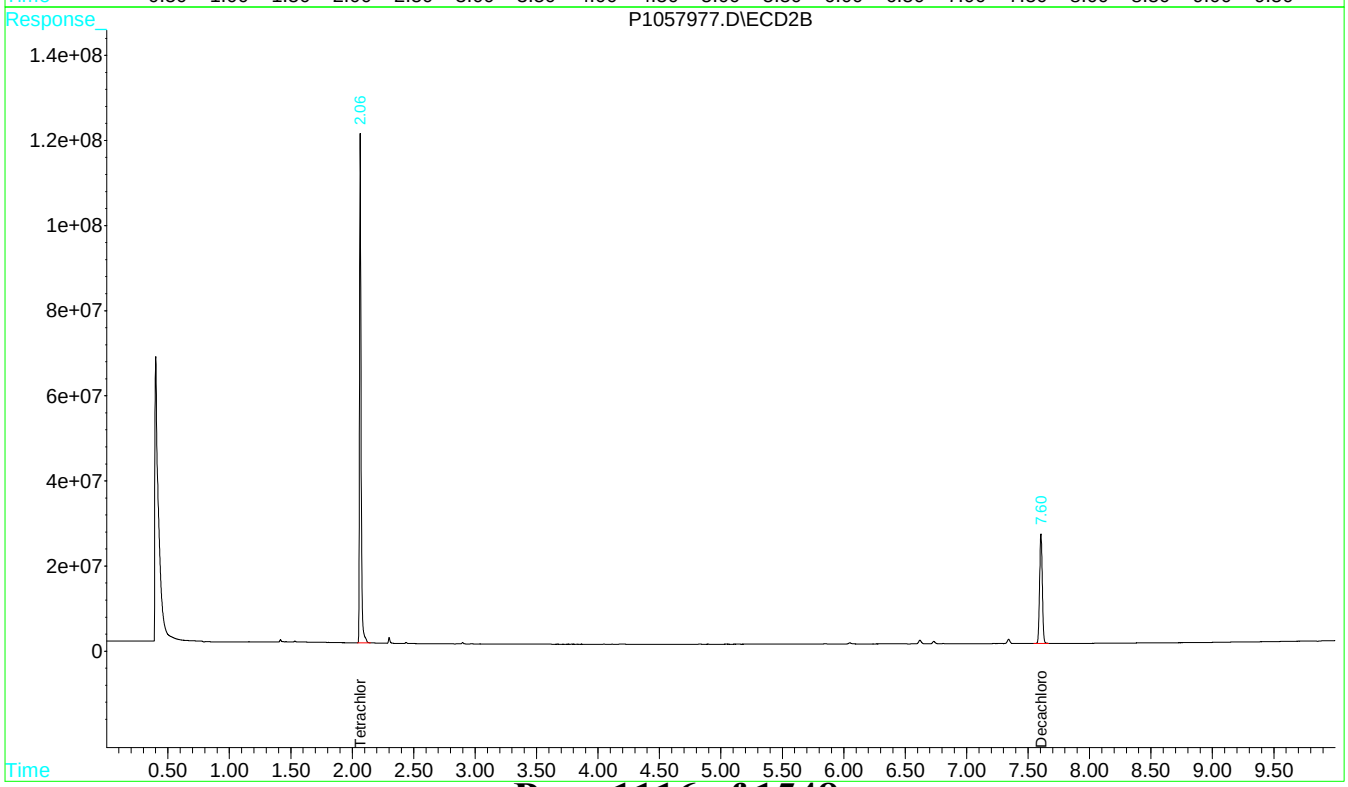
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057977.D\ECD1A.CH Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057977.D\ECD2B.CH
Acq On : 10-9-2019 5:27:41 AM Operator: SR
Sample : 19J0144-01 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: P1057978.D

Sampled: 10/02/19 12:50 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:41

Solids: 86.53 Preparation: EPA 3550C Initial/Final: 30.8 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0188	U
11104-28-2	Aroclor 1221	1	0.0188	U
11141-16-5	Aroclor 1232	1	0.0188	U
53469-21-9	Aroclor 1242	1	0.0188	U
12672-29-6	Aroclor 1248	1	0.0188	U
11097-69-1	Aroclor 1254	1	0.0188	U
11096-82-5	Aroclor 1260	1	0.0188	U
37324-23-5	Aroclor 1262	1	0.0188	U
11100-14-4	Aroclor 1268	1	0.0188	U
1336-36-3	Total PCBs	1	0.0188	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0750	0.0694	92.5	30 - 120	
Decachlorobiphenyl	0.0750	0.0424	56.5	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057978.D\ECD1A.CH Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057978.D\ECD2B.CH
Acq On : 10-9-2019 5:41:11 AM Operator: SR
Sample : 19J0144-02 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	1211.0E6	1609.5E6	0.185	0.193
Spiked Amount 0.200	Range 30 - 150		Recovery =		92.50%	96.50%
45) S Decachlorobiphen	8.79	7.60	451.6E6	572.3E6	0.113	0.105
Spiked Amount 0.200	Range 30 - 150		Recovery =		56.50%	52.50%
Target Compounds						

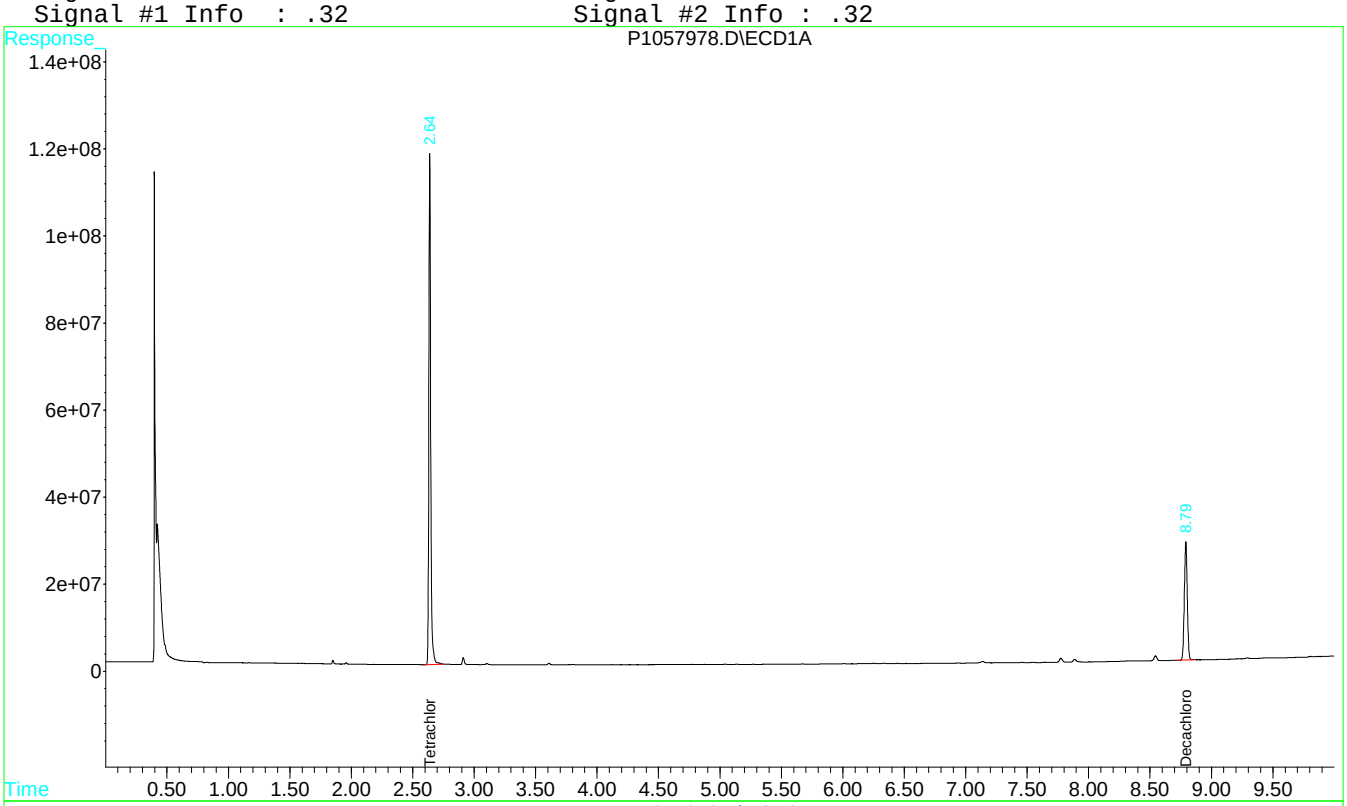
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P1057978.D P1051519.M Wed Oct 09 09:56:43 2019 Page 1

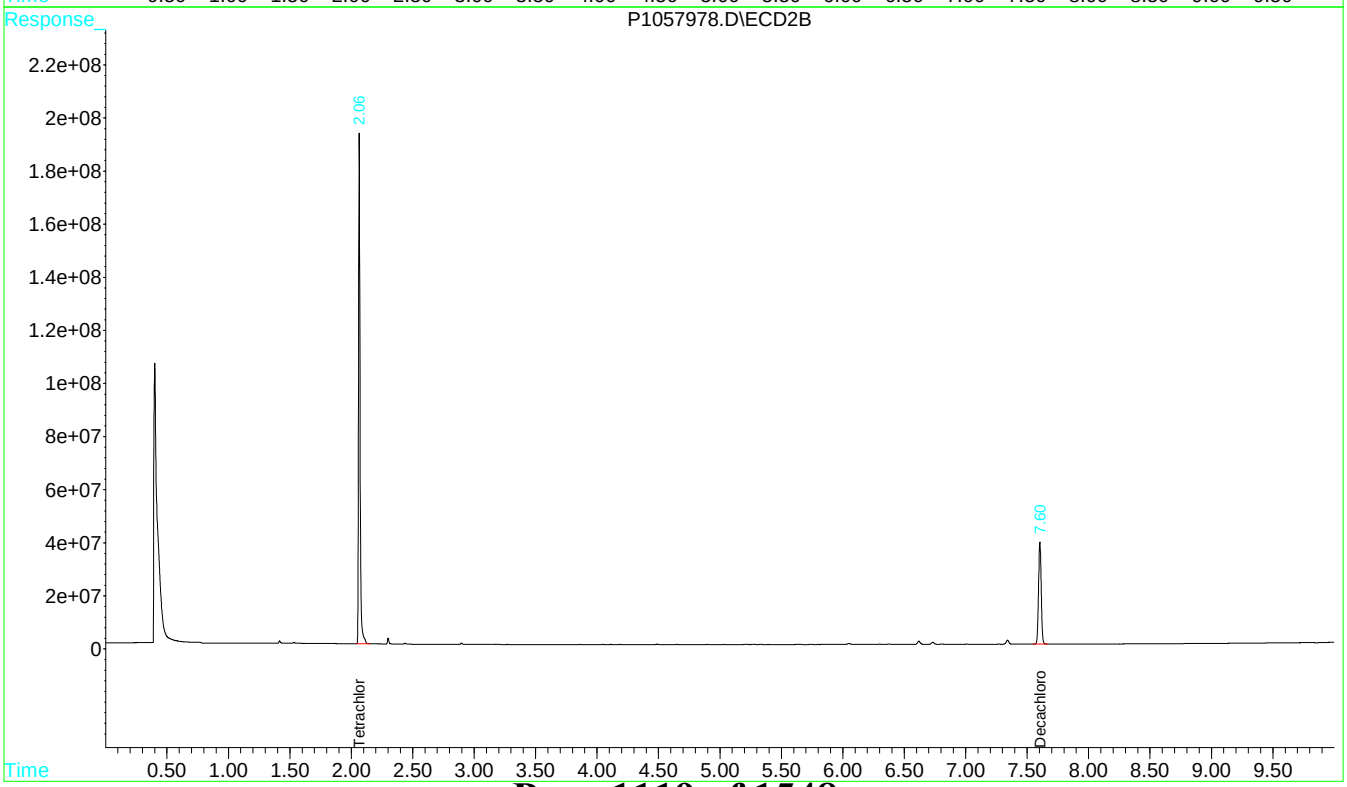
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057978.D\ECD1A.CH Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057978.D\ECD2B.CH
Acq On : 10-9-2019 5:41:11 AM Operator: SR
Sample : 19J0144-02 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: P1057979.D

Sampled: 10/02/19 10:30 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:54

Solids: 94.09 Preparation: EPA 3550C Initial/Final: 30.7 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0173	U
11104-28-2	Aroclor 1221	1	0.0173	U
11141-16-5	Aroclor 1232	1	0.0173	U
53469-21-9	Aroclor 1242	1	0.0173	U
12672-29-6	Aroclor 1248	1	0.0173	U
11097-69-1	Aroclor 1254	1	0.0173	U
11096-82-5	Aroclor 1260	1	0.0173	U
37324-23-5	Aroclor 1262	1	0.0173	U
11100-14-4	Aroclor 1268	1	0.0173	U
1336-36-3	Total PCBs	1	0.0173	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0692	0.0609	88.0	30 - 120	
Decachlorobiphenyl	0.0692	0.0415	60.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057979.D\ECD1A.CH Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057979.D\ECD2B.CH
Acq On : 10-9-2019 5:54:39 AM Operator: SR
Sample : 19J0144-03 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	1151.5E6	1435.2E6	0.176	0.172
Spiked Amount 0.200	Range 30 - 150		Recovery =		88.00%	86.00%
45) S Decachlorobiphen	8.79	7.61	482.7E6	603.9E6	0.120	0.111
Spiked Amount 0.200	Range 30 - 150		Recovery =		60.00%	55.50%
Target Compounds						

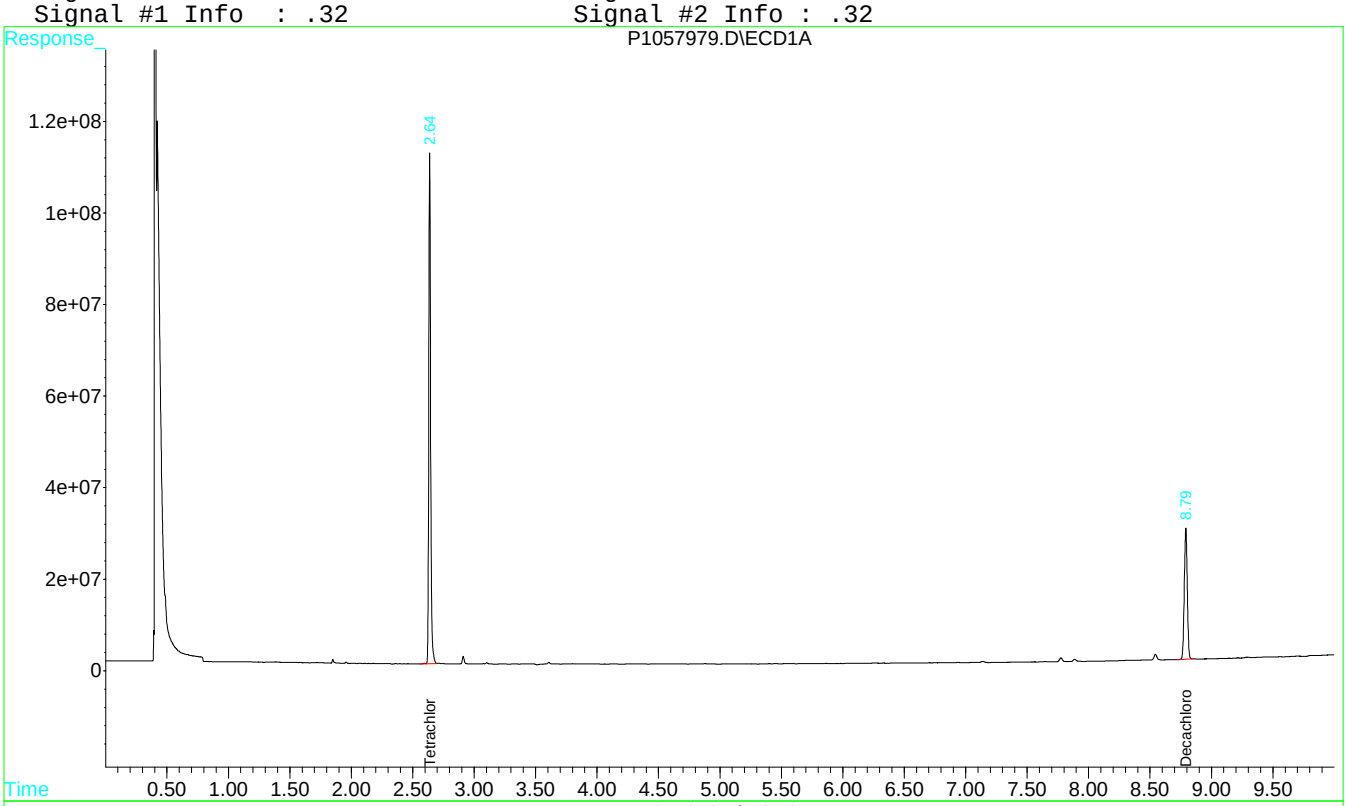
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P1057979.D P1051519.M Wed Oct 09 09:56:44 2019 Page 1

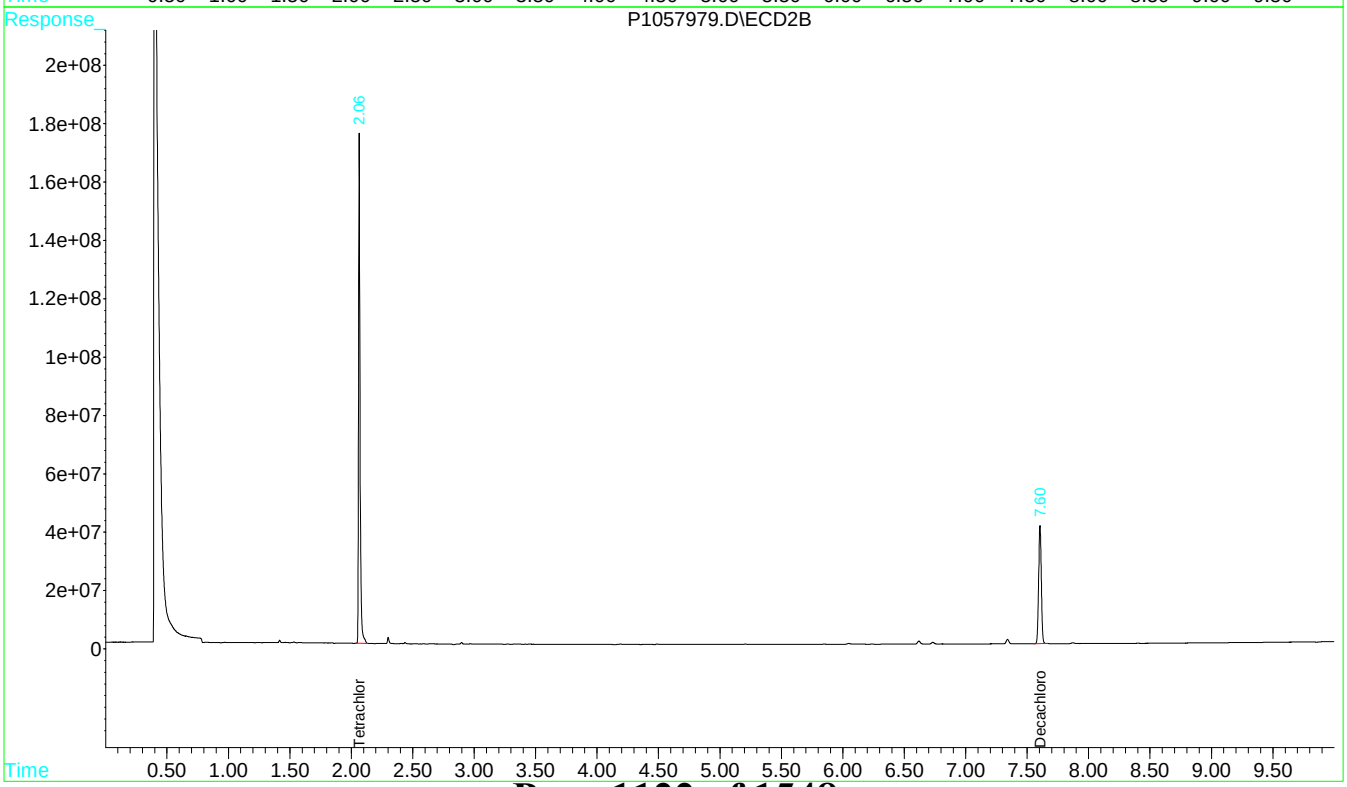
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057979.D\ECD1A.CH Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057979.D\ECD2B.CH
Acq On : 10-9-2019 5:54:39 AM Operator: SR
Sample : 19J0144-03 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:52 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: P1057816.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 13:49 Analyzed: 10/07/19 18:05

Solids: 83.69 Preparation: EPA 3550C Initial/Final: 30.5 g / 10 mL

Batch: BJ90321 Sequence: Y9J0815 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0196	U
11104-28-2	Aroclor 1221	1	0.0196	U
11141-16-5	Aroclor 1232	1	0.0196	U
53469-21-9	Aroclor 1242	1	0.0196	U
12672-29-6	Aroclor 1248	1	0.0196	U
11097-69-1	Aroclor 1254	1	0.0196	U
11096-82-5	Aroclor 1260	1	0.0196	U
37324-23-5	Aroclor 1262	1	0.0196	U
11100-14-4	Aroclor 1268	1	0.0196	U
1336-36-3	Total PCBs	1	0.0196	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0784	0.0690	88.0	30 - 120	
Decachlorobiphenyl	0.0784	0.0494	63.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057816.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057816.D\ECD2B.CH
Acq On : 10-7-2019 6:05:28 PM Operator: SR
Sample : 19J0144-04 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:16 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.65	2.06	1150.9E6	1593.3E6	0.176	0.191
Spiked Amount 0.200	Range 30 - 150		Recovery =		88.00%	95.50%
45) S Decachlorobiphen	8.80	7.61	505.3E6	625.6E6	0.126	0.115
Spiked Amount 0.200	Range 30 - 150		Recovery =		63.00%	57.50%
Target Compounds						
44) 1268 5	8.56	0.00	17585108	0	0.013	N.D. #

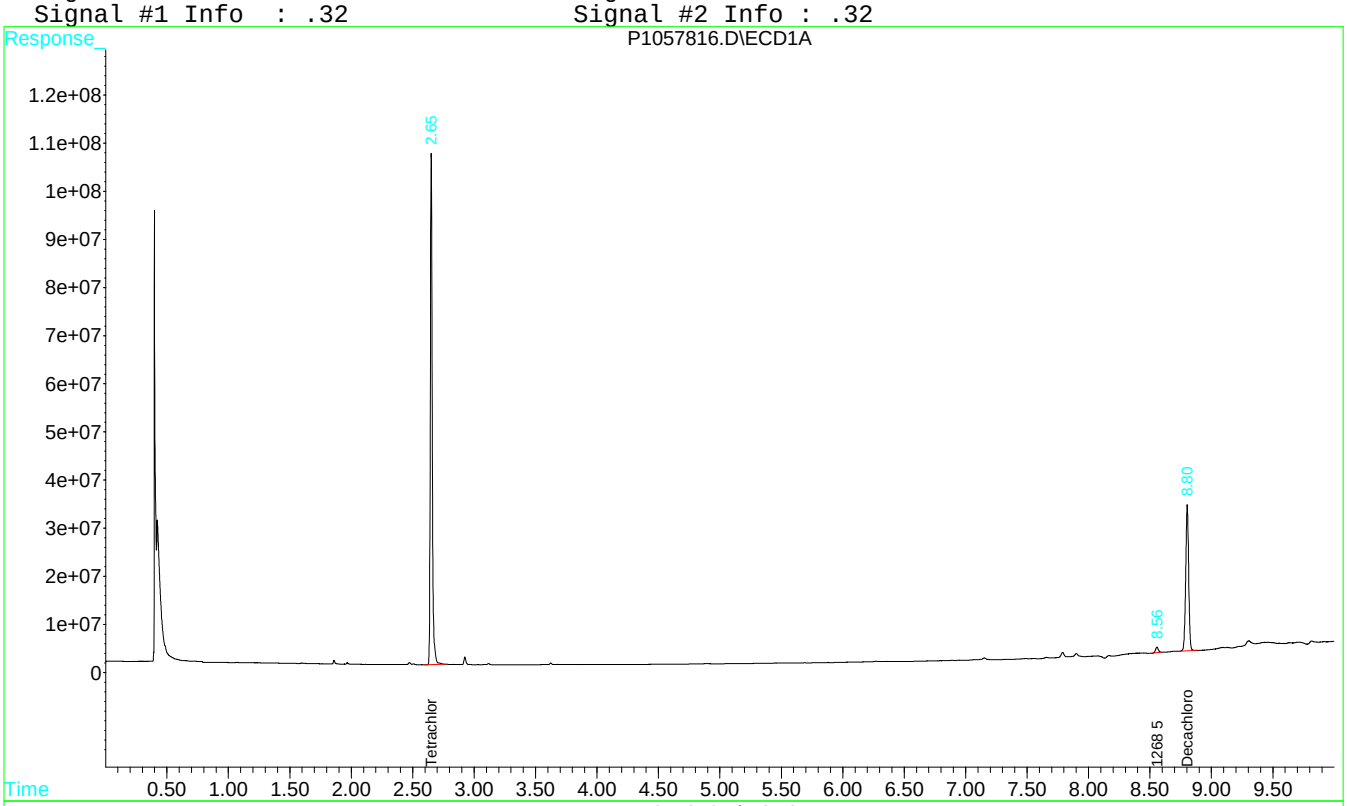
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P1057816.D P1051519.M Tue Oct 08 10:44:18 2019 Page 1

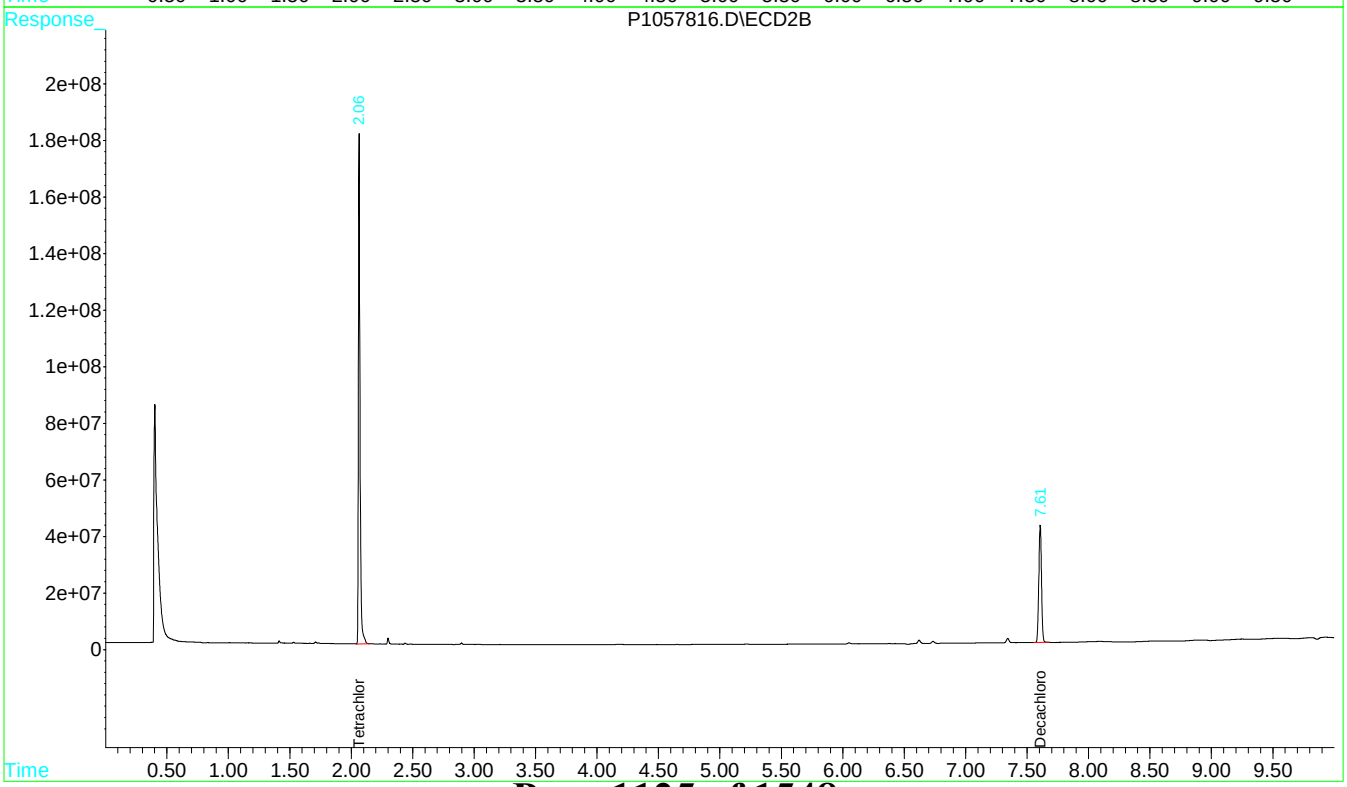
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057816.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057816.D\ECD2B.CH
Acq On : 10-7-2019 6:05:28 PM Operator: SR
Sample : 19J0144-04 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:16 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: P1057817.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 13:49 Analyzed: 10/07/19 18:18

Solids: 92.39 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90321 Sequence: Y9J0815 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0179	U
11104-28-2	Aroclor 1221	1	0.0179	U
11141-16-5	Aroclor 1232	1	0.0179	U
53469-21-9	Aroclor 1242	1	0.0179	U
12672-29-6	Aroclor 1248	1	0.0179	U
11097-69-1	Aroclor 1254	1	0.0179	U
11096-82-5	Aroclor 1260	1	0.0179	U
37324-23-5	Aroclor 1262	1	0.0179	U
11100-14-4	Aroclor 1268	1	0.0179	U
1336-36-3	Total PCBs	1	0.0179	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0717	0.0738	103	30 - 120	
Decachlorobiphenyl	0.0717	0.0552	77.0	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057817.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057817.D\ECD2B.CH
Acq On : 10-7-2019 6:18:56 PM Operator: SR
Sample : 19J0144-05 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:16 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.07	1346.6E6	1815.9E6	0.206	0.218
Spiked Amount 0.200	Range 30 - 150		Recovery =		103.00%	109.00%
45) S Decachlorobiphen	8.79	7.60	615.7E6	767.4E6	0.154	0.141
Spiked Amount 0.200	Range 30 - 150		Recovery =		77.00%	70.50%
Target Compounds						

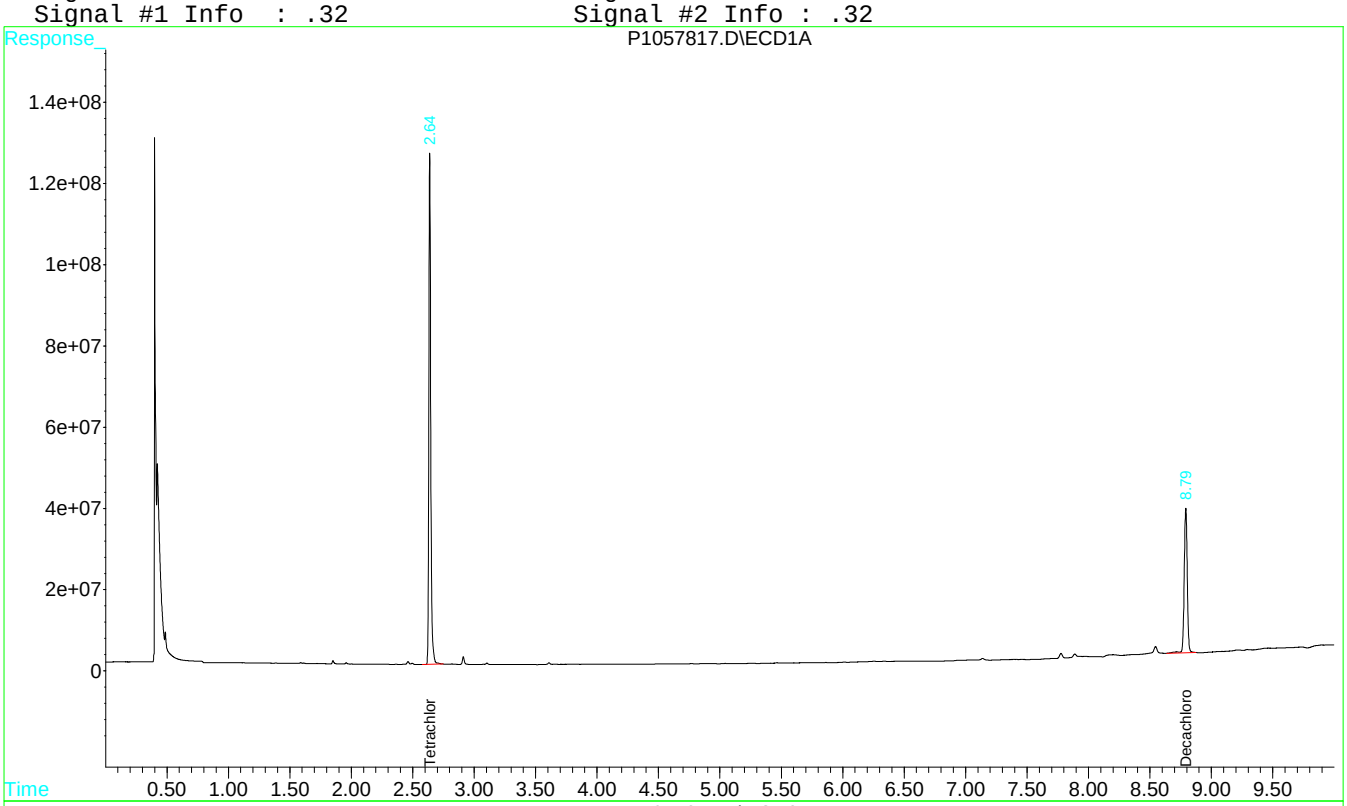
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P1057817.D P1051519.M Tue Oct 08 10:44:20 2019 Page 1

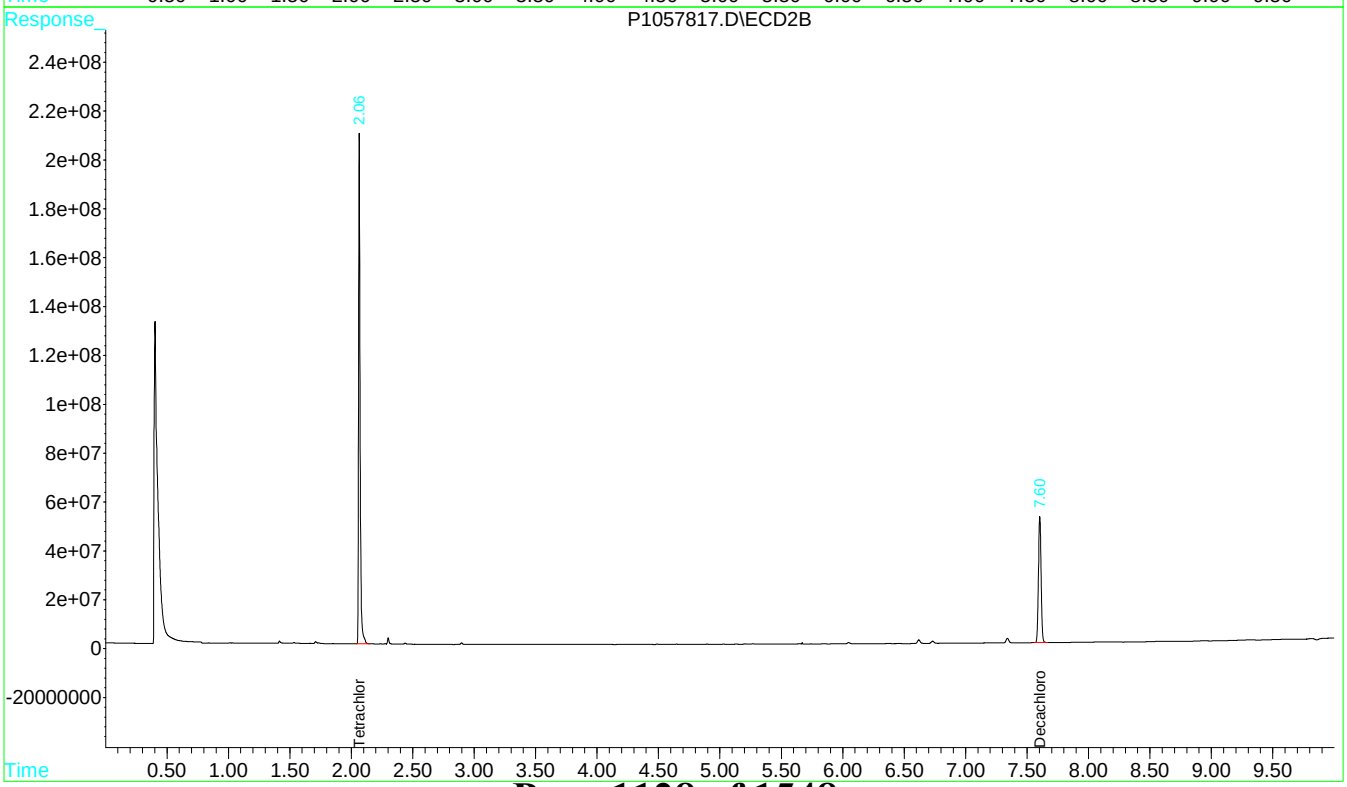
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057817.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057817.D\ECD2B.CH
Acq On : 10-7-2019 6:18:56 PM Operator: SR
Sample : 19J0144-05 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:16 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8082A

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: P1057818.D

Sampled: 10/02/19 12:05 Prepared: 10/04/19 13:49 Analyzed: 10/07/19 18:32

Solids: 91.18 Preparation: EPA 3550C Initial/Final: 30.3 g / 10 mL

Batch: BJ90321 Sequence: Y9J0815 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
12674-11-2	Aroclor 1016	1	0.0181	U
11104-28-2	Aroclor 1221	1	0.0181	U
11141-16-5	Aroclor 1232	1	0.0181	U
53469-21-9	Aroclor 1242	1	0.0181	U
12672-29-6	Aroclor 1248	1	0.0181	U
11097-69-1	Aroclor 1254	1	0.0181	U
11096-82-5	Aroclor 1260	1	0.0181	U
37324-23-5	Aroclor 1262	1	0.0181	U
11100-14-4	Aroclor 1268	1	0.0181	U
1336-36-3	Total PCBs	1	0.0181	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0724	0.0633	87.5	30 - 120	
Decachlorobiphenyl	0.0724	0.0474	65.5	30 - 120	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057818.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057818.D\ECD2B.CH
Acq On : 10-7-2019 6:32:28 PM Operator: SR
Sample : 19J0144-06 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:17 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	1146.8E6	1545.5E6	0.175	0.185
Spiked Amount 0.200	Range 30 - 150		Recovery =		87.50%	92.50%
45) S Decachlorobiphen	8.79	7.60	525.6E6	666.0E6	0.131	0.123
Spiked Amount 0.200	Range 30 - 150		Recovery =		65.50%	61.50%
Target Compounds						

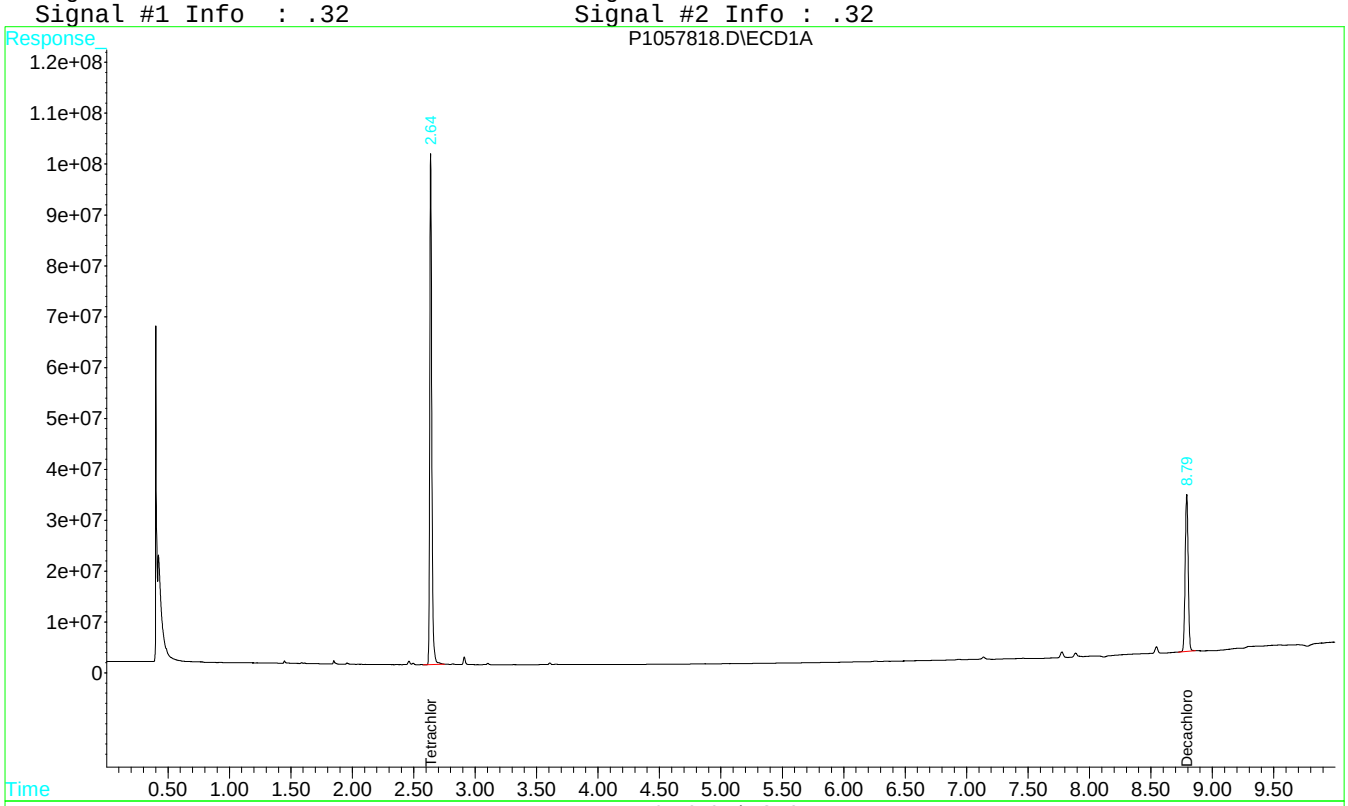
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057818.D P1051519.M Tue Oct 08 10:44:21 2019 Page 1

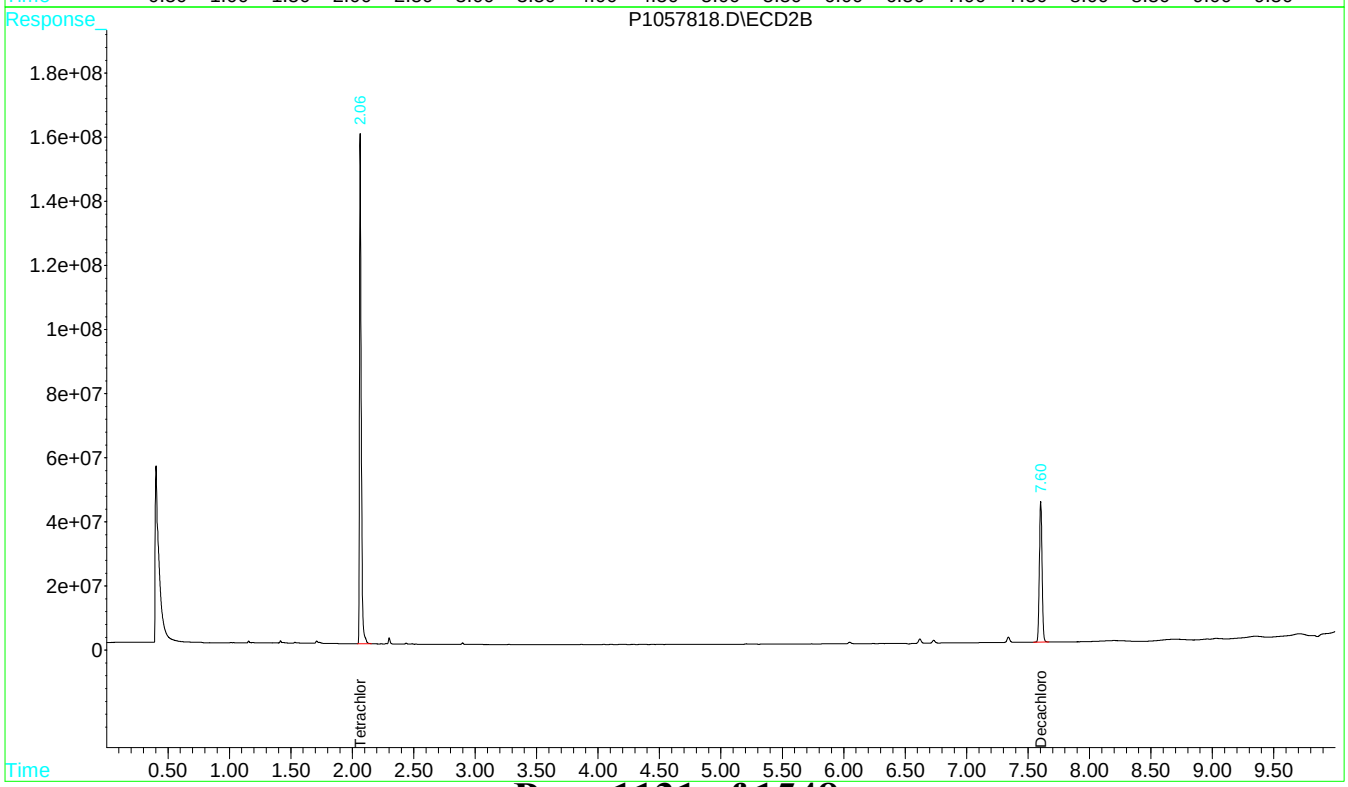
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057818.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057818.D\ECD2B.CH
Acq On : 10-7-2019 6:32:28 PM Operator: SR
Sample : 19J0144-06 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:17 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: P1057977.D

Sampled: 10/02/19 12:45 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:27

Solids: 95.31 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0174	0.0174		U
11104-28-2	Aroclor 1221	1	0.0174	0.0174		U
11141-16-5	Aroclor 1232	1	0.0174	0.0174		U
53469-21-9	Aroclor 1242	1	0.0174	0.0174		U
12672-29-6	Aroclor 1248	1	0.0174	0.0174		U
11097-69-1	Aroclor 1254	1	0.0174	0.0174		U
11096-82-5	Aroclor 1260	1	0.0174	0.0174		U
37324-23-5	Aroclor 1262	1	0.0174	0.0174		U
11100-14-4	Aroclor 1268	1	0.0174	0.0174		U
1336-36-3	Total PCBs	1	0.0174	0.0174		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0695	0.0413	59.5	30 - 120	
Decachlorobiphenyl	0.0695	0.0271	39.0	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: P1057978.D

Sampled: 10/02/19 12:50 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:41

Solids: 86.53 Preparation: EPA 3550C Initial/Final: 30.8 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0188	0.0188		U
11104-28-2	Aroclor 1221	1	0.0188	0.0188		U
11141-16-5	Aroclor 1232	1	0.0188	0.0188		U
53469-21-9	Aroclor 1242	1	0.0188	0.0188		U
12672-29-6	Aroclor 1248	1	0.0188	0.0188		U
11097-69-1	Aroclor 1254	1	0.0188	0.0188		U
11096-82-5	Aroclor 1260	1	0.0188	0.0188		U
37324-23-5	Aroclor 1262	1	0.0188	0.0188		U
11100-14-4	Aroclor 1268	1	0.0188	0.0188		U
1336-36-3	Total PCBs	1	0.0188	0.0188		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0750	0.0694	92.5	30 - 120	
Decachlorobiphenyl	0.0750	0.0424	56.5	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: P1057979.D

Sampled: 10/02/19 10:30 Prepared: 10/04/19 13:53 Analyzed: 10/09/19 05:54

Solids: 94.09 Preparation: EPA 3550C Initial/Final: 30.7 g / 10 mL

Batch: BJ90322 Sequence: Y9J0838 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0173	0.0173		U
11104-28-2	Aroclor 1221	1	0.0173	0.0173		U
11141-16-5	Aroclor 1232	1	0.0173	0.0173		U
53469-21-9	Aroclor 1242	1	0.0173	0.0173		U
12672-29-6	Aroclor 1248	1	0.0173	0.0173		U
11097-69-1	Aroclor 1254	1	0.0173	0.0173		U
11096-82-5	Aroclor 1260	1	0.0173	0.0173		U
37324-23-5	Aroclor 1262	1	0.0173	0.0173		U
11100-14-4	Aroclor 1268	1	0.0173	0.0173		U
1336-36-3	Total PCBs	1	0.0173	0.0173		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0692	0.0609	88.0	30 - 120	
Decachlorobiphenyl	0.0692	0.0415	60.0	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: P1057816.D

Sampled: 10/02/19 10:35 Prepared: 10/04/19 13:49 Analyzed: 10/07/19 18:05

Solids: 83.69 Preparation: EPA 3550C Initial/Final: 30.5 g / 10 mL

Batch: BJ90321 Sequence: Y9J0815 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0196	0.0196		U
11104-28-2	Aroclor 1221	1	0.0196	0.0196		U
11141-16-5	Aroclor 1232	1	0.0196	0.0196		U
53469-21-9	Aroclor 1242	1	0.0196	0.0196		U
12672-29-6	Aroclor 1248	1	0.0196	0.0196		U
11097-69-1	Aroclor 1254	1	0.0196	0.0196		U
11096-82-5	Aroclor 1260	1	0.0196	0.0196		U
37324-23-5	Aroclor 1262	1	0.0196	0.0196		U
11100-14-4	Aroclor 1268	1	0.0196	0.0196		U
1336-36-3	Total PCBs	1	0.0196	0.0196		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0784	0.0690	88.0	30 - 120	
Decachlorobiphenyl	0.0784	0.0494	63.0	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: P1057817.D

Sampled: 10/02/19 12:00 Prepared: 10/04/19 13:49 Analyzed: 10/07/19 18:18

Solids: 92.39 Preparation: EPA 3550C Initial/Final: 30.2 g / 10 mL

Batch: BJ90321 Sequence: Y9J0815 Calibration: YE90020 Instrument: ECD#1

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0179	0.0179		U
11104-28-2	Aroclor 1221	1	0.0179	0.0179		U
11141-16-5	Aroclor 1232	1	0.0179	0.0179		U
53469-21-9	Aroclor 1242	1	0.0179	0.0179		U
12672-29-6	Aroclor 1248	1	0.0179	0.0179		U
11097-69-1	Aroclor 1254	1	0.0179	0.0179		U
11096-82-5	Aroclor 1260	1	0.0179	0.0179		U
37324-23-5	Aroclor 1262	1	0.0179	0.0179		U
11100-14-4	Aroclor 1268	1	0.0179	0.0179		U
1336-36-3	Total PCBs	1	0.0179	0.0179		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0717	0.0738	103	30 - 120	
Decachlorobiphenyl	0.0717	0.0552	77.0	30 - 120	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	P1057818.D
Sampled:	10/02/19 12:05	Prepared:	10/04/19 13:49	Analyzed:	10/07/19 18:32
Solids:	91.18	Preparation:	EPA 3550C	Initial/Final:	30.3 g / 10 mL
Batch:	BJ90321	Sequence:	Y9J0815	Calibration:	YE90020
Instrument:	ECD#1				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
12674-11-2	Aroclor 1016	1	0.0181	0.0181		U
11104-28-2	Aroclor 1221	1	0.0181	0.0181		U
11141-16-5	Aroclor 1232	1	0.0181	0.0181		U
53469-21-9	Aroclor 1242	1	0.0181	0.0181		U
12672-29-6	Aroclor 1248	1	0.0181	0.0181		U
11097-69-1	Aroclor 1254	1	0.0181	0.0181		U
11096-82-5	Aroclor 1260	1	0.0181	0.0181		U
37324-23-5	Aroclor 1262	1	0.0181	0.0181		U
11100-14-4	Aroclor 1268	1	0.0181	0.0181		U
1336-36-3	Total PCBs	1	0.0181	0.0181		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0724	0.0633	87.5	30 - 120	
Decachlorobiphenyl	0.0724	0.0474	65.5	30 - 120	

* Values outside of QC limits

FORM VI

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90020
Instrument: ECD#1
Calibration Date: 05/16/19 15:58

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Aroclor 1016	0.05	2.079818E+08	0.2	1.860268E+08	0.5	1.475581E+08	1	1.5226E+08	2	1.4795E+08	3	1.483333E+08
Aroclor 1016 (1)	0.05	1.669089E+08	0.2	1.491076E+08	0.5	1.098185E+08	1	1.116E+08	2	1.0645E+08	3	1.071E+08
Aroclor 1016 (1) [2C]	0.05	1.842025E+08	0.2	1.726081E+08	0.5	1.287887E+08	1	1.327E+08	2	1.267E+08	3	1.243333E+08
Aroclor 1016 (2)	0.05	2.300504E+08	0.2	1.852321E+08	0.5	1.534474E+08	1	1.565E+08	2	1.504E+08	3	1.510333E+08
Aroclor 1016 (2) [2C]	0.05	2.454672E+08	0.2	2.295241E+08	0.5	1.745454E+08	1	1.82E+08	2	1.763E+08	3	1.730667E+08
Aroclor 1016 (3)	0.05	2.673128E+08	0.2	2.365338E+08	0.5	1.818013E+08	1	1.885E+08	2	1.838E+08	3	1.827333E+08
Aroclor 1016 (3) [2C]	0.05	2.96826E+08	0.2	2.37975E+08	0.5	2.184E+08	1	2.474E+08	2	2.4245E+08	3	2.417E+08
Aroclor 1016 (4)	0.05	2.036846E+08	0.2	1.971298E+08	0.5	1.472085E+08	1	1.538E+08	2	1.522E+08	3	1.531333E+08
Aroclor 1016 (4) [2C]	0.05	2.70543E+08	0.2	2.386897E+08	0.5	1.779452E+08	1	1.887E+08	2	1.8595E+08	3	1.844667E+08
Aroclor 1016 (5)	0.05	1.719519E+08	0.2	1.621311E+08	0.5	1.455148E+08	1	1.509E+08	2	1.469E+08	3	1.476667E+08
Aroclor 1016 (5) [2C]	0.05	2.359602E+08	0.2	2.171887E+08	0.5	1.794013E+08	1	1.893E+08	2	1.8695E+08	3	1.868667E+08
Aroclor 1016 [2C]	0.05	2.465998E+08	0.2	2.191971E+08	0.5	1.758161E+08	1	1.8802E+08	2	1.8367E+08	3	1.820867E+08
Aroclor 1260	0.05	5.455218E+08	0.2	4.648856E+08	0.5	3.574204E+08	1	3.7824E+08	2	3.8147E+08	3	3.800333E+08
Aroclor 1260 (1)	0.05	4.5493E+08	0.2	3.853752E+08	0.5	2.842E+08	1	2.996E+08	2	3.0215E+08	3	3.02E+08
Aroclor 1260 (1) [2C]	0.05	5.214942E+08	0.2	4.672252E+08	0.5	3.484E+08	1	3.688E+08	2	3.654E+08	3	3.638333E+08
Aroclor 1260 (2)	0.05	6.760566E+08	0.2	5.775E+08	0.5	4.428E+08	1	4.644E+08	2	4.604E+08	3	4.563333E+08
Aroclor 1260 (2) [2C]	0.05	6.092212E+08	0.2	5.4E+08	0.5	4.036E+08	1	4.322E+08	2	4.3E+08	3	4.277667E+08
Aroclor 1260 (3)	0.05	6.090482E+08	0.2	5.145E+08	0.5	4.056E+08	1	4.288E+08	2	4.346E+08	3	4.348333E+08
Aroclor 1260 (3) [2C]	0.05	6.715937E+08	0.2	5.87E+08	0.5	4.838E+08	1	5.277E+08	2	5.3215E+08	3	5.312333E+08
Aroclor 1260 (4)	0.05	2.948902E+08	0.2	2.480525E+08	0.5	1.979017E+08	1	2.084E+08	2	2.0755E+08	3	2.068667E+08
Aroclor 1260 (4) [2C]	0.05	3.530028E+08	0.2	3.03487E+08	0.5	2.5E+08	1	2.664E+08	2	2.691E+08	3	2.671667E+08
Aroclor 1260 (5)	0.05	6.926848E+08	0.2	5.99E+08	0.5	4.566E+08	1	4.9E+08	2	5.0265E+08	3	5.001333E+08
Aroclor 1260 (5) [2C]	0.05	8.100756E+08	0.2	7.48E+08	0.5	5.716E+08	1	6.25E+08	2	6.3585E+08	3	6.313667E+08
Aroclor 1260 [2C]	0.05	5.930776E+08	0.2	5.291425E+08	0.5	4.1148E+08	1	4.4402E+08	2	4.465E+08	3	4.442733E+08
Decachlorobiphenyl	0.04	4.2475E+09	0.08	3.81625E+09	0.12	3.825E+09	0.16	3.95625E+09	0.2	4.188E+09	0.24	8.2375E+08
Decachlorobiphenyl [2C]	0.04	5.6675E+09	0.08	5.18375E+09	0.12	5.221667E+09	0.16	5.39375E+09	0.2	5.6745E+09	0.24	1.093333E+09
Tetrachloro-m-xylene	0.04	6.625E+09	0.08	6.48E+09	0.12	6.5325E+09	0.16	6.528125E+09	0.2	6.555E+09	0.24	1.342083E+09
Tetrachloro-m-xylene [2C]	0.04	8.3825E+09	0.08	8.14625E+09	0.12	8.249167E+09	0.16	8.3775E+09	0.2	8.524E+09	0.24	1.62875E+09

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8082A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YE90020
Instrument: ECD#1
Calibration Date: 05/16/19 15:58

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Aroclor 1016	1.650183E+08	15.6261	4.321667	9.372422E-02			20	
Aroclor 1016 (1)	1.251642E+08	20.87056	2.99	2.138931E-02			20	*
Aroclor 1016 (1) [2C]	1.448888E+08	18.1954	2.38	8.336674E-03			20	
Aroclor 1016 (2)	1.711105E+08	18.53775	3.51	9.988165E-03			20	
Aroclor 1016 (2) [2C]	1.968172E+08	16.28601	2.81	1.298856E-02			20	
Aroclor 1016 (3)	2.067802E+08	17.58878	3.88	1.881332E-02			20	
Aroclor 1016 (3) [2C]	2.474585E+08	10.58383	3.1	1.759607E-02			20	
Aroclor 1016 (4)	1.678594E+08	15.13312	3.981667	0.1013485			20	
Aroclor 1016 (4) [2C]	2.077158E+08	18.22925	3.21	1.557442E-02			20	
Aroclor 1016 (5)	1.541774E+08	6.866172	4.321667	9.372422E-02			20	
Aroclor 1016 (5) [2C]	1.992778E+08	11.14665	3.49	1.920615E-02			20	
Aroclor 1016 [2C]	1.992316E+08	13.9324	3.49	1.920615E-02			20	
Aroclor 1260	4.179285E+08	17.41513	7.11	1.346092E-02			20	
Aroclor 1260 (1)	3.380425E+08	20.00556	5.66	1.343933E-02			20	*
Aroclor 1260 (1) [2C]	4.058588E+08	17.49734	4.66	1.632331E-02			20	
Aroclor 1260 (2)	5.12915E+08	18.29248	6	0			20	
Aroclor 1260 (2) [2C]	4.73798E+08	17.25474	4.91	1.549219E-02			20	
Aroclor 1260 (3)	4.712303E+08	16.33889	6.323333	8.020835E-02			20	
Aroclor 1260 (3) [2C]	5.555795E+08	11.80776	5.28	1.458778E-02			20	
Aroclor 1260 (4)	2.272768E+08	16.49607	6.436667	8.233607E-02			20	
Aroclor 1260 (4) [2C]	2.848594E+08	13.23588	5.35	0.0142798			20	
Aroclor 1260 (5)	5.40178E+08	16.39857	7.11	1.346092E-02			20	
Aroclor 1260 (5) [2C]	6.703154E+08	13.3552	5.97	0.0235798			20	
Aroclor 1260 [2C]	4.780822E+08	14.36053	5.97	0.0235798			20	
Decachlorobiphenyl	3.476125E+09	37.73896	8.781666	4.480292E-02			20	*
Decachlorobiphenyl [2C]	4.70575E+09	37.87259	7.63	1.965684E-02			20	*
Tetrachloro-m-xylene	5.677118E+09	37.41776	2.63	7.544215E-03			20	*
Tetrachloro-m-xylene [2C]	7.218028E+09	37.97709	2.07	5.801038E-03			20	*

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049336.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049336.D\ECD2B.CH
Acq On : 5-15-2019 4:45:39 PM Operator: SR
Sample : SEQ-CAL1 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:49 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.07	265.0E6	335.3E6	0.039	0.048
	Spiked Amount 0.200	Range 30 - 150		Recovery =		19.50%#	24.00%#
45) S	Decachlorobiphen	8.79	7.63	169.9E6	226.7E6	0.056	0.057
	Spiked Amount 0.200	Range 30 - 150		Recovery =		28.00%#	28.50%#
	Target Compounds						
5) T	1016 1	2.99	2.38	8345444	9210124	0.054m	0.079m#
6) T	1016 2	3.51	2.81	11502521	12273360	0.039m	0.028m#
7) T	1016 3	3.88	3.10	13365635	14841297	0.114m	0.102m
8) T	1016 4	3.99	3.21	10184233	13527150	0.083m	0.114m#
9) T	1016 5	4.33	3.49	8597595	11798008	0.060m	0.070m
30) T	1260 1	5.66	4.66	22746496	26074713	0.058	0.088m#
31) T	1260 2	6.00	4.91	33802829	30461064	0.091m	0.087
32) T	1260 3	6.33	5.28	30452406	33579690	0.156m	0.078m#
33) T	1260 4	6.44	5.35	14744507	17650138	0.035m	0.035m
34) T	1260 5	7.11	5.97	34634235	40503785	0.137	0.106m

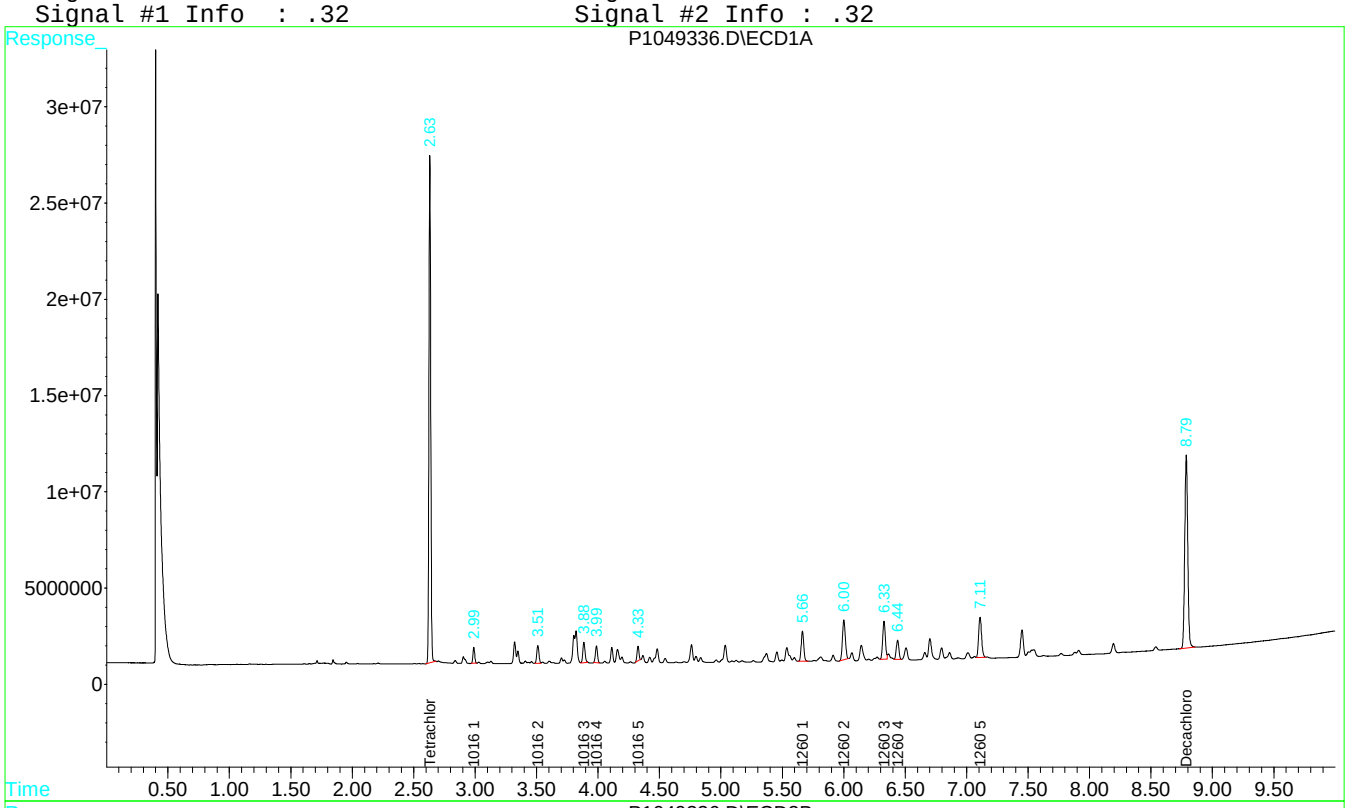
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P1049336.D P1051519.M Thu May 16 13:45:42 2019 Page 1

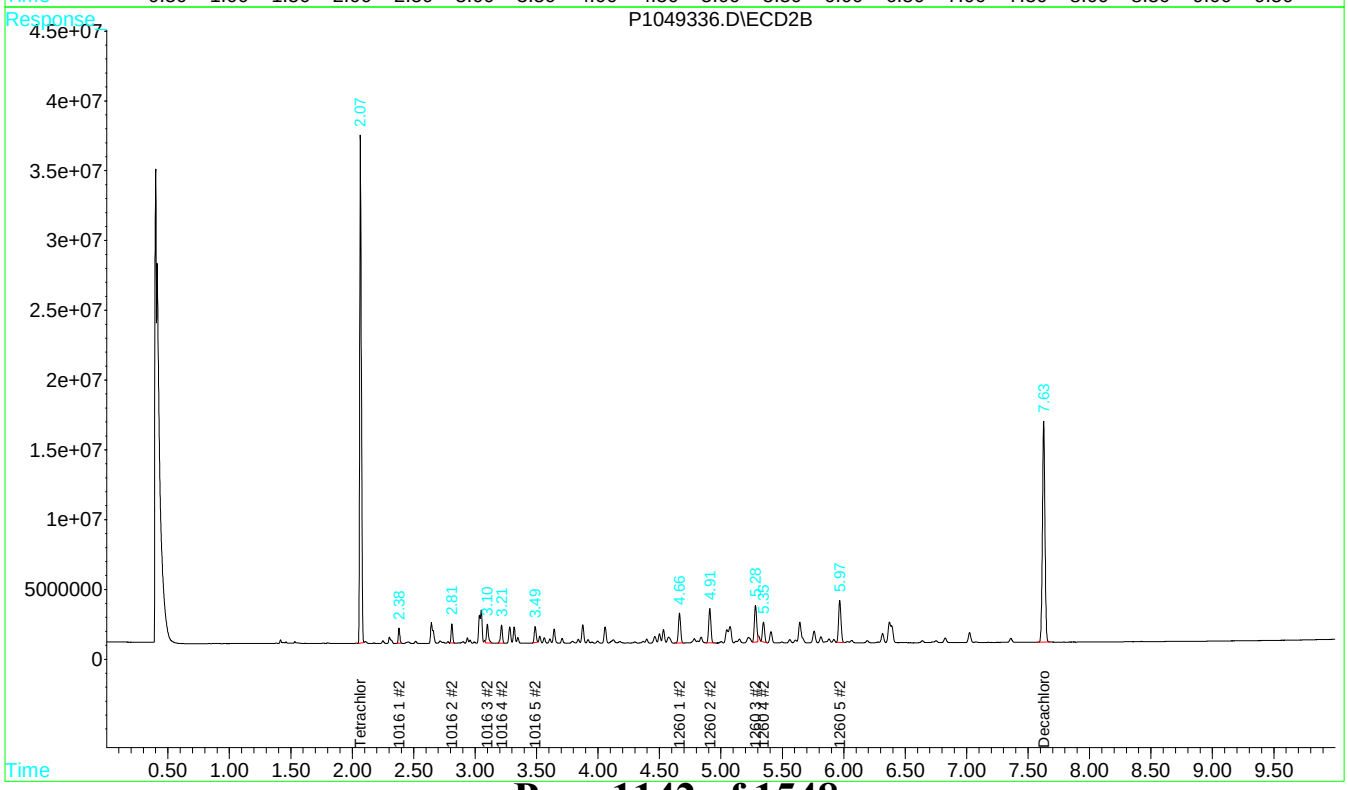
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049336.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049336.D\ECD2B.CH
Acq On : 5-15-2019 4:45:39 PM Operator: SR
Sample : SEQ-CAL1 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:49 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049337.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049337.D\ECD2B.CH
Acq On : 5-15-2019 4:59:07 PM Operator: SR
Sample : SEQ-CAL2 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:49 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.07	518.4E6	651.7E6	0.077	0.094
	Spiked Amount 0.200	Range 30 - 150		Recovery =		38.50%	47.00%
45) S	Decachlorobiphen	8.78	7.63	305.3E6	414.7E6	0.101	0.104
	Spiked Amount 0.200	Range 30 - 150		Recovery =		50.50%	52.00%
	Target Compounds						
5) T	1016 1	2.99	2.38	29821510	34521624	0.193m	0.297m#
6) T	1016 2	3.51	2.81	37046420	45904822	0.125	0.104m
7) T	1016 3	3.88	3.10	47306752	47594997	0.405m	0.326m
8) T	1016 4	3.98	3.21	39425959	47737935	0.323m	0.403m
9) T	1016 5	4.32	3.49	32426219	43437742	0.228m	0.258m
30) T	1260 1	5.66	4.66	77075043	93445030	0.195m	0.316m#
31) T	1260 2	6.00	4.91	115.5E6	108.0E6	0.311m	0.307m
32) T	1260 3	6.33	5.28	102.9E6	117.4E6	0.526m	0.272m#
33) T	1260 4	6.44	5.35	49610504	60697392	0.117m	0.122m
34) T	1260 5	7.11	5.97	119.8E6	149.6E6	0.475m	0.393m

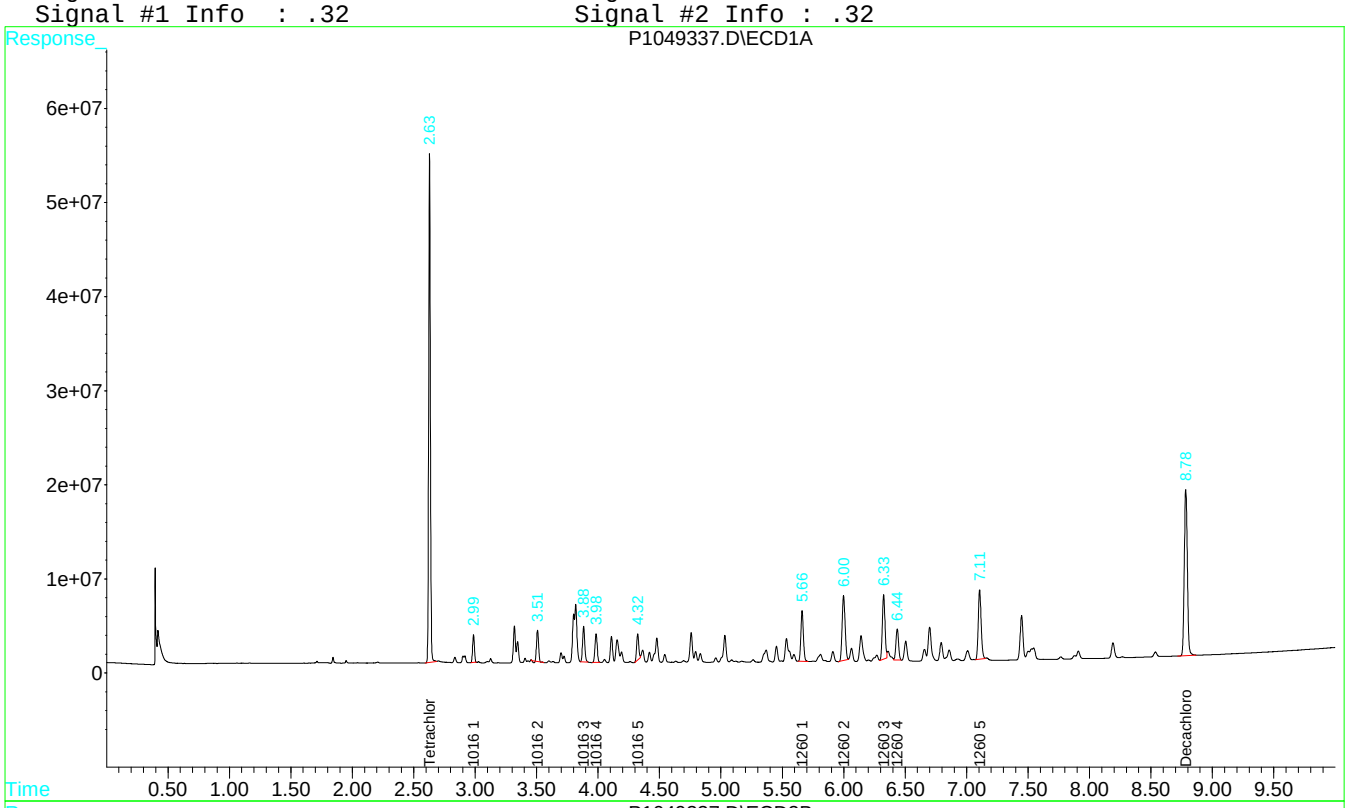
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P1049337.D P1051519.M Thu May 16 13:45:43 2019 Page 1

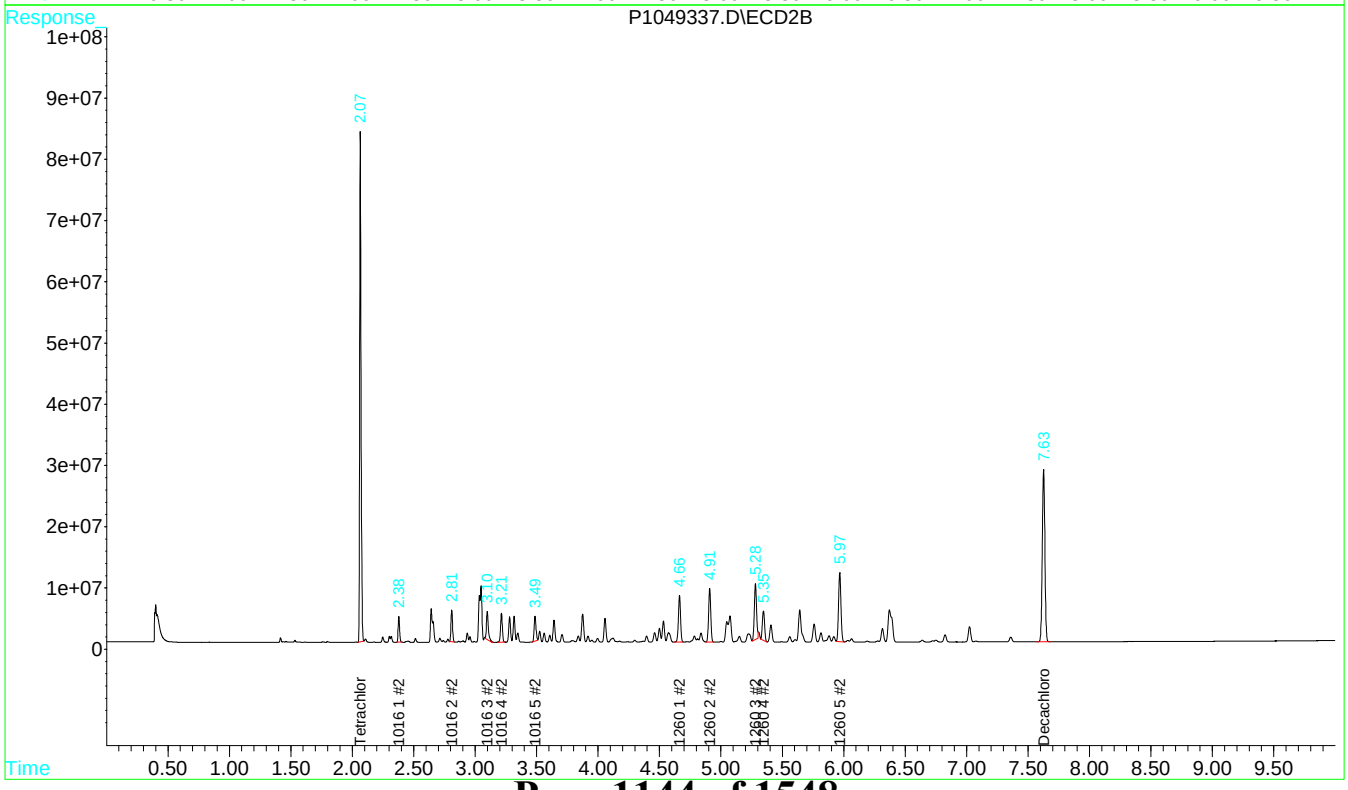
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049337.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049337.D\ECD2B.CH
Acq On : 5-15-2019 4:59:07 PM Operator: SR
Sample : SEQ-CAL2 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:49 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049338.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049338.D\ECD2B.CH
Acq On : 5-15-2019 5:12:36 PM Operator: SR
Sample : SEQ-CAL3 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:29 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.07	783.9E6	989.9E6	0.117	0.142
	Spiked Amount 0.200	Range 30 - 150		Recovery =		58.50%	71.00%
45) S	Decachlorobiphen	8.78	7.63	459.0E6	626.6E6	0.153	0.158
	Spiked Amount 0.200	Range 30 - 150		Recovery =		76.50%	79.00%
	Target Compounds						
5) T	1016 1	2.99	2.38	54909272	64394344	0.355	0.555 #
6) T	1016 2	3.51	2.81	76723688	87272705	0.258	0.198
7) T	1016 3	3.88	3.10	90900636	109.2E6	0.778	0.748m
8) T	1016 4	3.98	3.21	73604261	88972610	0.603	0.752
9) T	1016 5	4.32	3.49	72757408	89700655	0.511	0.534
30) T	1260 1	5.66	4.66	142.1E6	174.2E6	0.359	0.588 #
31) T	1260 2	6.00	4.91	221.4E6	201.8E6	0.597	0.573
32) T	1260 3	6.32	5.28	202.8E6	241.9E6	1.036m	0.560m#
33) T	1260 4	6.44	5.35	98950849	125.0E6	0.234	0.251
34) T	1260 5	7.11	5.97	228.3E6	285.8E6	0.904m	0.751

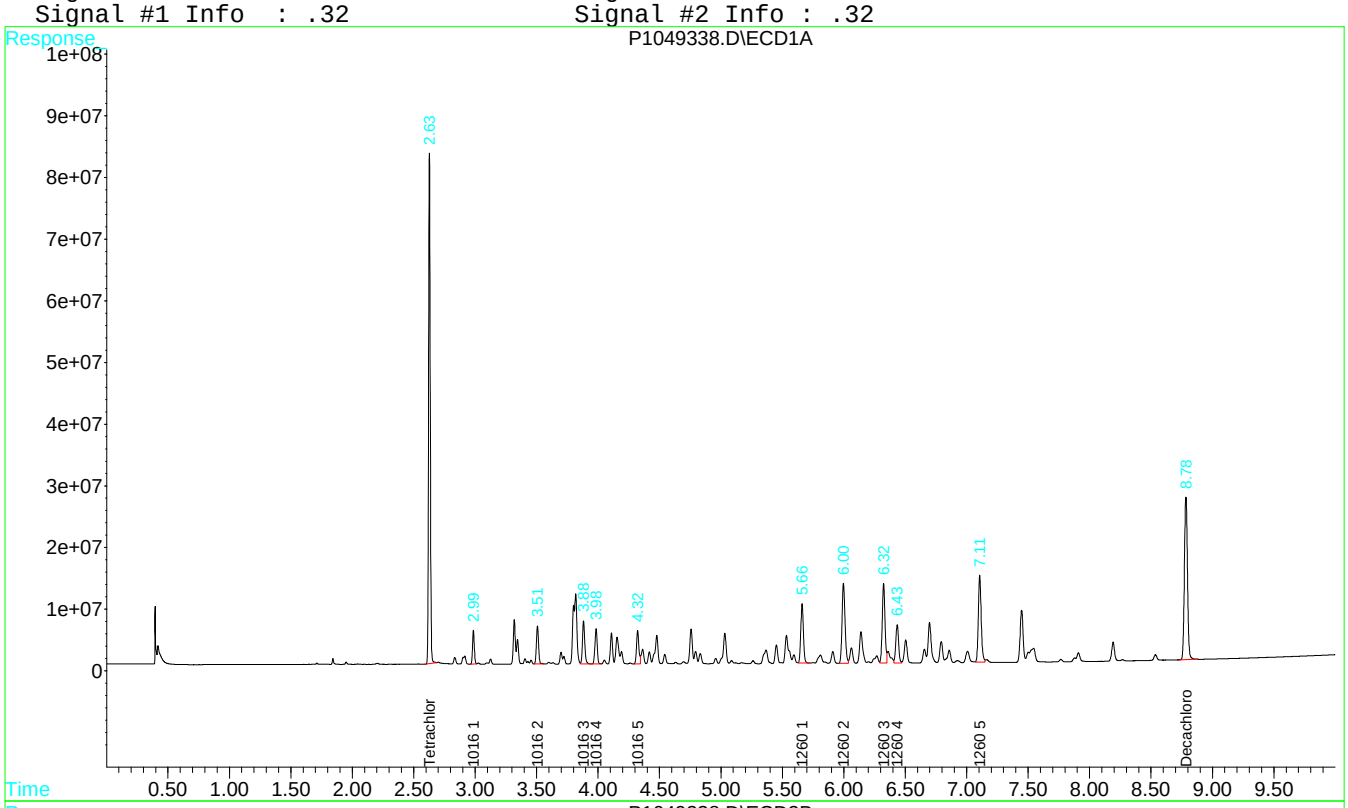
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P1049338.D P1051519.M Thu May 16 13:45:45 2019 Page 1

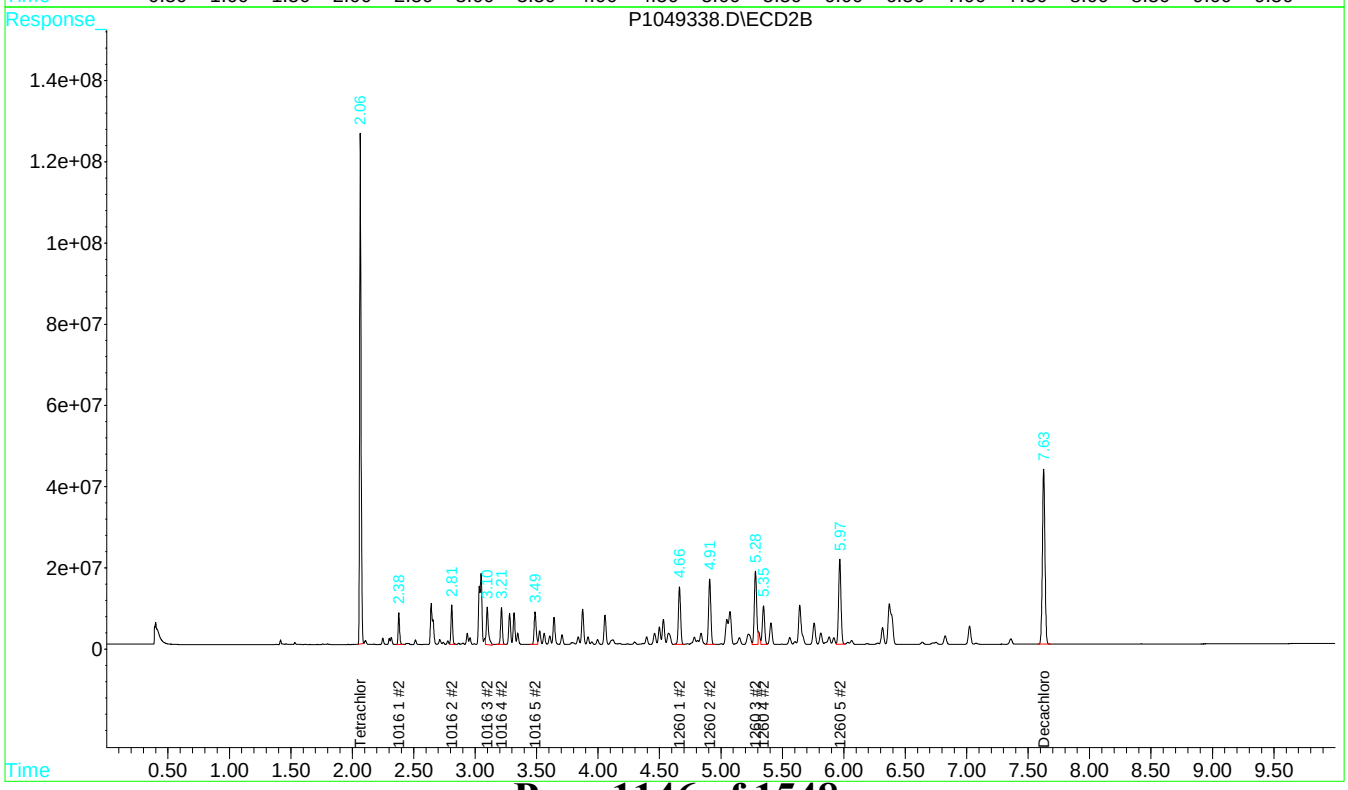
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049338.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049338.D\ECD2B.CH
Acq On : 5-15-2019 5:12:36 PM Operator: SR
Sample : SEQ-CAL3 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:29 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049339.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049339.D\ECD2B.CH
Acq On : 5-15-2019 5:26:12 PM Operator: SR
Sample : SEQ-CAL4 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:30 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL	
	System Monitoring Compounds							
1)	S Tetrachloro-m-xy	2.63	2.07	1044.5E6	1340.4E6	0.156	0.193	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		78.00%	96.50%	
45)	S Decachlorobiphen	8.78	7.63	633.0E6	863.0E6	0.210	0.217	
	Spiked Amount 0.200	Range 30 - 150		Recovery =		105.00%	108.50%	
	Target Compounds							
5)	T 1016 1	2.99	2.38	111.6E6	132.7E6	0.721	1.143	#
6)	T 1016 2	3.51	2.81	156.5E6	182.0E6	0.527	0.413	
7)	T 1016 3	3.88	3.10	188.5E6	247.4E6	1.613	1.694	
8)	T 1016 4	3.98	3.21	153.8E6	188.7E6	1.260	1.594	#
9)	T 1016 5	4.32	3.49	150.9E6	189.3E6	1.060	1.126	
30)	T 1260 1	5.66	4.66	299.6E6	368.8E6	0.758	1.245	#
31)	T 1260 2	6.00	4.91	464.4E6	432.2E6	1.252	1.228	
32)	T 1260 3	6.32	5.28	428.8E6	527.7E6	2.191m	1.222m	#
33)	T 1260 4	6.44	5.35	208.4E6	266.4E6	0.492	0.535	
34)	T 1260 5	7.11	5.97	490.0E6	625.0E6	1.941m	1.643	

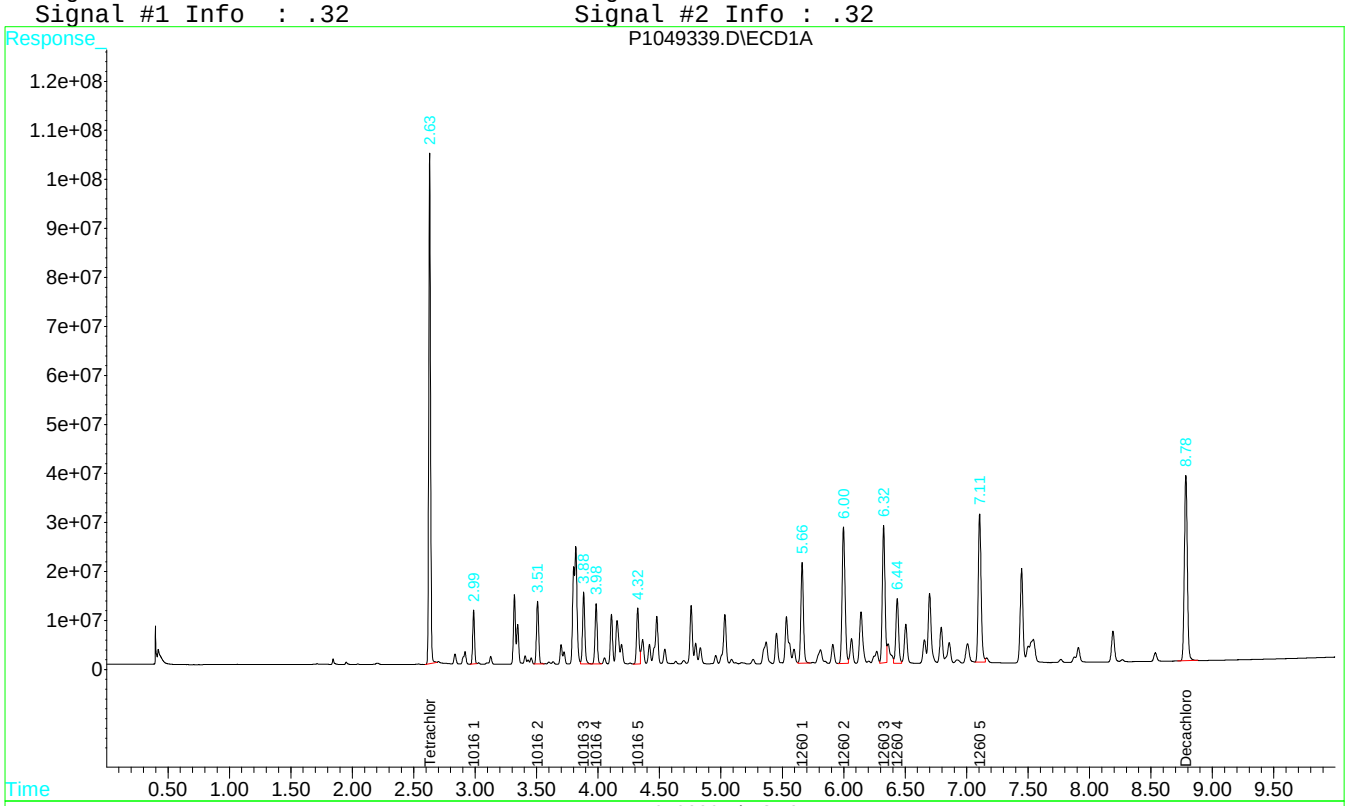
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1049339.D P1051519.M Thu May 16 13:45:47 2019 Page 1

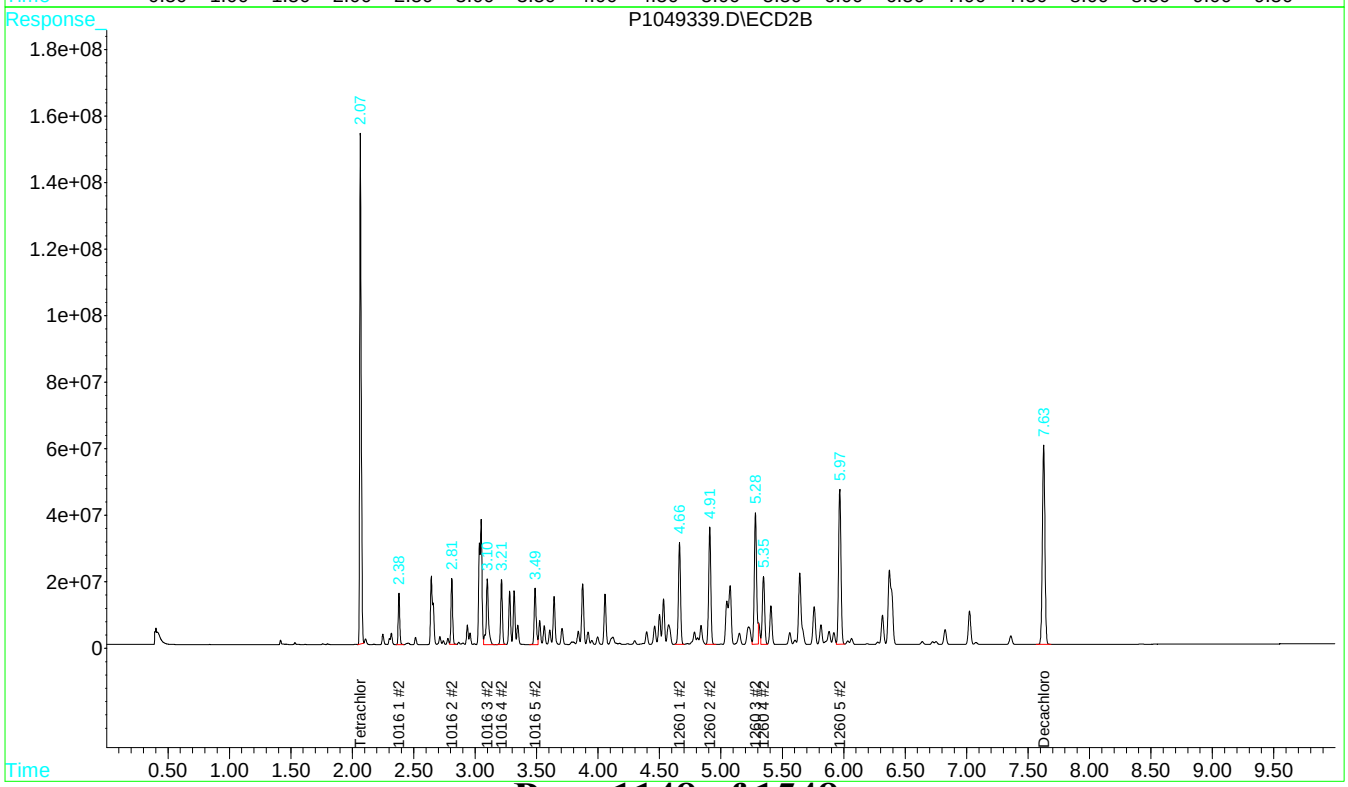
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049339.D\ECD1A.CH Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049339.D\ECD2B.CH
Acq On : 5-15-2019 5:26:12 PM Operator: SR
Sample : SEQ-CAL4 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:30 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\051519A\P1049340.D\ECD1A.CH Vial: 6
Acq On : 5-15-2019 5:39:43 PM Operator: SR
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\051519A\P1049340.D\ECD2B.CH Vial: 6
Acq On : 5-15-2019 5:39:44 PM Operator: SR
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 16 12:31 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.07	1311.0E6	1704.8E6	0.195	0.245 #
	Spiked Amount 0.200	Range 30 - 150		Recovery =		97.50%	122.50%
45) S	Decachlorobiphen	8.78	7.63	837.6E6	1134.9E6	0.278	0.286
	Spiked Amount 0.200	Range 30 - 150		Recovery =		139.00%	143.00%
	Target Compounds						
5) T	1016 1	2.99	2.38	212.9E6	253.4E6	1.376	2.183 #
6) T	1016 2	3.51	2.81	300.8E6	352.6E6	1.013	0.799
7) T	1016 3	3.88	3.10	367.6E6	484.9E6	3.146	3.321
8) T	1016 4	3.98	3.21	304.4E6	371.9E6	2.495	3.142 #
9) T	1016 5	4.32	3.49	293.8E6	373.9E6	2.065	2.224
30) T	1260 1	5.66	4.66	604.3E6	730.8E6	1.529	2.468 #
31) T	1260 2	6.00	4.91	920.8E6	860.0E6	2.482	2.442
32) T	1260 3	6.32	5.28	869.2E6	1064.3E6	4.441m	2.464m#
33) T	1260 4	6.43	5.35	415.1E6	538.2E6	0.980	1.080
34) T	1260 5	7.11	5.97	1005.3E6	1271.7E6	3.982	3.343

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1049340.D P1051519.M Thu May 16 13:45:49 2019 Page 1

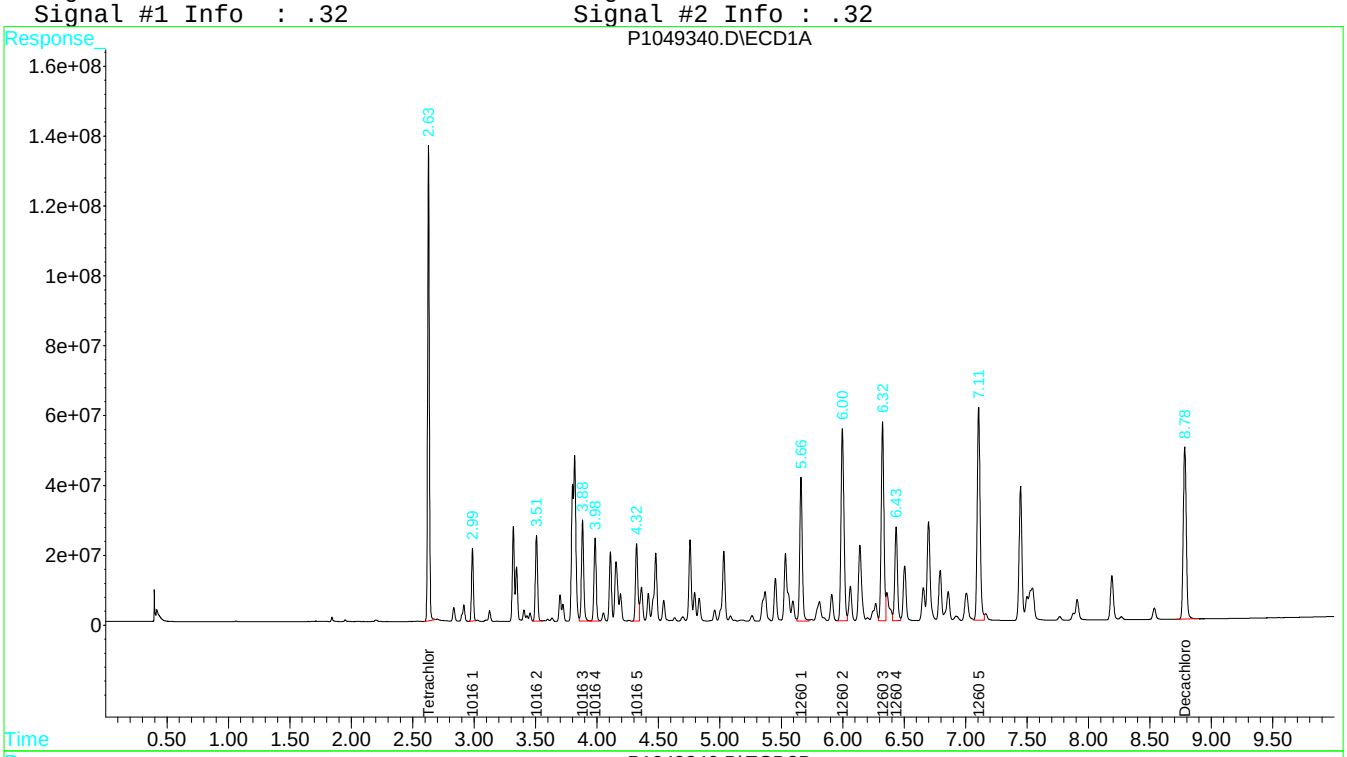
Quantitation Report

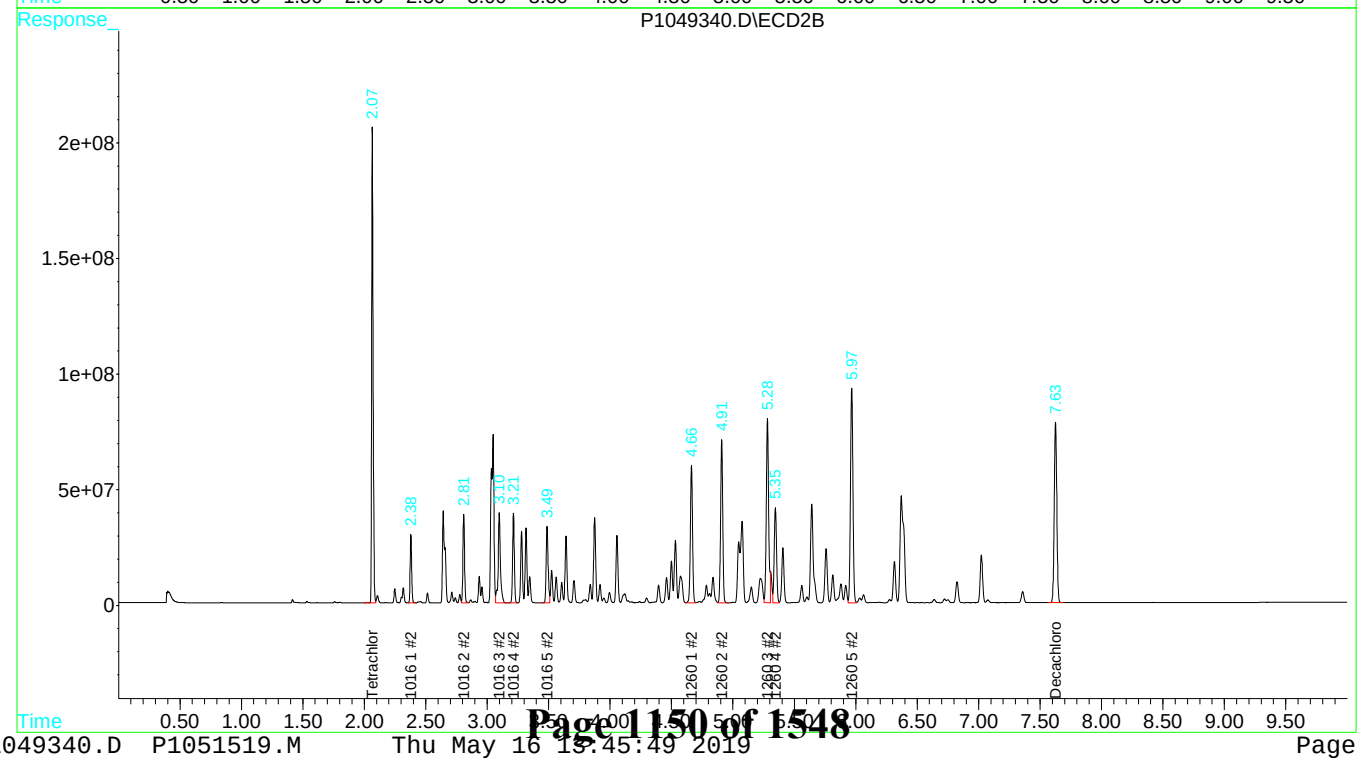
Data File : C:\HPCHEM\1\DATA\051519A\P1049340.D\ECD1A.CH Vial: 6
Acq On : 5-15-2019 5:39:43 PM Operator: SR
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\HPCHEM\1\DATA\051519A\P1049340.D\ECD2B.CH Vial: 6
Acq On : 5-15-2019 5:39:44 PM Operator: SR
Sample : SEQ-CAL5 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile : autoint2.e
Quant Time: May 16 12:31 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049341.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049341.D\ECD2B.CH
Acq On : 5-15-2019 5:53:13 PM Operator: SR
Sample : SEQ-CAL6 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:32 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.07	322.1E6	390.9E6	0.048	0.056
	Spiked Amount 0.200	Range 30 - 150		Recovery =		24.00%#	28.00%#
45) S	Decachlorobiphen	8.78	7.63	197.7E6	262.4E6	0.066	0.066
	Spiked Amount 0.200	Range 30 - 150		Recovery =		33.00%	33.00%
	Target Compounds						
5) T	1016 1	2.99	2.38	321.3E6	373.0E6	2.076	3.215 #
6) T	1016 2	3.51	2.81	453.1E6	519.2E6	1.525	1.177
7) T	1016 3	3.88	3.10	548.2E6	725.1E6	4.692	4.966
8) T	1016 4	3.98	3.21	459.4E6	553.4E6	3.765	4.675
9) T	1016 5	4.32	3.49	443.0E6	560.6E6	3.114	3.335
30) T	1260 1	5.66	4.66	906.0E6	1091.5E6	2.292	3.685 #
31) T	1260 2	6.00	4.91	1369.0E6	1283.3E6	3.690	3.645
32) T	1260 3	6.32	5.28	1304.5E6	1593.7E6	6.665	3.690m#
33) T	1260 4	6.43	5.35	620.6E6	801.5E6	1.465	1.608
34) T	1260 5	7.11	5.97	1500.4E6	1894.1E6	5.942	4.979

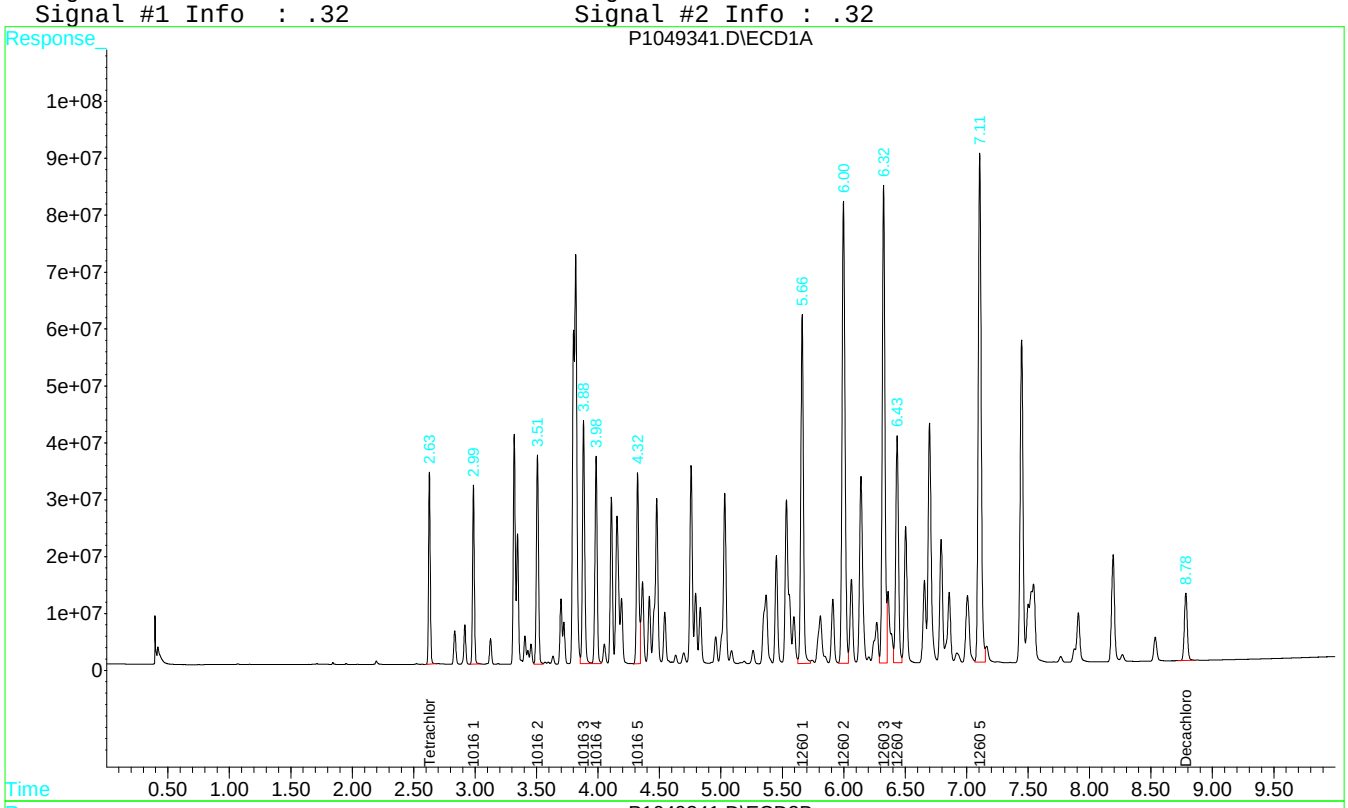
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P1049341.D P1051519.M Thu May 16 13:45:50 2019 Page 1

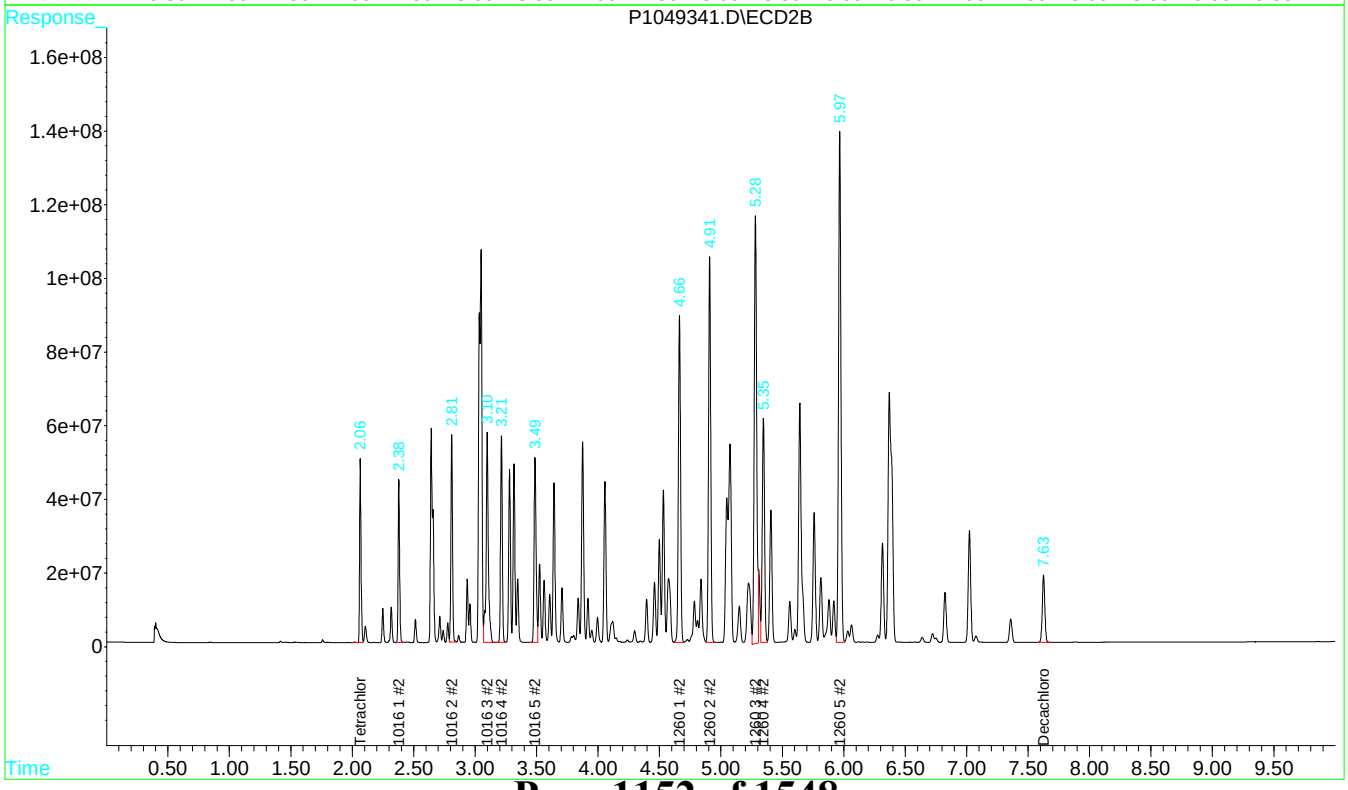
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049341.D\ECD1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049341.D\ECD2B.CH
Acq On : 5-15-2019 5:53:13 PM Operator: SR
Sample : SEQ-CAL6 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 12:32 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 12:20:48 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YE90020 **Laboratory ID:** Y9E1632-SCV1

Sequence: Y9E1632 **Standard ID:** Y19B354

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
Aroclor 1016	1.00	0.921	-7.9	20.00
Aroclor 1016 (1)	1.00	0.894	-10.6	20.00
Aroclor 1016 (2)	1.00	0.910	-9.0	20.00
Aroclor 1016 (3)	1.00	0.907	-9.3	20.00
Aroclor 1016 (4)	1.00	0.915	-8.5	20.00
Aroclor 1016 (5)	1.00	0.978	-2.2	20.00
Aroclor 1016 [2C]	1.00	0.942	-5.8	20.00
Aroclor 1016 (1) [2C]	1.00	0.948	-5.2	20.00
Aroclor 1016 (2) [2C]	1.00	0.921	-7.9	20.00
Aroclor 1016 (3) [2C]	1.00	0.994	-0.6	20.00
Aroclor 1016 (4) [2C]	1.00	0.901	-9.9	20.00
Aroclor 1016 (5) [2C]	1.00	0.946	-5.4	20.00
Aroclor 1260	1.00	0.905	-9.5	20.00
Aroclor 1260 (1)	1.00	0.888	-11.2	20.00
Aroclor 1260 (2)	1.00	0.908	-9.2	20.00
Aroclor 1260 (3)	1.00	0.927	-7.3	20.00
Aroclor 1260 (4)	1.00	0.921	-7.9	20.00
Aroclor 1260 (5)	1.00	0.881	-11.9	20.00
Aroclor 1260 [2C]	1.00	0.946	-5.4	20.00
Aroclor 1260 (1) [2C]	1.00	0.908	-9.2	20.00
Aroclor 1260 (2) [2C]	1.00	0.911	-8.9	20.00
Aroclor 1260 (3) [2C]	1.00	1.04	4.4	20.00
Aroclor 1260 (4) [2C]	1.00	0.936	-6.4	20.00
Aroclor 1260 (5) [2C]	1.00	0.930	-7.0	20.00

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049342.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049342.D\ECD2B.CH
Acq On : 5-15-2019 6:06:47 PM Operator: SR
Sample : SEQ-SCV1 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 13:43 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.63	2.06	1046.3E6	1327.5E6	0.160	0.159
	Spiked Amount 0.200	Range 30 - 150		Recovery =		80.00%	79.50%
45) S	Decachlorobiphen	8.78	7.63	635.8E6	859.1E6	0.159	0.158
	Spiked Amount 0.200	Range 30 - 150		Recovery =		79.50%	79.00%
	Target Compounds						
5) T	1016 1	2.99	2.38	111.9E6	137.4E6	0.894m	0.948m
6) T	1016 2	3.51	2.81	155.6E6	181.2E6	0.910	0.921
7) T	1016 3	3.88	3.10	187.6E6	246.0E6	0.907	0.994
8) T	1016 4	3.98	3.21	153.5E6	187.2E6	0.915	0.901
9) T	1016 5	4.32	3.49	150.7E6	188.5E6	0.978	0.946
30) T	1260 1	5.66	4.66	300.3E6	368.7E6	0.888	0.908
31) T	1260 2	6.00	4.91	465.9E6	431.6E6	0.908	0.911
32) T	1260 3	6.32	5.28	436.8E6	580.3E6	0.927	1.044
33) T	1260 4	6.43	5.35	209.4E6	266.7E6	0.921	0.936
34) T	1260 5	7.11	5.97	476.1E6	623.7E6	0.881	0.930

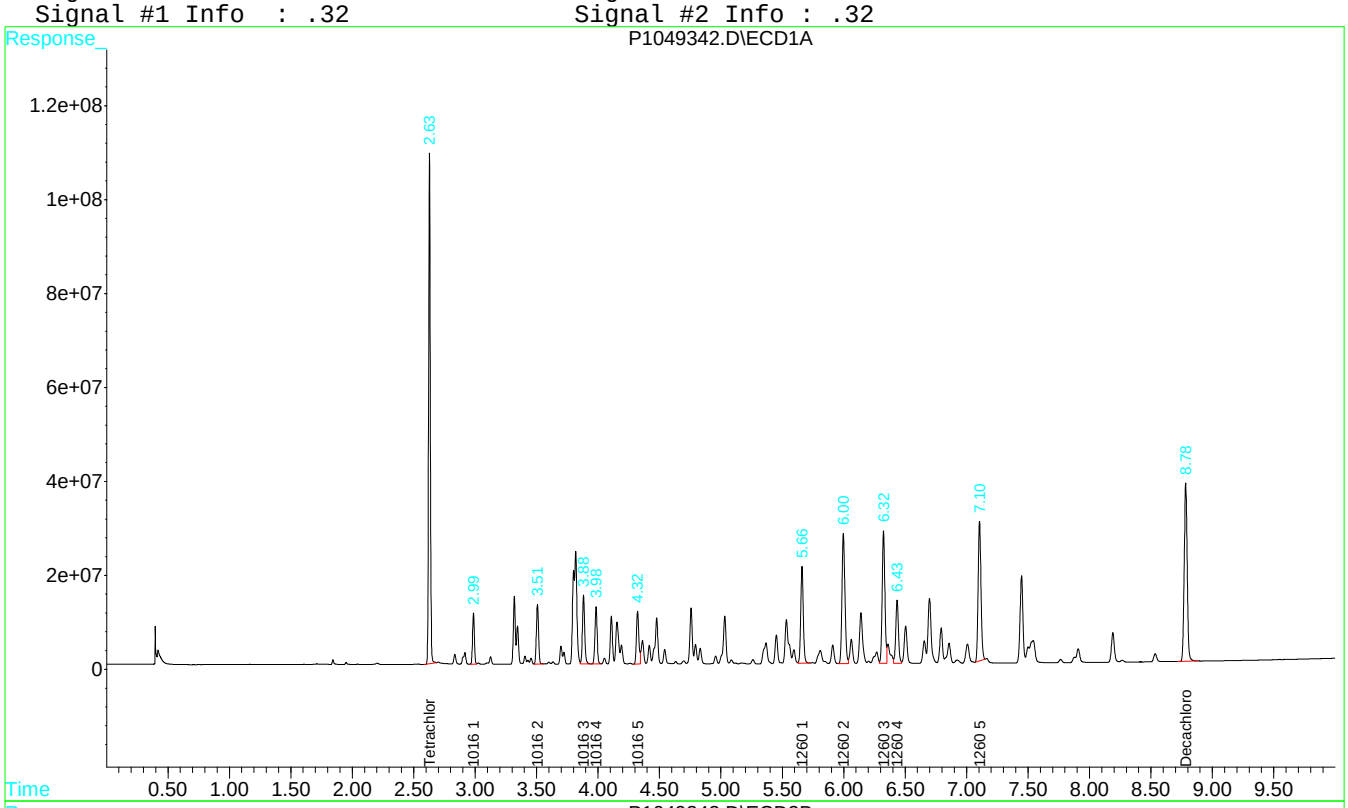
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1049342.D P1051519.M Thu May 16 13:45:52 2019 Page 1

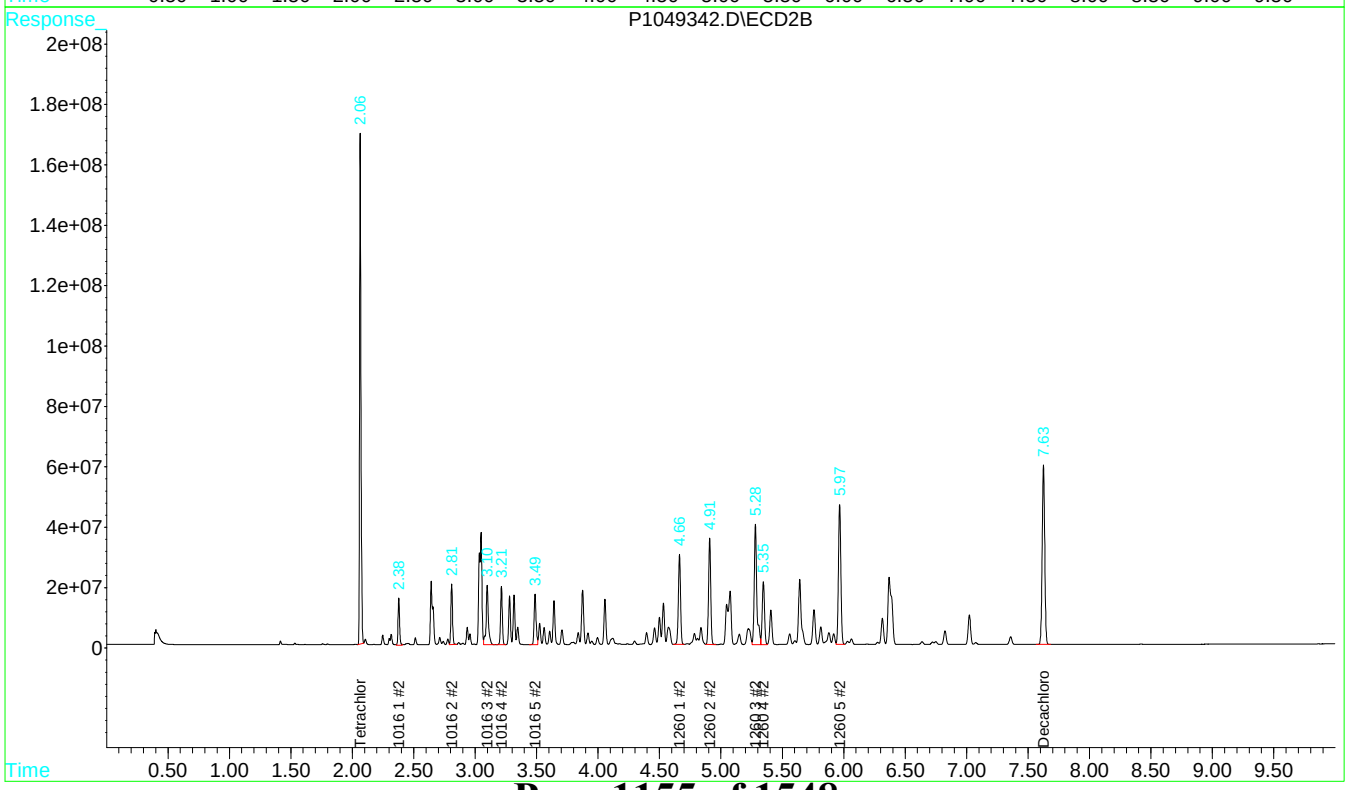
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\051519A\P1049342.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\051519A\P1049342.D\ECD2B.CH
Acq On : 5-15-2019 6:06:47 PM Operator: SR
Sample : SEQ-SCV1 Inst : ECD#1
Misc : QBP1051519A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: May 16 13:43 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057810.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0815	Injection Date:	10/07/19
Lab Sample ID:	Y9J0815-CCV7	Injection Time:	16:35

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	0.977	1.650183E+08	1.6156E+08		-2.1	20	
Aroclor 1016 (1)	A	1.00	0.924	1.251642E+08	1.156E+08		-7.6	20	
Aroclor 1016 (1) [2C]	A	1.00	1.05	1.448888E+08	1.521E+08		5.0	20	
Aroclor 1016 (2)	A	1.00	0.973	1.711105E+08	1.664E+08		-2.8	20	
Aroclor 1016 (2) [2C]	A	1.00	1.09	1.968172E+08	2.144E+08		8.9	20	
Aroclor 1016 (3)	A	1.00	0.981	2.067802E+08	2.029E+08		-1.9	20	
Aroclor 1016 (3) [2C]	A	1.00	0.998	2.474585E+08	2.47E+08		-0.2	20	
Aroclor 1016 (4)	A	1.00	0.985	1.678594E+08	1.653E+08		-1.5	20	
Aroclor 1016 (4) [2C]	A	1.00	1.01	2.077158E+08	2.1E+08		1.1	20	
Aroclor 1016 (5)	A	1.00	1.02	1.541774E+08	1.576E+08		2.2	20	
Aroclor 1016 (5) [2C]	A	1.00	1.05	1.992778E+08	2.094E+08		5.1	20	
Aroclor 1016 [2C]	A	1.00	1.04	1.992316E+08	2.0658E+08		3.7	20	
Aroclor 1260	A	1.00	0.897	4.179285E+08	3.7146E+08		-11.1	20	
Aroclor 1260 (1)	A	1.00	0.904	3.380425E+08	3.055E+08		-9.6	20	
Aroclor 1260 (1) [2C]	A	1.00	0.918	4.058588E+08	3.726E+08		-8.2	20	
Aroclor 1260 (2)	A	1.00	0.787	5.12915E+08	4.037E+08		-21.3	20	*
Aroclor 1260 (2) [2C]	A	1.00	0.900	4.73798E+08	4.264E+08		-10.0	20	
Aroclor 1260 (3)	A	1.00	1.04	4.712303E+08	4.908E+08		4.2	20	
Aroclor 1260 (3) [2C]	A	1.00	0.987	5.555795E+08	5.481E+08		-1.3	20	
Aroclor 1260 (4)	A	1.00	0.923	2.272768E+08	2.098E+08		-7.7	20	
Aroclor 1260 (4) [2C]	A	1.00	0.929	2.848594E+08	2.646E+08		-7.1	20	
Aroclor 1260 (5)	A	1.00	0.828	5.40178E+08	4.475E+08		-17.2	20	
Aroclor 1260 (5) [2C]	A	1.00	0.850	6.703154E+08	5.696E+08		-15.0	20	
Aroclor 1260 [2C]	A	1.00	0.917	4.780822E+08	4.3626E+08		-8.7	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057810.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057810.D\ECD2B.CH
Acq On : 10-7-2019 4:35:15 PM Operator: SR
Sample : SEQ-CCV7 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:09 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.65	2.06	1172.4E6	1652.3E6	0.179	0.198
	Spiked Amount 0.200	Range 30 - 150		Recovery =		89.50%	99.00%
45) S	Decachlorobiphen	8.80	7.61	594.1E6	705.3E6	0.148	0.130
	Spiked Amount 0.200	Range 30 - 150		Recovery =		74.00%	65.00%
	Target Compounds						
5) T	1016 1	3.01	2.38	115.6E6	152.1E6	0.924	1.050
6) T	1016 2	3.53	2.80	166.4E6	214.4E6	0.973	1.089
7) T	1016 3	3.91f	3.09	202.9E6	247.0E6	0.981	0.998
8) T	1016 4	4.01	3.21	165.3E6	210.0E6	0.985	1.011
9) T	1016 5	4.35	3.48	157.6E6	209.4E6	1.022	1.051
30) T	1260 1	5.69	4.65	305.5E6	372.6E6	0.904	0.918
31) T	1260 2	6.02f	4.90	403.7E6	426.4E6	0.787	0.900
32) T	1260 3	6.35	5.27	490.8E6	548.1E6	1.041	0.987
33) T	1260 4	6.46	5.33	209.8E6	264.6E6	0.923	0.929
34) T	1260 5	7.13	5.95	447.5E6	569.6E6	0.828	0.850

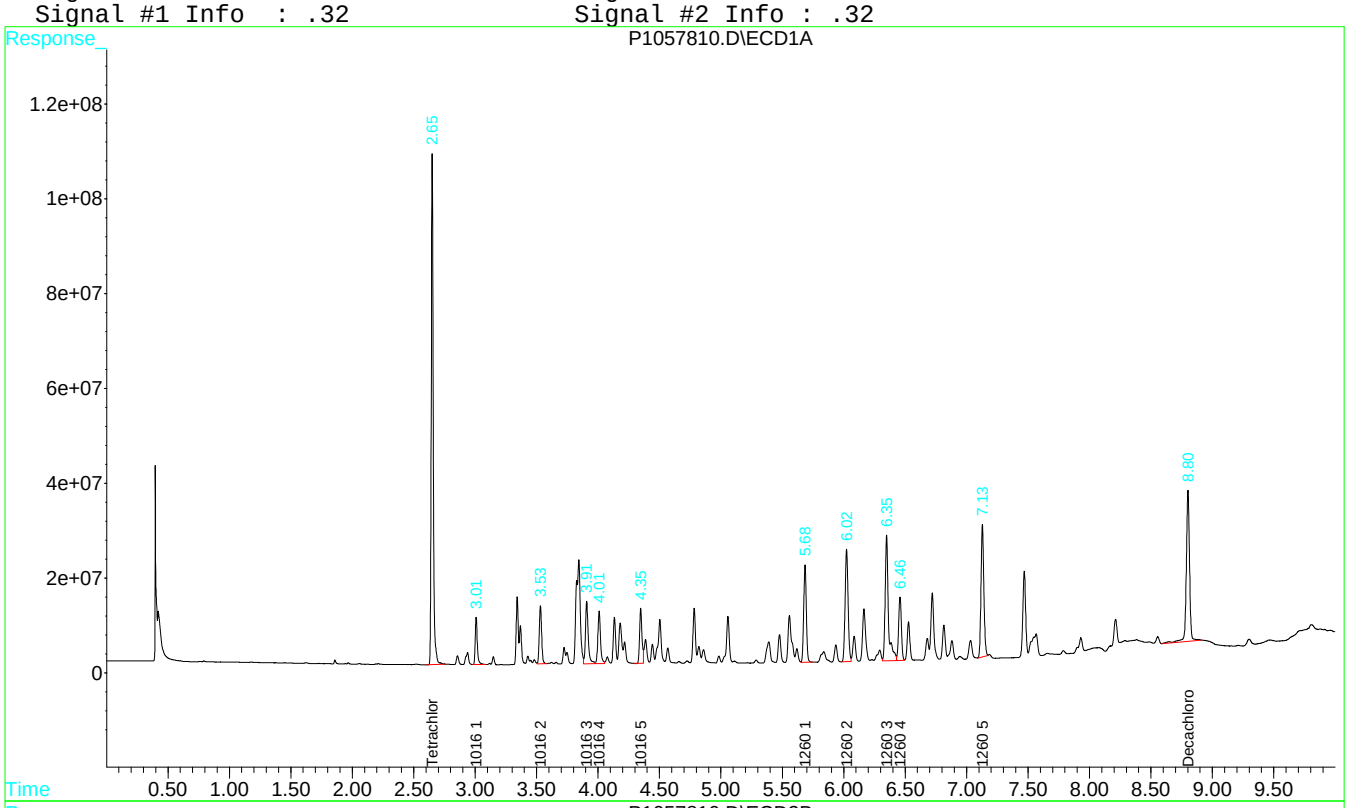
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057810.D P1051519.M Tue Oct 08 10:44:10 2019 Page 1

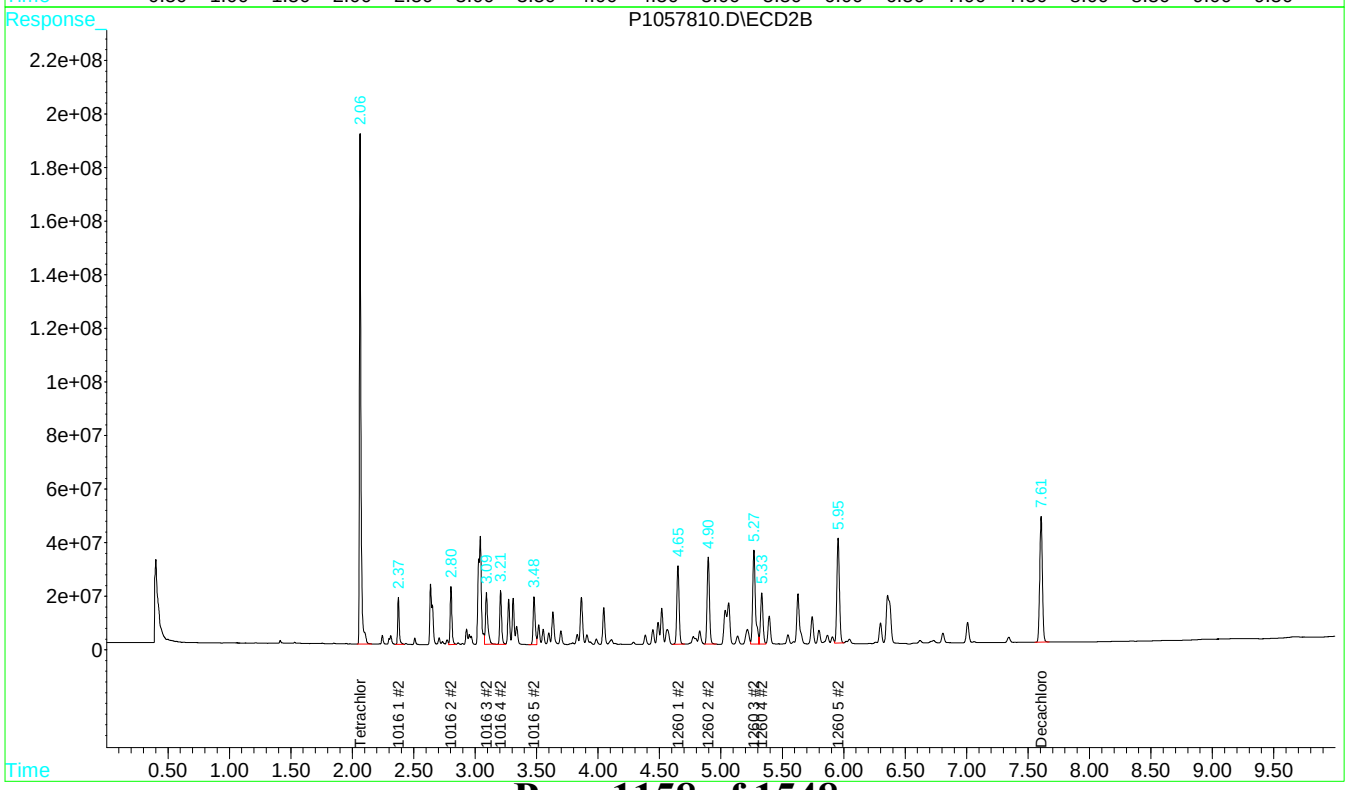
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057810.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057810.D\ECD2B.CH
Acq On : 10-7-2019 4:35:15 PM Operator: SR
Sample : SEQ-CCV7 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:09 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057830.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0815	Injection Date:	10/07/19
Lab Sample ID:	Y9J0815-CCV8	Injection Time:	21:14

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	1.11	1.650183E+08	1.8442E+08		11.8	20	
Aroclor 1016 (1)	A	1.00	1.03	1.251642E+08	1.291E+08		3.1	20	
Aroclor 1016 (1) [2C]	A	1.00	1.12	1.448888E+08	1.626E+08		12.2	20	
Aroclor 1016 (2)	A	1.00	1.09	1.711105E+08	1.868E+08		9.2	20	
Aroclor 1016 (2) [2C]	A	1.00	1.17	1.968172E+08	2.311E+08		17.4	20	
Aroclor 1016 (3)	A	1.00	1.15	2.067802E+08	2.373E+08		14.8	20	
Aroclor 1016 (3) [2C]	A	1.00	1.11	2.474585E+08	2.757E+08		11.4	20	
Aroclor 1016 (4)	A	1.00	1.13	1.678594E+08	1.901E+08		13.2	20	
Aroclor 1016 (4) [2C]	A	1.00	1.10	2.077158E+08	2.277E+08		9.6	20	
Aroclor 1016 (5)	A	1.00	1.16	1.541774E+08	1.788E+08		16.0	20	
Aroclor 1016 (5) [2C]	A	1.00	1.16	1.992778E+08	2.31E+08		15.9	20	
Aroclor 1016 [2C]	A	1.00	1.13	1.992316E+08	2.2562E+08		13.2	20	
Aroclor 1260	A	1.00	1.05	4.179285E+08	4.3742E+08		4.7	20	
Aroclor 1260 (1)	A	1.00	1.04	3.380425E+08	3.528E+08		4.4	20	
Aroclor 1260 (1) [2C]	A	1.00	1.03	4.058588E+08	4.168E+08		2.7	20	
Aroclor 1260 (2)	A	1.00	0.935	5.12915E+08	4.796E+08		-6.5	20	
Aroclor 1260 (2) [2C]	A	1.00	1.01	4.73798E+08	4.786E+08		1.0	20	
Aroclor 1260 (3)	A	1.00	1.23	4.712303E+08	5.802E+08		23.1	20	*
Aroclor 1260 (3) [2C]	A	1.00	1.12	5.555795E+08	6.231E+08		12.2	20	
Aroclor 1260 (4)	A	1.00	1.08	2.272768E+08	2.465E+08		8.5	20	
Aroclor 1260 (4) [2C]	A	1.00	1.06	2.848594E+08	3.018E+08		5.9	20	
Aroclor 1260 (5)	A	1.00	0.978	5.40178E+08	5.28E+08		-2.3	20	
Aroclor 1260 (5) [2C]	A	1.00	0.957	6.703154E+08	6.414E+08		-4.3	20	
Aroclor 1260 [2C]	A	1.00	1.04	4.780822E+08	4.9234E+08		3.0	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057830.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057830.D\ECD2B.CH
Acq On : 10-7-2019 9:14:59 PM Operator: SR
Sample : SEQ-CCV8 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:28 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1274.5E6	1760.9E6	0.195	0.211
	Spiked Amount 0.200	Range 30 - 150		Recovery =		97.50%	105.50%
45) S	Decachlorobiphen	8.79	7.60	592.3E6	748.2E6	0.148	0.138
	Spiked Amount 0.200	Range 30 - 150		Recovery =		74.00%	69.00%
	Target Compounds						
5) T	1016 1	2.99	2.37	129.1E6	162.6E6	1.032	1.122
6) T	1016 2	3.52	2.80	186.8E6	231.1E6	1.092	1.174
7) T	1016 3	3.89	3.09	237.3E6	275.7E6	1.148	1.114
8) T	1016 4	3.99	3.21	190.1E6	227.7E6	1.132	1.096
9) T	1016 5	4.33	3.48	178.8E6	231.0E6	1.160	1.159
30) T	1260 1	5.67	4.65	352.8E6	416.8E6	1.044	1.027
31) T	1260 2	6.01	4.90	479.6E6	478.6E6	0.935	1.010
32) T	1260 3	6.33	5.27	580.2E6	623.1E6	1.231	1.122
33) T	1260 4	6.44	5.33	246.5E6	301.8E6	1.085	1.059
34) T	1260 5	7.11	5.95	528.0E6	641.4E6	0.978	0.957

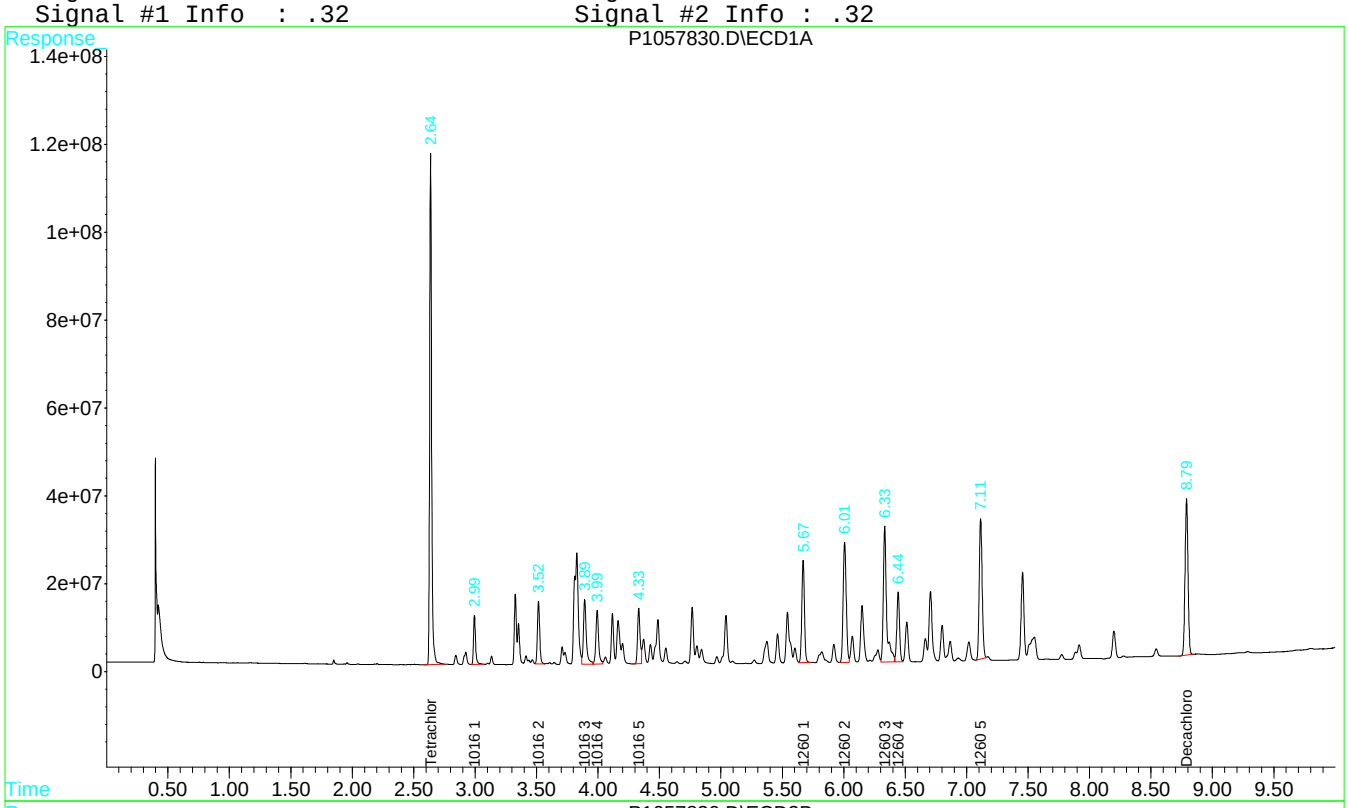
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057830.D P1051519.M Tue Oct 08 10:44:39 2019 Page 1

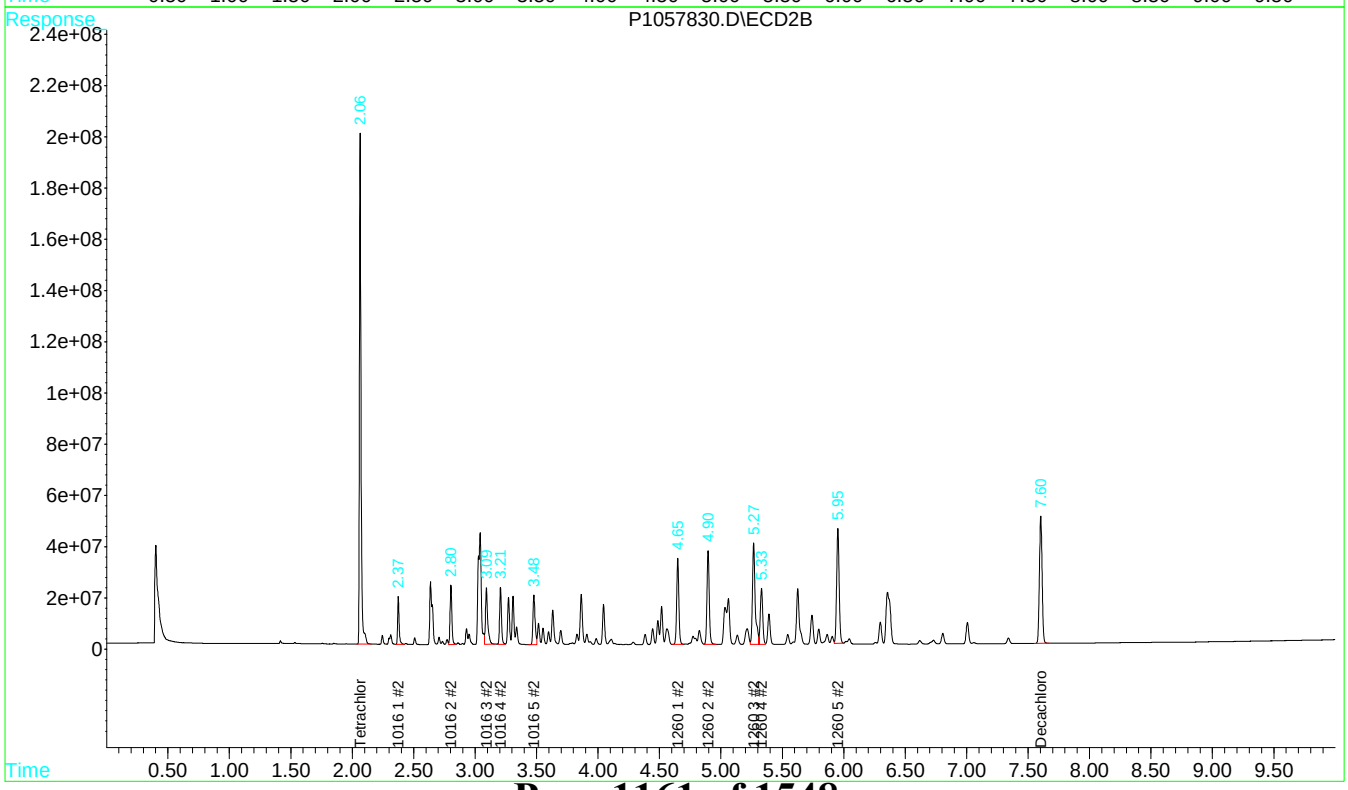
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057830.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057830.D\ECD2B.CH
Acq On : 10-7-2019 9:14:59 PM Operator: SR
Sample : SEQ-CCV8 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:28 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057851.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0815	Injection Date:	10/08/19
Lab Sample ID:	Y9J0815-CCV9	Injection Time:	01:59

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	1.13	1.650183E+08	1.88E+08		13.9	20	
Aroclor 1016 (1)	A	1.00	1.05	1.251642E+08	1.309E+08		4.6	20	
Aroclor 1016 (1) [2C]	A	1.00	1.14	1.448888E+08	1.648E+08		13.7	20	
Aroclor 1016 (2)	A	1.00	1.11	1.711105E+08	1.893E+08		10.6	20	
Aroclor 1016 (2) [2C]	A	1.00	1.19	1.968172E+08	2.338E+08		18.8	20	
Aroclor 1016 (3)	A	1.00	1.17	2.067802E+08	2.424E+08		17.2	20	
Aroclor 1016 (3) [2C]	A	1.00	1.12	2.474585E+08	2.761E+08		11.6	20	
Aroclor 1016 (4)	A	1.00	1.16	1.678594E+08	1.94E+08		15.6	20	
Aroclor 1016 (4) [2C]	A	1.00	1.10	2.077158E+08	2.292E+08		10.3	20	
Aroclor 1016 (5)	A	1.00	1.19	1.541774E+08	1.834E+08		19.0	20	
Aroclor 1016 (5) [2C]	A	1.00	1.17	1.992778E+08	2.333E+08		17.1	20	
Aroclor 1016 [2C]	A	1.00	1.14	1.992316E+08	2.2744E+08		14.2	20	
Aroclor 1260	A	1.00	1.08	4.179285E+08	4.4664E+08		6.9	20	
Aroclor 1260 (1)	A	1.00	1.06	3.380425E+08	3.587E+08		6.1	20	
Aroclor 1260 (1) [2C]	A	1.00	1.06	4.058588E+08	4.289E+08		5.7	20	
Aroclor 1260 (2)	A	1.00	0.948	5.12915E+08	4.862E+08		-5.2	20	
Aroclor 1260 (2) [2C]	A	1.00	1.05	4.73798E+08	4.958E+08		4.6	20	
Aroclor 1260 (3)	A	1.00	1.26	4.712303E+08	5.923E+08		25.7	20	*
Aroclor 1260 (3) [2C]	A	1.00	1.16	5.555795E+08	6.428E+08		15.7	20	
Aroclor 1260 (4)	A	1.00	1.11	2.272768E+08	2.514E+08		10.6	20	
Aroclor 1260 (4) [2C]	A	1.00	1.10	2.848594E+08	3.121E+08		9.6	20	
Aroclor 1260 (5)	A	1.00	1.01	5.40178E+08	5.446E+08		0.8	20	
Aroclor 1260 (5) [2C]	A	1.00	0.987	6.703154E+08	6.613E+08		-1.3	20	
Aroclor 1260 [2C]	A	1.00	1.07	4.780822E+08	5.0818E+08		6.3	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057851.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057851.D\ECD2B.CH
Acq On : 10-8-2019 1:59:26 AM Operator: SR
Sample : SEQ-CCV9 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:26 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.07	1293.5E6	1792.5E6	0.198	0.215
	Spiked Amount 0.200	Range 30 - 150		Recovery =		99.00%	107.50%
45) S	Decachlorobiphen	8.79	7.60	615.0E6	767.5E6	0.153	0.141
	Spiked Amount 0.200	Range 30 - 150		Recovery =		76.50%	70.50%
	Target Compounds						
5) T	1016 1	3.00	2.38	130.9E6	164.8E6	1.046	1.137
6) T	1016 2	3.52	2.80	189.3E6	233.8E6	1.106	1.188
7) T	1016 3	3.89	3.09	242.4E6	276.1E6	1.172	1.116
8) T	1016 4	3.99	3.21	194.0E6	229.2E6	1.156	1.103
9) T	1016 5	4.33	3.48	183.4E6	233.3E6	1.189	1.171
30) T	1260 1	5.67	4.65	358.7E6	428.9E6	1.061	1.057
31) T	1260 2	6.01	4.90	486.2E6	495.8E6	0.948	1.046
32) T	1260 3	6.33	5.27	592.3E6	642.8E6	1.257	1.157
33) T	1260 4	6.44	5.33	251.4E6	312.1E6	1.106	1.096
34) T	1260 5	7.12	5.95	544.6E6	661.3E6	1.008	0.987

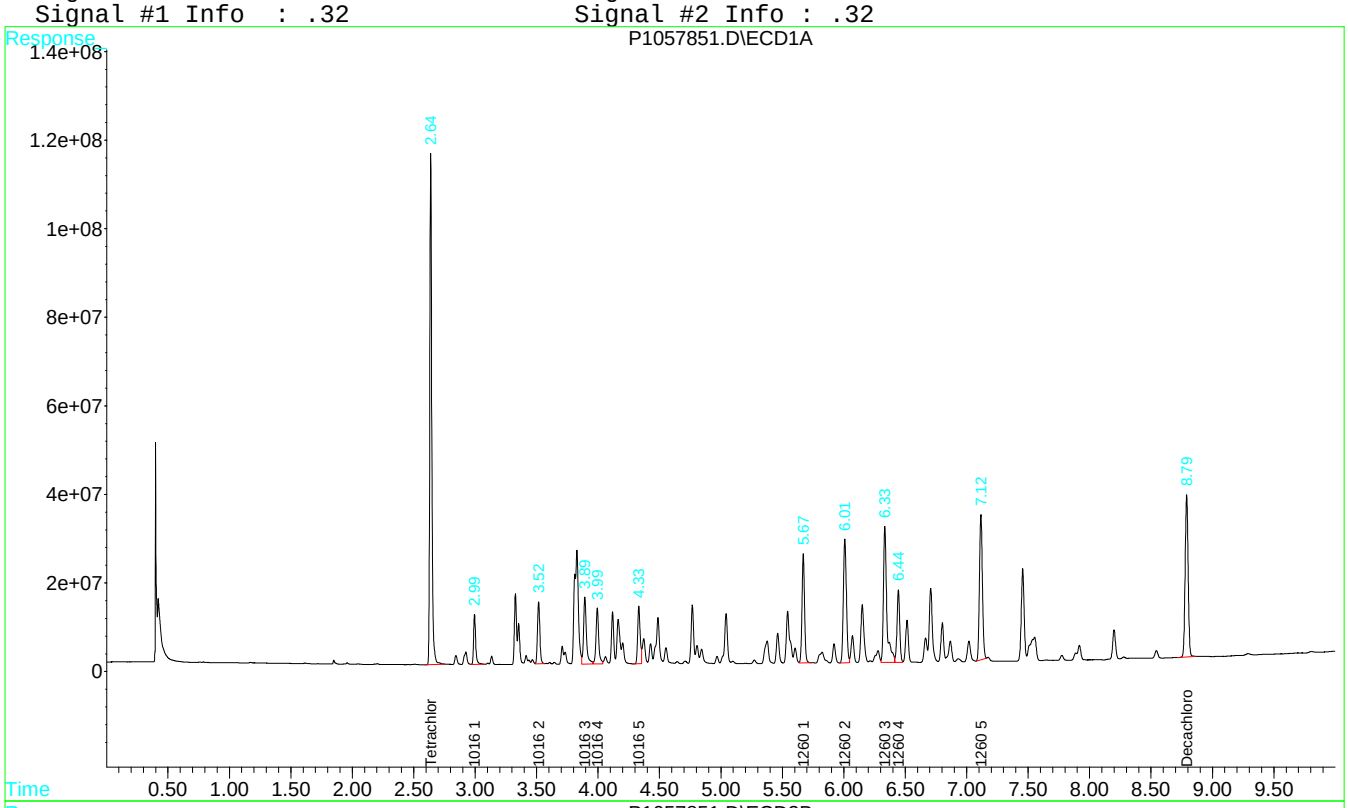
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057851.D P1051519.M Tue Oct 08 10:45:11 2019 Page 1

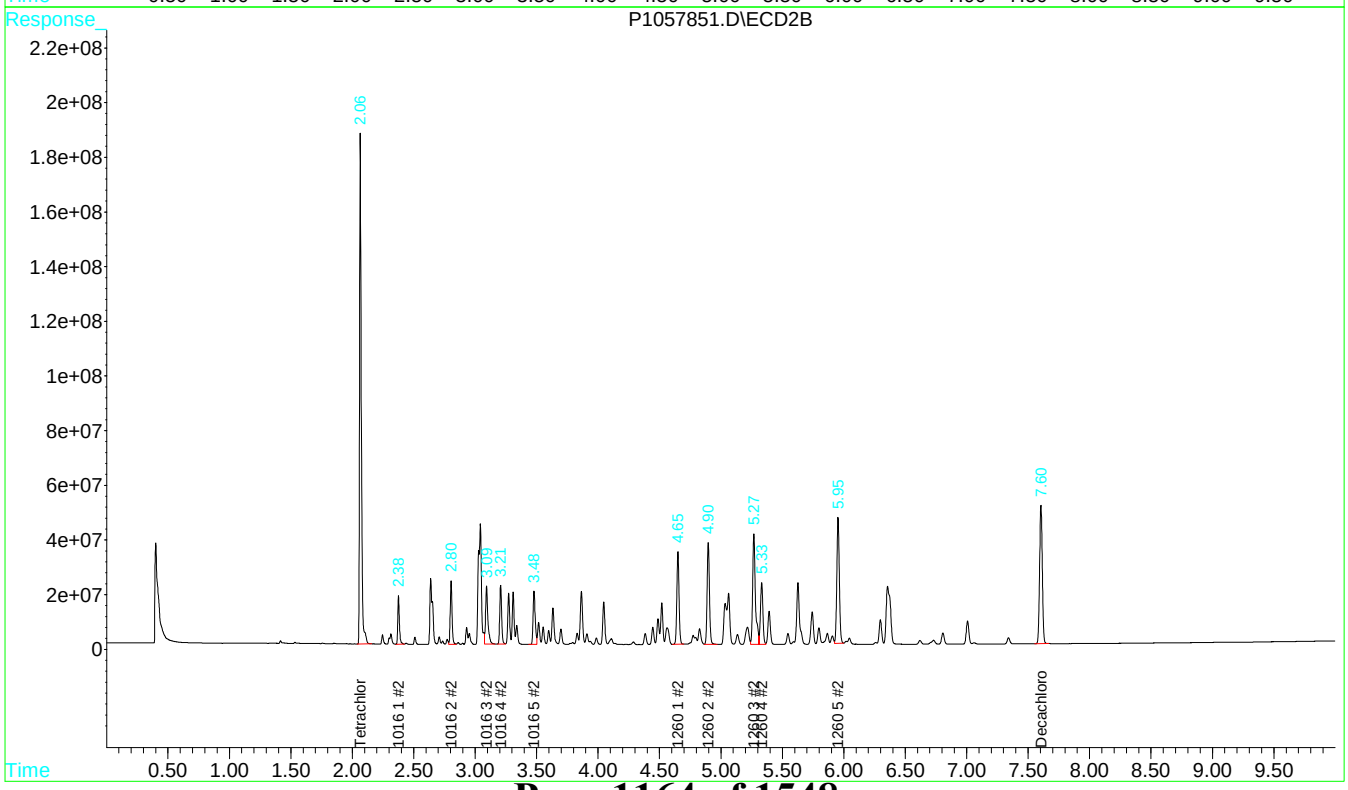
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057851.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057851.D\ECD2B.CH
Acq On : 10-8-2019 1:59:26 AM Operator: SR
Sample : SEQ-CCV9 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:26 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057876.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/08/19
Lab Sample ID:	Y9J0838-CCV1	Injection Time:	09:28

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Aroclor 1016	A	1.00	1.00	1.650183E+08	1.66E+08		0.6	20
Aroclor 1016 (1)	A	1.00	0.921	1.251642E+08	1.153E+08		-7.9	20
Aroclor 1016 (1) [2C]	A	1.00	1.02	1.448888E+08	1.471E+08		1.5	20
Aroclor 1016 (2)	A	1.00	0.978	1.711105E+08	1.674E+08		-2.2	20
Aroclor 1016 (2) [2C]	A	1.00	1.06	1.968172E+08	2.095E+08		6.4	20
Aroclor 1016 (3)	A	1.00	1.04	2.067802E+08	2.153E+08		4.1	20
Aroclor 1016 (3) [2C]	A	1.00	1.02	2.474585E+08	2.526E+08		2.1	20
Aroclor 1016 (4)	A	1.00	1.02	1.678594E+08	1.71E+08		1.9	20
Aroclor 1016 (4) [2C]	A	1.00	0.981	2.077158E+08	2.038E+08		-1.9	20
Aroclor 1016 (5)	A	1.00	1.04	1.541774E+08	1.61E+08		4.4	20
Aroclor 1016 (5) [2C]	A	1.00	1.05	1.992778E+08	2.086E+08		4.7	20
Aroclor 1016 [2C]	A	1.00	1.03	1.992316E+08	2.0432E+08		2.6	20
Aroclor 1260	A	1.00	0.978	4.179285E+08	4.0652E+08		-2.7	20
Aroclor 1260 (1)	A	1.00	0.951	3.380425E+08	3.216E+08		-4.9	20
Aroclor 1260 (1) [2C]	A	1.00	0.943	4.058588E+08	3.826E+08		-5.7	20
Aroclor 1260 (2)	A	1.00	0.913	5.12915E+08	4.683E+08		-8.7	20
Aroclor 1260 (2) [2C]	A	1.00	0.930	4.73798E+08	4.406E+08		-7.0	20
Aroclor 1260 (3)	A	1.00	1.12	4.712303E+08	5.27E+08		11.8	20
Aroclor 1260 (3) [2C]	A	1.00	1.03	5.555795E+08	5.716E+08		2.9	20
Aroclor 1260 (4)	A	1.00	1.00	2.272768E+08	2.28E+08		0.3	20
Aroclor 1260 (4) [2C]	A	1.00	0.987	2.848594E+08	2.812E+08		-1.3	20
Aroclor 1260 (5)	A	1.00	0.903	5.40178E+08	4.877E+08		-9.7	20
Aroclor 1260 (5) [2C]	A	1.00	0.886	6.703154E+08	5.941E+08		-11.4	20
Aroclor 1260 [2C]	A	1.00	0.955	4.780822E+08	4.5402E+08		-5.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057876.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057876.D\ECD2B.CH
Acq On : 10-8-2019 9:28:40 AM Operator: SR
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:39 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.65	2.06	1175.5E6	1616.2E6	0.180	0.194
	Spiked Amount 0.200	Range 30 - 150		Recovery =		90.00%	97.00%
45) S	Decachlorobiphen	8.80	7.60	579.2E6	712.3E6	0.145	0.131
	Spiked Amount 0.200	Range 30 - 150		Recovery =		72.50%	65.50%
	Target Compounds						
5) T	1016 1	3.00	2.38	115.3E6	147.1E6	0.921	1.015
6) T	1016 2	3.53	2.80	167.4E6	209.5E6	0.978	1.064
7) T	1016 3	3.90	3.09	215.3E6	252.6E6	1.041	1.021
8) T	1016 4	4.00	3.21	171.0E6	203.8E6	1.019	0.981
9) T	1016 5	4.34	3.48	161.0E6	208.6E6	1.044	1.047
30) T	1260 1	5.68	4.65	321.6E6	382.6E6	0.951	0.943
31) T	1260 2	6.02	4.90	468.3E6	440.6E6	0.913	0.930
32) T	1260 3	6.34	5.27	527.0E6	571.6E6	1.118	1.029
33) T	1260 4	6.45	5.33	228.0E6	281.2E6	1.003	0.987
34) T	1260 5	7.12	5.95	487.7E6	594.1E6	0.903	0.886

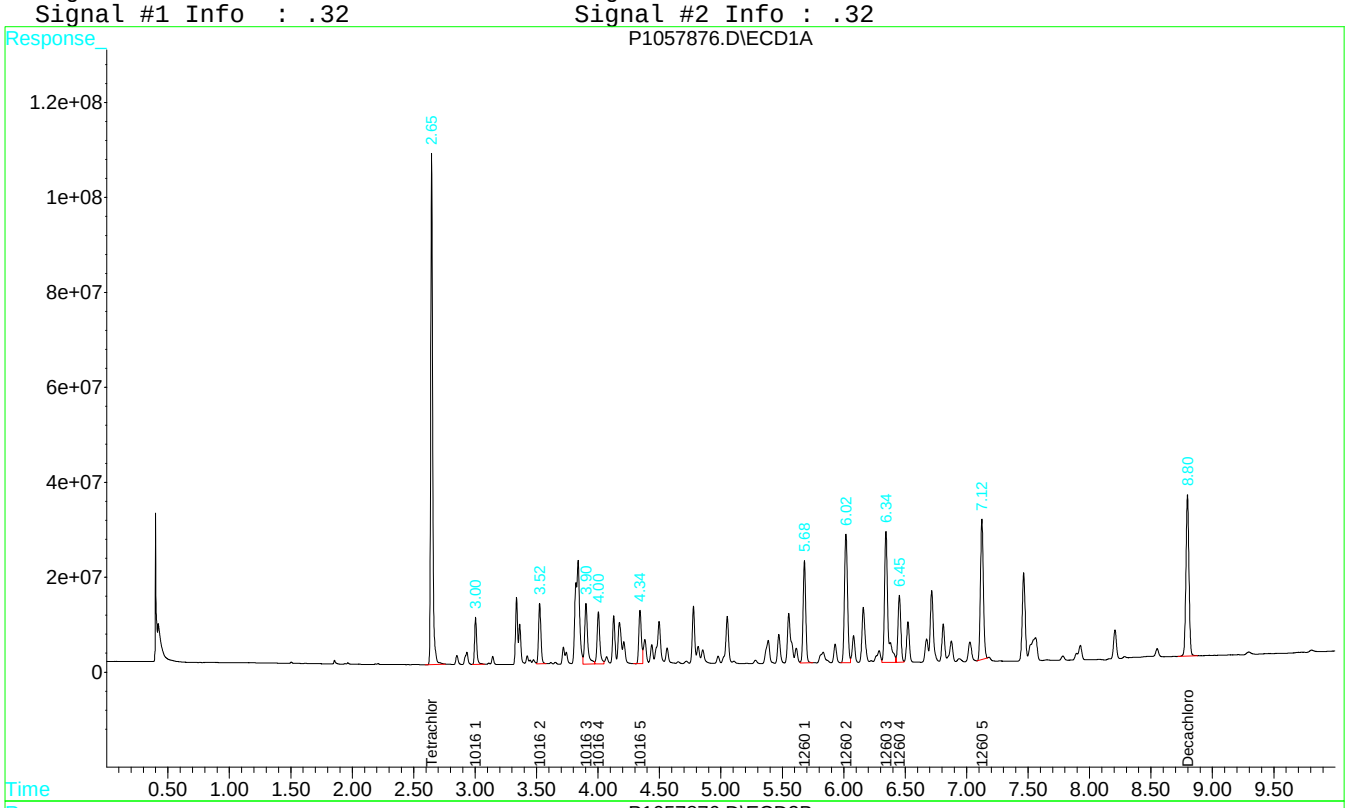
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057876.D P1051519.M Wed Oct 09 09:54:37 2019 Page 1

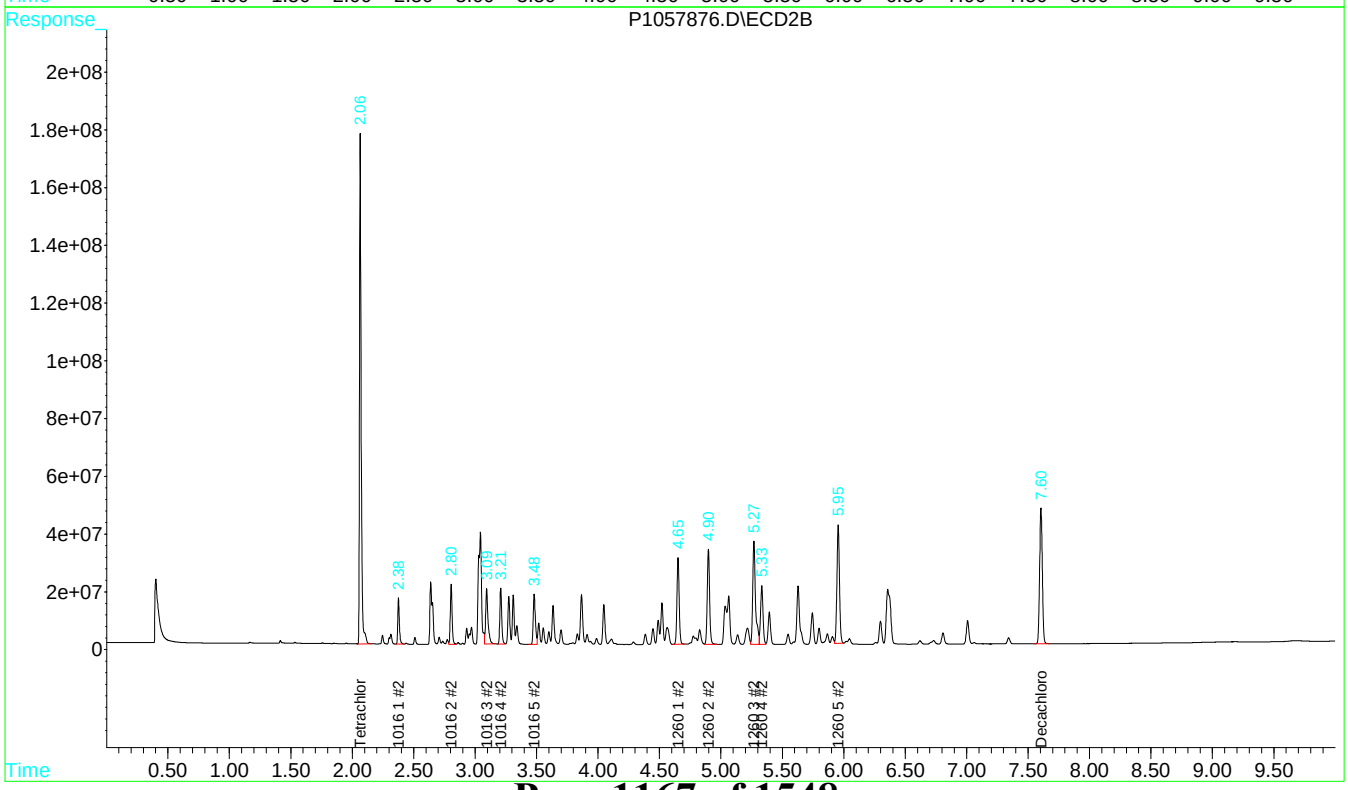
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057876.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057876.D\ECD2B.CH
Acq On : 10-8-2019 9:28:40 AM Operator: SR
Sample : SEQ-CCV1 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:39 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057896.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/08/19
Lab Sample ID:	Y9J0838-CCV2	Injection Time:	14:00

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	1.18	1.650183E+08	1.9586E+08		18.7	20	
Aroclor 1016 (1)	A	1.00	1.12	1.251642E+08	1.397E+08		11.6	20	
Aroclor 1016 (1) [2C]	A	1.00	1.13	1.448888E+08	1.632E+08		12.6	20	
Aroclor 1016 (2)	A	1.00	1.16	1.711105E+08	1.983E+08		15.9	20	
Aroclor 1016 (2) [2C]	A	1.00	1.18	1.968172E+08	2.333E+08		18.5	20	
Aroclor 1016 (3)	A	1.00	1.23	2.067802E+08	2.549E+08		23.3	20	*
Aroclor 1016 (3) [2C]	A	1.00	1.14	2.474585E+08	2.808E+08		13.5	20	
Aroclor 1016 (4)	A	1.00	1.19	1.678594E+08	2.001E+08		19.2	20	
Aroclor 1016 (4) [2C]	A	1.00	1.10	2.077158E+08	2.284E+08		10.0	20	
Aroclor 1016 (5)	A	1.00	1.21	1.541774E+08	1.863E+08		20.8	20	*
Aroclor 1016 (5) [2C]	A	1.00	1.16	1.992778E+08	2.318E+08		16.3	20	
Aroclor 1016 [2C]	A	1.00	1.14	1.992316E+08	2.275E+08		14.2	20	
Aroclor 1260	A	1.00	1.05	4.179285E+08	4.3636E+08		4.4	20	
Aroclor 1260 (1)	A	1.00	1.03	3.380425E+08	3.483E+08		3.0	20	
Aroclor 1260 (1) [2C]	A	1.00	1.03	4.058588E+08	4.194E+08		3.3	20	
Aroclor 1260 (2)	A	1.00	0.976	5.12915E+08	5.005E+08		-2.4	20	
Aroclor 1260 (2) [2C]	A	1.00	1.02	4.73798E+08	4.848E+08		2.3	20	
Aroclor 1260 (3)	A	1.00	1.20	4.712303E+08	5.665E+08		20.2	20	*
Aroclor 1260 (3) [2C]	A	1.00	1.11	5.555795E+08	6.172E+08		11.1	20	
Aroclor 1260 (4)	A	1.00	1.05	2.272768E+08	2.377E+08		4.6	20	
Aroclor 1260 (4) [2C]	A	1.00	1.04	2.848594E+08	2.973E+08		4.4	20	
Aroclor 1260 (5)	A	1.00	0.979	5.40178E+08	5.288E+08		-2.1	20	
Aroclor 1260 (5) [2C]	A	1.00	0.939	6.703154E+08	6.297E+08		-6.1	20	
Aroclor 1260 [2C]	A	1.00	1.03	4.780822E+08	4.8968E+08		2.4	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057896.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057896.D\ECD2B.CH
Acq On : 10-8-2019 2:00:02 PM Operator: SR
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 14:21 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1316.7E6	1772.3E6	0.201	0.213
Spiked Amount	0.200	Range	30 - 150	Recovery	=	100.50%	106.50%
45) S	Decachlorobiphen	8.79	7.60	612.2E6	733.0E6	0.153	0.135
Spiked Amount	0.200	Range	30 - 150	Recovery	=	76.50%	67.50%
	Target Compounds						
5) T	1016 1	3.00	2.38	139.7E6	163.2E6	1.116	1.127
6) T	1016 2	3.52	2.80	198.3E6	233.3E6	1.159	1.185
7) T	1016 3	3.89	3.09	254.9E6	280.8E6	1.233	1.135
8) T	1016 4	3.99	3.21	200.1E6	228.4E6	1.192	1.100
9) T	1016 5	4.33	3.48	186.3E6	231.8E6	1.209	1.163
30) T	1260 1	5.67	4.65	348.3E6	419.4E6	1.030	1.033
31) T	1260 2	6.01	4.90	500.5E6	484.8E6	0.976	1.023
32) T	1260 3	6.34	5.27	566.5E6	617.2E6	1.202	1.111
33) T	1260 4	6.44	5.33	237.7E6	297.3E6	1.046	1.044
34) T	1260 5	7.12	5.95	528.8E6	629.7E6	0.979	0.939

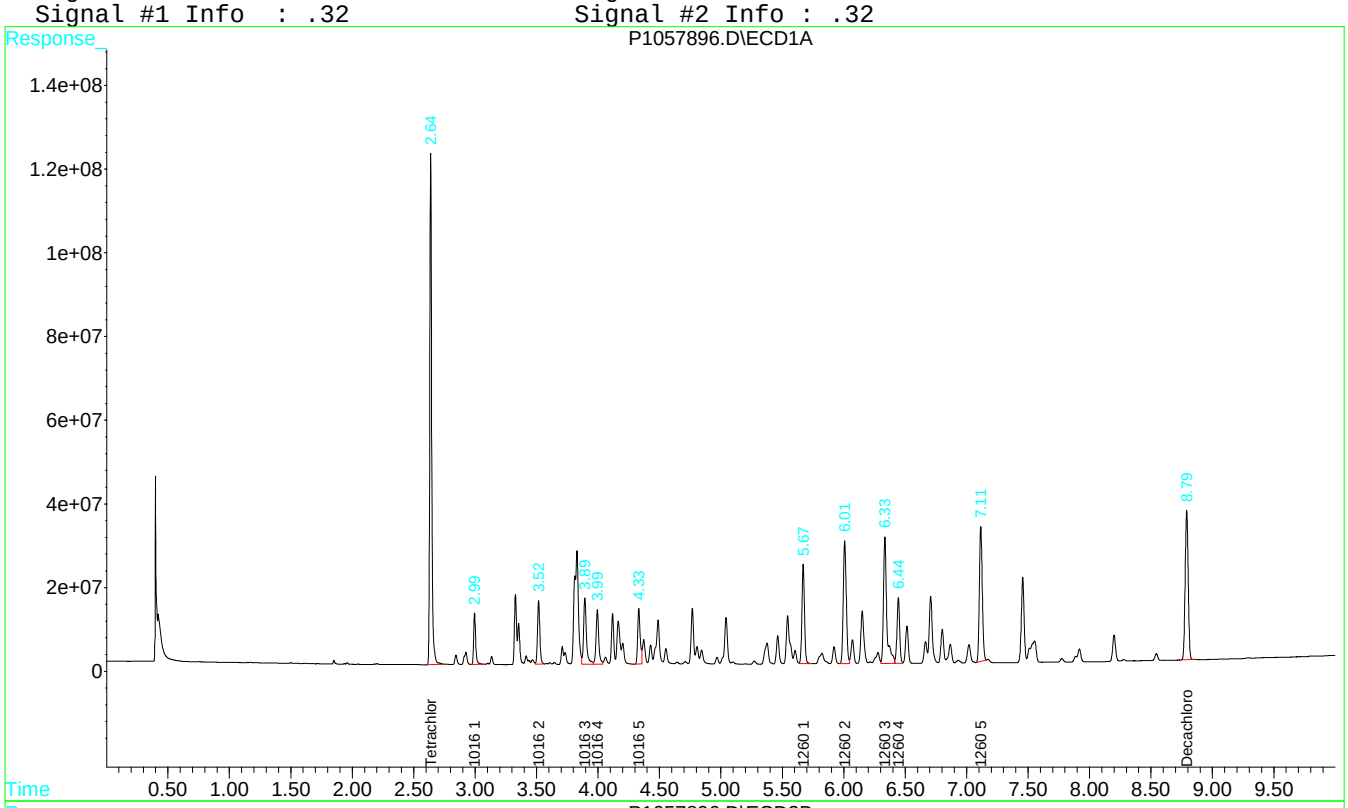
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057896.D P1051519.M Wed Oct 09 09:55:05 2019 Page 1

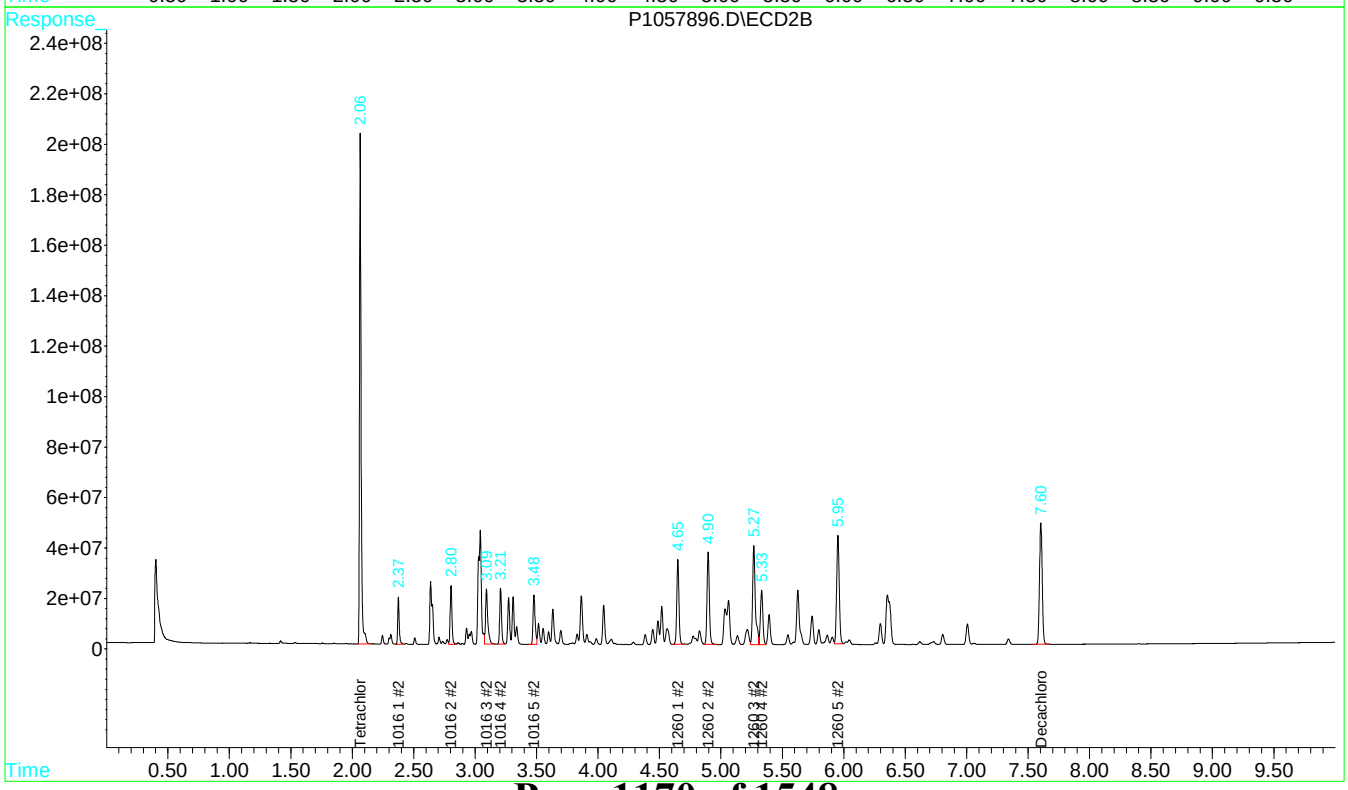
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057896.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057896.D\ECD2B.CH
Acq On : 10-8-2019 2:00:02 PM Operator: SR
Sample : SEQ-CCV2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 14:21 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057917.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/08/19
Lab Sample ID:	Y9J0838-CCV3	Injection Time:	17:43

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	0.957	1.650183E+08	1.5876E+08		-3.8	20	
Aroclor 1016 (1)	A	1.00	0.883	1.251642E+08	1.106E+08		-11.6	20	
Aroclor 1016 (1) [2C]	A	1.00	0.945	1.448888E+08	1.369E+08		-5.5	20	
Aroclor 1016 (2)	A	1.00	0.938	1.711105E+08	1.604E+08		-6.3	20	
Aroclor 1016 (2) [2C]	A	1.00	0.985	1.968172E+08	1.938E+08		-1.5	20	
Aroclor 1016 (3)	A	1.00	1.00	2.067802E+08	2.074E+08		0.3	20	
Aroclor 1016 (3) [2C]	A	1.00	0.925	2.474585E+08	2.29E+08		-7.5	20	
Aroclor 1016 (4)	A	1.00	0.969	1.678594E+08	1.626E+08		-3.1	20	
Aroclor 1016 (4) [2C]	A	1.00	0.900	2.077158E+08	1.869E+08		-10.0	20	
Aroclor 1016 (5)	A	1.00	0.991	1.541774E+08	1.528E+08		-0.9	20	
Aroclor 1016 (5) [2C]	A	1.00	0.950	1.992778E+08	1.893E+08		-5.0	20	
Aroclor 1016 [2C]	A	1.00	0.941	1.992316E+08	1.8718E+08		-6.0	20	
Aroclor 1260	A	1.00	0.860	4.179285E+08	3.5678E+08		-14.6	20	
Aroclor 1260 (1)	A	1.00	0.867	3.380425E+08	2.93E+08		-13.3	20	
Aroclor 1260 (1) [2C]	A	1.00	0.837	4.058588E+08	3.396E+08		-16.3	20	
Aroclor 1260 (2)	A	1.00	0.791	5.12915E+08	4.059E+08		-20.9	20	*
Aroclor 1260 (2) [2C]	A	1.00	0.816	4.73798E+08	3.865E+08		-18.4	20	
Aroclor 1260 (3)	A	1.00	0.994	4.712303E+08	4.685E+08		-0.6	20	
Aroclor 1260 (3) [2C]	A	1.00	0.890	5.555795E+08	4.945E+08		-11.0	20	
Aroclor 1260 (4)	A	1.00	0.875	2.272768E+08	1.989E+08		-12.5	20	
Aroclor 1260 (4) [2C]	A	1.00	0.847	2.848594E+08	2.413E+08		-15.3	20	
Aroclor 1260 (5)	A	1.00	0.773	5.40178E+08	4.176E+08		-22.7	20	*
Aroclor 1260 (5) [2C]	A	1.00	0.740	6.703154E+08	4.961E+08		-26.0	20	*
Aroclor 1260 [2C]	A	1.00	0.826	4.780822E+08	3.916E+08		-18.1	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057917.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057917.D\ECD2B.CH
Acq On : 10-8-2019 5:43:02 PM Operator: SR
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:50 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1100.9E6	1481.3E6	0.168	0.178
	Spiked Amount 0.200	Range 30 - 150		Recovery =		84.00%	89.00%
45) S	Decachlorobiphen	8.79	7.60	455.5E6	558.5E6	0.114	0.103
	Spiked Amount 0.200	Range 30 - 150		Recovery =		57.00%	51.50%
	Target Compounds						
5) T	1016 1	3.00	2.37	110.6E6	136.9E6	0.883	0.945
6) T	1016 2	3.52	2.80	160.4E6	193.8E6	0.938	0.985
7) T	1016 3	3.89	3.09	207.4E6	229.0E6	1.003	0.925
8) T	1016 4	3.99	3.21	162.6E6	186.9E6	0.969	0.900
9) T	1016 5	4.33	3.48	152.8E6	189.3E6	0.991	0.950
30) T	1260 1	5.67	4.65	293.0E6	339.6E6	0.867	0.837
31) T	1260 2	6.01	4.90	405.9E6	386.5E6	0.791	0.816
32) T	1260 3	6.33	5.27	468.5E6	494.5E6	0.994	0.890
33) T	1260 4	6.44	5.33	198.9E6	241.3E6	0.875	0.847
34) T	1260 5	7.12	5.95	417.6E6	496.1E6	0.773	0.740

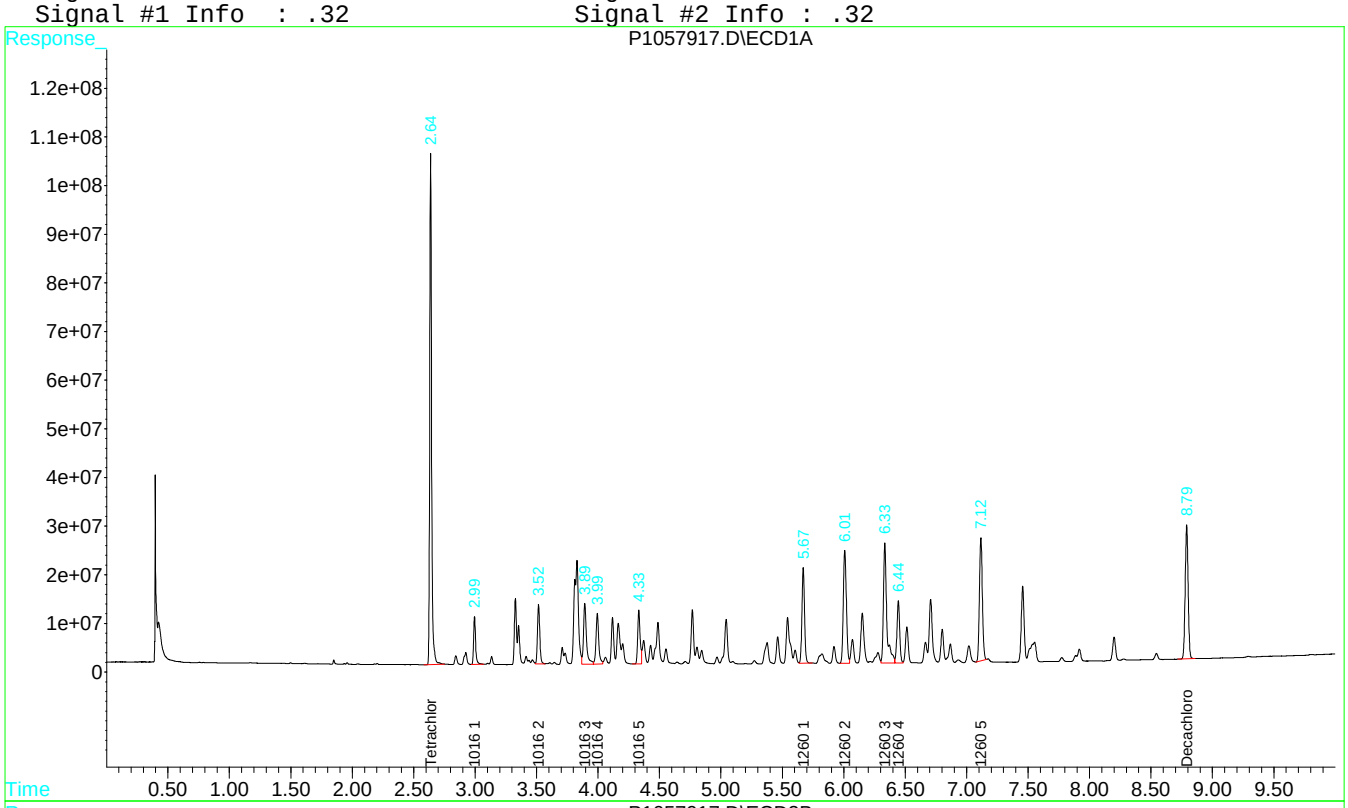
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057917.D P1051519.M Wed Oct 09 09:55:26 2019 Page 1

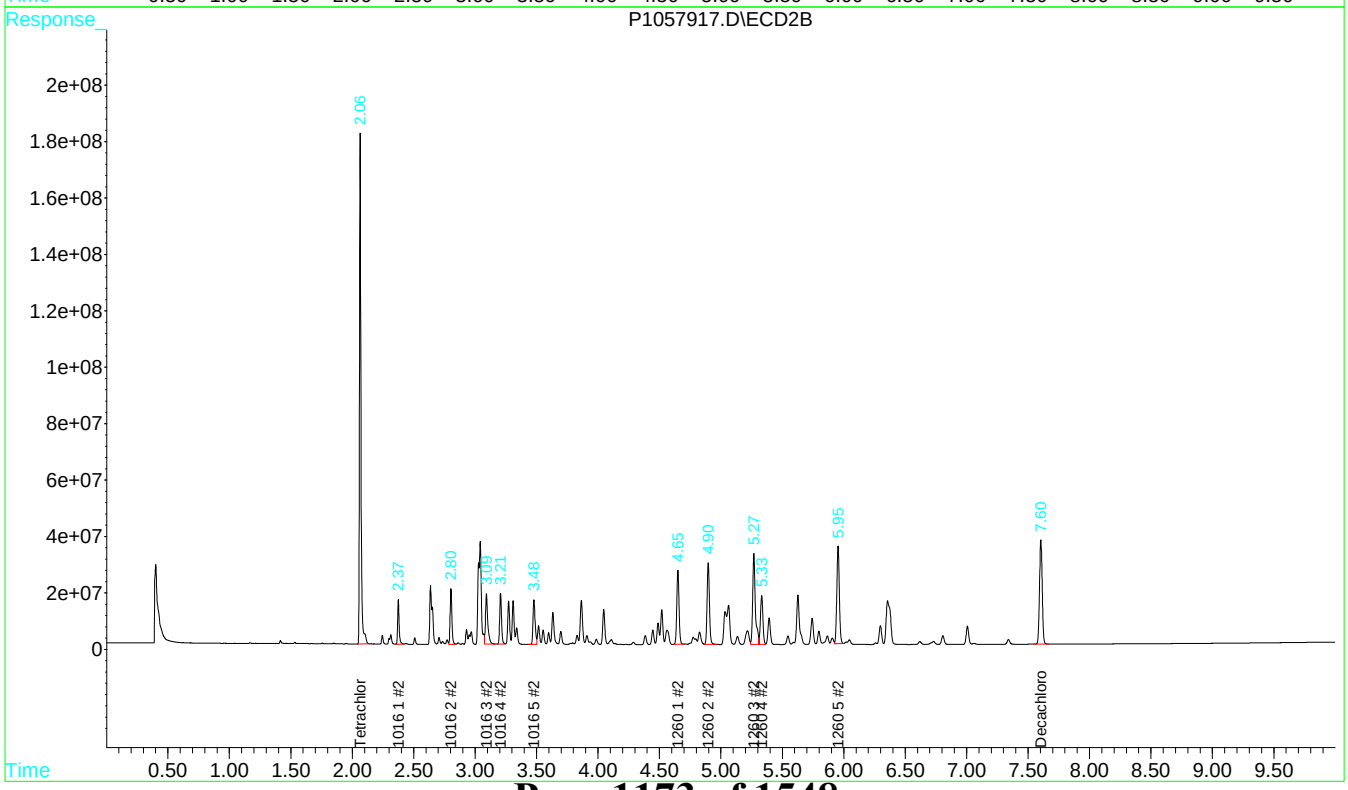
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057917.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057917.D\ECD2B.CH
Acq On : 10-8-2019 5:43:02 PM Operator: SR
Sample : SEQ-CCV3 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:50 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057946.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/08/19
Lab Sample ID:	Y9J0838-CCV4	Injection Time:	22:27

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	1.18	1.650183E+08	1.957E+08		18.6	20	
Aroclor 1016 (1)	A	1.00	1.09	1.251642E+08	1.367E+08		9.2	20	
Aroclor 1016 (1) [2C]	A	1.00	1.19	1.448888E+08	1.723E+08		18.9	20	
Aroclor 1016 (2)	A	1.00	1.16	1.711105E+08	1.982E+08		15.8	20	
Aroclor 1016 (2) [2C]	A	1.00	1.24	1.968172E+08	2.44E+08		24.0	20	*
Aroclor 1016 (3)	A	1.00	1.23	2.067802E+08	2.539E+08		22.8	20	*
Aroclor 1016 (3) [2C]	A	1.00	1.19	2.474585E+08	2.943E+08		18.9	20	
Aroclor 1016 (4)	A	1.00	1.19	1.678594E+08	1.991E+08		18.6	20	
Aroclor 1016 (4) [2C]	A	1.00	1.16	2.077158E+08	2.405E+08		15.8	20	
Aroclor 1016 (5)	A	1.00	1.24	1.541774E+08	1.906E+08		23.6	20	*
Aroclor 1016 (5) [2C]	A	1.00	1.23	1.992778E+08	2.452E+08		23.0	20	*
Aroclor 1016 [2C]	A	1.00	1.20	1.992316E+08	2.3926E+08		20.1	20	*
Aroclor 1260	A	1.00	1.11	4.179285E+08	4.5858E+08		9.7	20	
Aroclor 1260 (1)	A	1.00	1.10	3.380425E+08	3.702E+08		9.5	20	
Aroclor 1260 (1) [2C]	A	1.00	1.09	4.058588E+08	4.413E+08		8.7	20	
Aroclor 1260 (2)	A	1.00	0.942	5.12915E+08	4.834E+08		-5.8	20	
Aroclor 1260 (2) [2C]	A	1.00	1.08	4.73798E+08	5.134E+08		8.4	20	
Aroclor 1260 (3)	A	1.00	1.31	4.712303E+08	6.158E+08		30.7	20	*
Aroclor 1260 (3) [2C]	A	1.00	1.20	5.555795E+08	6.69E+08		20.4	20	*
Aroclor 1260 (4)	A	1.00	1.14	2.272768E+08	2.601E+08		14.4	20	
Aroclor 1260 (4) [2C]	A	1.00	1.12	2.848594E+08	3.188E+08		11.9	20	
Aroclor 1260 (5)	A	1.00	1.04	5.40178E+08	5.634E+08		4.3	20	
Aroclor 1260 (5) [2C]	A	1.00	1.03	6.703154E+08	6.884E+08		2.7	20	
Aroclor 1260 [2C]	A	1.00	1.10	4.780822E+08	5.2618E+08		10.1	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057946.D\ECD1A.CH Vial: 100
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057946.D\ECD2B.CH
Acq On : 10-8-2019 10:27:26 PM Operator: SR
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:15 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1330.2E6	1836.0E6	0.203	0.220
	Spiked Amount 0.200	Range 30 - 150		Recovery =		101.50%	110.00%
45) S	Decachlorobiphen	8.79	7.60	661.9E6	821.0E6	0.165	0.151
	Spiked Amount 0.200	Range 30 - 150		Recovery =		82.50%	75.50%
	Target Compounds						
5) T	1016 1	2.99	2.38	136.7E6	172.3E6	1.092	1.189
6) T	1016 2	3.52	2.80	198.2E6	244.0E6	1.159	1.240
7) T	1016 3	3.89	3.09	253.9E6	294.3E6	1.228	1.189
8) T	1016 4	3.99	3.21	199.1E6	240.5E6	1.186	1.158
9) T	1016 5	4.33	3.48	190.6E6	245.2E6	1.236	1.231
30) T	1260 1	5.67	4.65	370.2E6	441.3E6	1.095	1.087
31) T	1260 2	6.01	4.90	483.4E6	513.4E6	0.942	1.083
32) T	1260 3	6.33	5.27	615.8E6	669.0E6	1.307	1.204
33) T	1260 4	6.44	5.33	260.1E6	318.8E6	1.144	1.119
34) T	1260 5	7.11	5.95	563.4E6	688.4E6	1.043	1.027

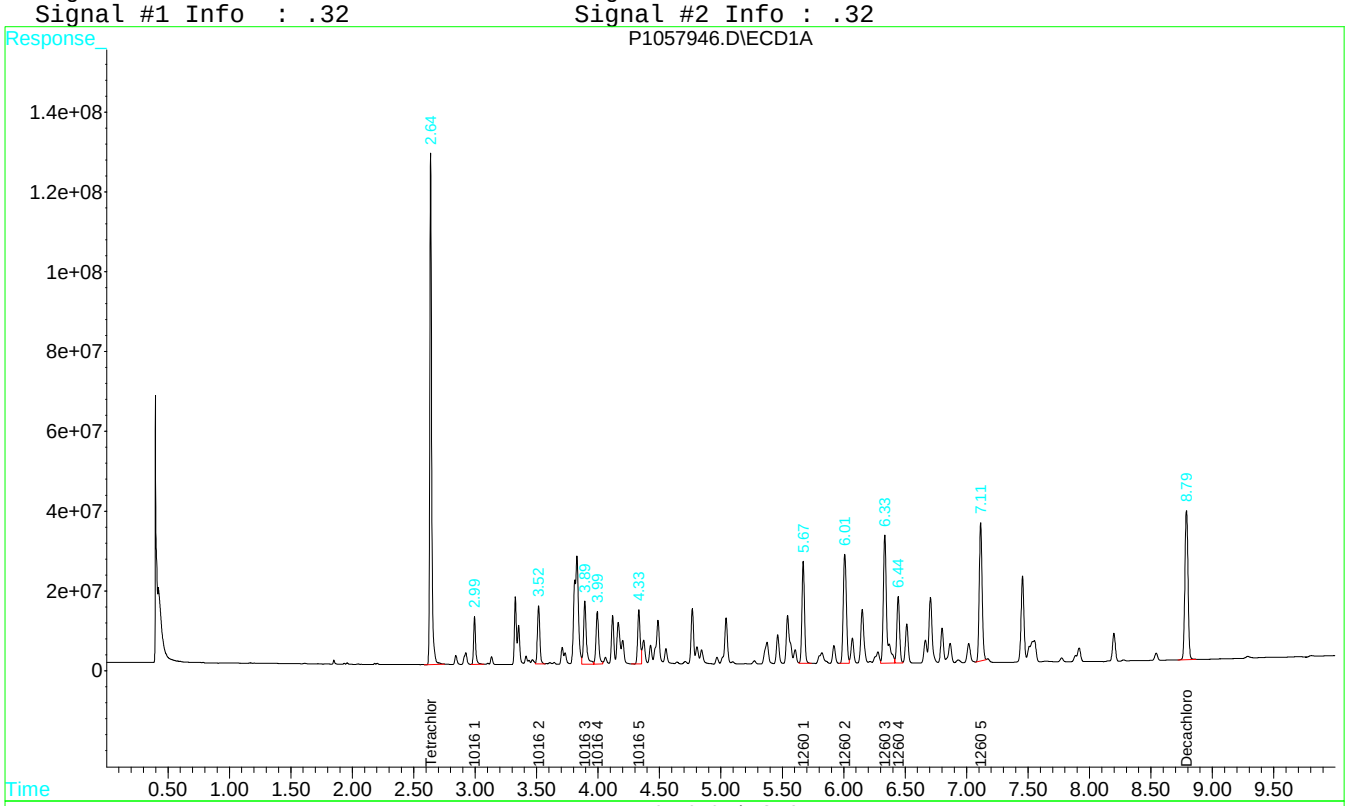
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057946.D P1051519.M Wed Oct 09 09:55:57 2019 Page 1

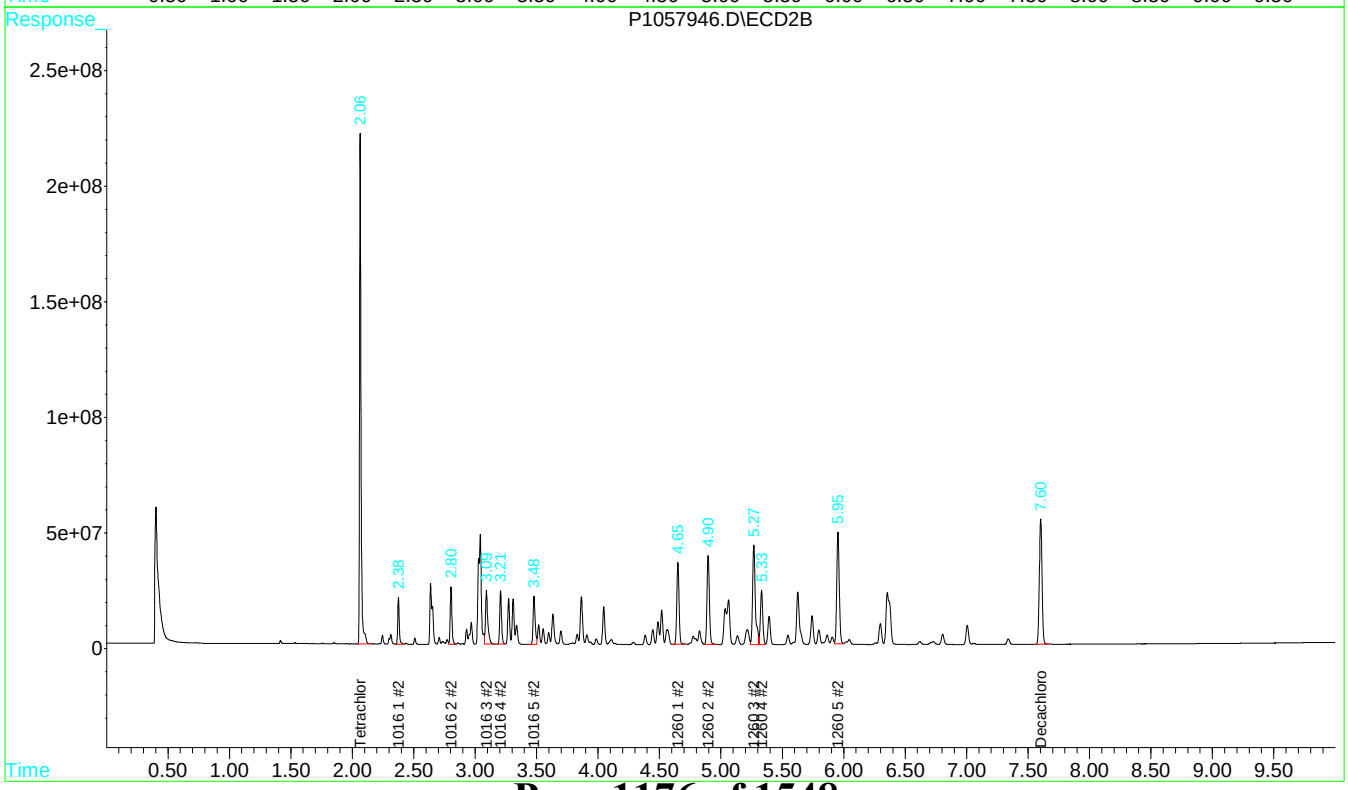
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057946.D\ECD1A.CH Vial: 100
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057946.D\ECD2B.CH
Acq On : 10-8-2019 10:27:26 PM Operator: SR
Sample : SEQ-CCV4 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:15 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057966.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/09/19
Lab Sample ID:	Y9J0838-CCV5	Injection Time:	02:58

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	0.988	1.650183E+08	1.6368E+08		-0.8	20	
Aroclor 1016 (1)	A	1.00	0.924	1.251642E+08	1.156E+08		-7.6	20	
Aroclor 1016 (1) [2C]	A	1.00	0.949	1.448888E+08	1.375E+08		-5.1	20	
Aroclor 1016 (2)	A	1.00	0.962	1.711105E+08	1.647E+08		-3.7	20	
Aroclor 1016 (2) [2C]	A	1.00	0.991	1.968172E+08	1.951E+08		-0.9	20	
Aroclor 1016 (3)	A	1.00	1.03	2.067802E+08	2.121E+08		2.6	20	
Aroclor 1016 (3) [2C]	A	1.00	0.927	2.474585E+08	2.293E+08		-7.3	20	
Aroclor 1016 (4)	A	1.00	1.00	1.678594E+08	1.682E+08		0.2	20	
Aroclor 1016 (4) [2C]	A	1.00	0.920	2.077158E+08	1.911E+08		-8.0	20	
Aroclor 1016 (5)	A	1.00	1.02	1.541774E+08	1.578E+08		2.3	20	
Aroclor 1016 (5) [2C]	A	1.00	0.976	1.992778E+08	1.945E+08		-2.4	20	
Aroclor 1016 [2C]	A	1.00	0.953	1.992316E+08	1.895E+08		-4.9	20	
Aroclor 1260	A	1.00	0.912	4.179285E+08	3.7836E+08		-9.5	20	
Aroclor 1260 (1)	A	1.00	0.906	3.380425E+08	3.061E+08		-9.4	20	
Aroclor 1260 (1) [2C]	A	1.00	0.867	4.058588E+08	3.519E+08		-13.3	20	
Aroclor 1260 (2)	A	1.00	0.797	5.12915E+08	4.086E+08		-20.3	20	*
Aroclor 1260 (2) [2C]	A	1.00	0.861	4.73798E+08	4.08E+08		-13.9	20	
Aroclor 1260 (3)	A	1.00	1.07	4.712303E+08	5.031E+08		6.8	20	
Aroclor 1260 (3) [2C]	A	1.00	0.955	5.555795E+08	5.306E+08		-4.5	20	
Aroclor 1260 (4)	A	1.00	0.937	2.272768E+08	2.13E+08		-6.3	20	
Aroclor 1260 (4) [2C]	A	1.00	0.899	2.848594E+08	2.562E+08		-10.1	20	
Aroclor 1260 (5)	A	1.00	0.853	5.40178E+08	4.61E+08		-14.7	20	
Aroclor 1260 (5) [2C]	A	1.00	0.821	6.703154E+08	5.502E+08		-17.9	20	
Aroclor 1260 [2C]	A	1.00	0.881	4.780822E+08	4.1938E+08		-12.3	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057966.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057966.D\ECD2B.CH
Acq On : 10-9-2019 2:58:48 AM Operator: SR
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:47 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1122.1E6	1481.0E6	0.171	0.178
	Spiked Amount 0.200	Range 30 - 150		Recovery =		85.50%	89.00%
45) S	Decachlorobiphen	8.79	7.60	548.3E6	672.6E6	0.137	0.124
	Spiked Amount 0.200	Range 30 - 150		Recovery =		68.50%	62.00%
	Target Compounds						
5) T	1016 1	2.99	2.37	115.6E6	137.5E6	0.924	0.949
6) T	1016 2	3.52	2.80	164.7E6	195.1E6	0.962	0.991
7) T	1016 3	3.89	3.09	212.1E6	229.3E6	1.026	0.927
8) T	1016 4	3.99	3.21	168.2E6	191.1E6	1.002	0.920
9) T	1016 5	4.33	3.48	157.8E6	194.5E6	1.024	0.976
30) T	1260 1	5.67	4.65	306.1E6	351.9E6	0.906	0.867
31) T	1260 2	6.01	4.90	408.6E6	408.0E6	0.797	0.861
32) T	1260 3	6.33	5.27	503.1E6	530.6E6	1.067	0.955
33) T	1260 4	6.44	5.33	213.0E6	256.2E6	0.937	0.899
34) T	1260 5	7.11	5.95	461.0E6	550.2E6	0.853	0.821

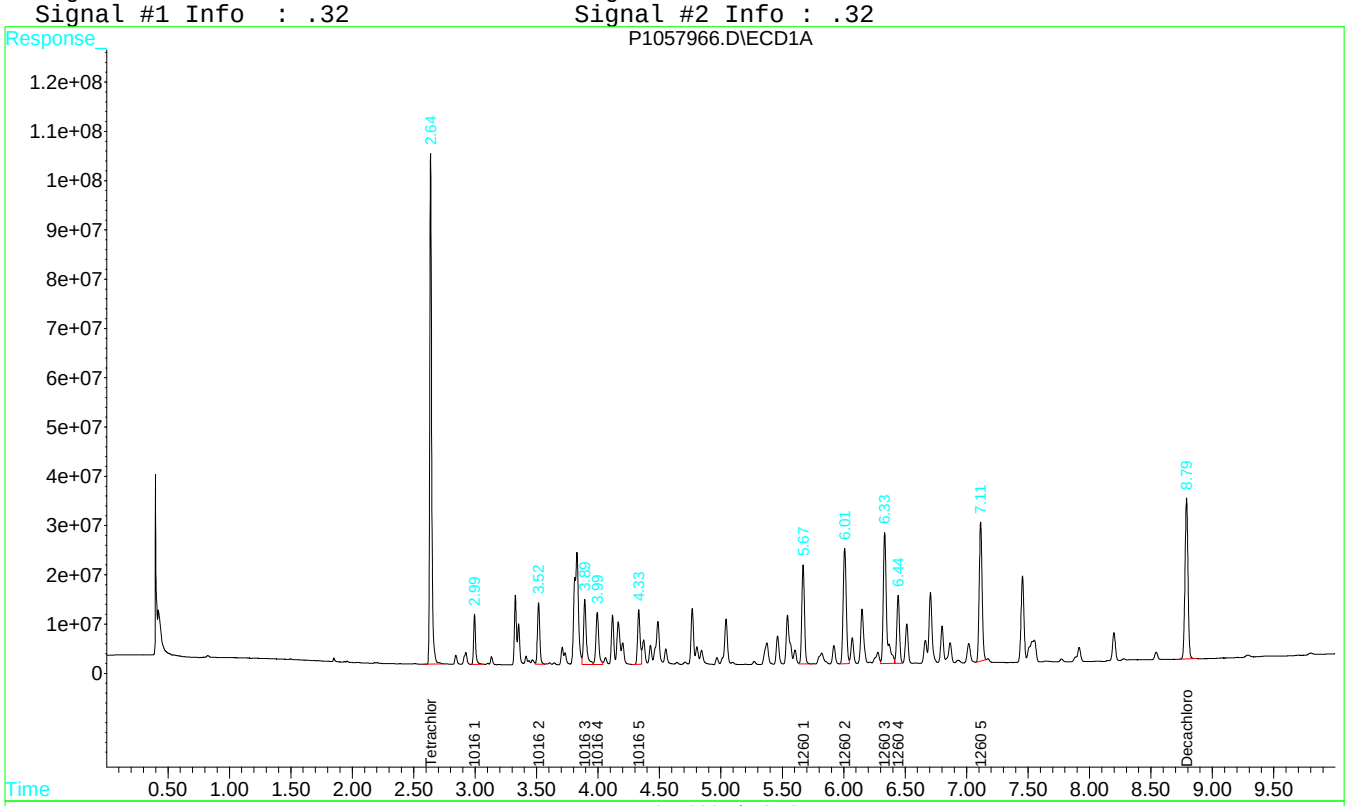
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057966.D P1051519.M Wed Oct 09 09:56:26 2019 Page 1

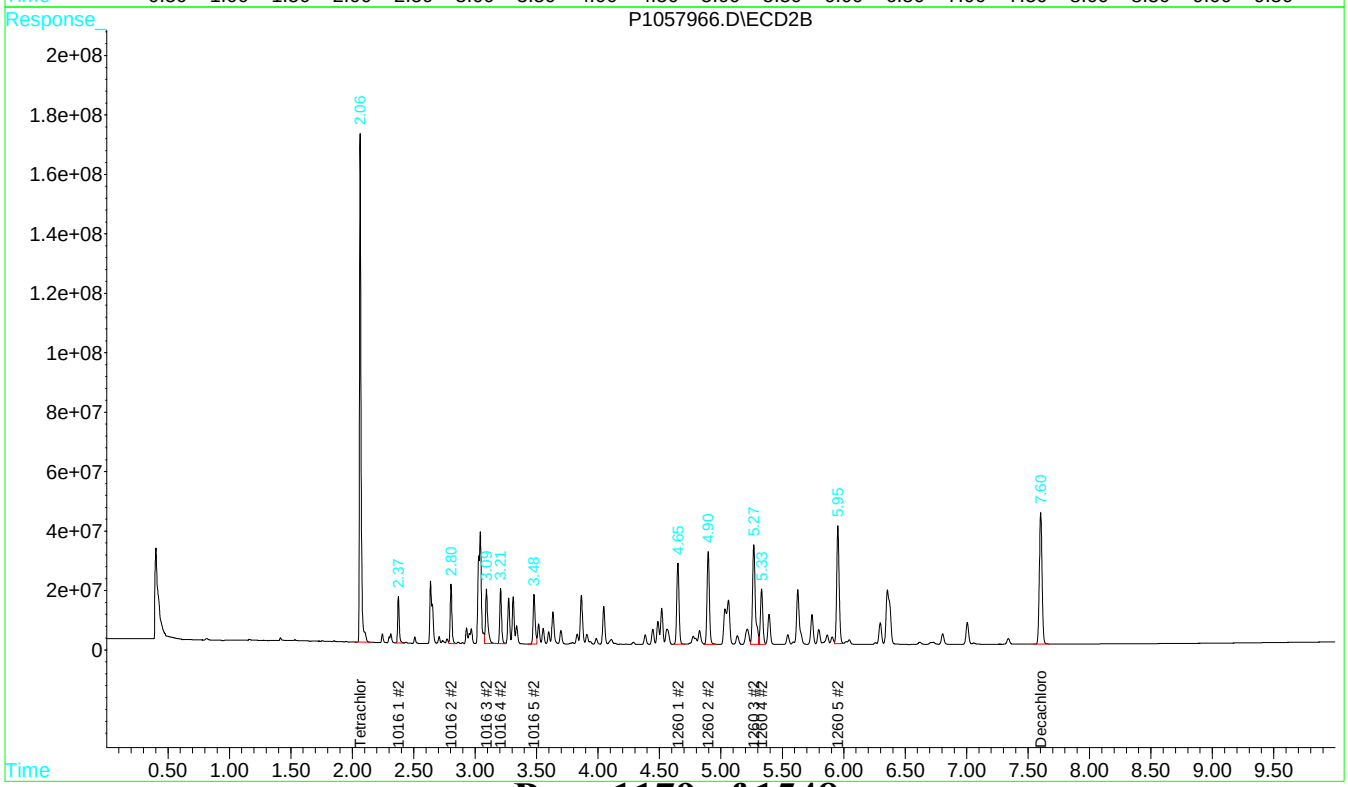
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057966.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057966.D\ECD2B.CH
Acq On : 10-9-2019 2:58:48 AM Operator: SR
Sample : SEQ-CCV5 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:47 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	ECD#1	Calibration:	YE90020
Lab File ID:	P1057980.D	Calibration Date:	05/16/19 15:58
Sequence:	Y9J0838	Injection Date:	10/09/19
Lab Sample ID:	Y9J0838-CCV6	Injection Time:	06:08

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)	
Aroclor 1016	A	1.00	0.976	1.650183E+08	1.6186E+08		-1.9	20	
Aroclor 1016 (1)	A	1.00	0.909	1.251642E+08	1.137E+08		-9.2	20	
Aroclor 1016 (1) [2C]	A	1.00	0.981	1.448888E+08	1.421E+08		-1.9	20	
Aroclor 1016 (2)	A	1.00	0.951	1.711105E+08	1.626E+08		-5.0	20	
Aroclor 1016 (2) [2C]	A	1.00	1.02	1.968172E+08	2.004E+08		1.8	20	
Aroclor 1016 (3)	A	1.00	1.02	2.067802E+08	2.11E+08		2.0	20	
Aroclor 1016 (3) [2C]	A	1.00	0.931	2.474585E+08	2.304E+08		-6.9	20	
Aroclor 1016 (4)	A	1.00	0.985	1.678594E+08	1.653E+08		-1.5	20	
Aroclor 1016 (4) [2C]	A	1.00	0.942	2.077158E+08	1.957E+08		-5.8	20	
Aroclor 1016 (5)	A	1.00	1.02	1.541774E+08	1.567E+08		1.6	20	
Aroclor 1016 (5) [2C]	A	1.00	0.996	1.992778E+08	1.985E+08		-0.4	20	
Aroclor 1016 [2C]	A	1.00	0.974	1.992316E+08	1.9342E+08		-2.9	20	
Aroclor 1260	A	1.00	0.889	4.179285E+08	3.6884E+08		-11.7	20	
Aroclor 1260 (1)	A	1.00	0.891	3.380425E+08	3.011E+08		-10.9	20	
Aroclor 1260 (1) [2C]	A	1.00	0.877	4.058588E+08	3.559E+08		-12.3	20	
Aroclor 1260 (2)	A	1.00	0.771	5.12915E+08	3.956E+08		-22.9	20	*
Aroclor 1260 (2) [2C]	A	1.00	0.864	4.73798E+08	4.095E+08		-13.6	20	
Aroclor 1260 (3)	A	1.00	1.04	4.712303E+08	4.915E+08		4.3	20	
Aroclor 1260 (3) [2C]	A	1.00	0.951	5.555795E+08	5.283E+08		-4.9	20	
Aroclor 1260 (4)	A	1.00	0.912	2.272768E+08	2.074E+08		-8.7	20	
Aroclor 1260 (4) [2C]	A	1.00	0.900	2.848594E+08	2.564E+08		-10.0	20	
Aroclor 1260 (5)	A	1.00	0.830	5.40178E+08	4.486E+08		-17.0	20	
Aroclor 1260 (5) [2C]	A	1.00	0.810	6.703154E+08	5.433E+08		-18.9	20	
Aroclor 1260 [2C]	A	1.00	0.880	4.780822E+08	4.1868E+08		-12.4	20	

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057980.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057980.D\ECD2B.CH
Acq On : 10-9-2019 6:08:09 AM Operator: SR
Sample : SEQ-CCV6 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:53 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.07	1121.0E6	1521.0E6	0.171	0.182
	Spiked Amount 0.200	Range 30 - 150		Recovery =		85.50%	91.00%
45) S	Decachlorobiphen	8.79	7.60	523.0E6	652.7E6	0.131	0.120
	Spiked Amount 0.200	Range 30 - 150		Recovery =		65.50%	60.00%
	Target Compounds						
5) T	1016 1	3.00	2.38	113.7E6	142.1E6	0.909	0.981
6) T	1016 2	3.52	2.80	162.6E6	200.4E6	0.951	1.018
7) T	1016 3	3.89	3.09	211.0E6	230.4E6	1.020	0.931
8) T	1016 4	3.99	3.21	165.3E6	195.7E6	0.985	0.942
9) T	1016 5	4.33	3.48	156.7E6	198.5E6	1.017	0.996
30) T	1260 1	5.67	4.65	301.1E6	355.9E6	0.891	0.877
31) T	1260 2	6.01	4.90	395.6E6	409.5E6	0.771	0.864
32) T	1260 3	6.34	5.27	491.5E6	528.3E6	1.043	0.951
33) T	1260 4	6.44	5.33	207.4E6	256.4E6	0.912	0.900
34) T	1260 5	7.12	5.95	448.6E6	543.3E6	0.830	0.810

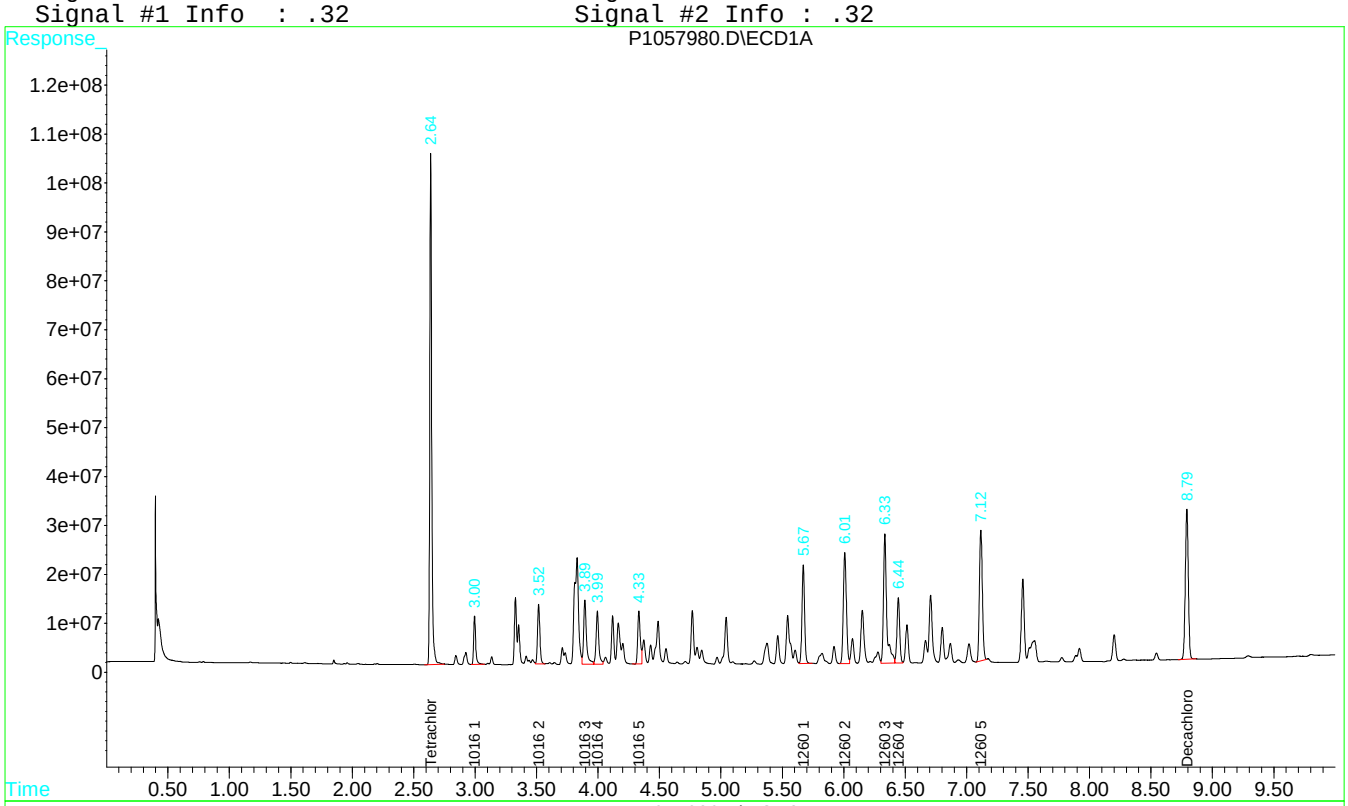
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P1057980.D P1051519.M Wed Oct 09 09:56:46 2019 Page 1

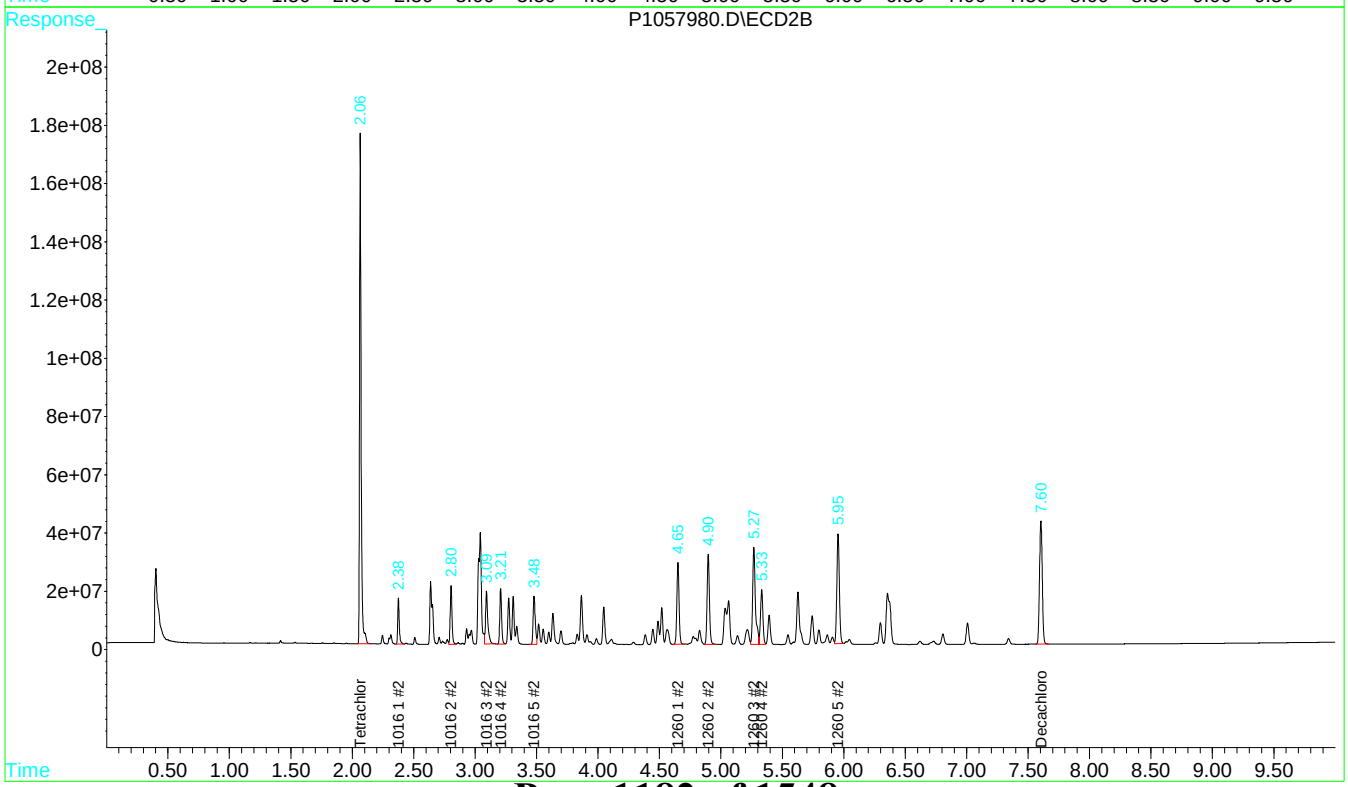
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057980.D\ECD1A.CH Vial: 1
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057980.D\ECD2B.CH
Acq On : 10-9-2019 6:08:09 AM Operator: SR
Sample : SEQ-CCV6 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 9:53 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **19J0144**
Project: **170396002**

Instrument ID: ECD#1 Col 1 Date(s) Analyzed: 10/07/2019
Calibration: YE90020
Sequence: Y9J0815
Lab Number: Y9J0815-ARC2

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	04.12	04.07	04.17	147050000
		2	04.77	04.72	04.82	261950000
		3	05.46	05.41	05.51	423200000
		4	05.82	05.77	05.87	307450000
		5	06.34	06.29	06.39	329100000

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **19J0144**
Project: **170396002**

Instrument ID: ECD#1 Col 2 Date(s) Analyzed: 10/07/2019
Calibration: YE90020
Sequence: Y9J0815
Lab Number: Y9J0815-ARC2

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	2.000	1	03.27	03.22	03.32	181750000
		2	03.86	03.81	03.91	462900000
		3	04.49	04.44	04.54	594350000
		4	04.77	04.72	04.82	384100000
		5	05.27	05.22	05.32	477250000

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057811.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057811.D\ECD2B.CH
Acq On : 10-7-2019 4:48:42 PM Operator: SR
Sample : SEQ-ARC2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:57 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1593.7E6	2199.1E6	0.244	0.264
	Spiked Amount 0.200	Range 30 - 150		Recovery =		122.00%	132.00%
45) S	Decachlorobiphen	8.79	7.60	798.0E6	1004.4E6	0.199	0.185
	Spiked Amount 0.200	Range 30 - 150		Recovery =		99.50%	92.50%
	Target Compounds						
25) T	1254 1	4.12	3.27	294.1E6	363.5E6	2.531	2.589
26) T	1254 2	4.77	3.86	523.9E6	925.8E6	2.425	2.633
27) T	1254 3	5.46	4.49	846.4E6	1188.7E6	2.383	2.747
28) T	1254 4	5.82	4.77	614.9E6	768.2E6	2.301	2.380
29) T	1254 5	6.34	5.27	658.2E6	954.5E6	2.375	2.706

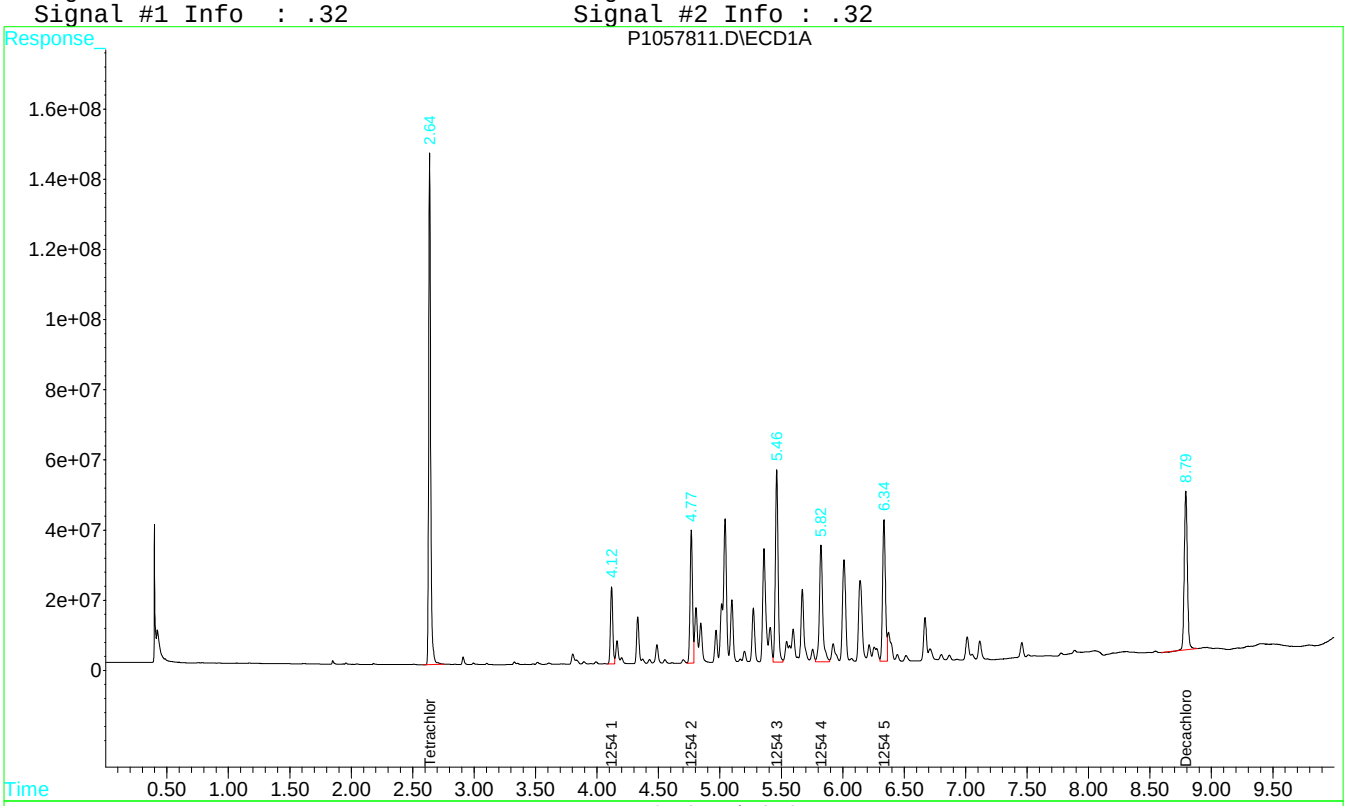
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P1057811.D P1051519.M Tue Oct 08 10:58:23 2019 Page 1

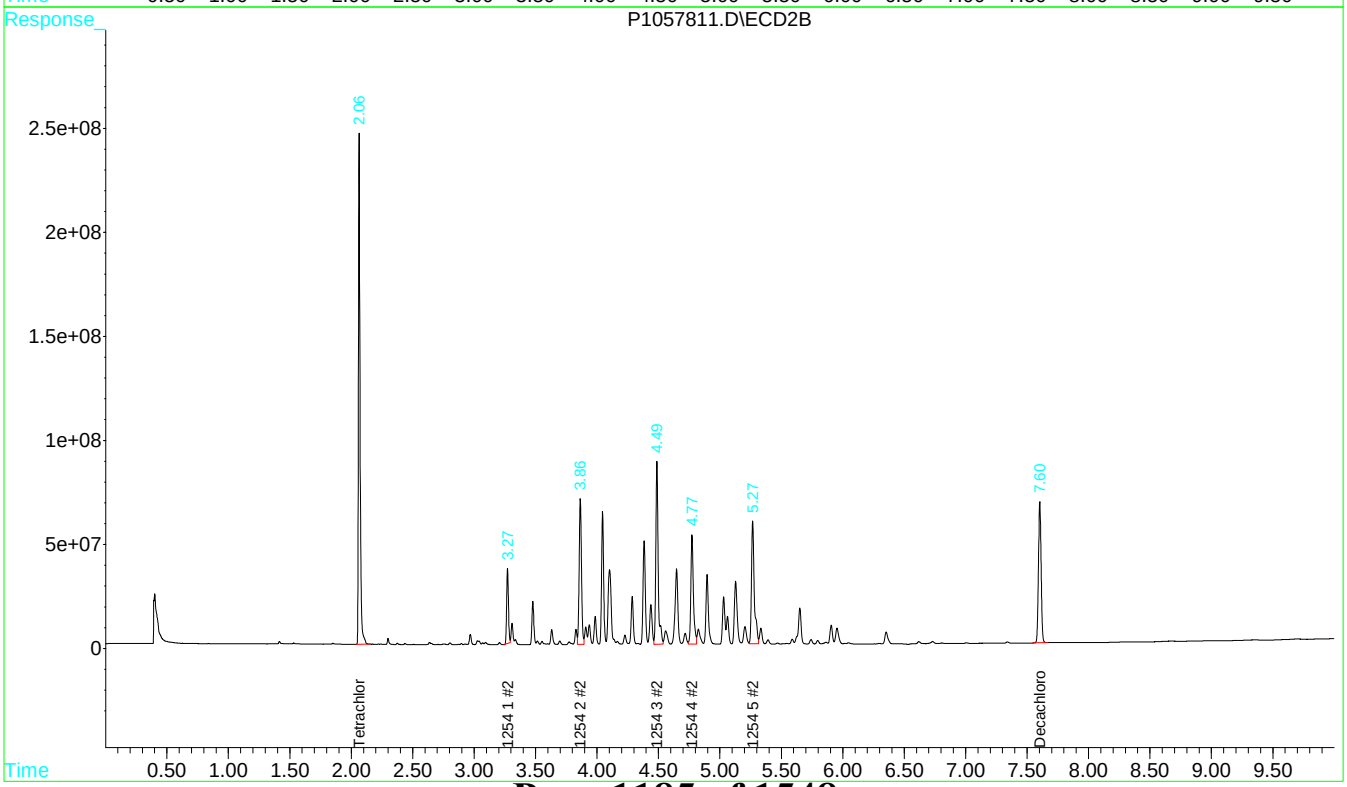
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057811.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057811.D\ECD2B.CH
Acq On : 10-7-2019 4:48:42 PM Operator: SR
Sample : SEQ-ARC2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:57 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





AROCLOR INITIAL CALIBRATION (SINGLE POINT)

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **19J0144**
Project: **170396002**

Instrument ID: ECD#1 Col 1
Calibration: YE90020
Sequence: Y9J0838
Lab Number: Y9J0838-ARC1

Date(s) Analyzed: 10/08/2019

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	100.000	1	04.12	04.07	04.17	2903000
		2	04.77	04.72	04.82	5108000
		3	05.46	05.41	05.51	8361000
		4	05.82	05.77	05.87	5994000
		5	06.34	06.29	06.39	6352000

Client: **Langan Engineering & Environmental Services (NYC)**
SDG: **19J0144**
Project: **170396002**

Instrument ID: ECD#1 Col 2
Calibration: YE90020
Sequence: Y9J0838
Lab Number: Y9J0838-ARC1

Date(s) Analyzed: 10/08/2019

COMPOUND	AMOUNT (ng)	PEAK	RT	RT WINDOW		CALIBRATION FACTOR
				FROM	TO	
Aroclor 1254	100.000	1	03.27	03.22	03.32	3452000
		2	03.86	03.81	03.91	8745000
		3	04.49	04.44	04.54	11244000
		4	04.77	04.72	04.82	7058000
		5	05.27	05.22	05.32	8919000

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057877.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057877.D\ECD2B.CH
Acq On : 10-8-2019 9:42:10 AM Operator: SR
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:03 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1560.3E6	2099.5E6	0.238	0.252
	Spiked Amount 0.200	Range 30 - 150		Recovery =		119.00%	126.00%
45) S	Decachlorobiphen	8.79	7.60	695.2E6	878.0E6	0.174	0.162
	Spiked Amount 0.200	Range 30 - 150		Recovery =		87.00%	81.00%
	Target Compounds						
25) T	1254 1	4.12	3.27	290.3E6	345.2E6	2.498	2.458
26) T	1254 2	4.77	3.86	510.8E6	874.5E6	2.364	2.487
27) T	1254 3	5.46	4.49	836.1E6	1124.4E6	2.354	2.599
28) T	1254 4	5.82	4.77	599.4E6	705.8E6	2.243	2.187
29) T	1254 5	6.34	5.27	635.2E6	891.9E6	2.292	2.528

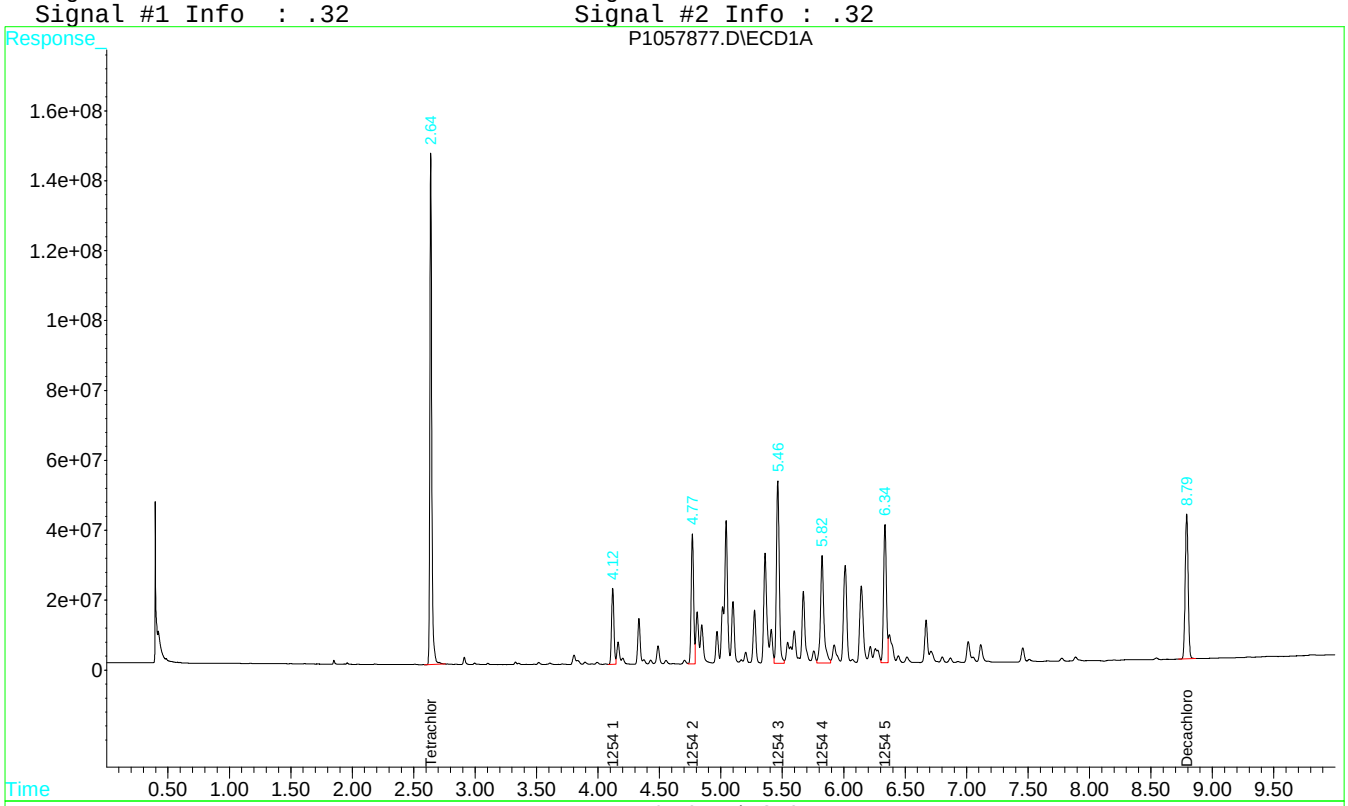
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P1057877.D P1051519.M Wed Oct 09 09:54:38 2019 Page 1

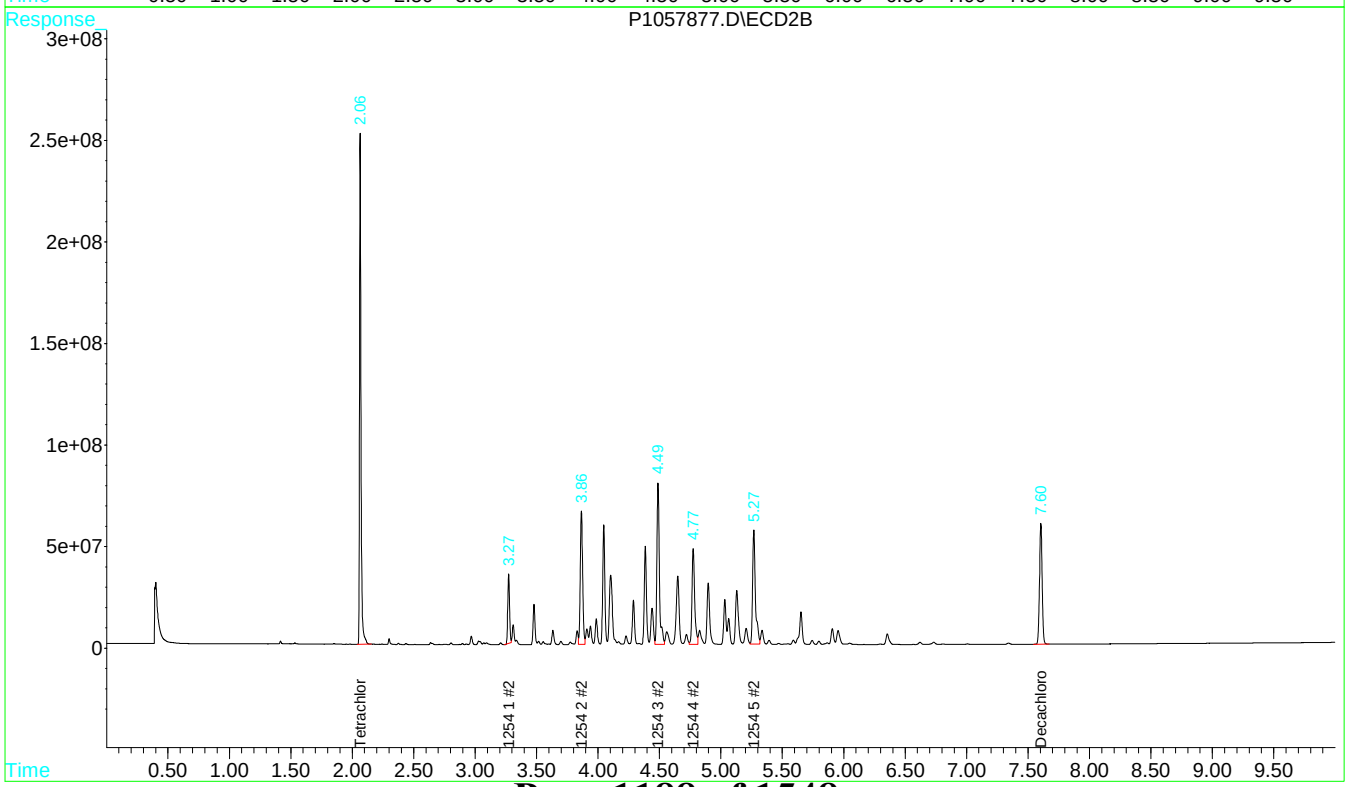
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057877.D\ECD1A.CH Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057877.D\ECD2B.CH
Acq On : 10-8-2019 9:42:10 AM Operator: SR
Sample : SEQ-ARC1 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 10:03 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: ARO
METHOD: EPA 8082A

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90321-BLK2	File ID:	P1057812.D
Prepared:	10/04/19 13:49	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/07/19 17:03	Instrument:	ECD#1		
Batch:	BJ90321	Sequence:	Y9J0815	Calibration:	YE90020

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0166	U
12674-11-2	Aroclor 1016 [2C]	0.0166	U
11104-28-2	Aroclor 1221	0.0166	U
11104-28-2	Aroclor 1221 [2C]	0.0166	U
11141-16-5	Aroclor 1232	0.0166	U
11141-16-5	Aroclor 1232 [2C]	0.0166	U
53469-21-9	Aroclor 1242	0.0166	U
53469-21-9	Aroclor 1242 [2C]	0.0166	U
12672-29-6	Aroclor 1248	0.0166	U
12672-29-6	Aroclor 1248 [2C]	0.0166	U
11097-69-1	Aroclor 1254	0.0166	U
11097-69-1	Aroclor 1254 [2C]	0.0166	U
11096-82-5	Aroclor 1260	0.0166	U
11096-82-5	Aroclor 1260 [2C]	0.0166	U
37324-23-5	Aroclor 1262	0.0166	U
37324-23-5	Aroclor 1262 [2C]	0.0166	U
11100-14-4	Aroclor 1268	0.0166	U
11100-14-4	Aroclor 1268 [2C]	0.0166	U
1336-36-3	Total PCBs	0.0166	U
1336-36-3	Total PCBs [2C]	0.0166	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0664	0.0718	108	30 - 120	
Tetrachloro-m-xylene [2C]	0.0664	0.0781	118	30 - 120	
Decachlorobiphenyl	0.0664	0.0571	86.0	30 - 120	
Decachlorobiphenyl [2C]	0.0664	0.0545	82.0	30 - 120	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057812.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057812.D\ECD2B.CH
Acq On : 10-7-2019 5:03:53 PM Operator: SR
Sample : BJ90321-BLK2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:10 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	1411.2E6	1957.3E6	0.216	0.235
Spiked Amount 0.200	Range 30 - 150		Recovery =		108.00%	117.50%
45) S Decachlorobiphen	8.80	7.60	689.5E6	888.5E6	0.172	0.164
Spiked Amount 0.200	Range 30 - 150		Recovery =		86.00%	82.00%
Target Compounds						

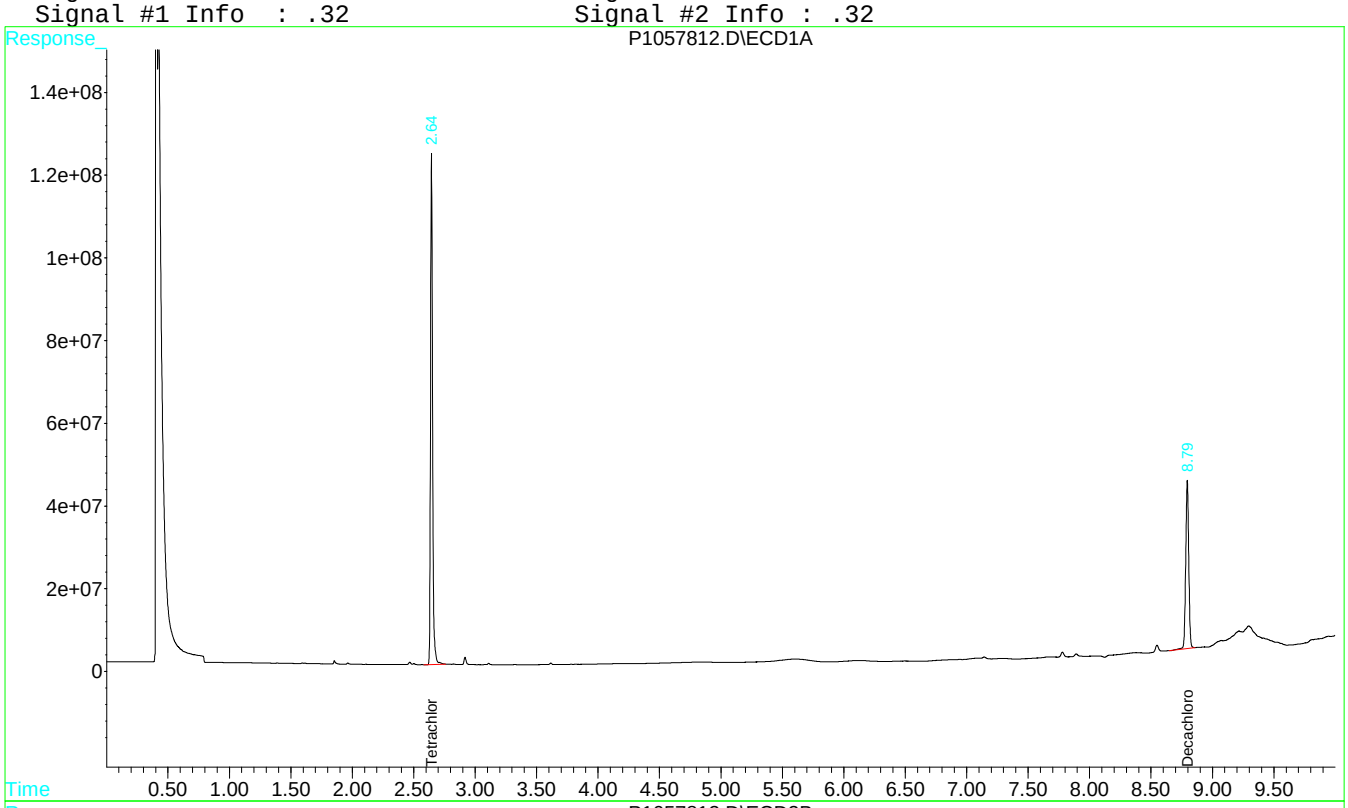
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P1057812.D P1051519.M Tue Oct 08 10:44:12 2019 Page 1

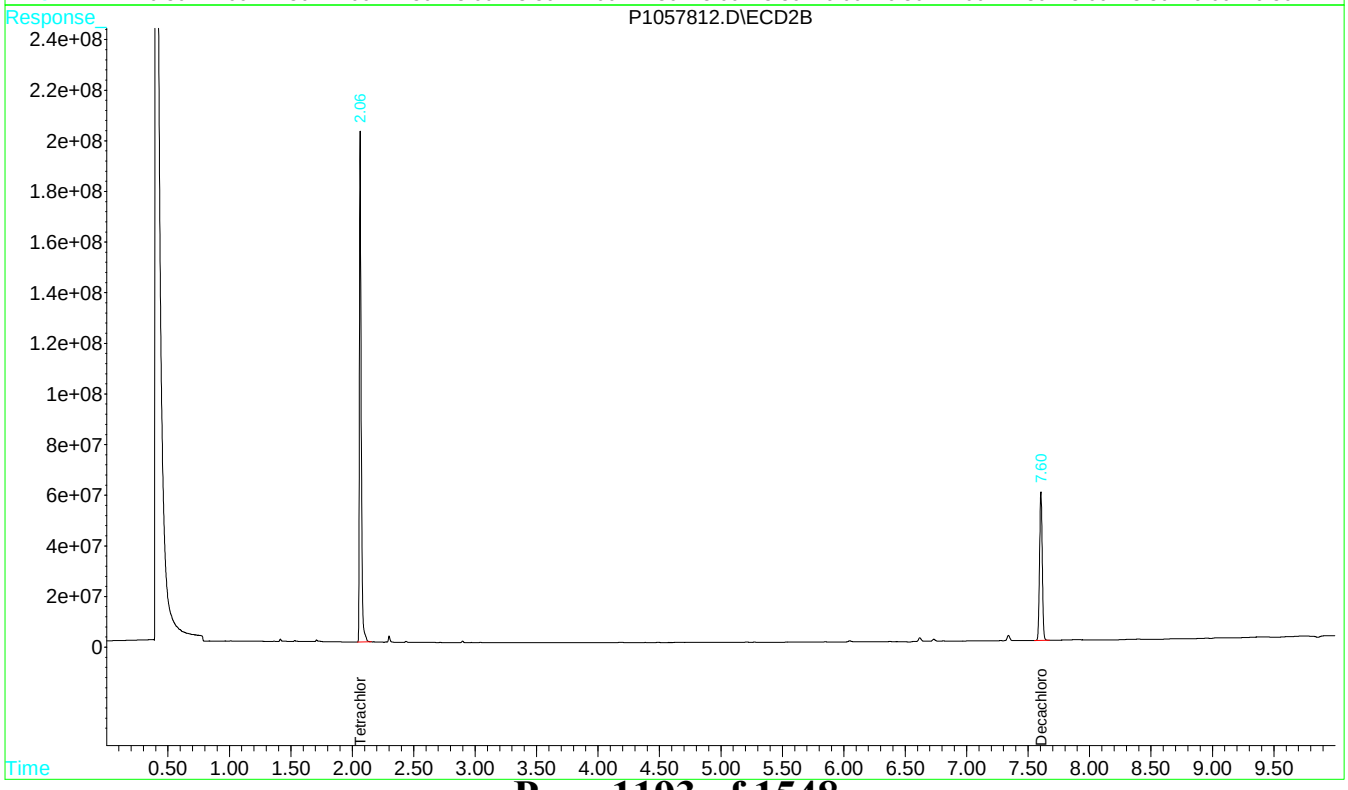
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057812.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057812.D\ECD2B.CH
Acq On : 10-7-2019 5:03:53 PM Operator: SR
Sample : BJ90321-BLK2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:10 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: ARO
METHOD: EPA 8082A

FORM I

METHOD BLANK DATA SHEET

EPA 8082A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90322-BLK2	File ID:	P1057901.D
Prepared:	10/04/19 13:53	Preparation:	EPA 3550C	Initial/Final:	30.1 g / 10 mL
Analyzed:	10/08/19 15:14	Instrument:	ECD#1		
Batch:	BJ90322	Sequence:	Y9J0838	Calibration:	YE90020

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
12674-11-2	Aroclor 1016	0.0166	U
12674-11-2	Aroclor 1016 [2C]	0.0166	U
11104-28-2	Aroclor 1221	0.0166	U
11104-28-2	Aroclor 1221 [2C]	0.0166	U
11141-16-5	Aroclor 1232	0.0166	U
11141-16-5	Aroclor 1232 [2C]	0.0166	U
53469-21-9	Aroclor 1242	0.0166	U
53469-21-9	Aroclor 1242 [2C]	0.0166	U
12672-29-6	Aroclor 1248	0.0166	U
12672-29-6	Aroclor 1248 [2C]	0.0166	U
11097-69-1	Aroclor 1254	0.0166	U
11097-69-1	Aroclor 1254 [2C]	0.0166	U
11096-82-5	Aroclor 1260	0.0166	U
11096-82-5	Aroclor 1260 [2C]	0.0166	U
37324-23-5	Aroclor 1262	0.0166	U
37324-23-5	Aroclor 1262 [2C]	0.0166	U
11100-14-4	Aroclor 1268	0.0166	U
11100-14-4	Aroclor 1268 [2C]	0.0166	U
1336-36-3	Total PCBs	0.0166	U
1336-36-3	Total PCBs [2C]	0.0166	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
Tetrachloro-m-xylene	0.0664	0.0771	116	30 - 120	
Tetrachloro-m-xylene [2C]	0.0664	0.0801	120	30 - 120	
Decachlorobiphenyl	0.0664	0.0518	78.0	30 - 120	
Decachlorobiphenyl [2C]	0.0664	0.0482	72.5	30 - 120	

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057901.D\ECD1A.CH Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057901.D\ECD2B.CH
Acq On : 10-8-2019 3:14:33 PM Operator: SR
Sample : BJ90322-BLK2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:44 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
System Monitoring Compounds						
1) S Tetrachloro-m-xy	2.64	2.06	1518.0E6	2010.1E6	0.232	0.241
Spiked Amount 0.200	Range 30 - 150		Recovery =		116.00%	120.50%
45) S Decachlorobiphen	8.79	7.60	625.0E6	784.8E6	0.156	0.145
Spiked Amount 0.200	Range 30 - 150		Recovery =		78.00%	72.50%
Target Compounds						

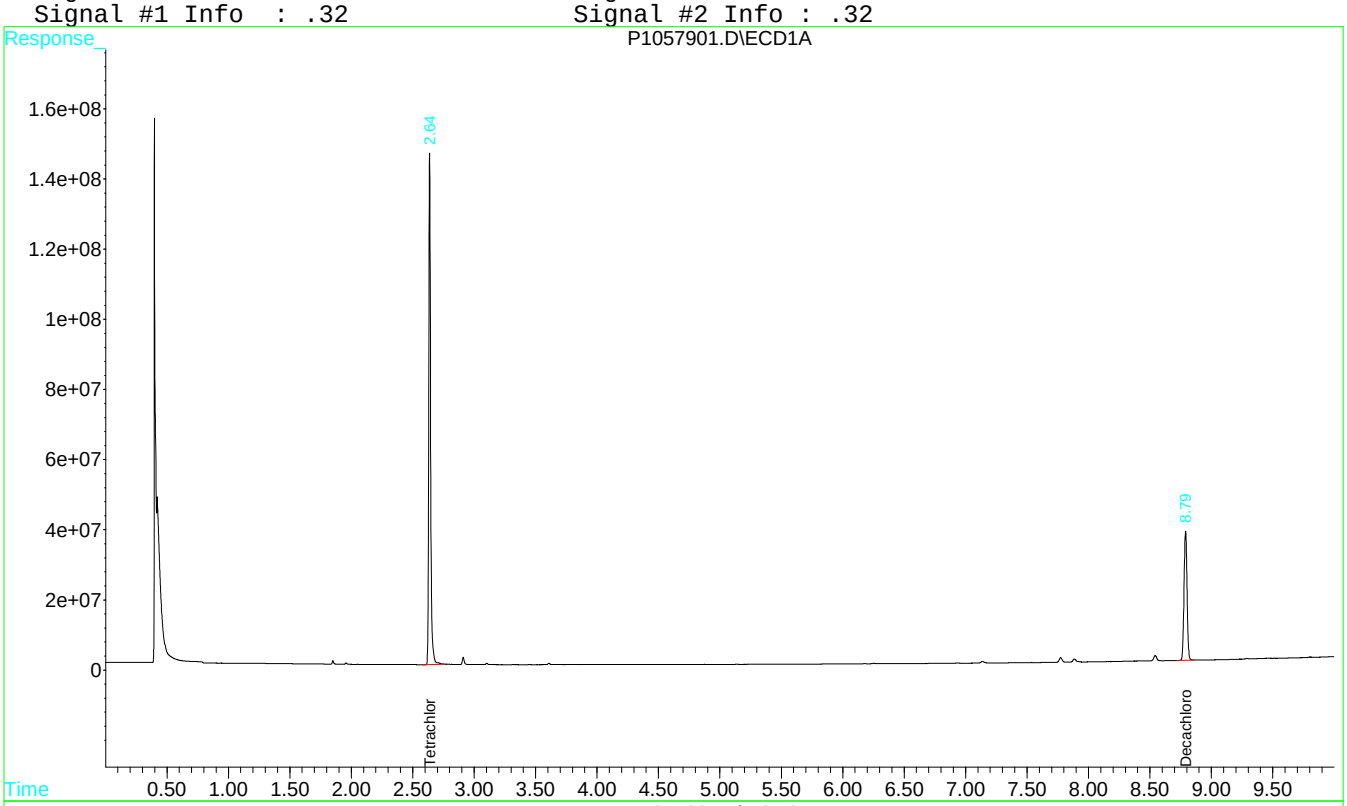
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
P1057901.D P1051519.M Wed Oct 09 09:55:13 2019 Page 1

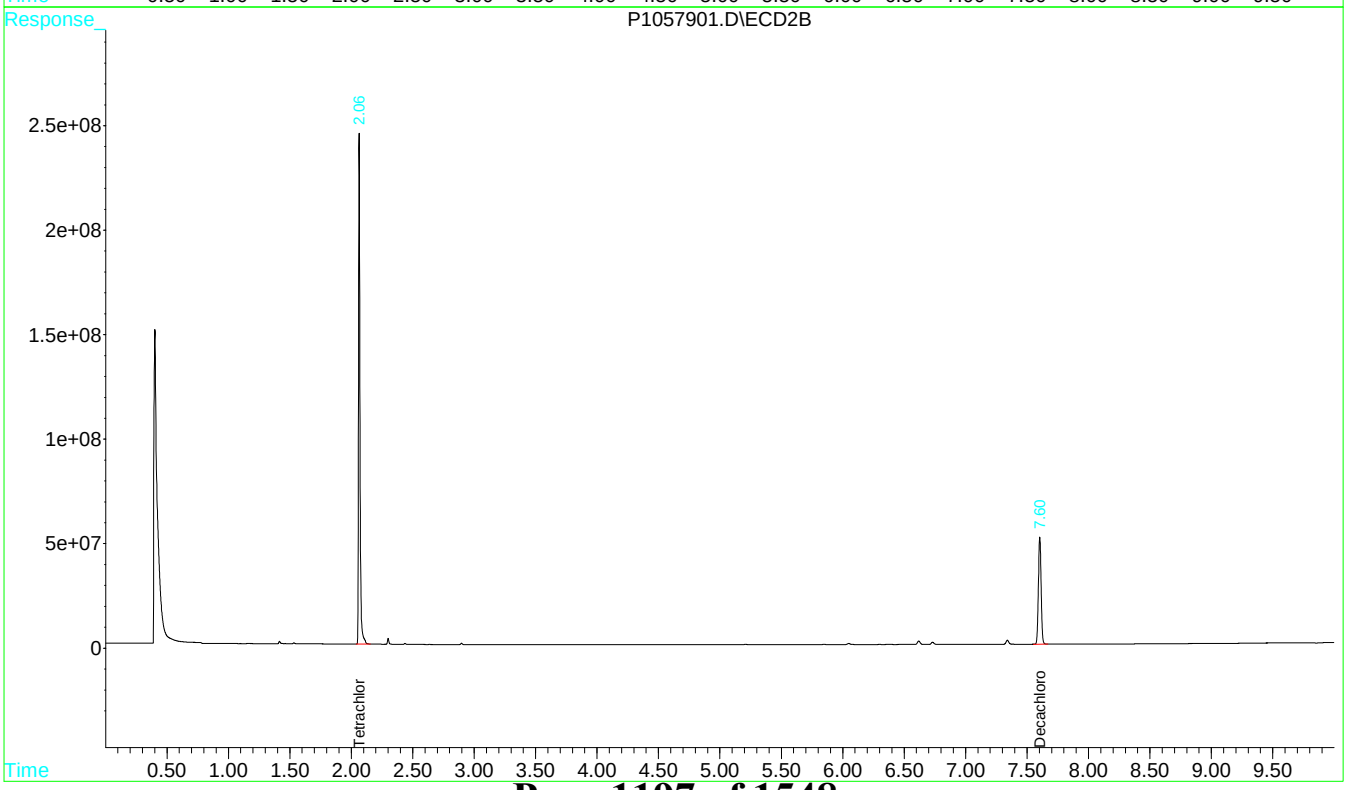
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057901.D\ECD1A.CH Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057901.D\ECD2B.CH
Acq On : 10-8-2019 3:14:33 PM Operator: SR
Sample : BJ90322-BLK2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:44 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 19J0144
CLASS: ARO
METHOD: EPA 8082A

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057813.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057813.D\ECD2B.CH
Acq On : 10-7-2019 5:17:26 PM Operator: SR
Sample : BJ90321-BS2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:10 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1229.7E6	1710.5E6	0.188	0.205
	Spiked Amount 0.200	Range 30 - 150		Recovery =		94.00%	102.50%
45) S	Decachlorobiphen	8.79	7.60	601.9E6	763.9E6	0.150	0.141
	Spiked Amount 0.200	Range 30 - 150		Recovery =		75.00%	70.50%
	Target Compounds						
5) T	1016 1	2.99	2.37	111.8E6	146.3E6	0.893	1.010
6) T	1016 2	3.52	2.80	173.4E6	217.2E6	1.013	1.104
7) T	1016 3	3.89	3.09	213.7E6	268.2E6	1.033	1.084
8) T	1016 4	3.99	3.21	174.2E6	215.0E6	1.038	1.035
9) T	1016 5	4.33	3.48	163.3E6	213.3E6	1.059	1.070
30) T	1260 1	5.67	4.65	317.0E6	386.8E6	0.938	0.953
31) T	1260 2	6.01	4.90	456.8E6	439.3E6	0.891	0.927
32) T	1260 3	6.33	5.27	498.0E6	539.7E6	1.057	0.971
33) T	1260 4	6.44	5.33	240.1E6	297.3E6	1.056	1.044
34) T	1260 5	7.12	5.95	511.5E6	631.2E6	0.947	0.942

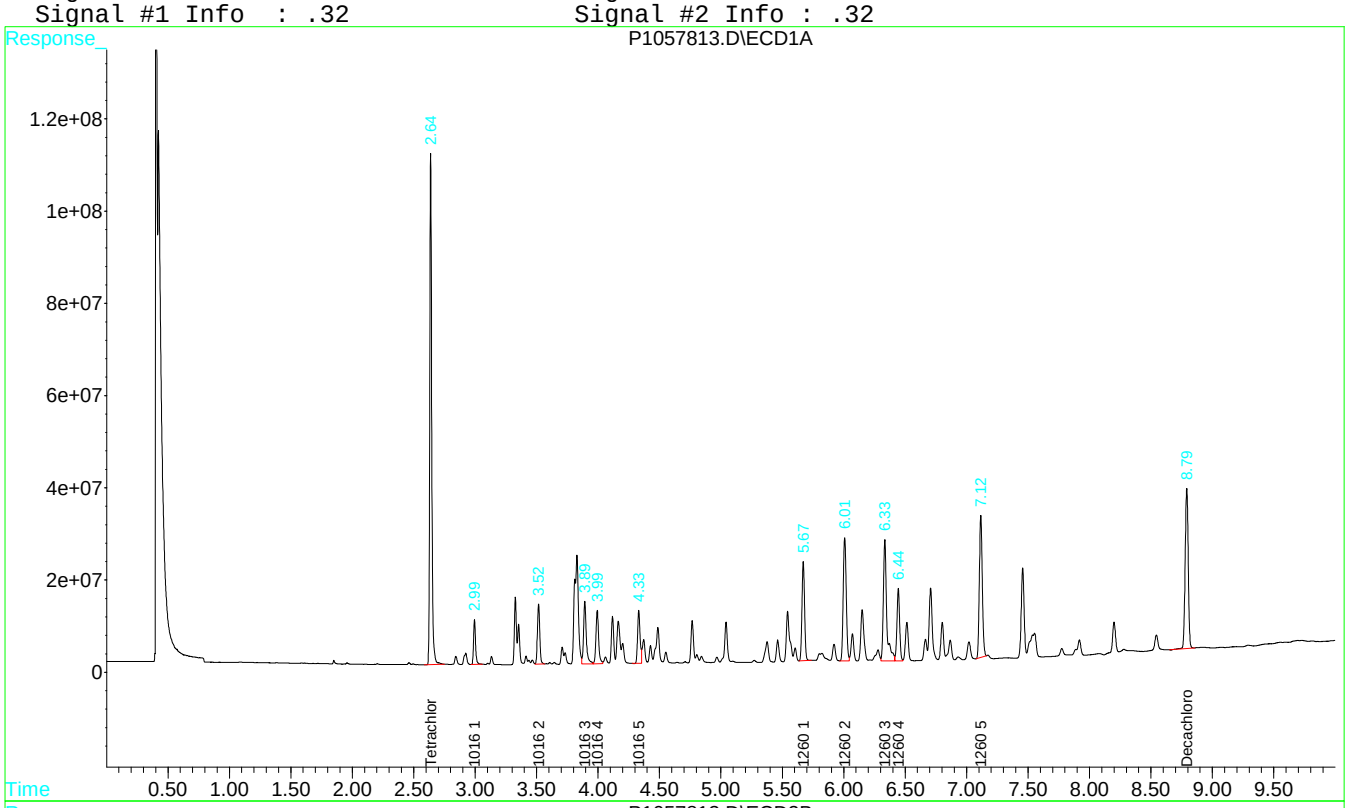
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P1057813.D P1051519.M Tue Oct 08 10:44:14 2019 Page 1

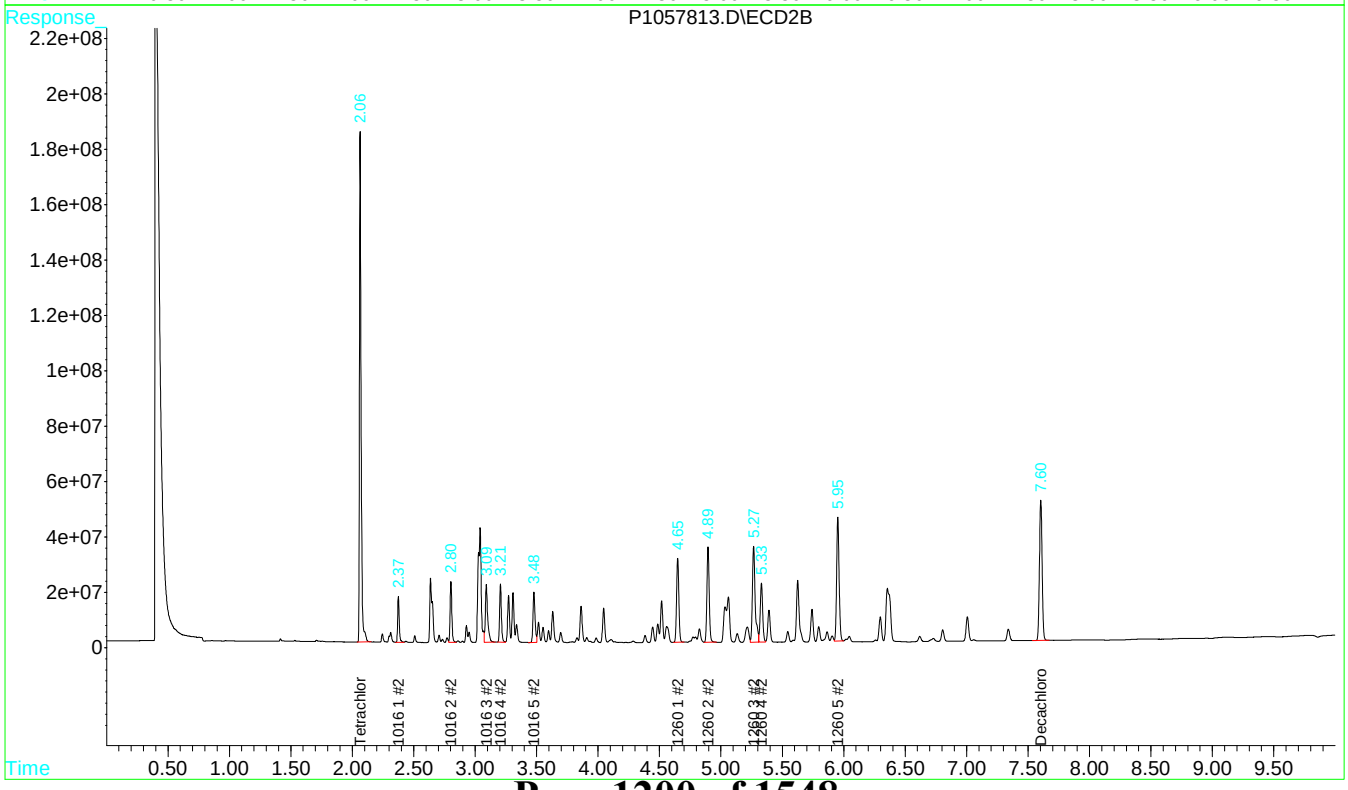
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100719A\P1057813.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\100719A\P1057813.D\ECD2B.CH
Acq On : 10-7-2019 5:17:26 PM Operator: SR
Sample : BJ90321-BS2 Inst : ECD#1
Misc : QBP1100719A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 8 9:10 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 19J0144
CLASS: ARO
METHOD: EPA 8082A

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057902.D\ECD1A.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057902.D\ECD2B.CH
Acq On : 10-8-2019 3:28:01 PM Operator: SR
Sample : BJ90322-BS2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:44 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Initial Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1) S	Tetrachloro-m-xy	2.64	2.06	1399.9E6	1898.5E6	0.214	0.228
Spiked Amount	0.200	Range	30 - 150	Recovery	=	107.00%	114.00%
45) S	Decachlorobiphen	8.79	7.60	554.7E6	691.5E6	0.138	0.127
Spiked Amount	0.200	Range	30 - 150	Recovery	=	69.00%	63.50%
	Target Compounds						
5) T	1016 1	2.99	2.37	120.1E6	147.7E6	0.960	1.019
6) T	1016 2	3.52	2.80	183.0E6	219.0E6	1.070	1.113
7) T	1016 3	3.89	3.09	234.2E6	265.9E6	1.133	1.075
8) T	1016 4	3.99	3.21	187.6E6	212.9E6	1.117	1.025
9) T	1016 5	4.33	3.48	172.5E6	212.3E6	1.119	1.065
30) T	1260 1	5.67	4.65	325.4E6	379.5E6	0.963	0.935
31) T	1260 2	6.01	4.90	468.7E6	424.4E6	0.914	0.896
32) T	1260 3	6.33	5.27	493.0E6	513.6E6	1.046	0.925
33) T	1260 4	6.44	5.33	238.3E6	285.0E6	1.048	1.001
34) T	1260 5	7.11	5.95	492.4E6	576.6E6	0.912	0.860

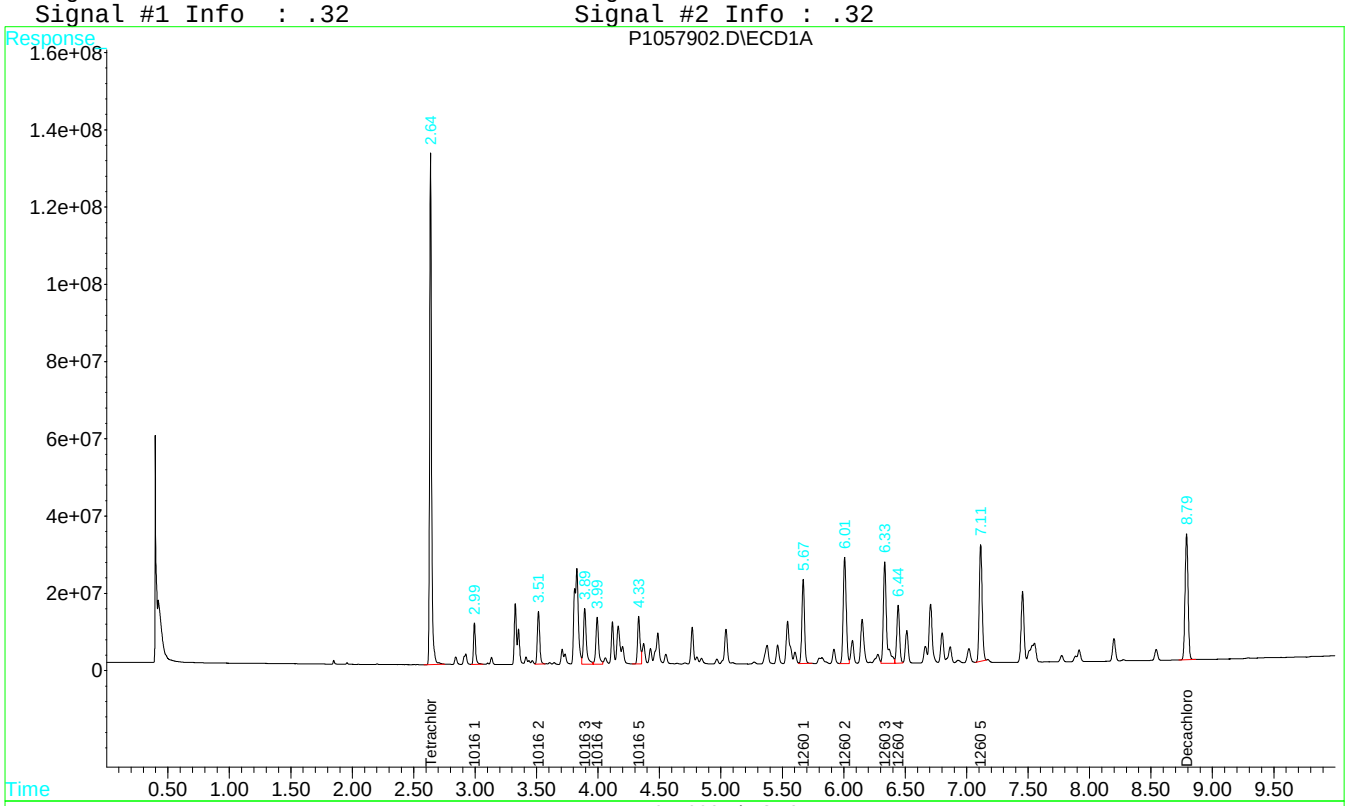
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P1057902.D P1051519.M Wed Oct 09 09:55:14 2019 Page 1

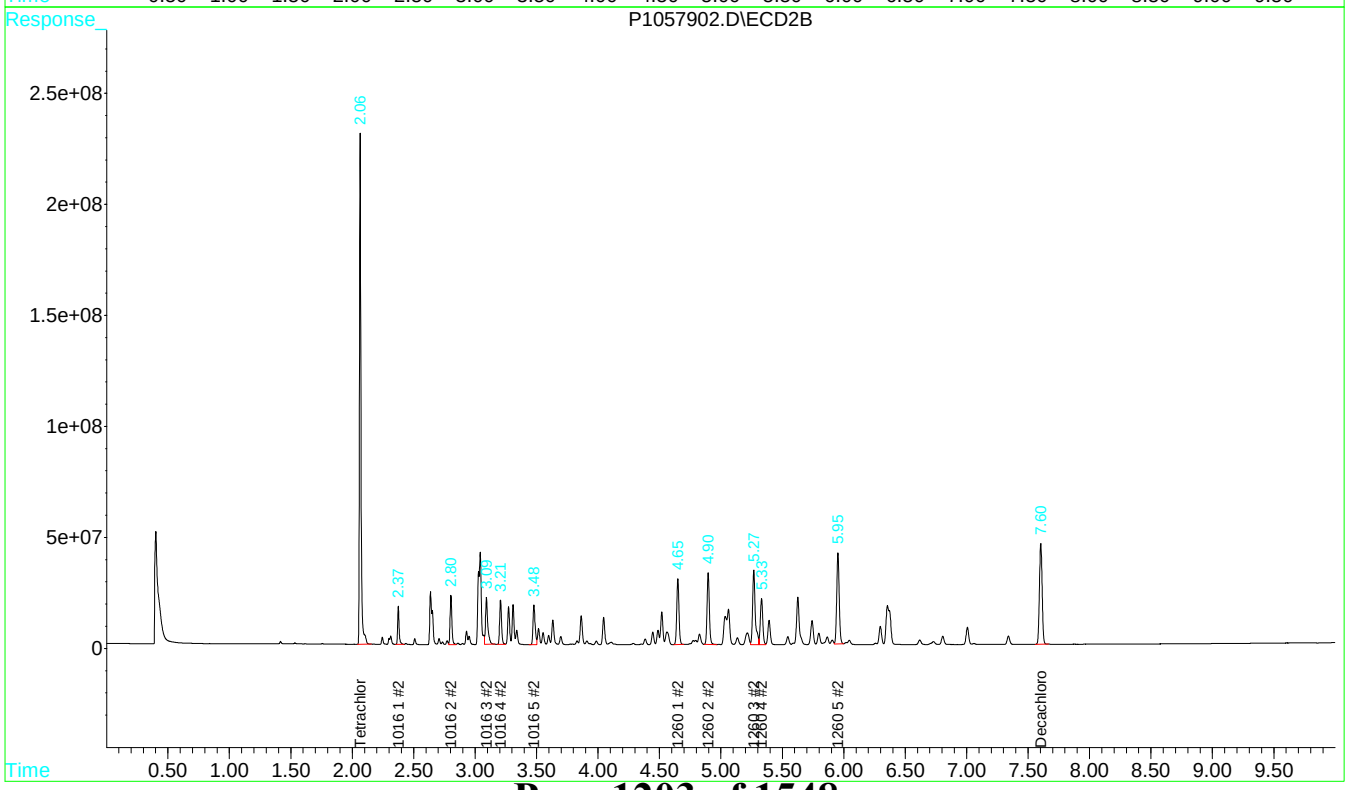
Quantitation Report

Signal #1 : C:\HPCHEM\1\DATA\100819A\P1057902.D\ECD1A.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\100819A\P1057902.D\ECD2B.CH
Acq On : 10-8-2019 3:28:01 PM Operator: SR
Sample : BJ90322-BS2 Inst : ECD#1
Misc : QBP1100819A Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e
Quant Time: Oct 9 8:44 2019 Quant Results File: P1051519.RES

Quant Method : C:\HPCHEM\1\METHODS\P1051519.M (Chemstation Integrator)
Title : 042919 - MR-1 & MR-2 MU-A = 64, MU-B = 67
Last Update : Thu May 16 13:42:26 2019
Response via : Multiple Level Calibration
DataAcq Meth : PCB1.M

Volume Inj. : 1 uL
Signal #1 Phase : ZB-Multiresidue-1 Signal #2 Phase: ZB-Multiresidue-2
Signal #1 Info : .32 Signal #2 Info : .32





BENCHSHEETS

SDG: 19J0144

CLASS: ARO

METHOD: EPA 8082A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90321

Preparation Date: 10/04/2019 13:49

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:52:46PM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0144-04 A	PCB, 8082 MASTER	30.5	10				
19J0144-04 A	PEST, 8081 MASTER	30.5	10				
19J0144-05 A	PCB, 8082 MASTER	30.2	10				
19J0144-05 A	PEST, 8081 MASTER	30.2	10				
19J0144-06 A	PCB, 8082 MASTER	30.3	10				
19J0144-06 A	PEST, 8081 MASTER	30.3	10				
19J0146-04 A	Polychlorinated Biphenyls (PCB)	30.2	10				Added for BatchQC in: BJ90
19J0146-04 A	Pesticides, 8081 target list	30.2	10				Added for BatchQC in: BJ90
19J0146-04 A	PCB, 8082 MASTER	30.2	10				
19J0146-04 A	PEST, 8081 MASTER	30.2	10				
19J0146-05 A	PEST, 8081 MASTER	30.3	10				
19J0146-05 A	PCB, 8082 MASTER	30.3	10				
19J0146-06 A	PCB, 8082 MASTER	30.3	10				
19J0146-06 A	PEST, 8081 MASTER	30.3	10				
19J0146-07 A	PCB, 8082 MASTER	30.6	10				
19J0146-07 A	PEST, 8081 MASTER	30.6	10				
19J0148-01 E	PCB, 8082 MASTER	30.6	10				Added for BatchQC in: BJ90
19J0148-01 E	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0148-01 E	PEST, 8081 MASTER	30.6	10				Added for BatchQC in: BJ90
19J0148-01 E	Pesticides, 8081 target list	30.6	10				
19J0149-01 E	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0149-01 E	Pesticides, 8081 target list	30.6	10				
19J0152-01 A	Pesticides, 8081 target list	30.3	10				
19J0152-01 A	Polychlorinated Biphenyls (PCB)	30.3	10				
19J0152-03 A	Pesticides, 8081 target list	30.1	10				
19J0152-03 A	Polychlorinated Biphenyls (PCB)	30.1	10				
19J0183-01 A	Polychlorinated Biphenyls (PCB)	30.6	10				
19J0209-01 A	Polychlorinated Biphenyls (PCB)	30.1	10				
19J0209-09 A	Pesticides, 8081 target list	30.1	10				
19J0209-13 A	Polychlorinated Biphenyls (PCB)	30.5	10				
19J0209-21 A	Pesticides, 8081 target list	30.5	10				
19J0209-25 A	Polychlorinated Biphenyls (PCB)	30.3	10				
19J0209-33 A	Pesticides, 8081 target list	30.3	10				

Preparations Performed by **DKC** **Date:** **10/04/2019 13:49**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90321

Preparation Date: 10/04/2019 13:49

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:52:46PM

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0209-37 A	Polychlorinated Biphenyls (PCB)	30.5	10				
19J0209-45 A	Pesticides, 8081 target list	30.5	10				
BJ90321-BLK1	QC	30.1	10				
BJ90321-BLK2	QC	30.1	10				Added 10/8/2019 by SR
BJ90321-BS1	QC	30.1	10	Y19I373		100	
BJ90321-BS2	QC	30.1	10	Y19I309		100	
BJ90321-MS1	QC	30.1	10	Y19I373	19J0148-01	100	
BJ90321-MS2	QC	30.1	10	Y19I309	19J0146-04	100	
BJ90321-MSD1	QC	30.1	10	Y19I373	19J0148-01	100	
BJ90321-MSD2	QC	30.1	10	Y19I309	19J0146-04	100	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G258	ACETONE	0000222367	Y19G286	Ottawa Sand Mix	072319
Y19I221	Sodium Sulfate, Anhydrous	0000238269	Y19I228	HEXANE	DW967-US

Preparations Performed by **DKC** **Date:** **10/04/2019 13:49**

BENCHSHEETS

SDG: 19J0144

CLASS: ARO

METHOD: EPA 8082A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90322

Preparation Date: 10/04/2019 13:53

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:57AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0077-01 A	PEST, 8081 MASTER	30.3	10				Added for BatchQC in: BJ90
19J0077-01 A	PCB, 8082 MASTER	30.3	10				Added for BatchQC in: BJ90
19J0077-01RE1 A	Polychlorinated Biphenyls (PCB)	30	10				Added for BatchQC in: BJ90
19J0077-01RE1 A	Pesticides, 8081 target list	30	10				Added for BatchQC in: BJ90
19J0078-03 A	Pesticides, 8081 target list	30.1	10				From BJ90509 by CTD on 1
19J0078-03 A	Polychlorinated Biphenyls (PCB)	30.1	10				From BJ90509 by CTD on 1
19J0086-01 A	PCB, 8082 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0086-01 A	PEST, 8081 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0095-01 B	Pesticides, 8081 target list	30.3	10				From BJ90509 by CTD on 1
19J0095-01 B	Polychlorinated Biphenyls (PCB)	30.3	10				From BJ90509 by CTD on 1
19J0095-02 B	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0095-02 B	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0095-03 B	Polychlorinated Biphenyls (PCB)	30.5	10				From BJ90509 by CTD on 1
19J0095-03 B	Pesticides, 8081 target list	30.5	10				From BJ90509 by CTD on 1
19J0095-04 B	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0095-04 B	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0111-01 B	Polychlorinated Biphenyls (PCB)	1.12	10				OILY RAGS
19J0113-01 A	Pesticides, 8081 target list	30.4	10				From BJ90509 by CTD on 1
19J0113-01 A	Polychlorinated Biphenyls (PCB)	30.4	10				From BJ90509 by CTD on 1
19J0113-02 A	Polychlorinated Biphenyls (PCB)	30.2	10				From BJ90509 by CTD on 1
19J0113-02 A	Pesticides, 8081 target list	30.2	10				From BJ90509 by CTD on 1
19J0115-01 A	Polychlorinated Biphenyls (PCB)	30.3	10				From BJ90509 by CTD on 1
19J0115-01 A	Pesticides, 8081 target list	30.3	10				From BJ90509 by CTD on 1
19J0115-02 A	Polychlorinated Biphenyls (PCB)	30.6	10				From BJ90509 by CTD on 1
19J0115-02 A	Pesticides, 8081 target list	30.6	10				From BJ90509 by CTD on 1
19J0144-01 A	PEST, 8081 MASTER	30.2	10				From BJ90509 by CTD on 1
19J0144-01 A	PCB, 8082 MASTER	30.2	10				From BJ90509 by CTD on 1
19J0144-02 A	PEST, 8081 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0144-02 A	PCB, 8082 MASTER	30.8	10				From BJ90509 by CTD on 1
19J0144-03 A	PCB, 8082 MASTER	30.7	10				From BJ90509 by CTD on 1
19J0144-03 A	PEST, 8081 MASTER	30.7	10				From BJ90509 by CTD on 1
BJ90322-BLK1	QC	30.1	10				
BJ90322-BLK2	QC	30.1	10				

Preparations Performed by **ZTS** **Date:** **10/04/2019 13:53**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90322

Preparation Date: 10/04/2019 13:53

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:57AM**

Matrix: Soil **Preparation: EPA 3550C** **Surrogate used: Y19J030 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
BJ90322-BS1	QC	30.1	10	Y19I373		100	
BJ90322-BS2	QC	30.1	10	Y19I309		100	
BJ90322-MS1	QC	30.1	10	Y19I373	19J0077-01	100	
BJ90322-MS2	QC	30.1	10	Y19I309	19J0077-01	100	
BJ90322-MSD1	QC	30.1	10	Y19I373	19J0077-01	100	
BJ90322-MSD2	QC	30.1	10	Y19I309	19J0077-01	100	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y19G258	ACETONE	0000222367	Y19G286	Ottawa Sand Mix	072319
Y19I221	Sodium Sulfate, Anhydrous	0000238269	Y19I229	HEXANE	DW845-US

Preparations Performed by **ZTS** **Date:** **10/04/2019 13:53**

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: HERB
METHOD: EPA 8151A

DATA PACKAGE COVER PAGE

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0848 Instrument: GCECD4

Calibration: YF90030

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (Y9J0848-CCV1)				Lab File ID: PS421855.d		Analyzed: 10/08/19 09:45		
2,4-Dichlorophenylacetic acid (DCAA)	0.400	181	0 - 200	2.712	2.723	-0.0110	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	148	0 - 200	3.006	3.0162	-0.0102	+/-1.00	
Blank (BJ90361-BLK1)				Lab File ID: PS421856.d		Analyzed: 10/08/19 09:55		
2,4-Dichlorophenylacetic acid (DCAA)	0.498	136	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.498	112	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
LCS (BJ90361-BS1)				Lab File ID: PS421857.d		Analyzed: 10/08/19 10:06		
2,4-Dichlorophenylacetic acid (DCAA)	0.498	114	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.498	93.4	21 - 150	3.005	3.0162	-0.0112	+/-1.00	
Matrix Spike (BJ90361-MS1)				Lab File ID: PS421858.d		Analyzed: 10/08/19 10:17		
2,4-Dichlorophenylacetic acid (DCAA)	0.523	75.0	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.523	61.2	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
Matrix Spike Dup (BJ90361-MSD1)				Lab File ID: PS421859.d		Analyzed: 10/08/19 10:27		
2,4-Dichlorophenylacetic acid (DCAA)	0.523	82.8	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.523	68.4	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
SB28_5.5-7.5 (19J0144-06)				Lab File ID: PS421860.d		Analyzed: 10/08/19 10:38		
2,4-Dichlorophenylacetic acid (DCAA)	0.544	72.4	21 - 150	2.71	2.723	-0.0130	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.544	59.6	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
SB19_0-2 (19J0144-01)				Lab File ID: PS421871.d		Analyzed: 10/08/19 12:36		
2,4-Dichlorophenylacetic acid (DCAA)	0.523	41.0	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.523	34.2	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
SB19_8-9 (19J0144-02)				Lab File ID: PS421872.d		Analyzed: 10/08/19 12:47		
2,4-Dichlorophenylacetic acid (DCAA)	0.567	83.6	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.567	64.0	21 - 150	3.006	3.0162	-0.0102	+/-1.00	

FORM II **SURROGATE STANDARD RECOVERY AND RT SUMMARY**

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sequence: Y9J0848 Instrument: GCECD4

Calibration: YF90030

Surrogate Compound	Spike Level mg/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SB27_0-2 (19J0144-03)			Lab File ID: PS421873.d		Analyzed: 10/08/19 12:57			
2,4-Dichlorophenylacetic acid (DCAA)	0.527	102	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.527	83.8	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
SB27_6-8 (19J0144-04)			Lab File ID: PS421874.d		Analyzed: 10/08/19 13:08			
2,4-Dichlorophenylacetic acid (DCAA)	0.593	60.2	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.593	49.4	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
Calibration Check (Y9J0848-CCV2)			Lab File ID: PS421875.d		Analyzed: 10/08/19 13:19			
2,4-Dichlorophenylacetic acid (DCAA)	0.400	214	0 - 200	2.711	2.723	-0.0120	+/-1.00	*
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	176	0 - 200	3.006	3.0162	-0.0102	+/-1.00	
SB28_0-2 (19J0144-05)			Lab File ID: PS421880.d		Analyzed: 10/08/19 14:12			
2,4-Dichlorophenylacetic acid (DCAA)	0.537	95.0	21 - 150	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.537	77.8	21 - 150	3.006	3.0162	-0.0102	+/-1.00	
Calibration Check (Y9J0848-CCV3)			Lab File ID: PS421893.d		Analyzed: 10/08/19 16:32			
2,4-Dichlorophenylacetic acid (DCAA)	0.400	210	0 - 200	2.712	2.723	-0.0110	+/-1.00	*
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	169	0 - 200	3.006	3.0162	-0.0102	+/-1.00	
Calibration Check (Y9J0848-CCV4)			Lab File ID: PS421898.d		Analyzed: 10/08/19 19:00			
2,4-Dichlorophenylacetic acid (DCAA)	0.400	206	0 - 200	2.712	2.723	-0.0110	+/-1.00	*
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	166	0 - 200	3.006	3.0162	-0.0102	+/-1.00	
Calibration Check (Y9J0848-CCV5)			Lab File ID: PS421919.d		Analyzed: 10/08/19 22:45			
2,4-Dichlorophenylacetic acid (DCAA)	0.400	173	0 - 200	2.711	2.723	-0.0120	+/-1.00	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	145	0 - 200	3.006	3.0162	-0.0102	+/-1.00	
Calibration Check (Y9J0848-CCV6)			Lab File ID: PS421924.d		Analyzed: 10/08/19 23:39			
2,4-Dichlorophenylacetic acid (DCAA)	0.400	202	0 - 200	2.711	2.723	-0.0120	+/-1.00	*
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.400	168	0 - 200	3.006	3.0162	-0.0102	+/-1.00	

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8151A

SB19_0-2

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90361	Laboratory ID:	BJ90361-MS1
Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL

Source Sample Name: SB19_0-2

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. #	QC LIMITS REC.
2,4,5-TP (Silvex)	0.167	ND	0.0481	28.8	10 - 120
2,4,5-TP (Silvex) [2C]	0.167	ND	0.0418	25.0	10 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8151A

SB19_0-2

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90361	Laboratory ID:	BJ90361-MSD1
Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL

Source Sample Name: SB19_0-2

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
2,4,5-TP (Silvex)	0.167	0.0533	31.9	10.3	35	10 - 120
2,4,5-TP (Silvex) [2C]	0.167	0.0470	28.1	11.8	35	10 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM III

LCS / LCS DUPLICATE RECOVERY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90361	Laboratory ID:	BJ90361-BS1
Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. #	QC LIMITS REC.
2,4,5-TP (Silvex)	0.159	0.0777	48.7	10 - 120
2,4,5-TP (Silvex) [2C]	0.159	0.0687	43.1	10 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90361 Batch Matrix: Soil Preparation: EPA 3550B/8151A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	PS421871.d	10/07/19 09:25	
SB19_8-9	19J0144-02	PS421872.d	10/07/19 09:25	
SB27_0-2	19J0144-03	PS421873.d	10/07/19 09:25	
SB27_6-8	19J0144-04	PS421874.d	10/07/19 09:25	
SB28_0-2	19J0144-05	PS421880.d	10/07/19 09:25	
SB28_5.5-7.5	19J0144-06	PS421860.d	10/07/19 09:25	
Blank	BJ90361-BLK1	PS421856.d	10/07/19 09:25	
LCS	BJ90361-BS1	PS421857.d	10/07/19 09:25	
SB19_0-2	BJ90361-MS1	PS421858.d	10/07/19 09:25	
SB19_0-2	BJ90361-MSD1	PS421859.d	10/07/19 09:25	

FORM I

METHOD BLANK DATA SHEET

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90361-BLK1	File ID:	PS421856.d
Prepared:	10/07/19 09:25	Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL
Analyzed:	10/08/19 09:55	Instrument:	GCECD4		
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
93-72-1	2,4,5-TP (Silvex)	0.0199	U
93-72-1	2,4,5-TP (Silvex) [2C]	0.0199	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.498	0.679	136	21 - 150	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.498	0.556	112	21 - 150	

METHOD DETECTION AND REPORTING LIMITS

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** GCECD4

Analyte	LOD	LOQ	Units
2,4,5-TP (Silvex)	0.0200	0.0200	mg/kg
2,4,5-TP (Silvex) [2C]	0.0200	0.0200	mg/kg

HOLDING TIME SUMMARY

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/07/19 09:25	4.86	14.00	10/08/19 12:36	1.13	40.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/07/19 09:25	4.86	14.00	10/08/19 12:47	1.14	40.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/07/19 09:25	4.95	14.00	10/08/19 12:57	1.15	40.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/07/19 09:25	4.95	14.00	10/08/19 13:08	1.15	40.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/07/19 09:25	4.89	14.00	10/08/19 14:12	1.20	40.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/07/19 09:25	4.89	14.00	10/08/19 10:38	1.05	40.00	

FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: PS421871.d

Sampled: 10/02/19 12:45 Prepared: 10/07/19 09:25 Analyzed: 10/08/19 12:36

Solids: 95.31 Preparation: EPA 3550B/8151A Initial/Final: 25.1 g / 25 mL

Batch: BJ90361 Sequence: Y9J0848 Calibration: YF90030 Instrument: GCECD4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0209	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.523	0.214	41.0	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421871.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:36 pm
Operator : SR
Sample : 19J0144-01
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:40:46 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	18339644	11280146	0.205	0.171
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.10%#	0.09%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

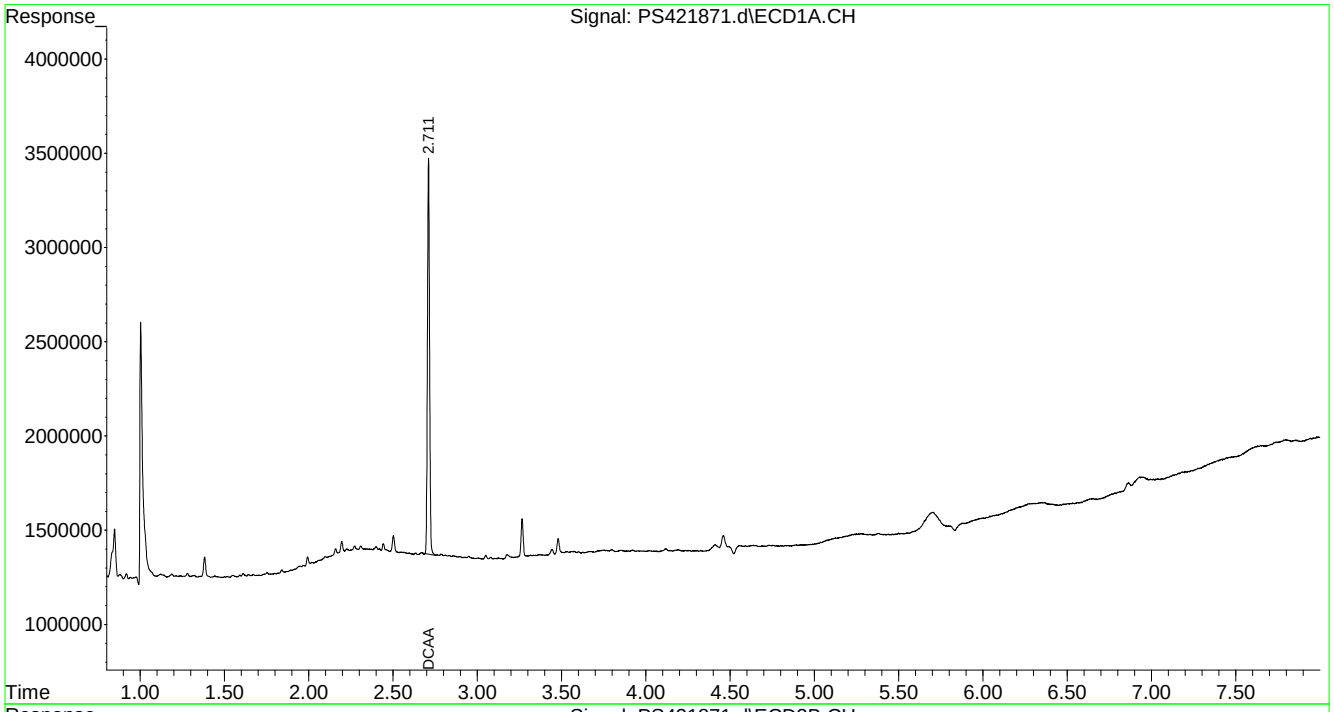
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

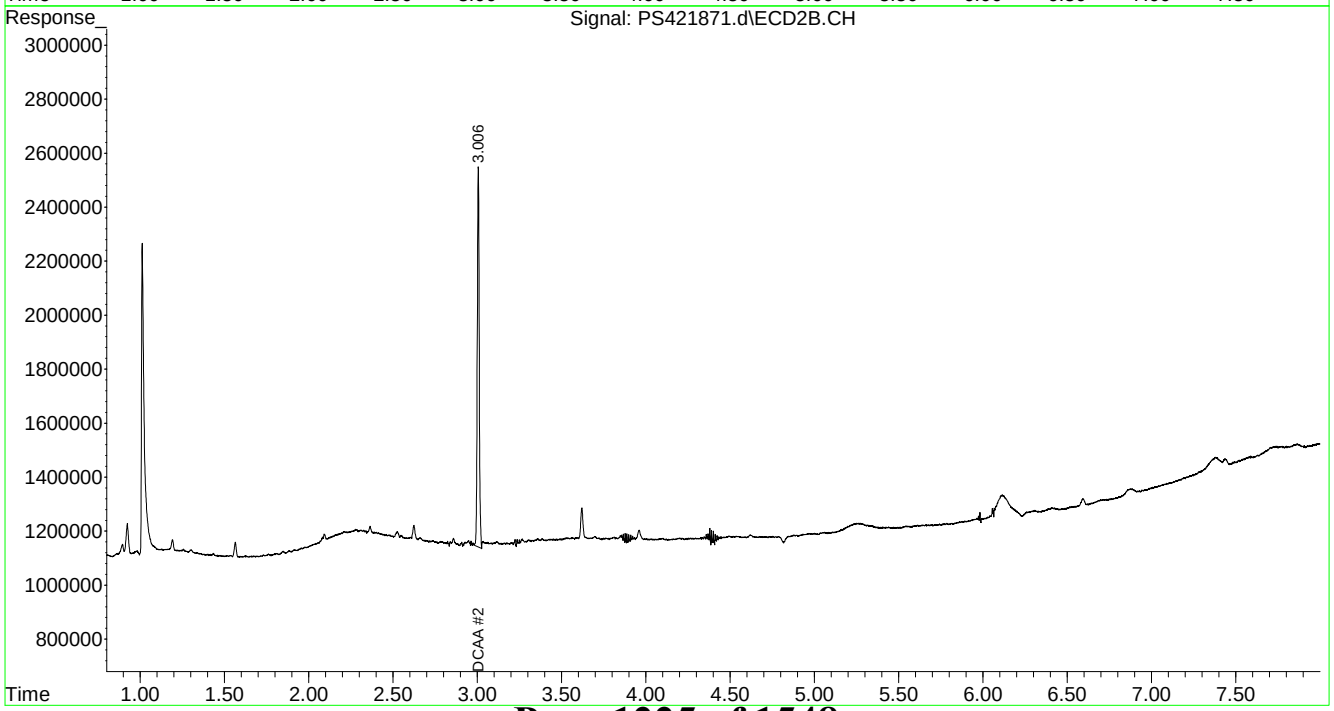
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421871.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:36 pm
Operator : SR
Sample : 19J0144-01
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:40:46 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB19_8-9

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-02	File ID:	PS421872.d
Sampled:	10/02/19 12:50	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 12:47
Solids:	86.53	Preparation:	EPA 3550B/8151A	Initial/Final:	25.5 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0227	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.567	0.474	83.6	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421872.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:47 pm
Operator : SR
Sample : 19J0144-02
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:03 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	37380262	21076504	0.418	0.320
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.21%#	0.16%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

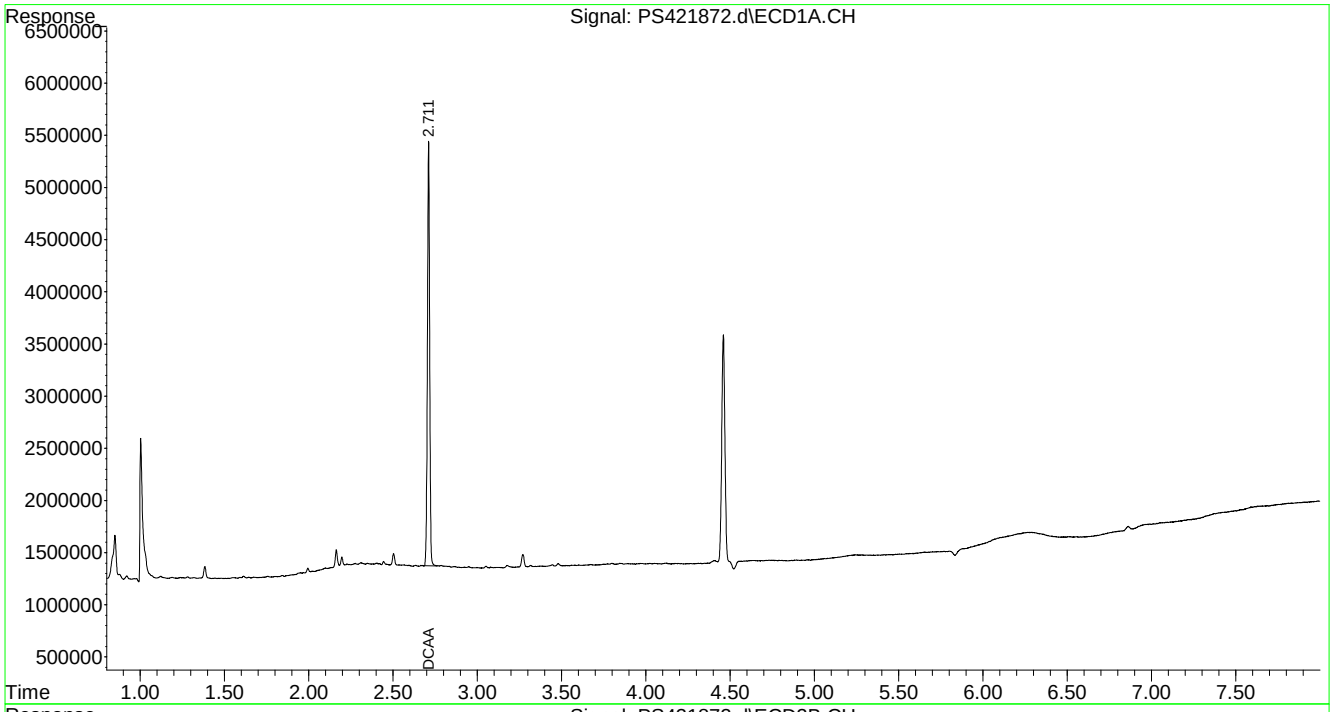
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

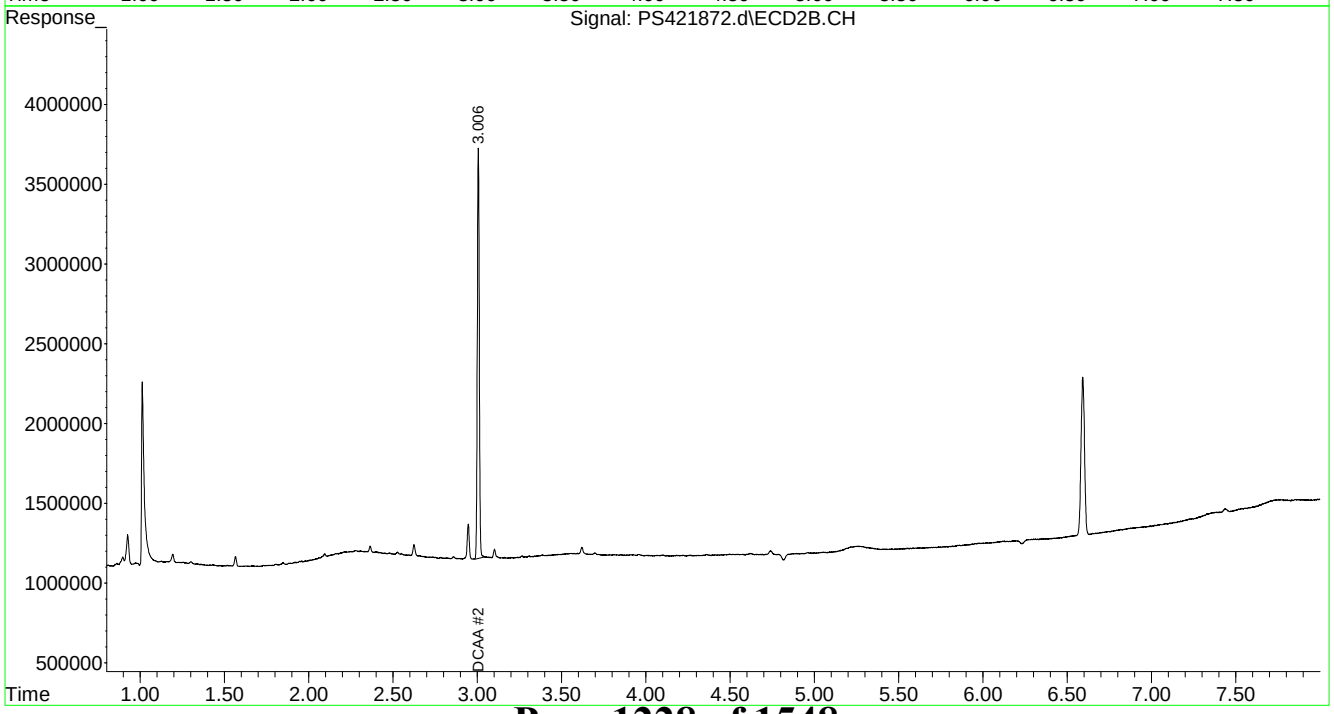
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421872.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:47 pm
Operator : SR
Sample : 19J0144-02
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 18 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:03 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: PS421873.d

Sampled: 10/02/19 10:30 Prepared: 10/07/19 09:25 Analyzed: 10/08/19 12:57

Solids: 94.09 Preparation: EPA 3550B/8151A Initial/Final: 25.2 g / 25 mL

Batch: BJ90361 Sequence: Y9J0848 Calibration: YF90030 Instrument: GCECD4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0211	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.527	0.537	102	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421873.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:57 pm
Operator : SR
Sample : 19J0144-03
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:26 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	45516158	27595528	0.509	0.419
	Spiked Amount 200.000	Range	30 - 150	Recovery =		0.25%#	0.21%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D. d	N.D. d

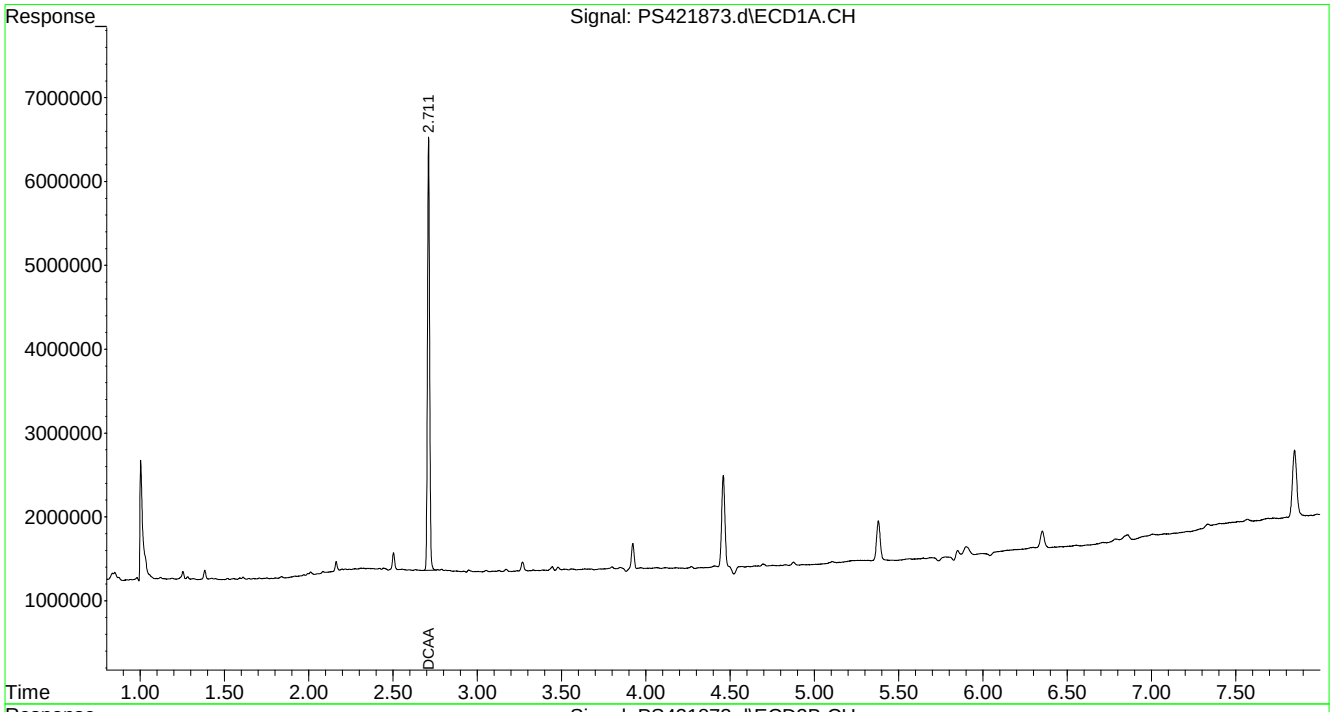
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

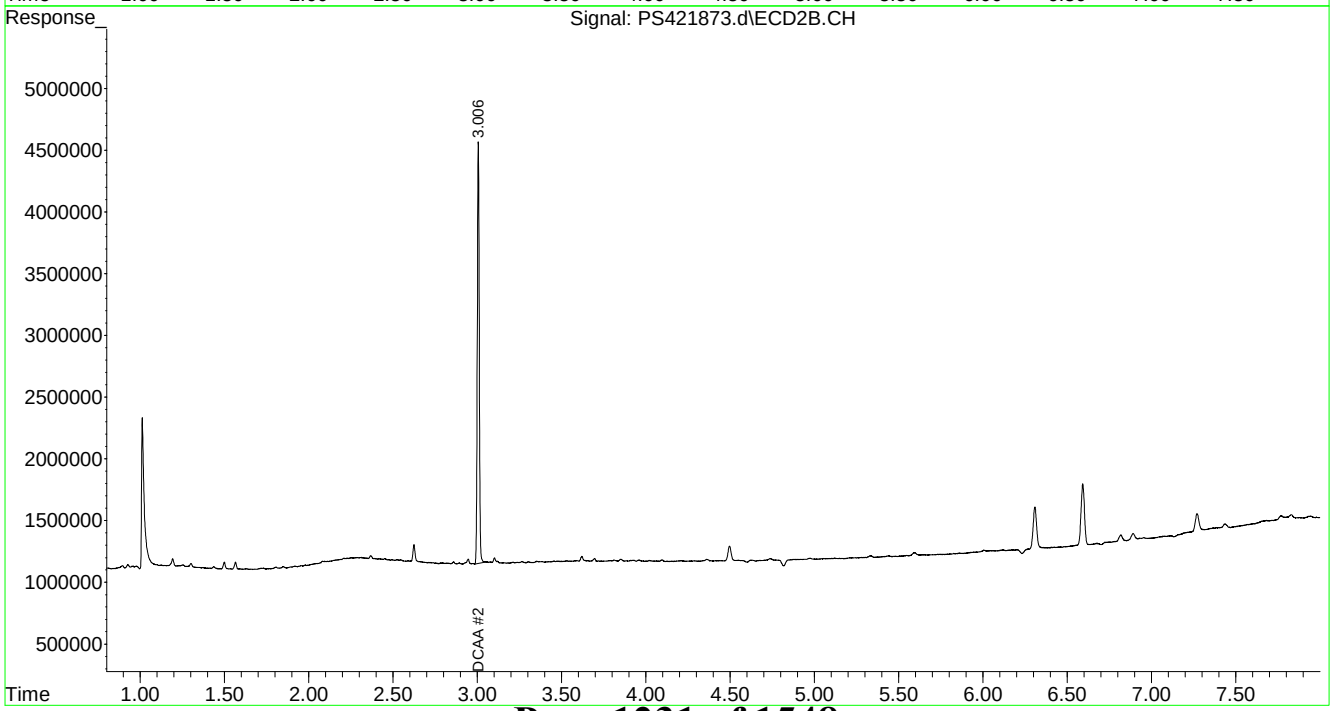
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421873.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 12:57 pm
Operator : SR
Sample : 19J0144-03
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 19 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:26 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: PS421874.d

Sampled: 10/02/19 10:35 Prepared: 10/07/19 09:25 Analyzed: 10/08/19 13:08

Solids: 83.69 Preparation: EPA 3550B/8151A Initial/Final: 25.2 g / 25 mL

Batch: BJ90361 Sequence: Y9J0848 Calibration: YF90030 Instrument: GCECD4

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0237	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.593	0.357	60.2	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421874.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 13:08 pm
Operator : SR
Sample : 19J0144-04
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:57 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	26850774	16244908	0.301	0.247
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.15%#	0.12%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

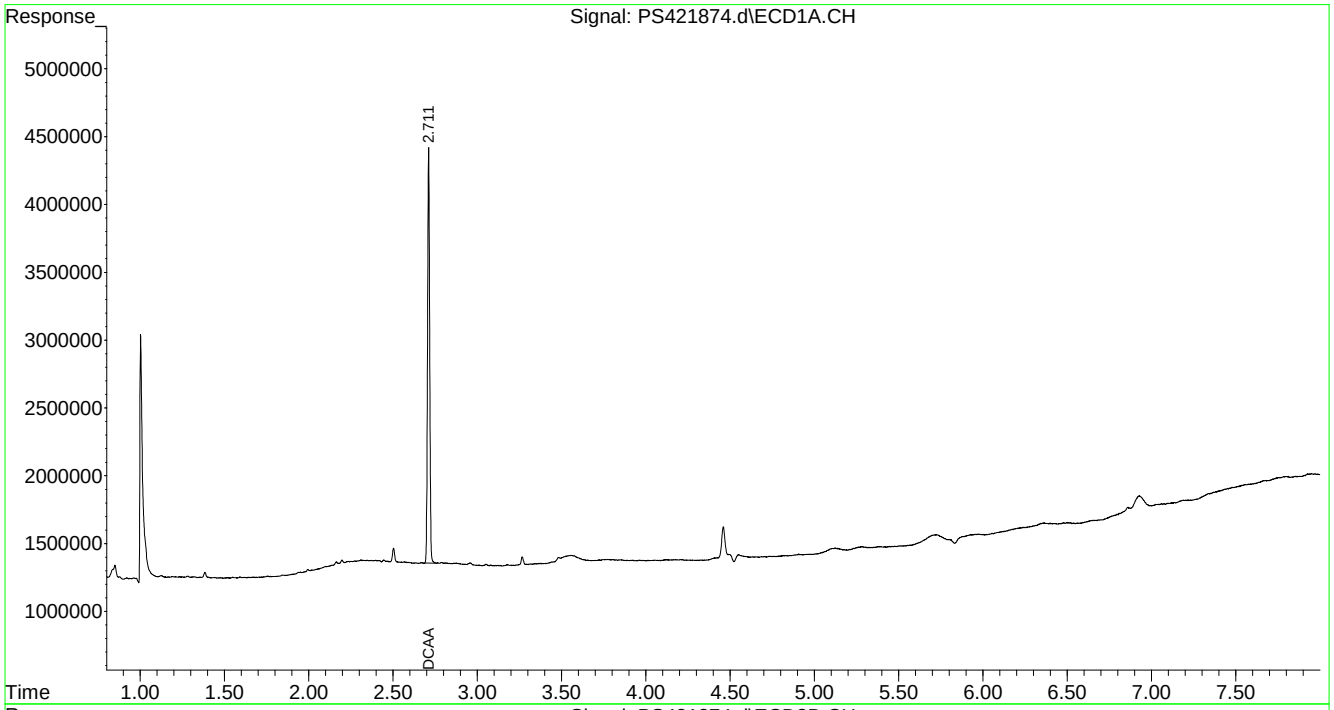
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

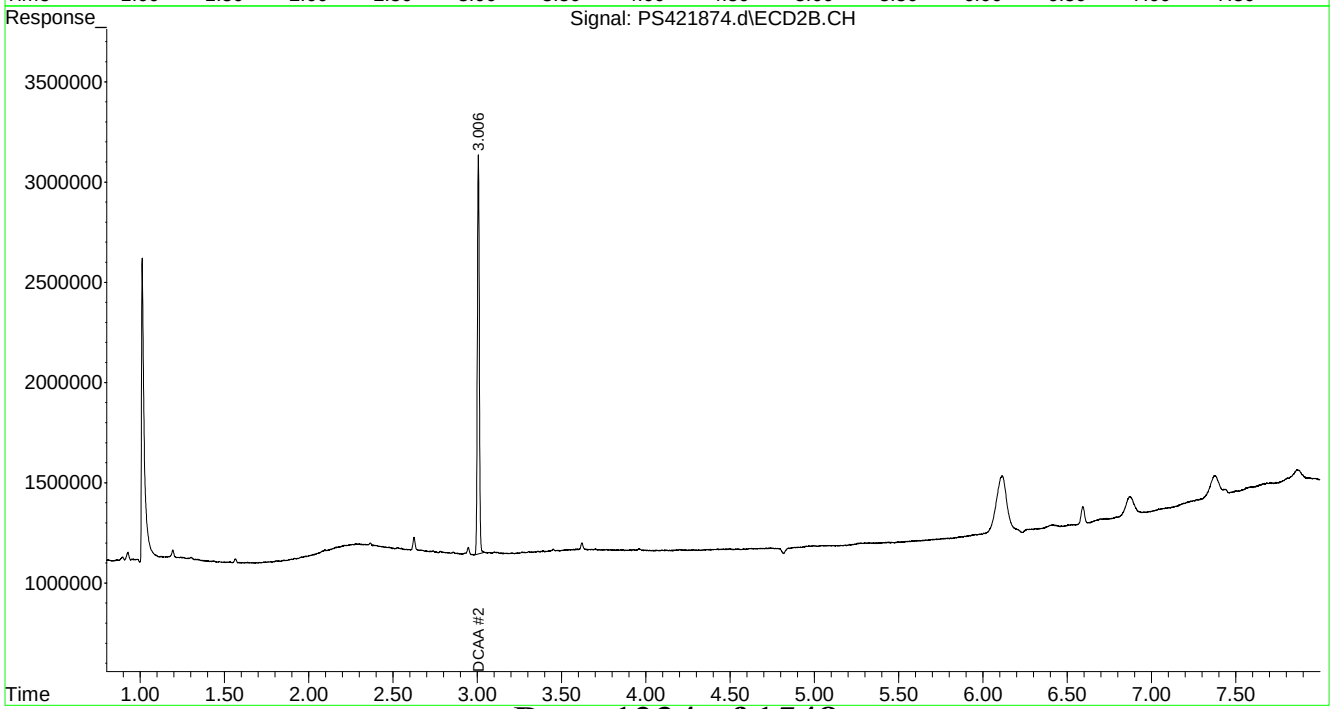
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421874.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 13:08 pm
Operator : SR
Sample : 19J0144-04
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 20 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:41:57 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB28_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-05	File ID:	PS421880.d
Sampled:	10/02/19 12:00	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 14:12
Solids:	92.39	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0215	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.537	0.510	95.0	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421880.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 14:12 pm
Operator : SR
Sample : 19J0144-05
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:43:32 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	42402153	25616368	0.475	0.389
	Spiked Amount	200.000	Range	30 - 150	Recovery =	0.24%#	0.19%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

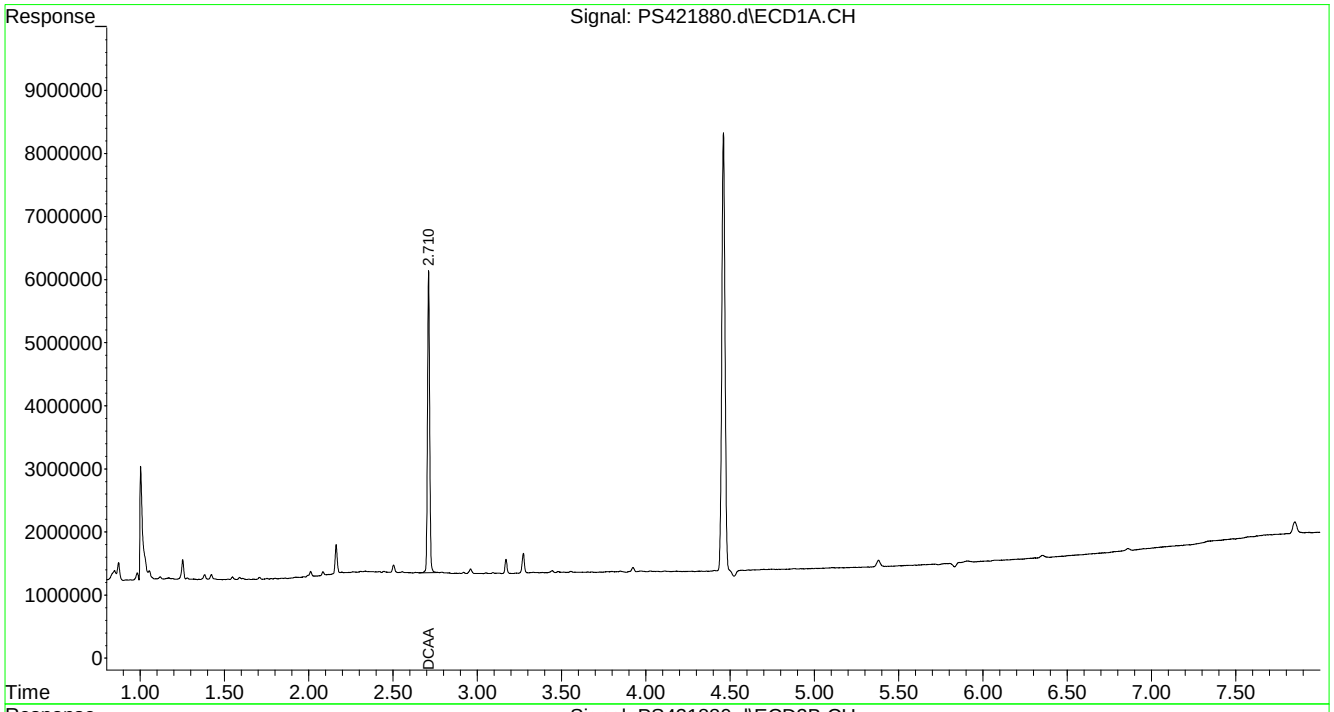
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

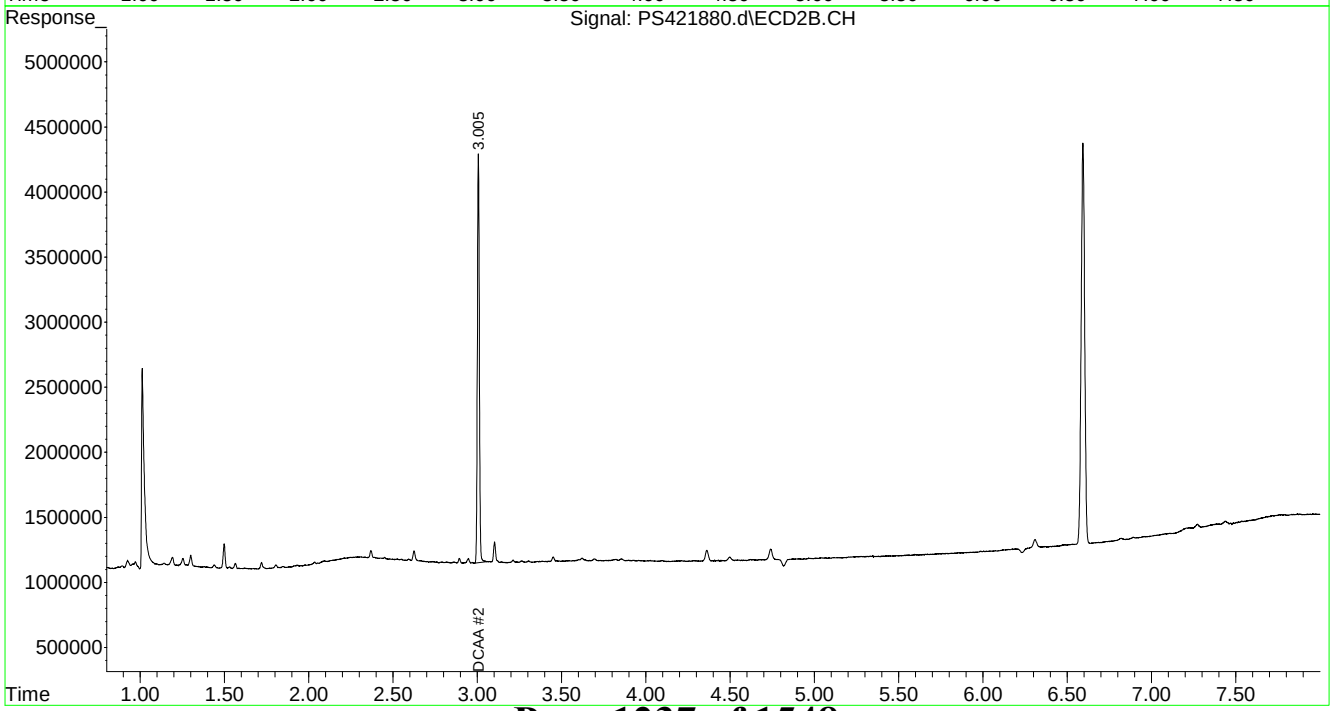
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421880.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 14:12 pm
Operator : SR
Sample : 19J0144-05
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 25 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:43:32 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM I

ORGANIC ANALYSIS DATA SHEET

EPA 8151A

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	PS421860.d
Sampled:	10/02/19 12:05	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 10:38
Solids:	91.18	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	CONC. (mg/kg dry)	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0218	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.544	0.394	72.4	21 - 150	

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421860.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:38 am
Operator : SR
Sample : 19J0144-06
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:38 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.710	3.006	32340562	19634920	0.362	0.298
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.18%#	0.15%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

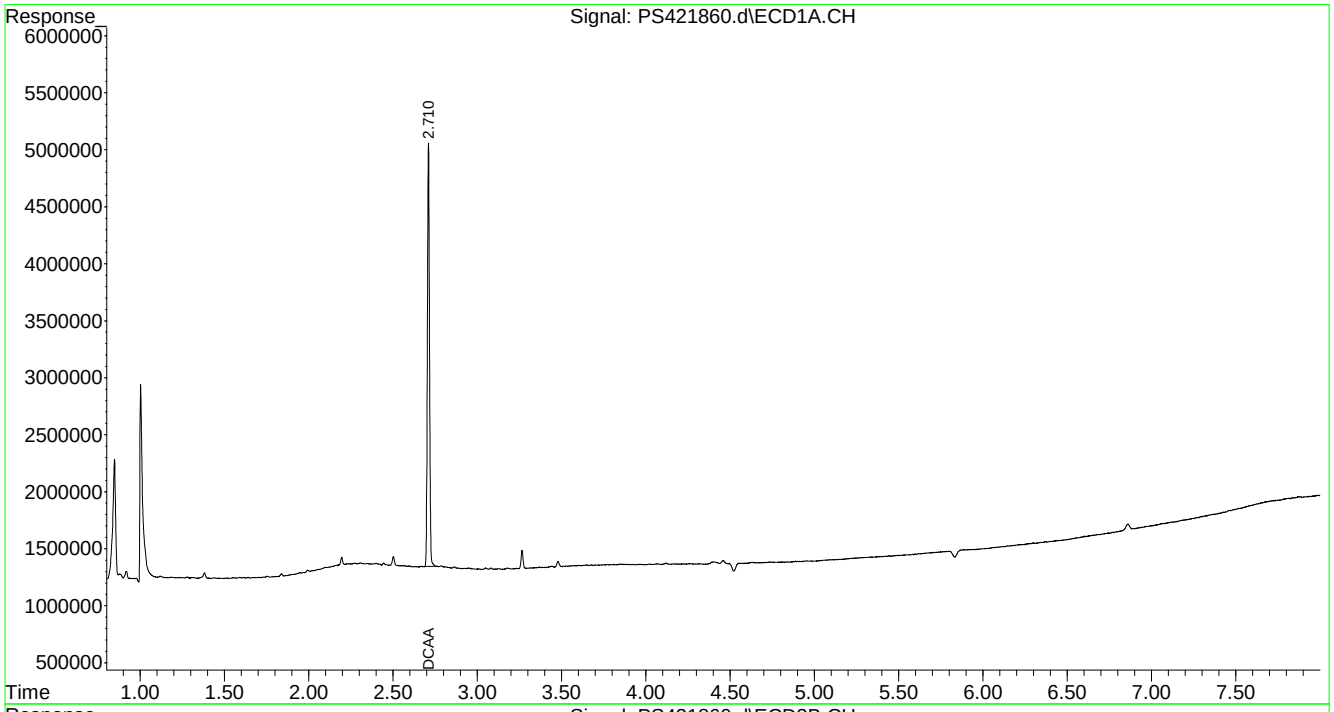
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

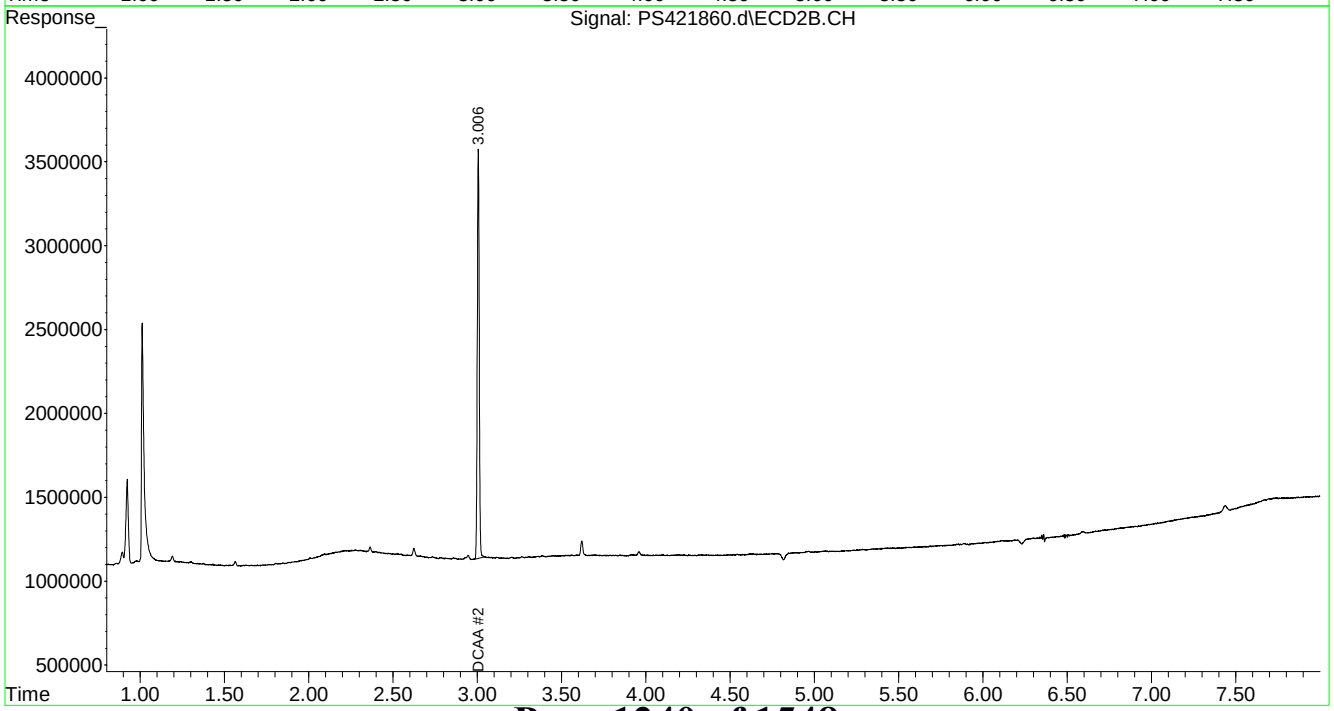
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421860.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:38 am
Operator : SR
Sample : 19J0144-06
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:38 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-01	File ID:	PS421871.d
Sampled:	10/02/19 12:45	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 12:36
Solids:	95.31	Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0209	0.0209		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.523	0.214	41.0	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB19_8-9

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-02	File ID:	PS421872.d
Sampled:	10/02/19 12:50	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 12:47
Solids:	86.53	Preparation:	EPA 3550B/8151A	Initial/Final:	25.5 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0227	0.0227		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.567	0.474	83.6	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-03	File ID:	PS421873.d
Sampled:	10/02/19 10:30	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 12:57
Solids:	94.09	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0211	0.0211		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.527	0.537	102	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB27_6-8

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-04	File ID:	PS421874.d
Sampled:	10/02/19 10:35	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 13:08
Solids:	83.69	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0237	0.0237		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.593	0.357	60.2	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_0-2

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-05	File ID:	PS421880.d
Sampled:	10/02/19 12:00	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 14:12
Solids:	92.39	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0215	0.0215		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.537	0.510	95.0	21 - 150	

* Values outside of QC limits

SECOND COLUMN PESTICIDES ANALYSIS DATA SHEET

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental			Project:	170396002
Matrix:	Soil	Laboratory ID:	19J0144-06	File ID:	PS421860.d
Sampled:	10/02/19 12:05	Prepared:	10/07/19 09:25	Analyzed:	10/08/19 10:38
Solids:	91.18	Preparation:	EPA 3550B/8151A	Initial/Final:	25.2 g / 25 mL
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030
Instrument:	GCECD4				

CAS NO.	COMPOUND	DILUTION	COL 1 (mg/kg dry)	COL 2 (mg/kg dry)	% Diff	Q
93-72-1	2,4,5-TP (Silvex)	1	0.0218	0.0218		U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg dry)	CONC (mg/kg dry)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.544	0.394	72.4	21 - 150	

* Values outside of QC limits

FORM VI

INITIAL CALIBRATION DATA

EPA 8151A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YF90030
Instrument: GCECD4
Calibration Date: 06/26/19 13:43

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
2,4,5-T	0.02	9.76734E+08	0.05	8.453658E+08	0.1	8.058355E+08	0.15	7.993333E+08	0.2	7.575E+08		
2,4,5-T [2C]	0.02	6.594215E+08	0.05	5.581086E+08	0.1	5.188435E+08	0.15	5.020512E+08	0.2	4.698879E+08		
2,4,5-TP (Silvex)	0.02	1.043737E+09	0.05	9.028822E+08	0.1	8.629018E+08	0.15	8.52E+08	0.2	8.09E+08		
2,4,5-TP (Silvex) [2C]	0.02	6.81111E+08	0.05	5.779302E+08	0.1	5.383118E+08	0.15	5.203856E+08	0.2	4.844924E+08		
2,4-D	0.02	2.267461E+08	0.05	1.950063E+08	0.1	1.88827E+08	0.15	1.823132E+08	0.2	1.724556E+08		
2,4-D [2C]	0.02	1.53704E+08	0.05	1.3334E+08	0.1	1.277325E+08	0.15	1.240147E+08	0.2	1.174828E+08		
2,4-DB	0.02	1.093828E+08	0.05	1.006394E+08	0.1	9.403791E+07	0.15	9.515486E+07	0.2	8.980005E+07		
2,4-Dichlorophenylacetic acid (DCAA)	0.2	1.846198E+08	0.3	1.686682E+08	0.4	1.66464E+08	0.5	1.644969E+08	0.6	1.596474E+08		
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.2	1.67454E+08	0.3	1.50933E+08	0.4	1.437687E+08	0.5	1.398013E+08	0.6	1.360924E+08		
Dalapon	0.02		0.05		0.1		0.15		0.2			
Dalapon [2C]	0.02		0.05		0.1		0.15		0.2			
Dicamba	0.02	7.938005E+08	0.05	6.843356E+08	0.1	6.549907E+08	0.15	6.479224E+08	0.2	6.075E+08		
Dicamba [2C]	0.02	7.071345E+08	0.05	5.968472E+08	0.1	5.526684E+08	0.15	5.341741E+08	0.2	4.975336E+08		

FORM VI

INITIAL CALIBRATION DATA (Continued)

EPA 8151A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Calibration: YF90030
Instrument: GCECD4
Calibration Date: 06/26/19 13:43

Compound	Mean RF	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
2,4,5-T	8.369537E+08	10.05093	4.0866	1.053579E-02			20	
2,4,5-T [2C]	5.416625E+08	13.49693	4.66	1.665991E-02			20	
2,4,5-TP (Silvex)	8.941043E+08	10.07467	3.8898	1.919577E-02			20	
2,4,5-TP (Silvex) [2C]	5.604462E+08	13.45026	4.3262	1.057124E-02			20	
2,4-D	1.930697E+08	10.66675	3.3696	1.528609E-02			20	
2,4-D [2C]	1.312548E+08	10.52114	3.7212	7.151129E-03			20	
2,4-DB	9.780302E+07	7.708823	4.5242	1.090455E-02			20	
2,4-Dichlorophenylacetic acid (DCAA)	1.687793E+08	5.605411	2.723	1.599326E-02			20	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	1.476099E+08	8.38805	3.0162	2.019058E-02			20	
Dalapon							20	
Dalapon [2C]							20	
Dicamba	6.777098E+08	10.39557	2.8288	1.598503E-02			20	
Dicamba [2C]	5.776716E+08	13.97461	3.1208	1.926688E-02			20	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418239.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:25 am
Operator : RB
Sample : SEQ-CAL1
Misc : QBP4062619A 0.02/0.2
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 08:36:47 2019
Quant Method : C:\msdchem\1\methods\HERB4062519.M
Quant Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
QLast Update : Tue Jun 25 19:15:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ng/mL	ng/mL
	System Monitoring Compounds						
1)	SA DCAA	2.723	3.017	36923960	33490808	0.328	0.307
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.16%#	0.15%#
	Target Compounds						
2)	M Dicamba	2.829	3.121	15876008	14142691	0.033	0.032
3)	M Dichloroprop	3.245	3.523	4232929	2873222	0.035	0.029
4)	M 2,4-D	3.370	3.722	4534923	3074081	0.034	0.032
5)	M 2,4,5-TP ...	3.890	4.327	20874752	13622219	0.033	0.033
6)	M 2,4,5-T	4.087	4.661	19534684	13188426	0.033	0.033
7)	M 2,4-DB	4.524	5.109	2358214	1632744	0.037m	0.029m
8)	M Dinoseb	5.424	5.393	7555182	6984417	0.033	0.029

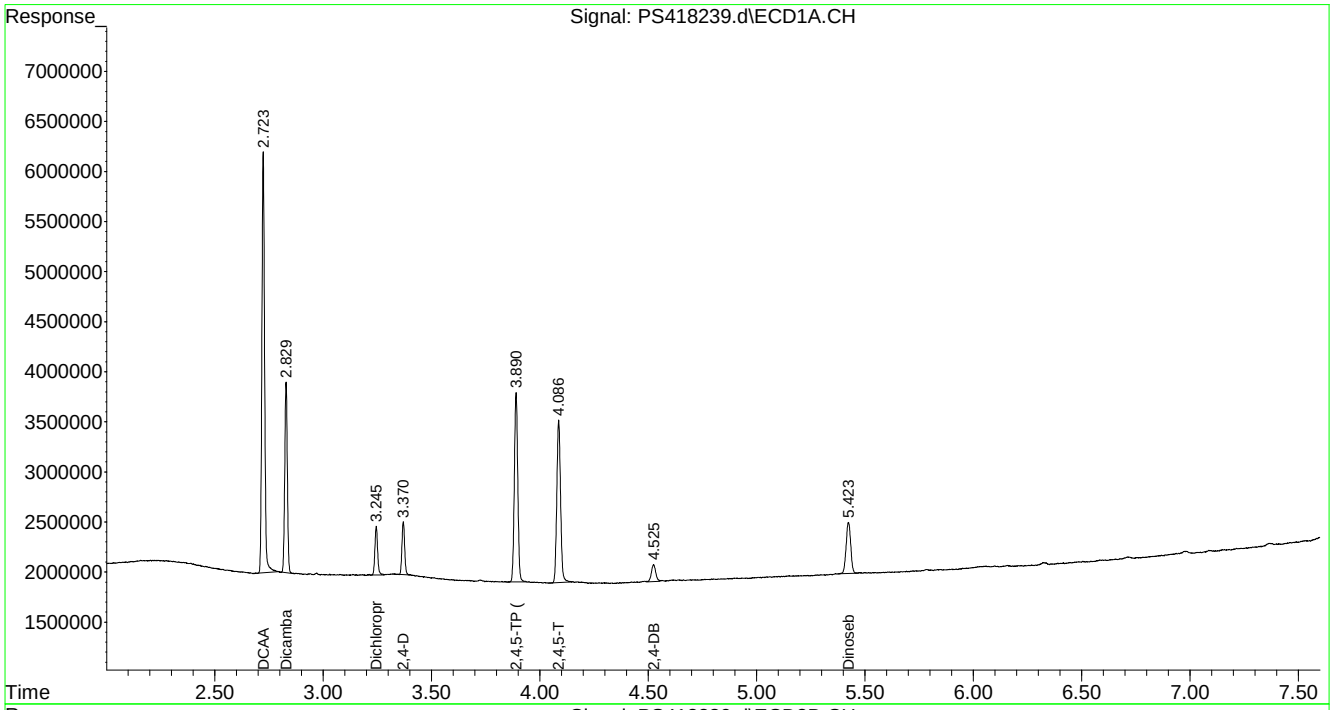
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

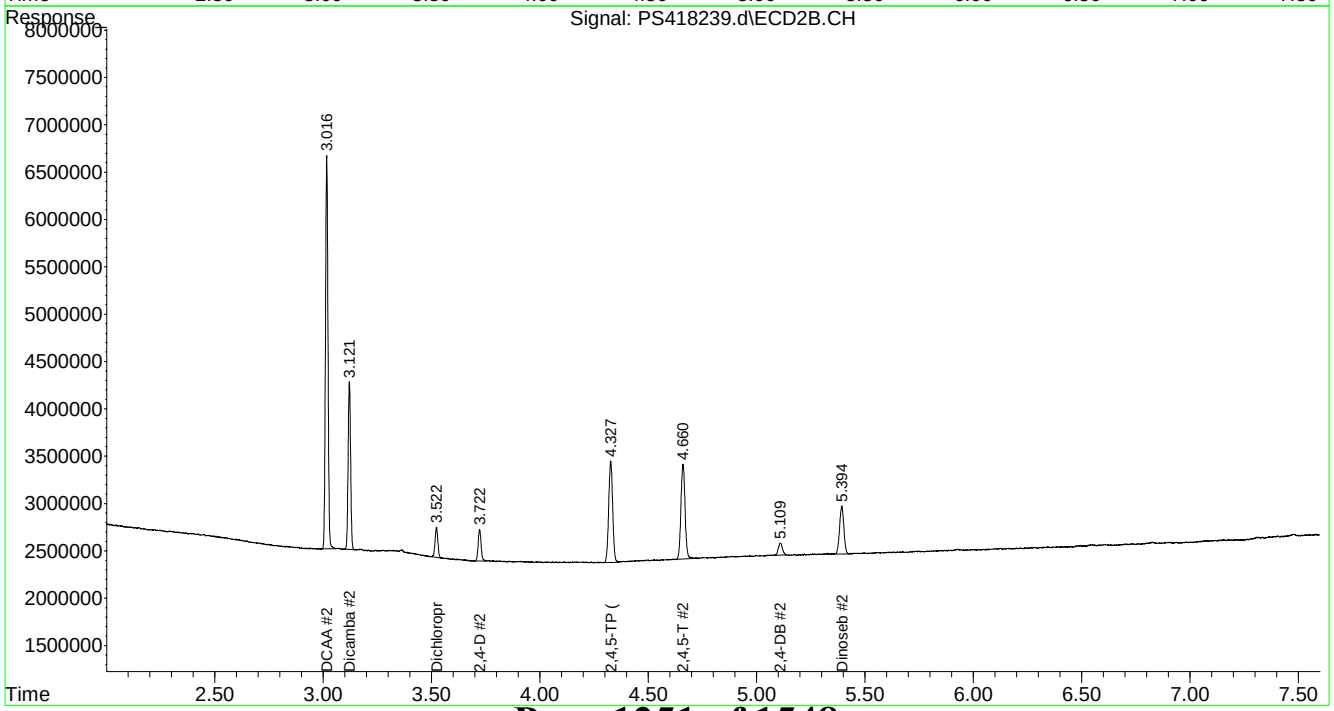
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418239.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:25 am
Operator : RB
Sample : SEQ-CAL1
Misc : QBP4062619A 0.02/0.2
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 08:36:47 2019
Quant Method : C:\msdchem\1\methods\HERB4062519.M
Quant Title : 11/02/16 - Stx-CLP & CLP2 - single tower,dual det
QLast Update : Tue Jun 25 19:15:49 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418240.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:36 am
Operator : RB
Sample : SEQ-CAL2
Misc : QBP4062619A 0.05/0.3
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:46:35 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.723	3.016	50600467	45279886	0.300	0.307
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.15%#	0.15%#
	Target Compounds						
2)	M Dicamba	2.828	3.121	34216784	29842363	0.050	0.052
3)	M Dichloroprop	3.244	3.522	8819109	6073213	0.051	0.051
4)	M 2,4-D	3.369	3.721	9750315	6667001	0.051	0.051
5)	M 2,4,5-TP ...	3.889	4.326	45144112	28896512	0.050	0.052
6)	M 2,4,5-T	4.086	4.659	42268287	27905427	0.050	0.052
7)	M 2,4-DB	4.524	5.109	5031971	3824101	0.051	0.051
8)	M Dinoseb	5.423	5.392	16207558	15171268	0.050	0.051

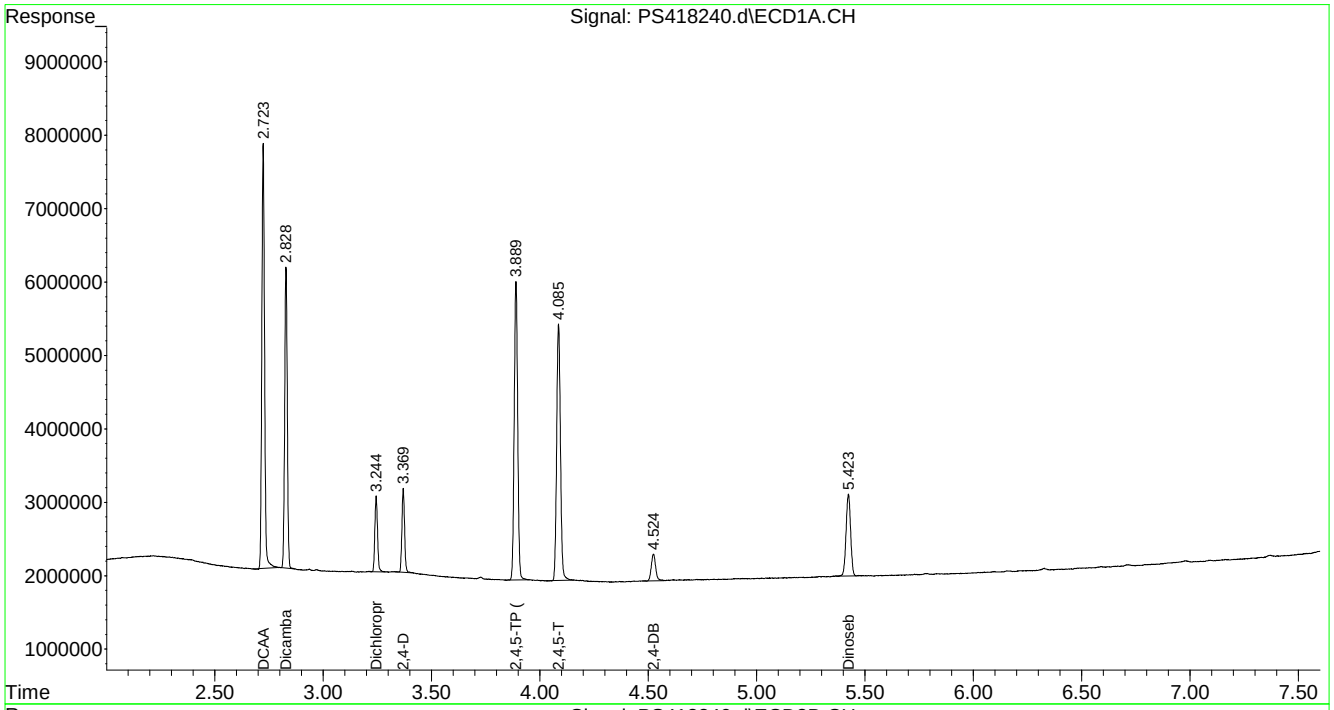
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

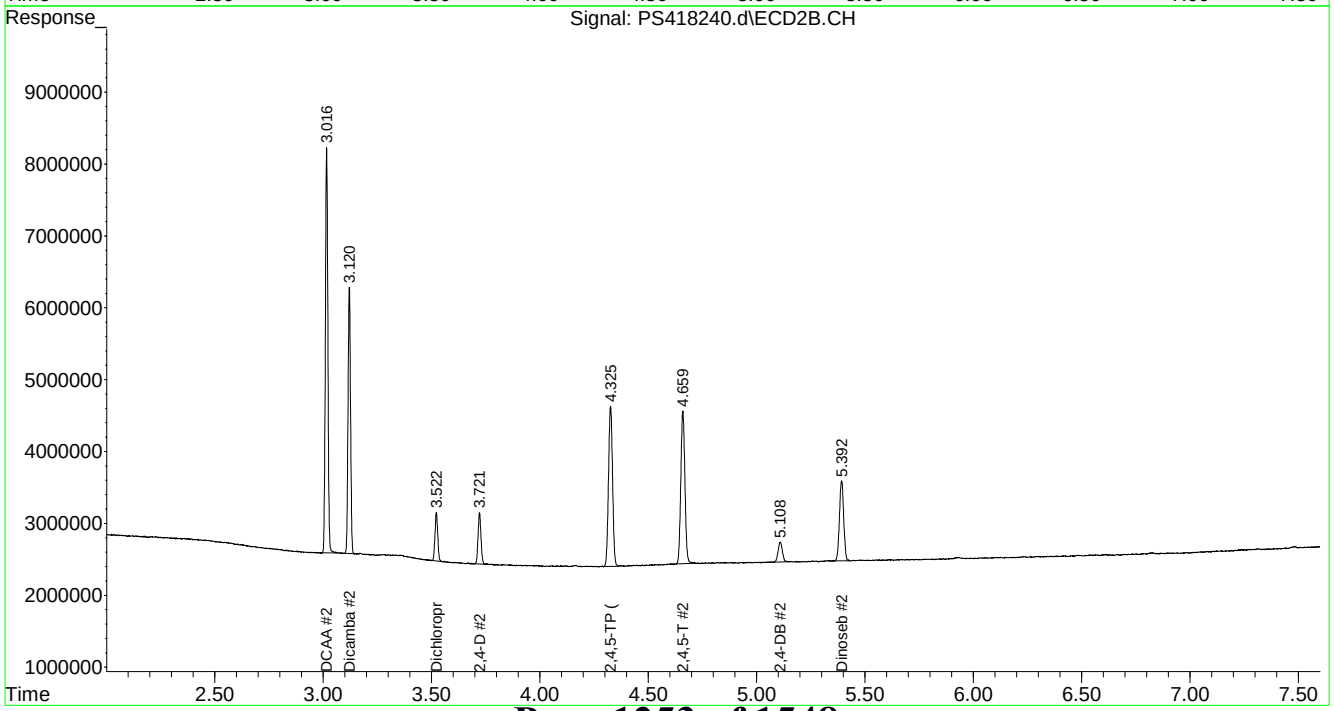
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418240.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:36 am
Operator : RB
Sample : SEQ-CAL2
Misc : QBP4062619A 0.05/0.3
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:46:35 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418241.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:46 am
Operator : RB
Sample : SEQ-CAL3
Misc : QBP4062619A 0.10/0.4
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:46:54 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.723	3.016	66585619	57507455	0.395	0.390
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.20%#	0.20%#
	Target Compounds						
2)	M Dicamba	2.829	3.120	65499072	55266842	0.097	0.096
3)	M Dichloroprop	3.245	3.522	16825082	11351108	0.097	0.096
4)	M 2,4-D	3.370	3.721	18882699	12773246	0.098	0.097
5)	M 2,4,5-TP ...	3.890	4.326	86290179	53831179	0.097	0.096
6)	M 2,4,5-T	4.087	4.660	80583556	51884351	0.096	0.096
7)	M 2,4-DB	4.524	5.109	9403791	7719368	0.095	0.103
8)	M Dinoseb	5.424	5.393	31266281	28894423	0.097	0.097

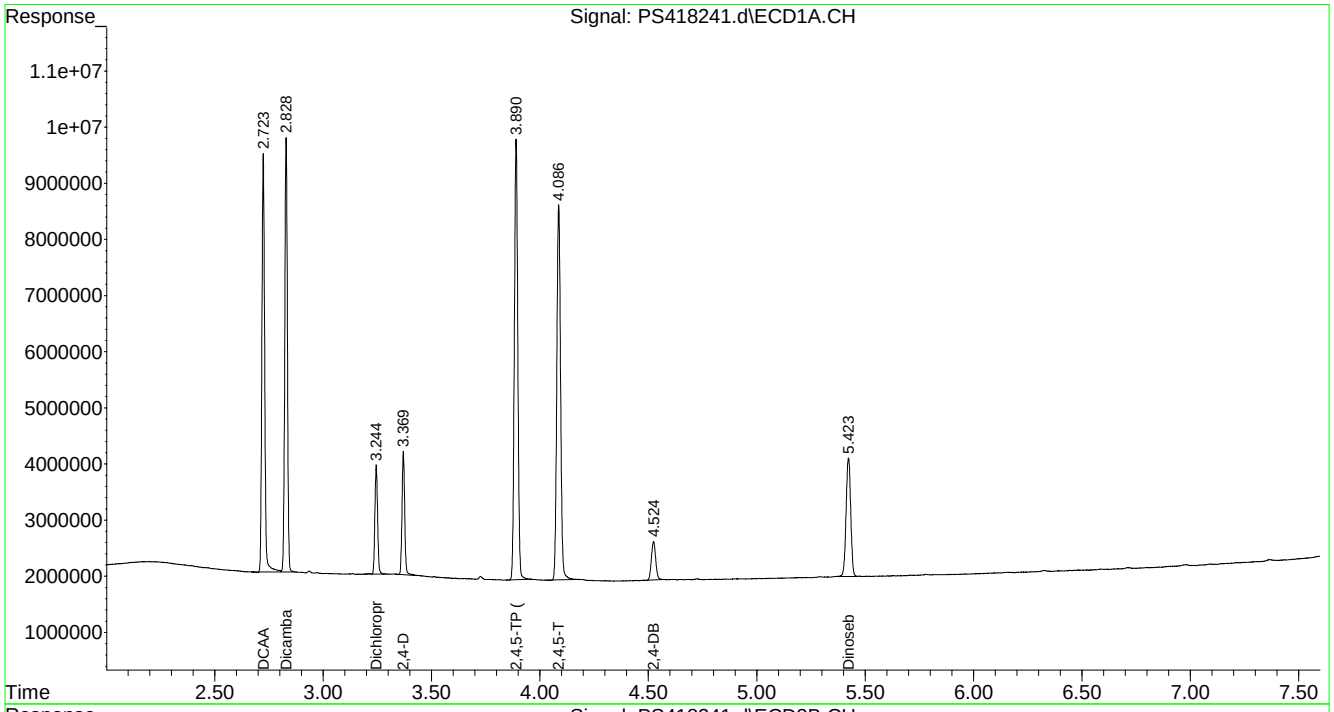
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

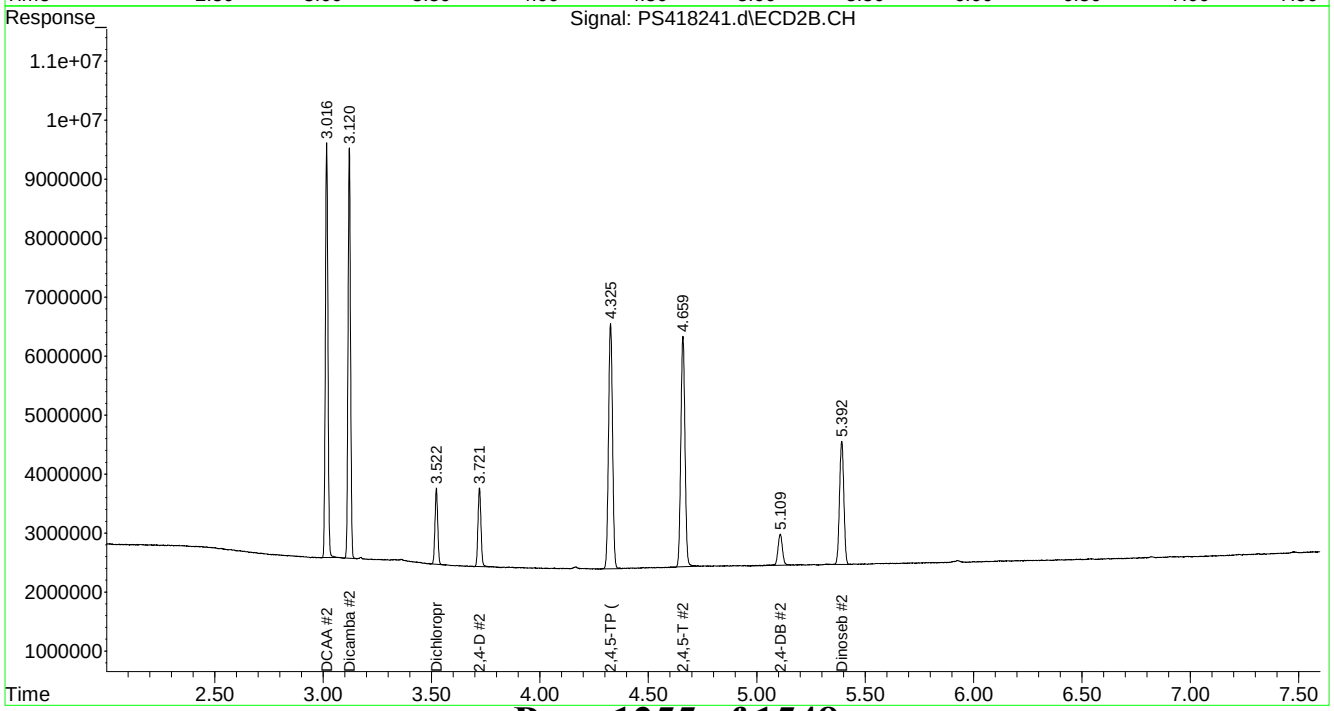
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418241.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:46 am
Operator : RB
Sample : SEQ-CAL3
Misc : QBP4062619A 0.10/0.4
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:46:54 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418242.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:57 am
Operator : RB
Sample : SEQ-CAL4
Misc : QBP4062619A 0.15/0.5
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:12 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.723	3.016	82248448	69900640	0.487	0.474
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.24%#	0.24%#
	Target Compounds						
2)	M Dicamba	2.829	3.121	97188361	80126112	0.143	0.139
3)	M Dichloroprop	3.245	3.522	24405587	16554438	0.140	0.140
4)	M 2,4-D	3.369	3.721	27346979	18602195	0.142	0.142
5)	M 2,4,5-TP ...	3.890	4.326	127.8E6	78057840	0.143	0.139
6)	M 2,4,5-T	4.086	4.660	119.9E6	75307681	0.143	0.139
7)	M 2,4-DB	4.524	5.109	14273227	10841956	0.143	0.144
8)	M Dinoseb	5.423	5.393	46238128	42772951	0.143	0.143

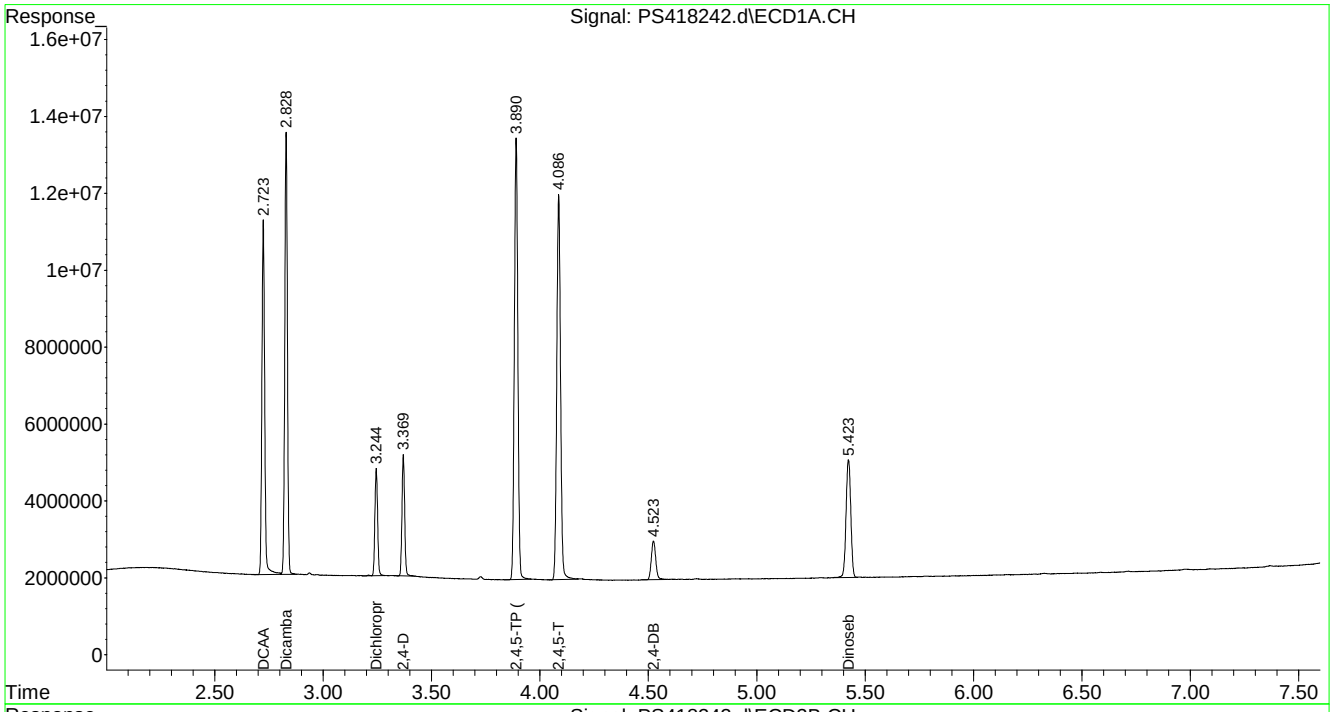
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

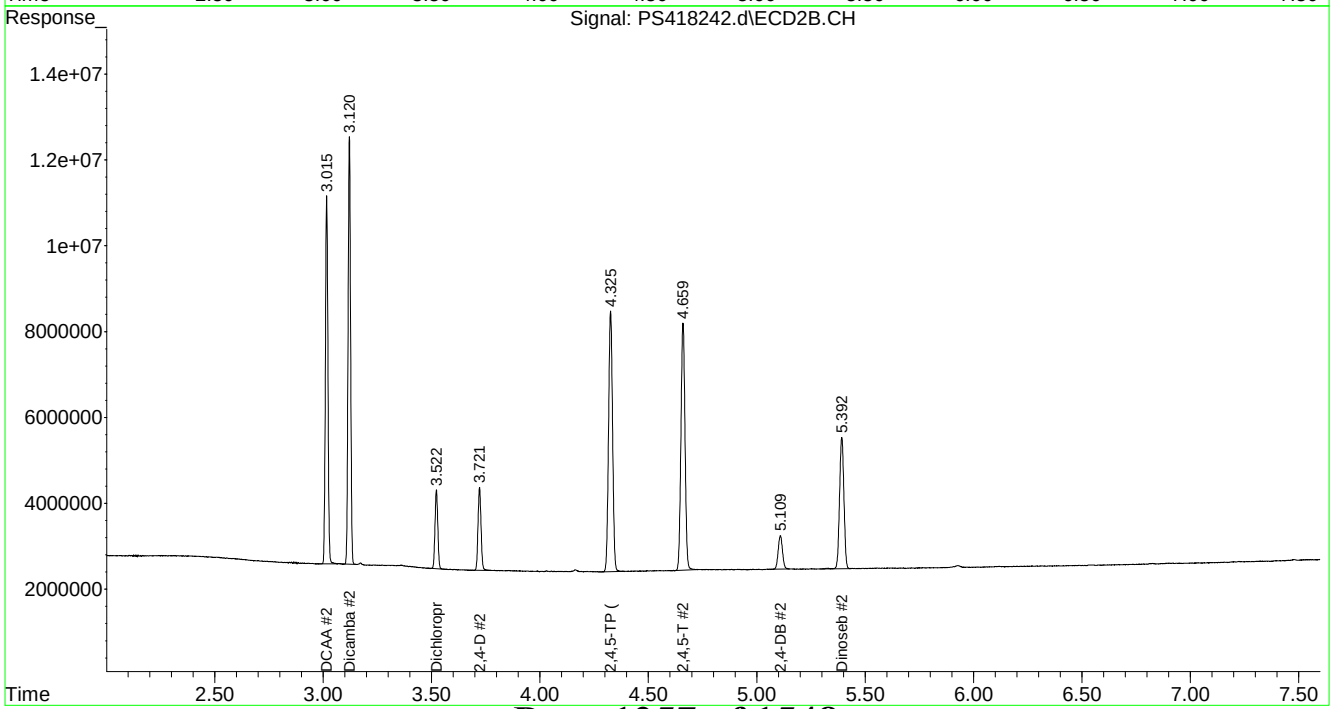
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418242.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 8:57 am
Operator : RB
Sample : SEQ-CAL4
Misc : QBP4062619A 0.15/0.5
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:12 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418243.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 9:08 am
Operator : RB
Sample : SEQ-CAL5
Misc : QBP4062619A 0.20/0.6
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:18 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.723	3.016	95788428	81655448	0.568	0.553
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.28%#	0.28%#
	Target Compounds						
2)	M Dicamba	2.829	3.121	121.5E6	99506720	0.179	0.172
3)	M Dichloroprop	3.245	3.522	30460518	20546130	0.175	0.174
4)	M 2,4-D	3.370	3.721	34491128	23496569	0.179	0.179
5)	M 2,4,5-TP ...	3.890	4.326	161.8E6	96898475	0.181	0.173
6)	M 2,4,5-T	4.087	4.660	151.5E6	93977587	0.181	0.173
7)	M 2,4-DB	4.525	5.109	17960011	13775432	0.180	0.183
8)	M Dinoseb	5.424	5.393	59110448	53783342	0.183	0.180

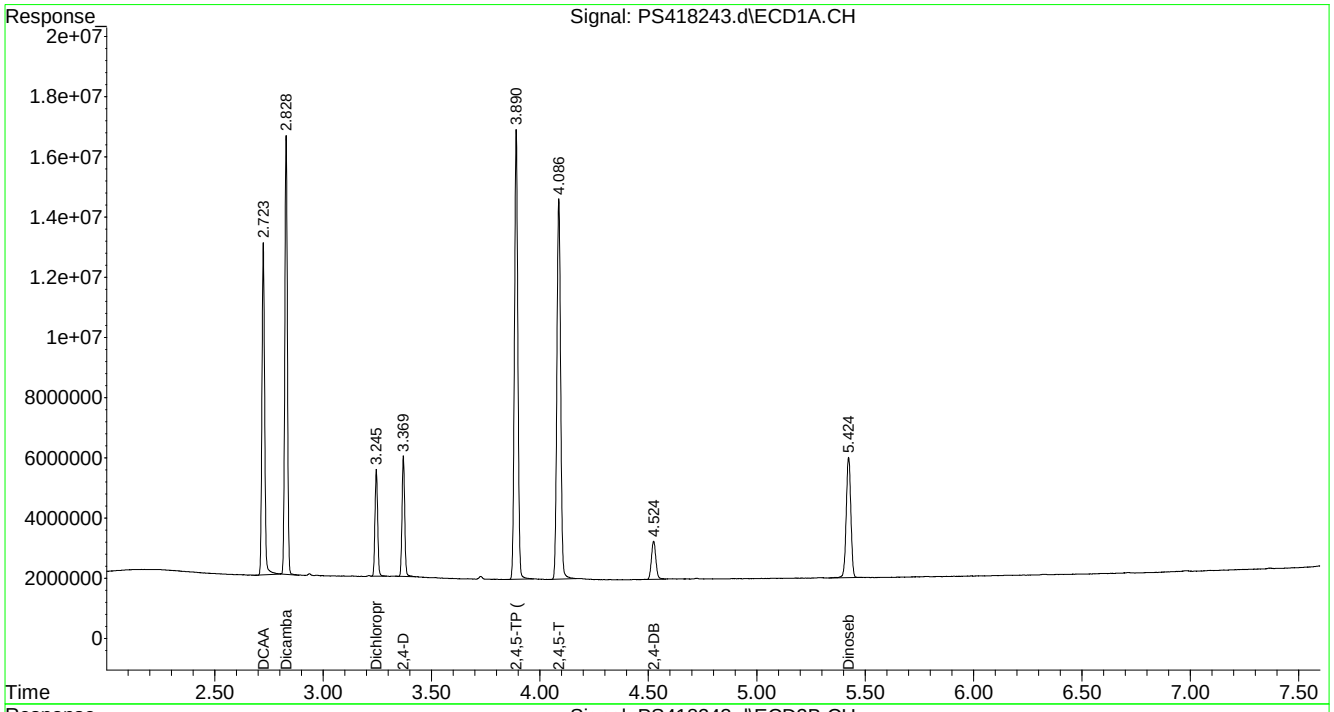
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

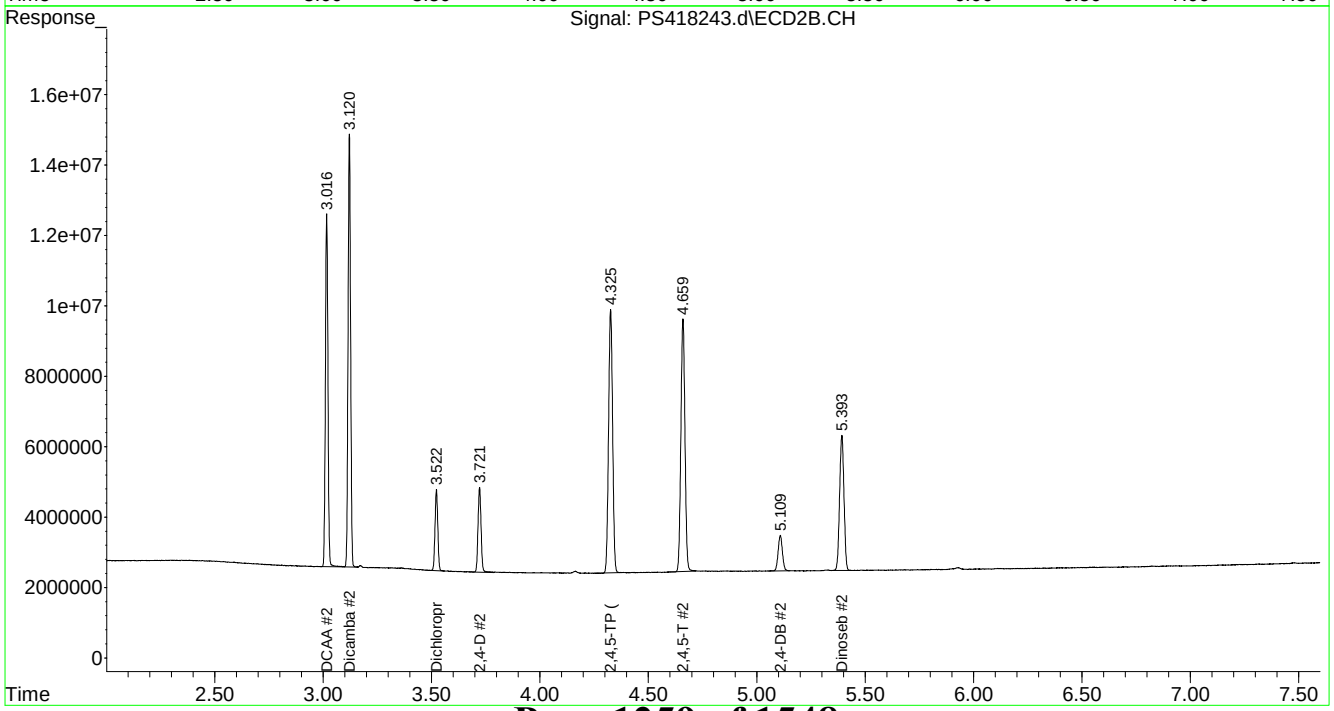
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418243.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 9:08 am
Operator : RB
Sample : SEQ-CAL5
Misc : QBP4062619A 0.20/0.6
InstName : GCECD4
ALS Vial : 6 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:18 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8151A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Calibration: YF90030 **Laboratory ID:** Y9F2624-SCV1

Sequence: Y9F2624 **Standard ID:** Y19C093

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DIFF	QC LIMIT
2,4,5-TP (Silvex)	0.100	0.0960	-4.0	20.00
2,4,5-TP (Silvex) [2C]	0.100	0.0950	-5.0	20.00
2,4-Dichlorophenylacetic acid (DCAA)	0.500	0.385	-23.0	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.500	0.379	-24.2	

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418245.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 9:41 am
Operator : RB
Sample : SEQ-SCV1
Misc : QBP4062619A 0.10
InstName : GCECD4
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:29 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.724	3.016	64939720	56016380	0.385	0.379
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.19%#	0.19%#
	Target Compounds						
2)	M Dicamba	2.829	3.121	64569888	53817912	0.095	0.093
3)	M Dichloroprop	3.245	3.522	16453724	11172605	0.094	0.094
4)	M 2,4-D	3.370	3.721	18656591	12764148	0.097	0.097
5)	M 2,4,5-TP ...	3.890	4.326	85597317	53025586	0.096	0.095
6)	M 2,4,5-T	4.087	4.660	80107704	51031467	0.096	0.094
7)	M 2,4-DB	4.525	5.109	9321432	7297225	0.094	0.097
8)	M Dinoseb	5.424	5.393	30762476	29006781	0.095	0.097

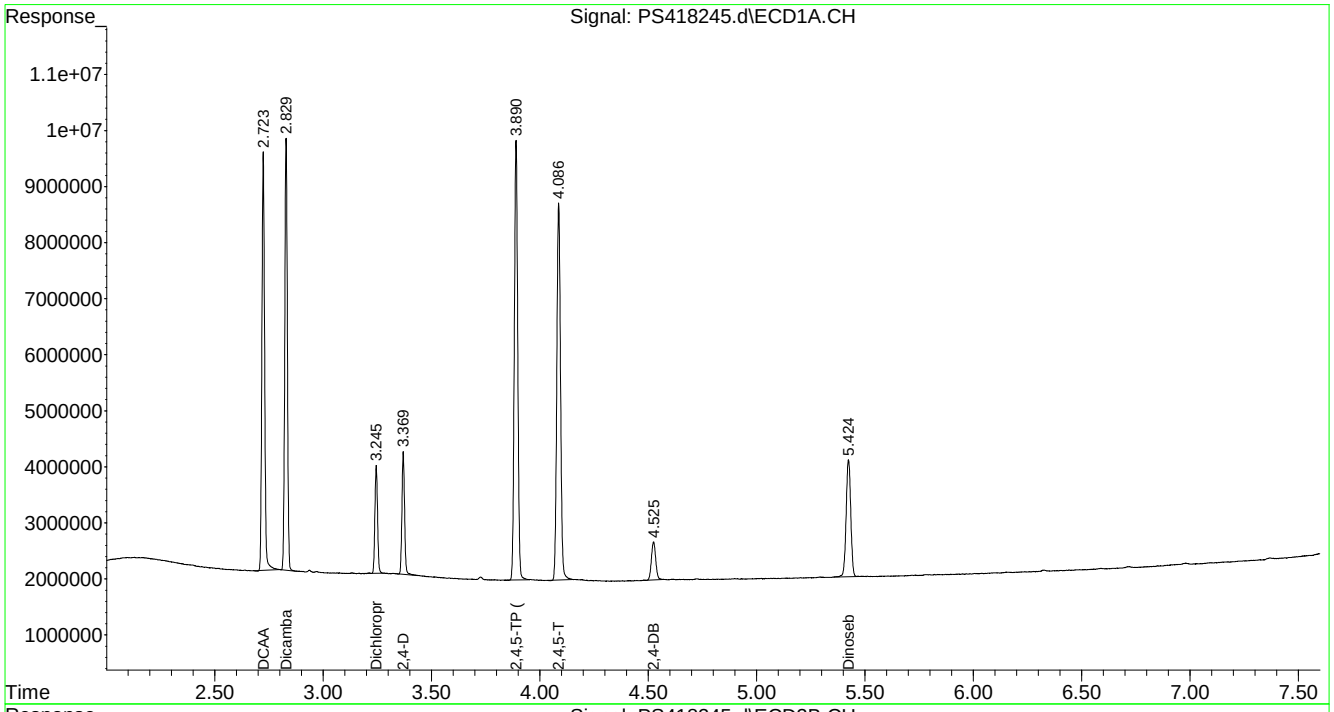
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

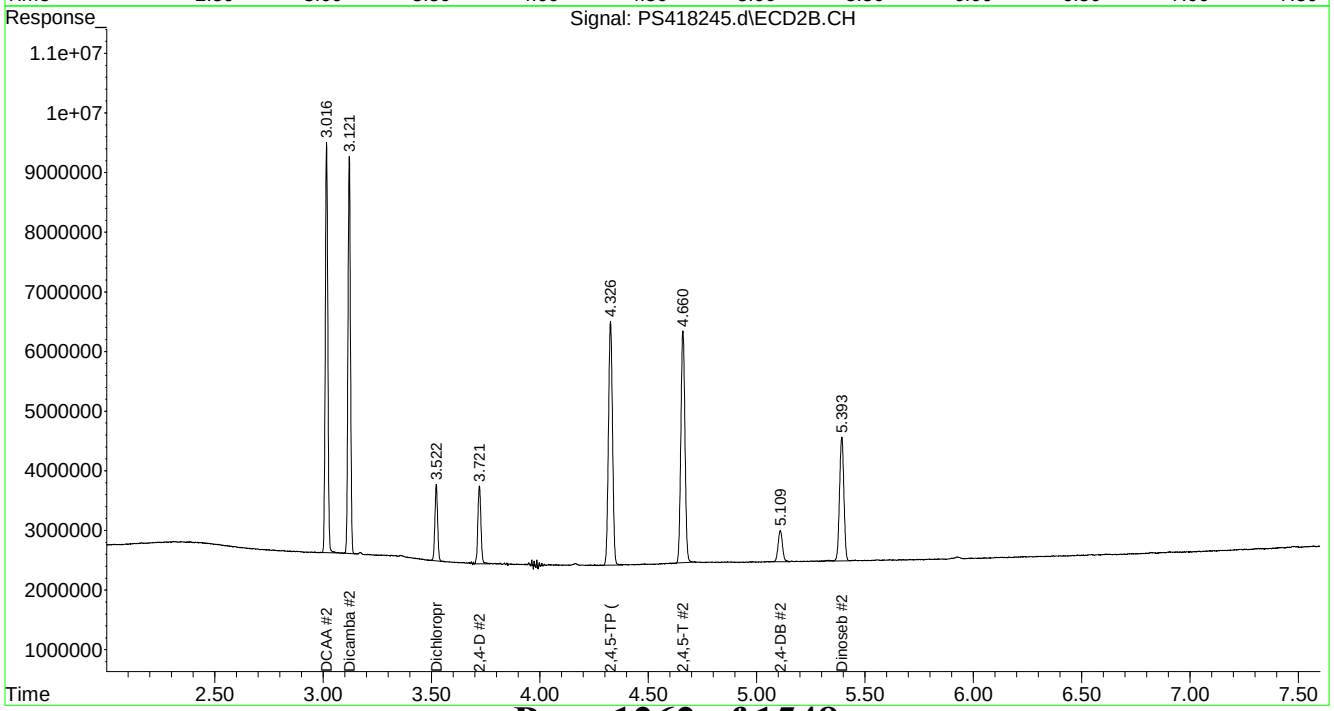
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\062619\
Data File : PS418245.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 26 Jun 2019 9:41 am
Operator : RB
Sample : SEQ-SCV1
Misc : QBP4062619A 0.10
InstName : GCECD4
ALS Vial : 7 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Jun 26 14:47:29 2019
Quant Method : C:\msdchem\1\methods\HERB4062619.M
Quant Title : ug/mL
QLast Update : Wed Jun 26 09:17:08 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421855.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV1	Injection Time:	09:45

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.101	8.941043E+08	9.697793E+08		8.5	20
2,4,5-TP (Silvex) [2C]	A	0.100	0.0890	5.604462E+08	5.027902E+08		-10.3	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421855.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 9:45 am
Operator : SR
Sample : SEQ-CCV1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 09:53:31 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.712	3.006	64763731	39020184	0.725	0.593
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.36%#	0.30%#
	Target Compounds						
2)	M Dicamba	2.817	3.110	73436903	41376819	0.104	0.088
3)	M Dichloroprop	3.232	3.512	20404735	17147154	0.106	0.140 #
4)	M 2,4-D	3.356	3.708	22470051	17882041	0.108	0.133
5)	M 2,4,5-TP ...	3.872	4.309	96977928	50279024	0.101	0.089
6)	M 2,4,5-T	4.066	4.642	85037030	45617746	0.096	0.086
7)	M 2,4-DB	4.501	5.090	12983049	7853151	0.120	0.107
8)	M Dinoseb	5.399	5.374	32601666	18093540	0.066	0.058

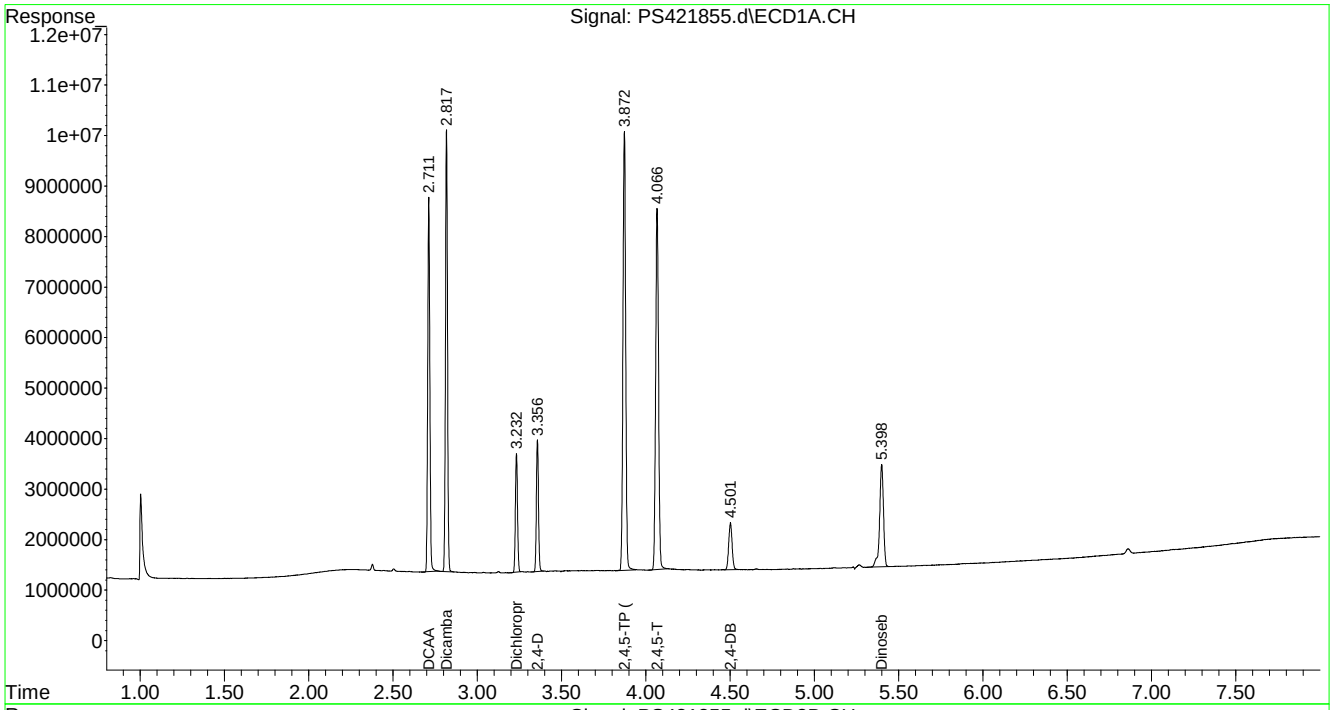
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

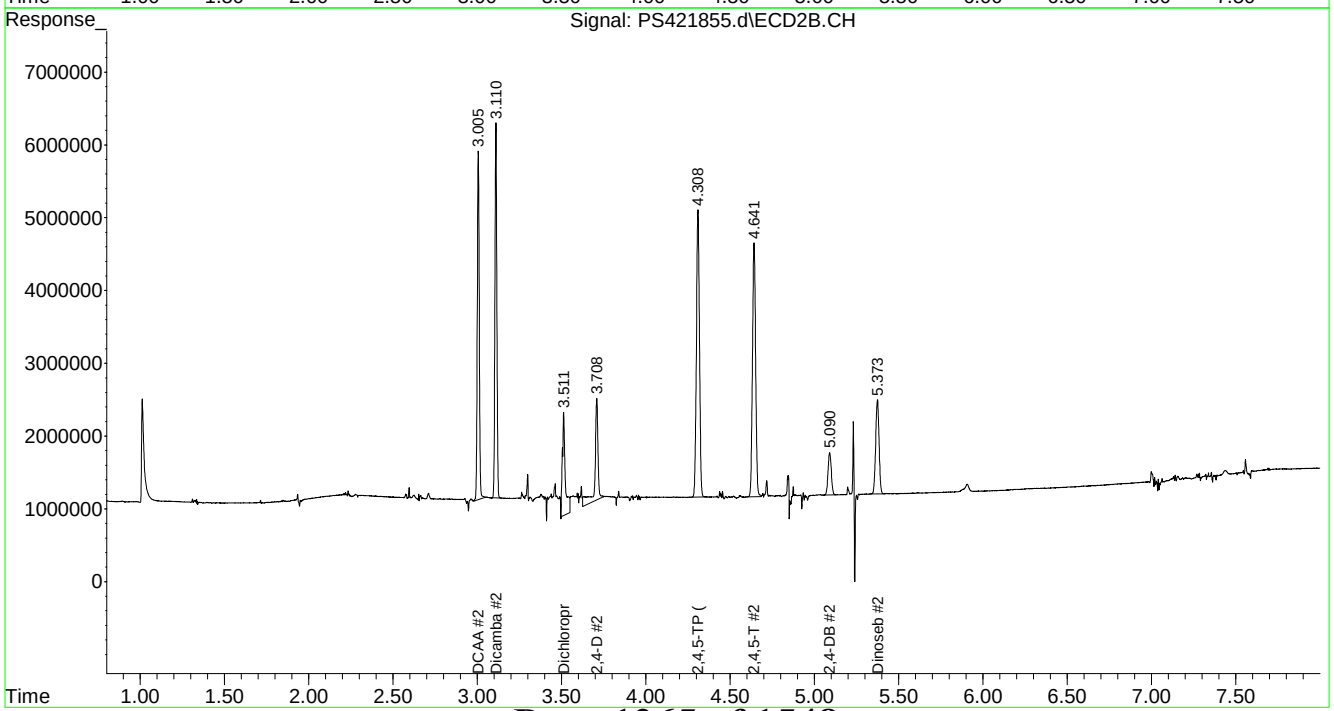
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421855.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 9:45 am
Operator : SR
Sample : SEQ-CCV1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 09:53:31 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421875.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV2	Injection Time:	13:19

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.126	8.941043E+08	1.207E+09		35.0	20 *
2,4,5-TP (Silvex) [2C]	A	0.100	0.109	5.604462E+08	6.206818E+08		10.7	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421875.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 13:19 pm
Operator : SR
Sample : SEQ-CCV2
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 14:59:17 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	76411537	46446370	0.855	0.706
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.43%#	0.35%#
	Target Compounds						
2)	M Dicamba	2.816	3.111	90307837	52577533	0.128	0.112
3)	M Dichloroprop	3.232	3.511	25249984	13890288	0.131	0.113
4)	M 2,4-D	3.356	3.709	28054669	15623764	0.135	0.116
5)	M 2,4,5-TP ...	3.872	4.310	120.7E6	62068181	0.126	0.109
6)	M 2,4,5-T	4.066	4.643	108.4E6	56455038	0.122	0.106
7)	M 2,4-DB	4.501	5.091	16422676	9816507	0.152	0.134
8)	M Dinoseb	5.398	5.374	40651414	20799520	0.082	0.066

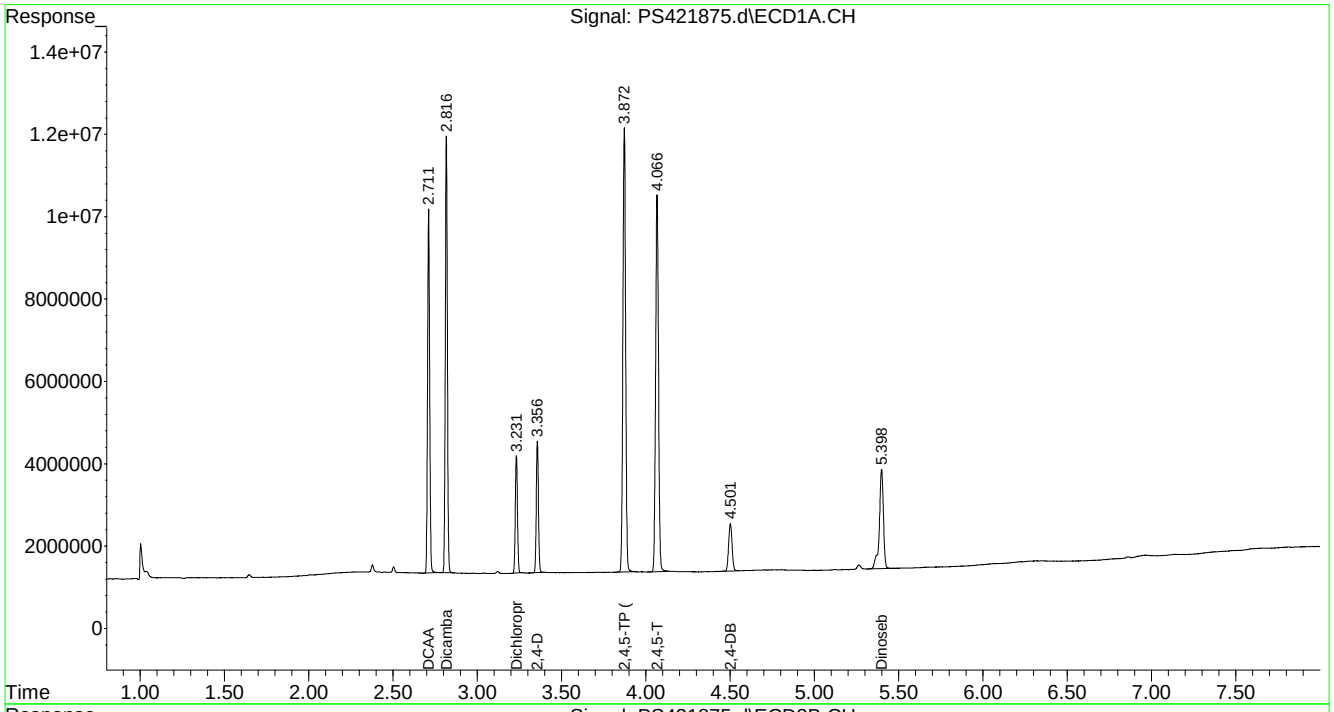
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

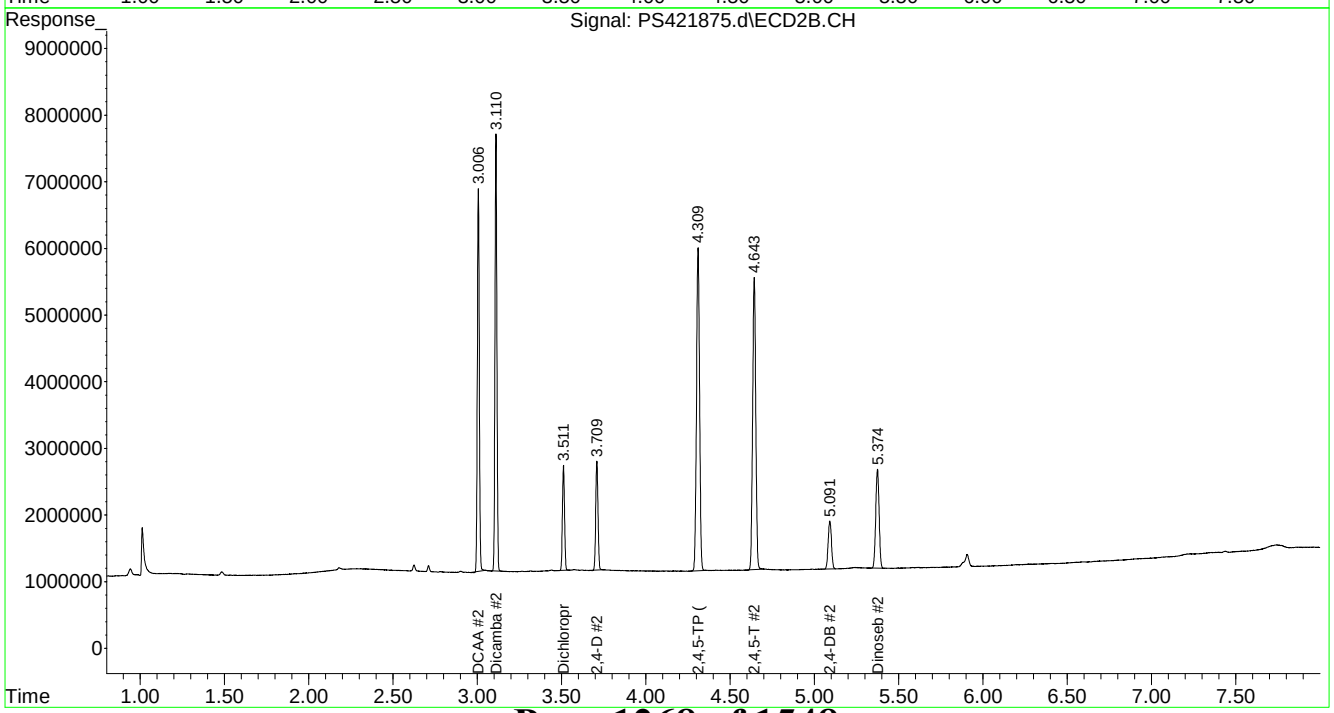
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421875.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 13:19 pm
Operator : SR
Sample : SEQ-CCV2
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 14:59:17 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421893.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV3	Injection Time:	16:32

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.124	8.941043E+08	1.188E+09		32.9	20 *
2,4,5-TP (Silvex) [2C]	A	0.100	0.106	5.604462E+08	6.0303E+08		7.6	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421893.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 16:32 pm
Operator : SR
Sample : SEQ-CCV3
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 16:42:15 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.712	3.006	75054531	44472222	0.840	0.676
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.42%#	0.34%#
	Target Compounds						
2)	M Dicamba	2.817	3.110	89026371	50621118	0.126	0.108
3)	M Dichloroprop	3.232	3.511	25125040	13771051	0.131	0.112
4)	M 2,4-D	3.357	3.709	27482824	21125563	0.132	0.157
5)	M 2,4,5-TP ...	3.872	4.310	118.8E6	60303001	0.124	0.106
6)	M 2,4,5-T	4.067	4.643	105.2E6	53836867	0.119	0.101
7)	M 2,4-DB	4.501	5.091	15108570	9817196	0.140m	0.134
8)	M Dinoseb	5.399	5.374	37484424	19280489	0.075	0.061

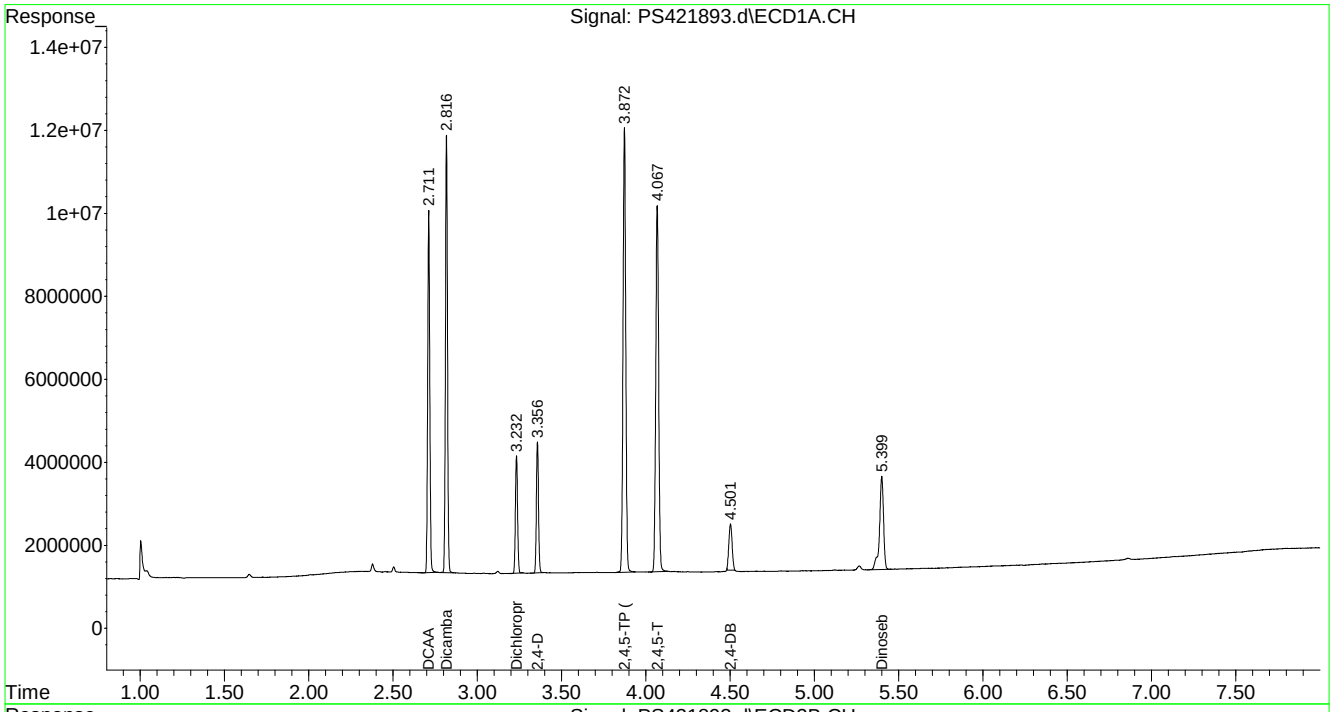
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

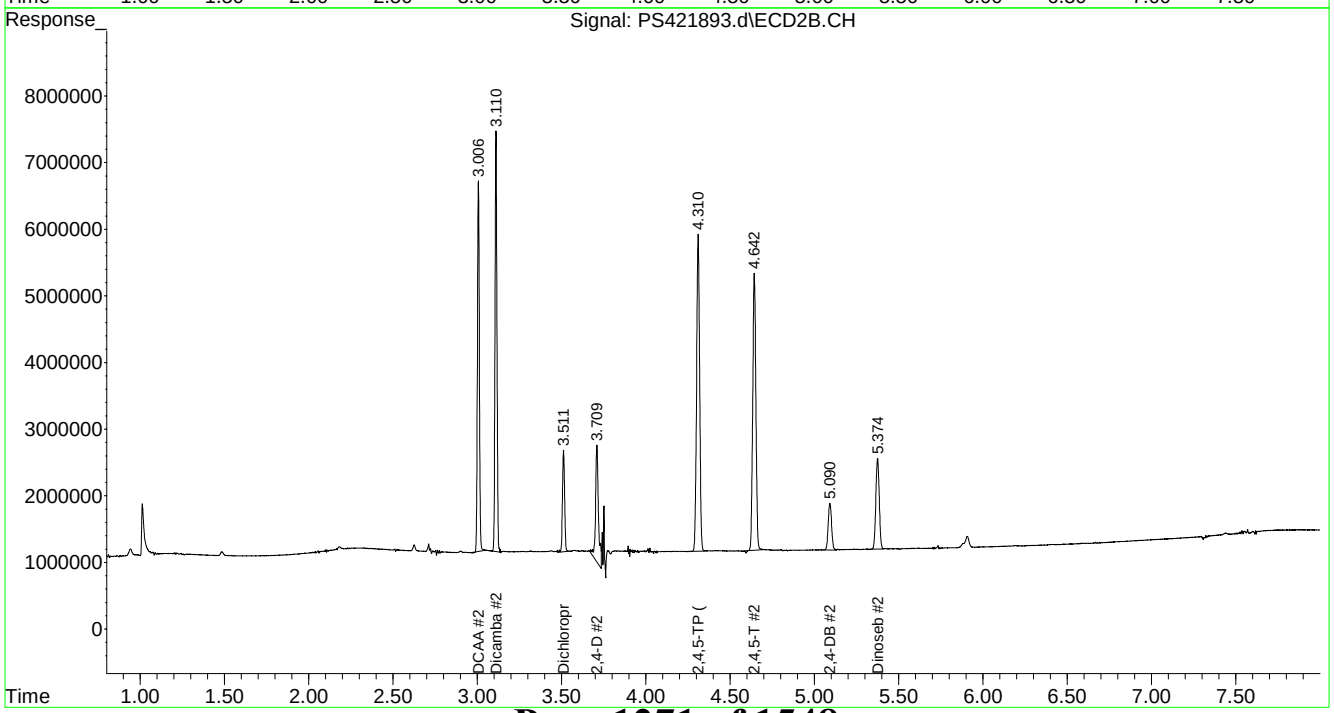
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421893.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 16:32 pm
Operator : SR
Sample : SEQ-CCV3
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 16:42:15 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421898.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV4	Injection Time:	19:00

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.121	8.941043E+08	1.158E+09		29.5	20 *
2,4,5-TP (Silvex) [2C]	A	0.100	0.104	5.604462E+08	5.886246E+08		5.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421898.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 19:00 pm
Operator : SR
Sample : SEQ-CCV4
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 11:56:28 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.712	3.006	73625896	43797744	0.824	0.666
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.41%#	0.33%#
	Target Compounds						
2)	M Dicamba	2.817	3.110	87238627	49754416	0.123	0.106
3)	M Dichloroprop	3.232	3.511	24346510	13249778	0.127	0.108
4)	M 2,4-D	3.357	3.709	26587317	14707193	0.128	0.109
5)	M 2,4,5-TP ...	3.872	4.309	115.8E6	58862462	0.121	0.104
6)	M 2,4,5-T	4.067	4.642	101.1E6	52444354	0.114	0.099
7)	M 2,4-DB	4.502	5.091	15750937	9354635	0.146	0.128
8)	M Dinoseb	5.400	5.374	35129436	18314816	0.071	0.058

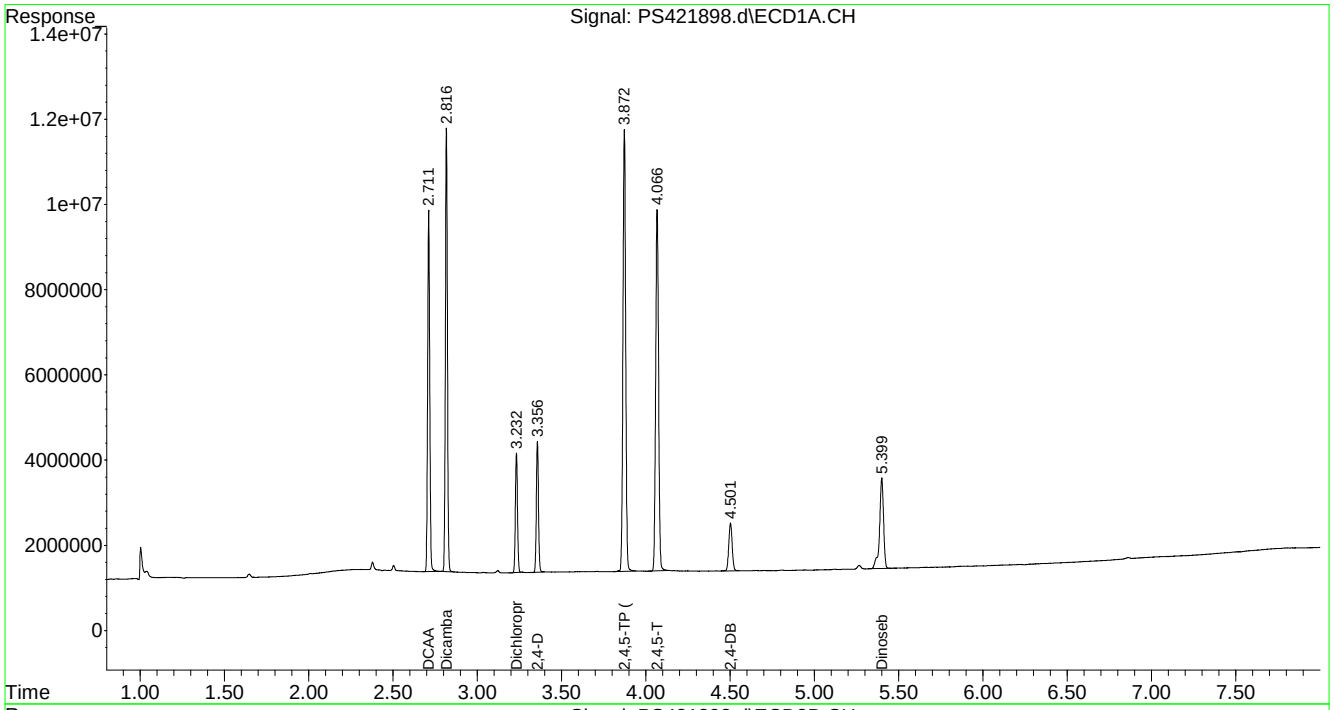
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

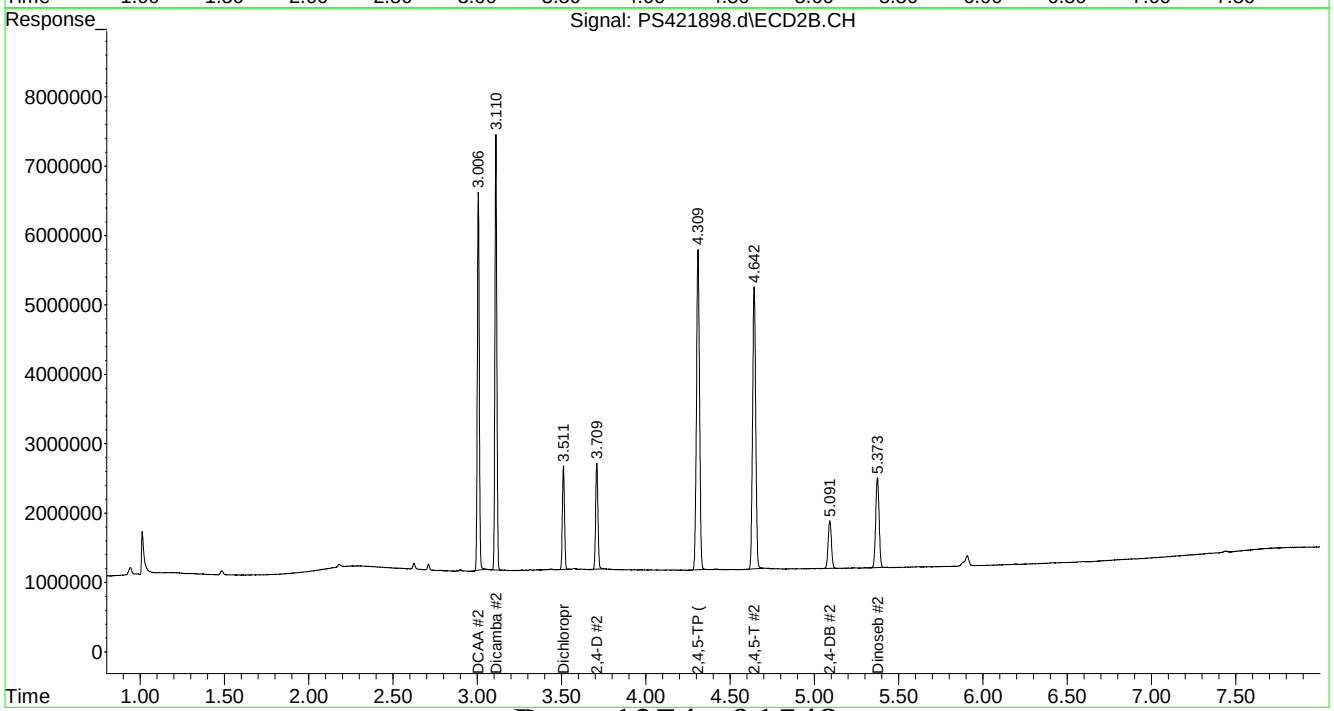
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421898.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 19:00 pm
Operator : SR
Sample : SEQ-CCV4
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 11:56:28 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421919.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV5	Injection Time:	22:45

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.0990	8.941043E+08	9.554518E+08		6.9	20
2,4,5-TP (Silvex) [2C]	A	0.100	0.0880	5.604462E+08	4.986273E+08		-11.0	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421919.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 22:45 pm
Operator : SR
Sample : SEQ-CCV5
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 12:06:14 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	61778167	38066489	0.691	0.579
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.35%#	0.29%#
	Target Compounds						
2)	M Dicamba	2.816	3.111	71664094	42455359	0.101	0.091
3)	M Dichloroprop	3.232	3.511	19954007	11332178	0.104	0.092
4)	M 2,4-D	3.357	3.709	22486853	12690394	0.108	0.094
5)	M 2,4,5-TP ...	3.872	4.310	95545179	49862728	0.099	0.088
6)	M 2,4,5-T	4.067	4.644	86968232	45873287	0.098	0.086
7)	M 2,4-DB	4.502	5.092	13547192	7676751	0.126	0.105
8)	M Dinoseb	5.399	5.375	26945449	15549723	0.054	0.050

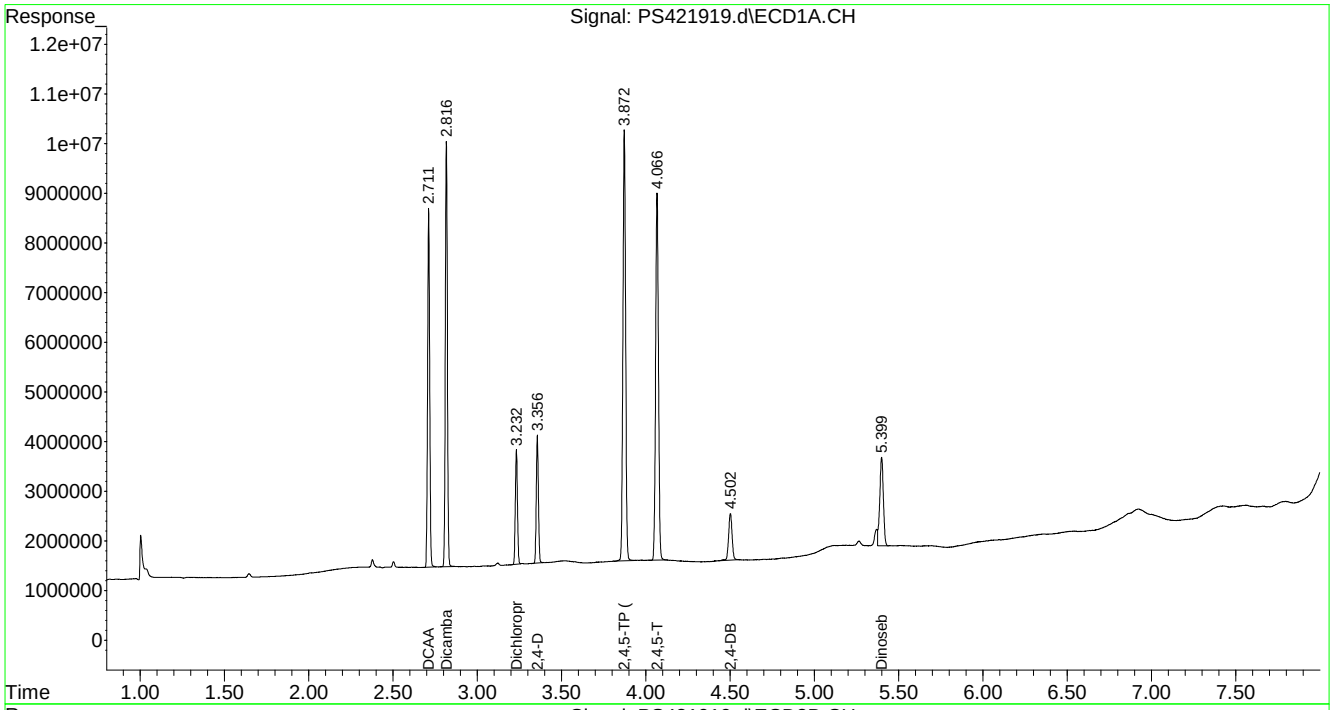
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

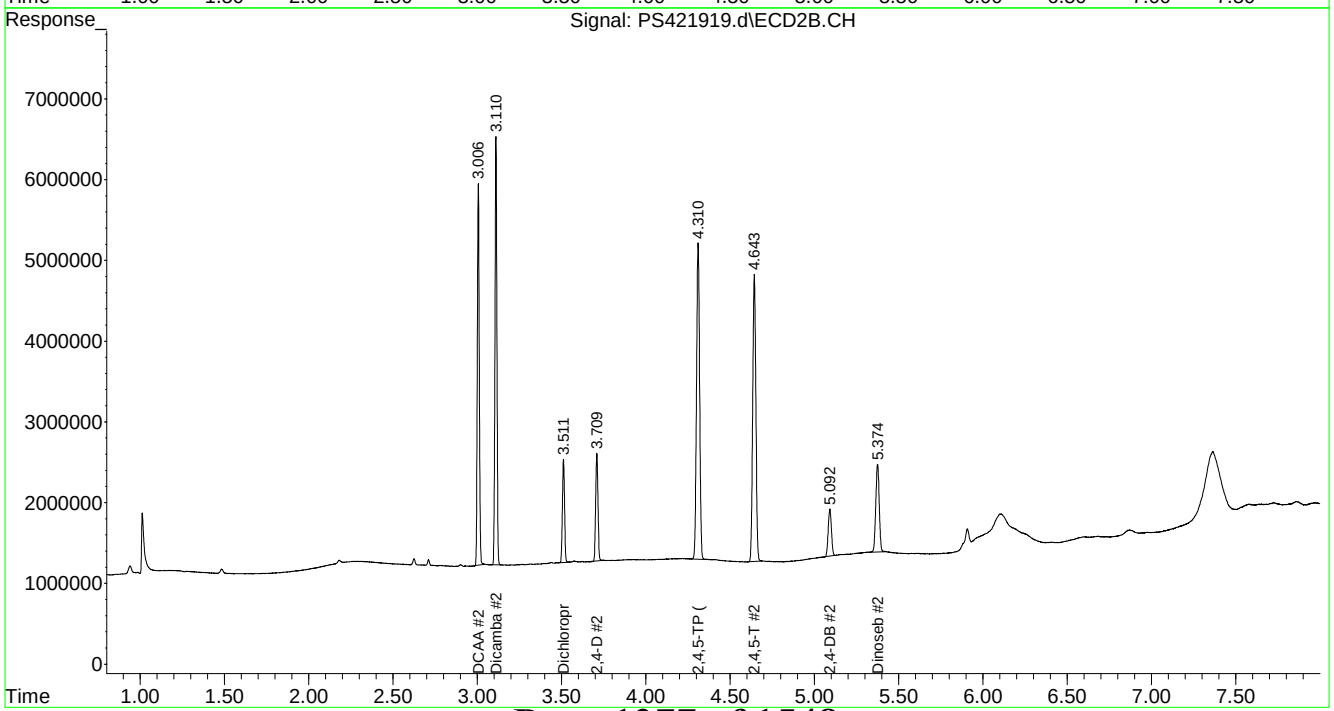
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421919.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 22:45 pm
Operator : SR
Sample : SEQ-CCV5
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 12:06:14 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM VII

CONTINUING CALIBRATION CHECK

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC	Project:	170396002
Instrument ID:	GCECD4	Calibration:	YF90030
Lab File ID:	PS421924.d	Calibration Date:	06/26/19 13:43
Sequence:	Y9J0848	Injection Date:	10/08/19
Lab Sample ID:	Y9J0848-CCV6	Injection Time:	23:39

		CONC. (ug/mL)		RESPONSE FACTOR			% DIFF / DRIFT	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2,4,5-TP (Silvex)	A	0.100	0.117	8.941043E+08	1.129E+09		26.3	20 *
2,4,5-TP (Silvex) [2C]	A	0.100	0.104	5.604462E+08	5.879128E+08		4.9	20

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421924.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 23:39 pm
Operator : SR
Sample : SEQ-CCV6
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 12:08:02 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	72097169	44300792	0.807	0.673
	Spiked Amount 200.000	Range 30 - 150		Recovery =		0.40%#	0.34%#
	Target Compounds						
2)	M Dicamba	2.817	3.111	84365580	49794958	0.119	0.106
3)	M Dichloroprop	3.232	3.511	23289868	13125352	0.121	0.107
4)	M 2,4-D	3.356	3.709	26085662	14864829	0.126	0.110
5)	M 2,4,5-TP ...	3.872	4.310	112.9E6	58791281	0.117	0.104
6)	M 2,4,5-T	4.067	4.644	102.0E6	53520631	0.115	0.101
7)	M 2,4-DB	4.502	5.092	15294348	9338332	0.142	0.127
8)	M Dinoseb	5.400	5.375	35878048	17960329	0.072	0.057

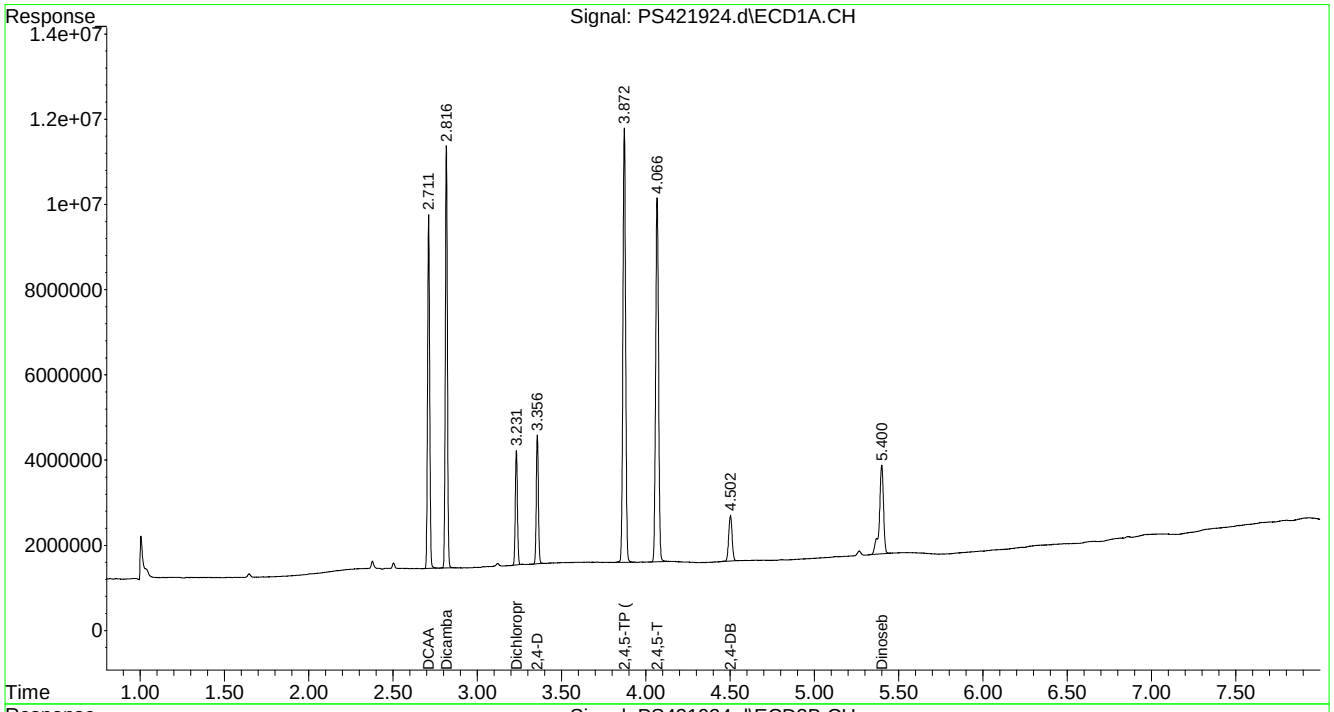
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

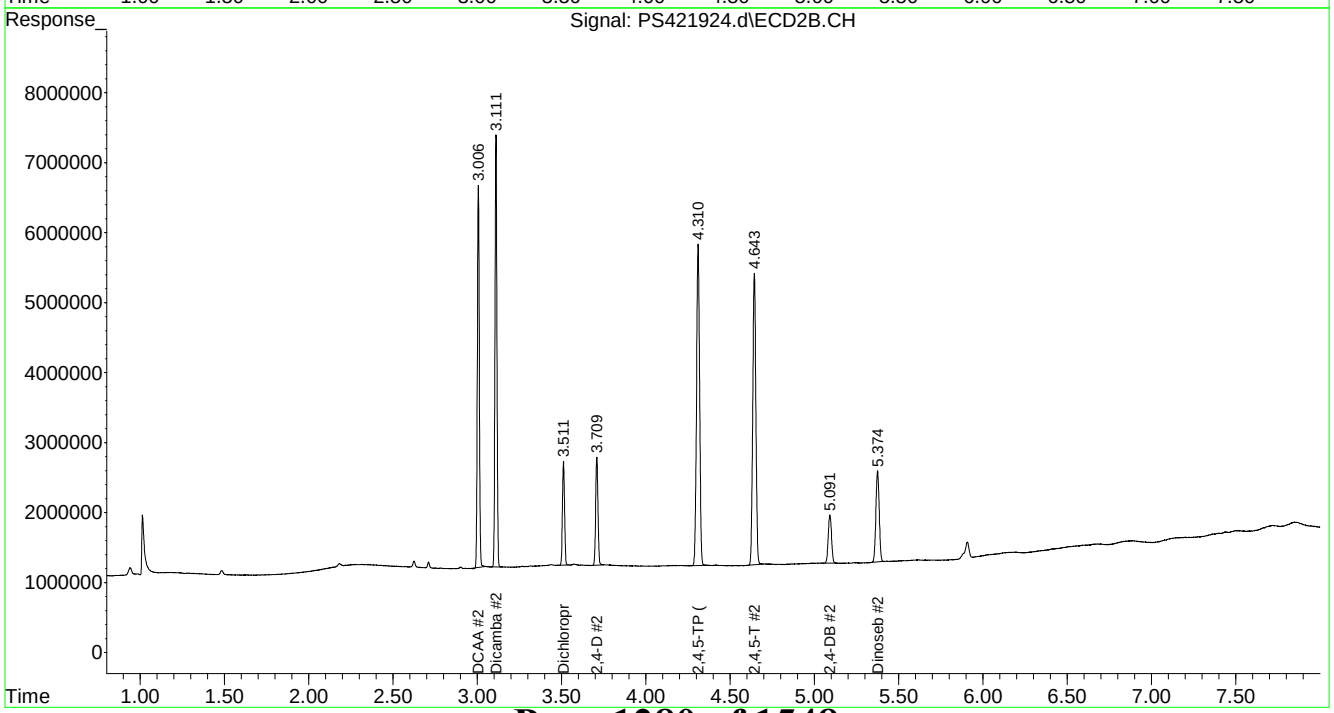
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421924.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 23:39 pm
Operator : SR
Sample : SEQ-CCV6
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 1 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 09 12:08:02 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9F2624	Instrument:	GCECD4
		Calibration:	YF90030

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	Y9F2624-CAL1	PS418239.d	06/26/19 08:25
Cal Standard	Y9F2624-CAL2	PS418240.d	06/26/19 08:36
Cal Standard	Y9F2624-CAL3	PS418241.d	06/26/19 08:46
Cal Standard	Y9F2624-CAL4	PS418242.d	06/26/19 08:57
Cal Standard	Y9F2624-CAL5	PS418243.d	06/26/19 09:08
Secondary Cal Check	Y9F2624-SCV1	PS418245.d	06/26/19 09:41

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0848	Instrument:	GCECD4
		Calibration:	YF90030

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	Y9J0848-CCV1	PS421855.d	10/08/19 09:45
Blank	BJ90361-BLK1	PS421856.d	10/08/19 09:55
LCS	BJ90361-BS1	PS421857.d	10/08/19 10:06
SB19_0-2	BJ90361-MS1	PS421858.d	10/08/19 10:17
SB19_0-2	BJ90361-MSD1	PS421859.d	10/08/19 10:27
SB28_5.5-7.5	19J0144-06	PS421860.d	10/08/19 10:38
SB19_0-2	19J0144-01	PS421871.d	10/08/19 12:36
SB19_8-9	19J0144-02	PS421872.d	10/08/19 12:47
SB27_0-2	19J0144-03	PS421873.d	10/08/19 12:57
SB27_6-8	19J0144-04	PS421874.d	10/08/19 13:08
Calibration Check	Y9J0848-CCV2	PS421875.d	10/08/19 13:19
SB28_0-2	19J0144-05	PS421880.d	10/08/19 14:12
Calibration Check	Y9J0848-CCV3	PS421893.d	10/08/19 16:32
Calibration Check	Y9J0848-CCV4	PS421898.d	10/08/19 19:00
Calibration Check	Y9J0848-CCV5	PS421919.d	10/08/19 22:45
Calibration Check	Y9J0848-CCV6	PS421924.d	10/08/19 23:39

METHOD BLANK RAW DATA

SDG: 19J0144
CLASS: HERB
METHOD: EPA 8151A

FORM I

METHOD BLANK DATA SHEET

EPA 8151A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90361-BLK1	File ID:	PS421856.d
Prepared:	10/07/19 09:25	Preparation:	EPA 3550B/8151A	Initial/Final:	25.1 g / 25 mL
Analyzed:	10/08/19 09:55	Instrument:	GCECD4		
Batch:	BJ90361	Sequence:	Y9J0848	Calibration:	YF90030

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
93-72-1	2,4,5-TP (Silvex)	0.0199	U
93-72-1	2,4,5-TP (Silvex) [2C]	0.0199	U

SYSTEM MONITORING COMPOUND	ADDED (mg/kg wet)	CONC (mg/kg wet)	% REC	QC LIMITS	Q
2,4-Dichlorophenylacetic acid (DCAA)	0.498	0.679	136	21 - 150	
2,4-Dichlorophenylacetic acid (DCAA) [2C]	0.498	0.556	112	21 - 150	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421856.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 9:55 am
Operator : SR
Sample : BJ90361-BLK1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:36:39 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	60931618	36682405	0.682	0.558
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.34%#	0.28%#
	Target Compounds						
2)	M Dicamba	0.000	0.000	0	0	N.D.	N.D.
3)	M Dichloroprop	0.000	0.000	0	0	N.D.	N.D.
4)	M 2,4-D	0.000	0.000	0	0	N.D.	N.D.
5)	M 2,4,5-TP ...	0.000	0.000	0	0	N.D.	N.D.
6)	M 2,4,5-T	0.000	0.000	0	0	N.D.	N.D.
7)	M 2,4-DB	0.000	0.000	0	0	N.D.	N.D.
8)	M Dinoseb	0.000	0.000	0	0	N.D.	N.D.

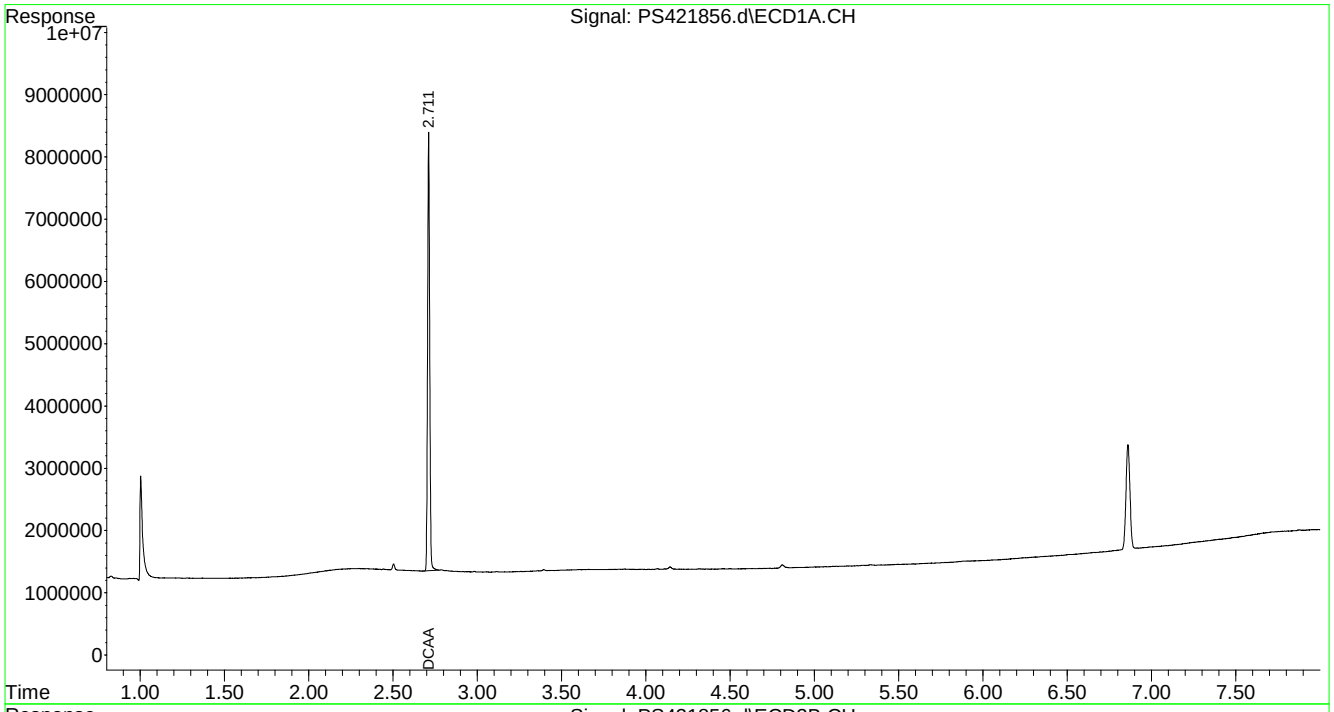
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

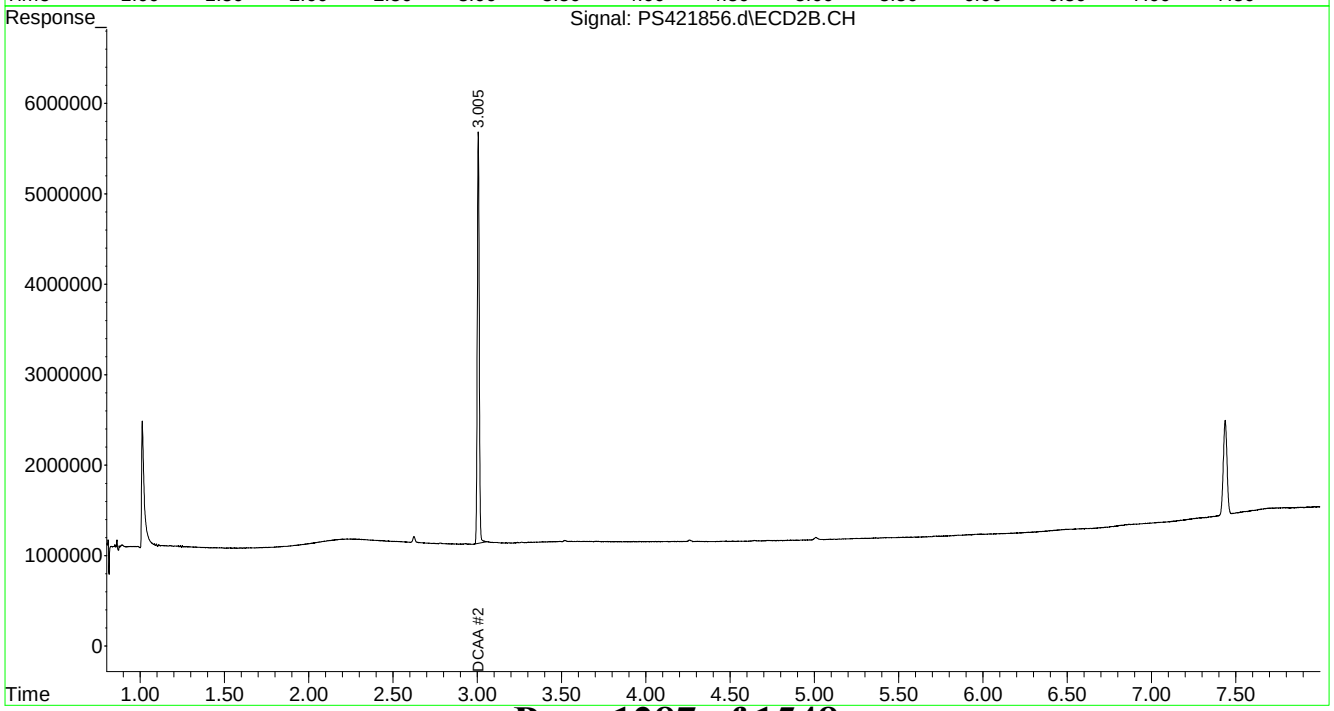
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421856.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 9:55 am
Operator : SR
Sample : BJ90361-BLK1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 2 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:36:39 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





LCS RAW DATA

SDG: 19J0144
CLASS: HERB
METHOD: EPA 8151A

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421857.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:06 am
Operator : SR
Sample : BJ90361-BS1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:36:55 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.005	50828656	30727958	0.569	0.467
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.28%#	0.23%#
	Target Compounds						
2)	M Dicamba	2.816	3.110	56988515	32696934	0.081	0.070
3)	M Dichloroprop	3.231	3.510	16072776	8921166	0.084	0.073
4)	M 2,4-D	3.356	3.708	17471388	9945080	0.084	0.074
5)	M 2,4,5-TP ...	3.871	4.308	74992578	39102850	0.078	0.069
6)	M 2,4,5-T	4.066	4.641	65327152	35021317	0.074	0.066
7)	M 2,4-DB	4.501	5.090	10133438	6025526	0.094	0.082
8)	M Dinoseb	5.398	5.373	23494306	12904749	0.047	0.041

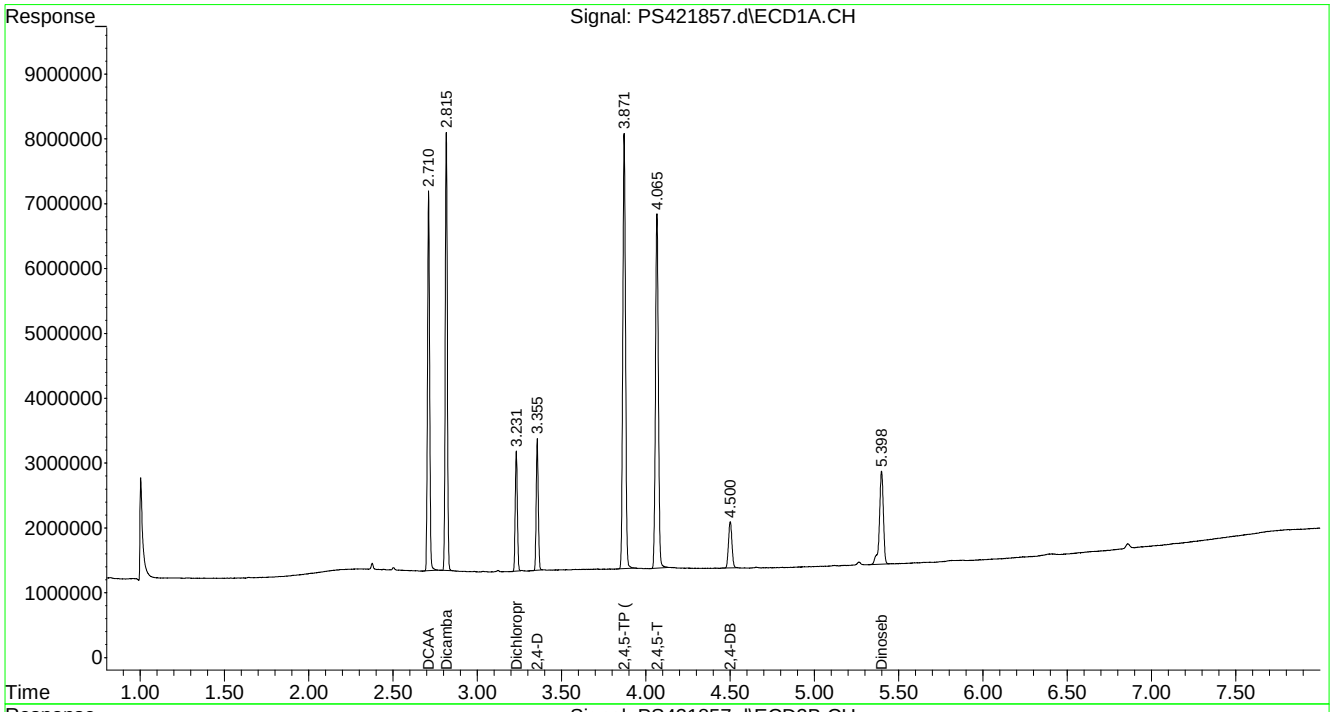
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

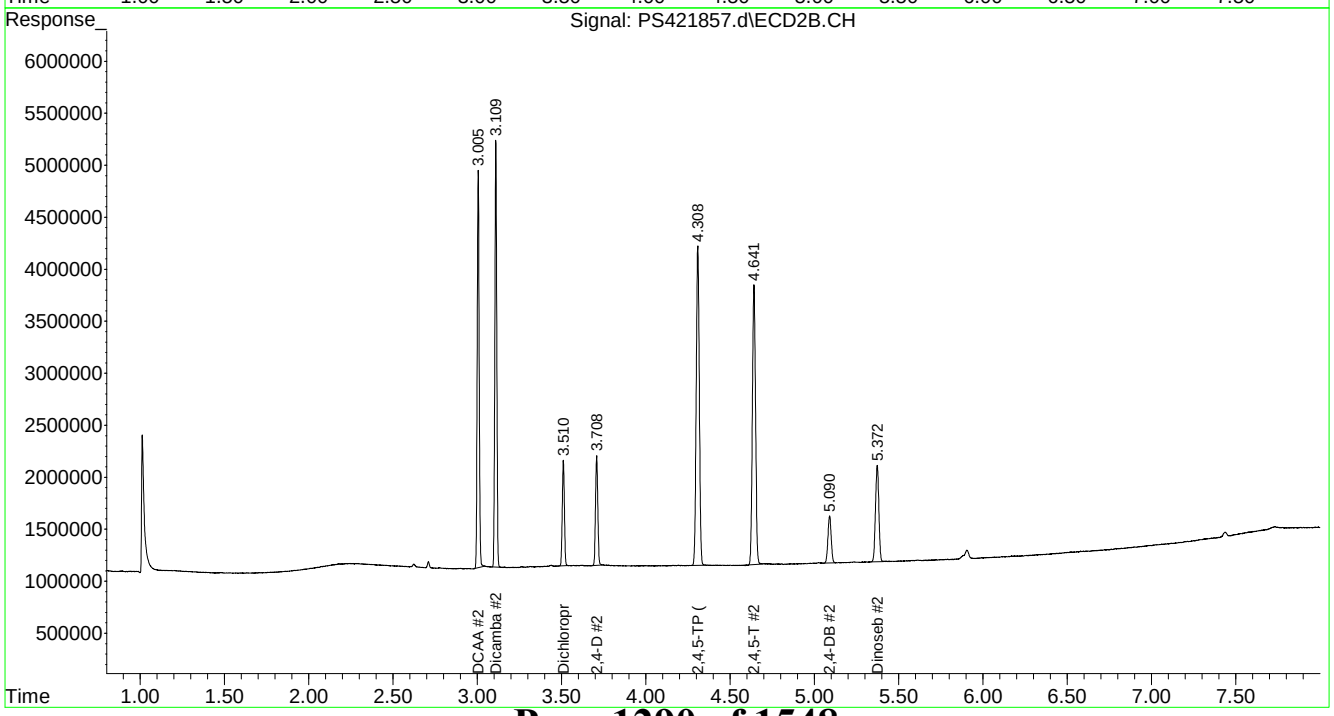
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421857.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:06 am
Operator : SR
Sample : BJ90361-BS1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 3 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:36:55 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





MATRIX SPIKE RAW DATA

SDG: 19J0144
CLASS: HERB
METHOD: EPA 8151A

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421858.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:17 am
Operator : SR
Sample : BJ90361-MS1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:12 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	33500253	20154368	0.375	0.306
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.19%#	0.15%#
	Target Compounds						
2)	M Dicamba	2.816	3.110	35645443	20704574	0.050	0.044
3)	M Dichloroprop	3.231	3.511	9951728	5428970	0.052	0.044
4)	M 2,4-D	3.356	3.709	11010704	6120499	0.053	0.045
5)	M 2,4,5-TP ...	3.871	4.309	43988397	22935599	0.046	0.040
6)	M 2,4,5-T	4.065	4.642	38407206	20993836	0.043	0.040
7)	M 2,4-DB	4.500	5.091	5781450	3488112	0.054	0.048
8)	M Dinoseb	5.397	5.373	14675544	8050432	0.030	0.026

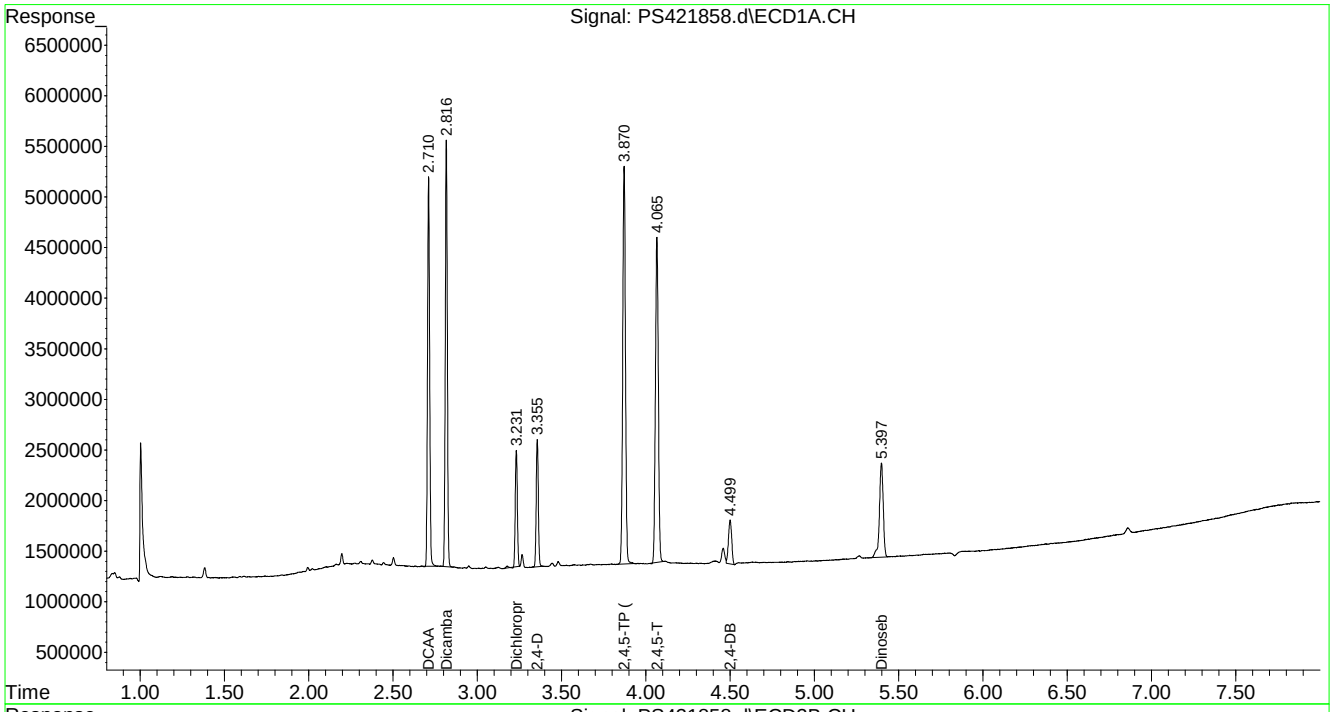
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

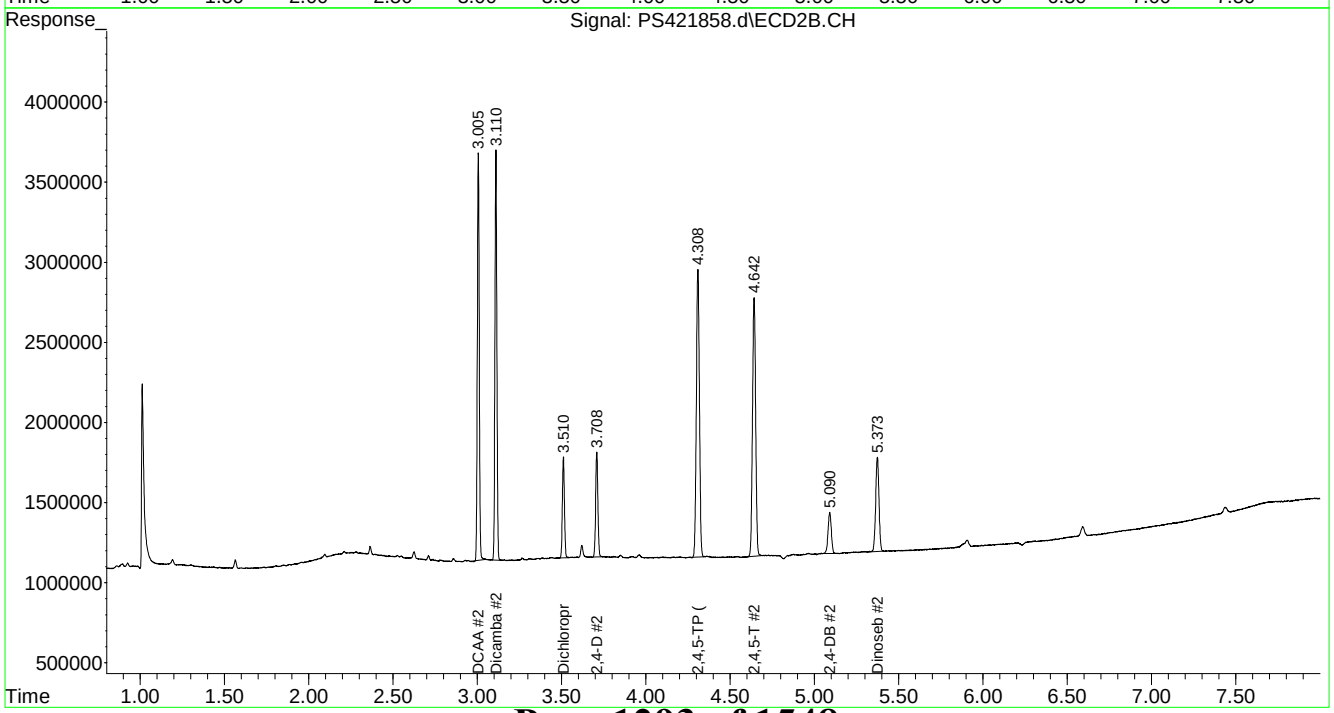
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421858.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:17 am
Operator : SR
Sample : BJ90361-MS1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:12 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421859.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:27 am
Operator : SR
Sample : BJ90361-MSD1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:25 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/mL	ug/mL
	System Monitoring Compounds						
1)	SA DCAA	2.711	3.006	37009482	22476993	0.414	0.342
	Spiked Amount 200.000	Range	30 - 150	Recovery	=	0.21%#	0.17%#
	Target Compounds						
2)	M Dicamba	2.816	3.110	39538016	22996233	0.056	0.049
3)	M Dichloroprop	3.231	3.511	10904813	6036864	0.057	0.049
4)	M 2,4-D	3.356	3.709	12061786	6940272	0.058	0.051
5)	M 2,4,5-TP ...	3.871	4.309	48943756	25436346	0.051	0.045
6)	M 2,4,5-T	4.066	4.642	42484988	23196352	0.048	0.044
7)	M 2,4-DB	4.500	5.090	6656618	3922820	0.062	0.054
8)	M Dinoseb	5.399	5.373	15622514	8420677	0.031	0.027

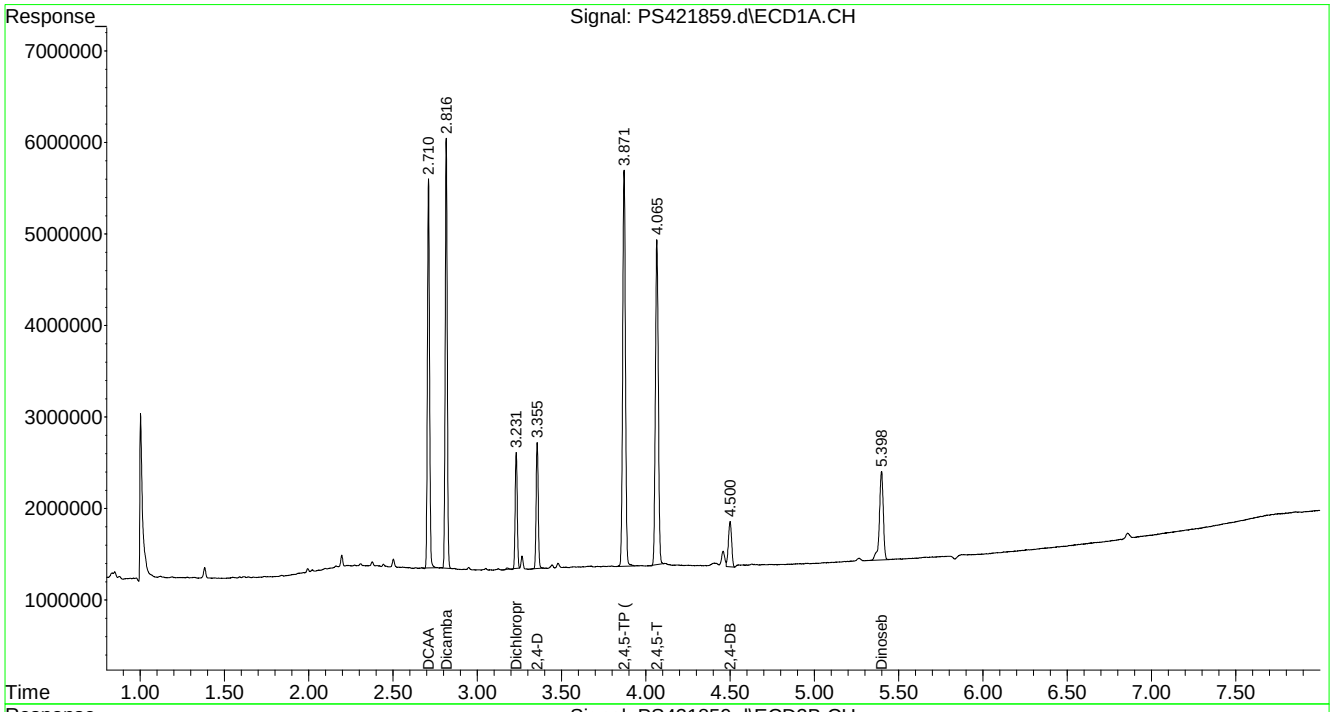
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

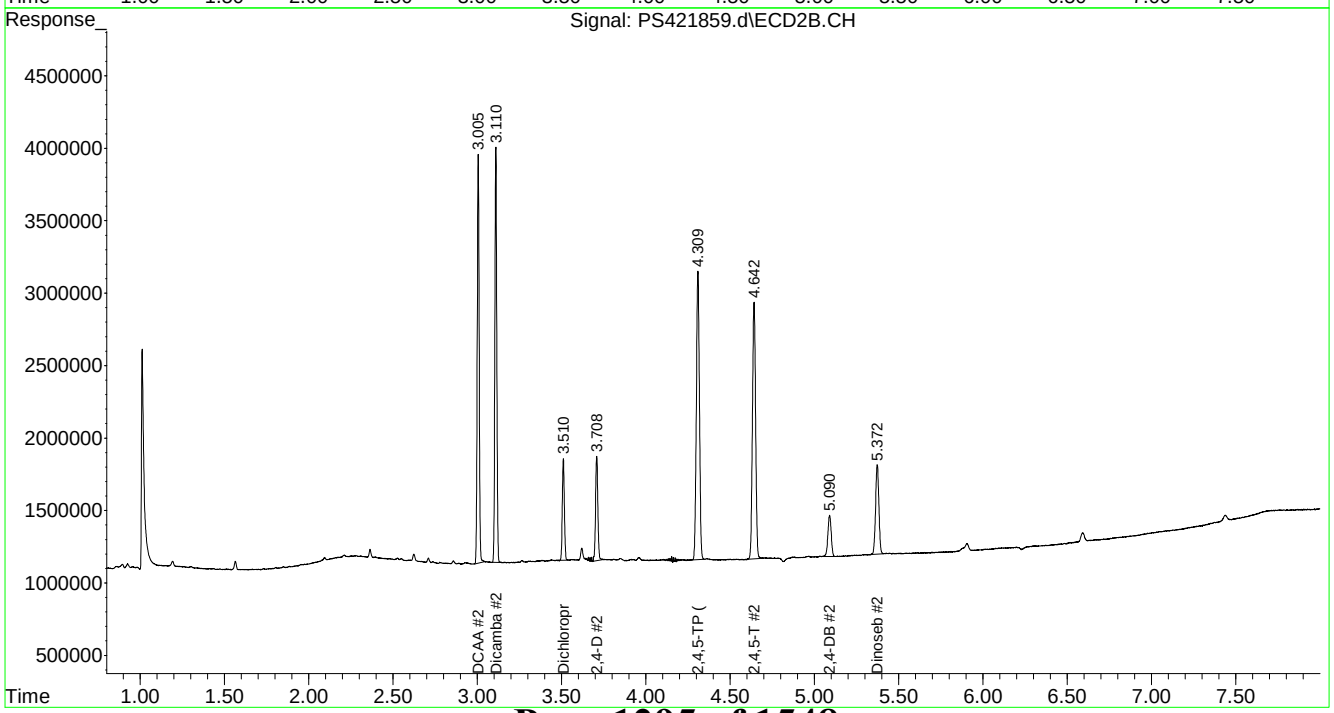
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\100819\
Data File : PS421859.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 08 Oct 2019 10:27 am
Operator : SR
Sample : BJ90361-MSD1
Misc : QBP4100819A
InstName : GCECD4
ALS Vial : 5 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 08 15:37:25 2019
Quant Method : C:\msdchem\1\methods\HERB4073019.M
Quant Title : ug/mL
QLast Update : Wed Jul 31 11:04:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1 uL
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2 Serial # 1124629
Signal #1 Info : .32 Signal #2 Info : .32





BENCHSHEETS

SDG: 19J0144

CLASS: HERB

METHOD: EPA 8151A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90361

Preparation Date: 10/07/2019 09:25

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:53:54PM**

Matrix: Soil **Preparation: EPA 3550B/8151A** **Surrogate used: Y19J072 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0144-01 A	Herbicides, NJDEP/TCL/Part 375 List	25.1	25				Added for BatchQC in: BJ90
19J0144-01 A	HERB, 8151 MASTER	25.1	25				
19J0144-02 A	HERB, 8151 MASTER	25.5	25				
19J0144-03 A	HERB, 8151 MASTER	25.2	25				
19J0144-04 A	HERB, 8151 MASTER	25.2	25				
19J0144-05 A	HERB, 8151 MASTER	25.2	25				
19J0144-06 A	HERB, 8151 MASTER	25.2	25				
19J0146-04 B	HERB, 8151 MASTER	25.1	25				
19J0146-05 B	HERB, 8151 MASTER	25.1	25				
19J0146-06 B	HERB, 8151 MASTER	25.1	25				
19J0146-07 B	HERB, 8151 MASTER	25.5	25				
19J0246-01 A	Herbicides, NJDEP/TCL/Part 375 List	25.3	25				Black extracts
19J0246-02 A	Herbicides, NJDEP/TCL/Part 375 List	25.2	25				Black extracts
19J0246-03 A	Herbicides, NJDEP/TCL/Part 375 List	25.2	25				Black extracts
19J0246-04 A	Herbicides, NJDEP/TCL/Part 375 List	25.2	25				Black extracts
19J0246-05 A	Herbicides, NJDEP/TCL/Part 375 List	25.4	25				Black extracts
19J0246-06 A	Herbicides, NJDEP/TCL/Part 375 List	25.1	25				Black extracts
19J0246-07 A	Herbicides, NJDEP/TCL/Part 375 List	25.1	25				Black extracts
19J0246-08 A	Herbicides, NJDEP/TCL/Part 375 List	25.4	25				Black extracts
19J0246-09 A	Herbicides, NJDEP/TCL/Part 375 List	25.2	25				Black extracts
19J0246-10 A	Herbicides, NJDEP/TCL/Part 375 List	25.1	25				Black extracts
BJ90361-BLK1	QC	25.1	25				
BJ90361-BS1	QC	25.1	25	Y19I260		20	
BJ90361-MS1	QC	25.1	25	Y19I260	19J0144-01	20	
BJ90361-MSD1	QC	25.1	25	Y19I260	19J0144-01	20	

Preparations Performed by **CTD** **Date:** **10/07/2019 09:25**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90361

Preparation Date: 10/07/2019 09:25

York Analytical Laboratories, Inc.

Printed: 10/11/2019 12:53:54PM

Matrix: Soil **Preparation: EPA 3550B/8151A** **Surrogate used: Y19J072 100 ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number
Y18L081	2-(2-ethoxyethoxy) Ethanol	MKCG4809	Y19A340	2,2,4-Trimethylpentane	MKCF5739
Y19E238	Hydrochloric Acid	0000221678	Y19F391	Potassium Hydroxide 37%	062519
Y19F416	ETHER, Anhydrous	0000226458	Y19G001	Silicic Acid	MKCD7973
Y19G256	Methanol	0403Y08	Y19G272	Sodium Sulfate, ACIDIFIED	072319
Y19G273	Sulfuric Acid 12N (Herb)	072319	Y19G275	Diazald >95%	G02-14794-1
Y19H417	HEXANE	DW615-US	Y19H420	Methylene Chloride HW	DW717-US

Preparations Performed by **CTD** **Date:** **10/07/2019 09:25**

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: METALS
METHOD: EPA 6010D

DATA PACKAGE COVER PAGE

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6010D

SB28_5.5-7.5

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Matrix:	Soil		
Batch:	BJ90216	Laboratory ID:	BJ90216-MS1
Preparation:	EPA 3050B	Initial/Final:	0.5 g / 50 mL

Source Sample Name: SB28_5.5-7.5

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. #	QC LIMITS REC.
Arsenic	219	ND	210	95.8	75 - 125
Barium	219	23.8	244	100	75 - 125
Beryllium	5.48	ND	0.818	14.9 *	75 - 125
Cadmium	5.48	0.383	5.66	96.3	75 - 125
Chromium	21.9	39.3	50.8	52.3 *	75 - 125
Copper	27.4	25.1	47.4	81.4	75 - 125
Lead	54.8	32.0	125	170 *	75 - 125
Manganese	54.8	341	398	104	75 - 125
Nickel	54.8	28.0	79.8	94.3	75 - 125
Silver	5.48	ND	2.65	48.4 *	75 - 125
Zinc	54.8	63.4	110	84.9	75 - 125

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

DUPLICATES

SB28_5.5-7.5

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Laboratory ID: BJ90216-DUP1
Batch: BJ90216
Lab Source ID: 19J0144-06
Preparation: EPA 3050B
Initial/Final: 0.5 g / 50 mL
Source Sample Name: SB28_5.5-7.5
% Solids: 91.18

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/kg dry)	C	DUPLICATE CONCENTRATION (mg/kg dry)	C	RPD %	Q	METHOD
Arsenic	35	ND		ND				EPA 6010D
Barium	35	23.8		23.4		1.74		EPA 6010D
Beryllium	35	ND		ND				EPA 6010D
Cadmium	35	0.383		0.405		5.40		EPA 6010D
Chromium	35	39.3		36.3		7.94		EPA 6010D
Copper	35	25.1		23.9		4.77		EPA 6010D
Lead	35	32.0		28.8		10.7		EPA 6010D
Manganese	35	341		343		0.616		EPA 6010D
Nickel	35	28.0		25.8		8.18		EPA 6010D
Selenium	35	ND		ND				EPA 6010D
Silver	35	ND		ND				EPA 6010D
Zinc	35	63.4		68.0		7.03		EPA 6010D

* Values outside of QC limits

STANDARD REFERENCE MATERIAL RECOVERY

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Batch: BJ90216
Laboratory ID: BJ90216-SRM1
Preparation: EPA 3050B
Initial/Final: 0.5 g / 50 mL

ANALYTE	TRUE (mg/kg wet)	FOUND (mg/kg wet)	SRM % REC.	QC LIMITS REC.
Arsenic	125	131	105	69.8 - 130.2
Barium	529	651	123	75.2 - 125.2
Beryllium	155	167	108	75 - 125
Cadmium	37.7	41.1	109	74.5 - 124.8
Chromium	58.3	58.7	101	70.1 - 129.9
Copper	78.0	83.8	107	74.7 - 124.1
Lead	111	118	106	68.4 - 131.6
Manganese	310	321	103	75.2 - 124.8
Nickel	333	362	109	69.9 - 129.8
Selenium	251	238	94.9	58.1 - 141.7
Silver	27.2	29.1	107	70.7 - 129.3
Zinc	351	371	106	70.1 - 130.3

* Values outside of QC limits

SERIAL DILUTION

EPA 6010D

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Laboratory ID: Y9J0706-SRD4
Sequence: Y9J0706
Lab Source ID: 19J0144-06
Preparation: BJ90216
Initial/Final: 0.5 / 50
Source Sample Name: SB28_5.5-7.5
% Solids: 91.18

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method	QC Limits % Difference
Arsenic	ND		ND				EPA 6010D	10
Barium	23.8		25.4		6.71		EPA 6010D	10
Beryllium	ND		ND				EPA 6010D	10
Cadmium	0.383		ND				EPA 6010D	10
Chromium	39.3		41.0		4.35		EPA 6010D	10
Copper	25.1		25.0		0.351		EPA 6010D	10
Lead	32.0		32.9		2.54		EPA 6010D	10
Manganese	341		355		4.08		EPA 6010D	10
Nickel	28.0		32.6		16.1 *		EPA 6010D	10
Selenium	ND		ND				EPA 6010D	10
Silver	ND		ND				EPA 6010D	10
Zinc	63.4		63.2		0.271		EPA 6010D	10

* Values outside of QC limits

POST DIGEST SPIKE SAMPLE RECOVERY

EPA 6010D

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002

Matrix: Soil
Laboratory ID: BJ90216-PS1

Batch: BJ90216
Lab Source ID: 19J0144-06

Preparation: EPA 3050B
Initial/Final: 0.1 g / 10 mL

Source Sample Name: SB28_5.5-7.5
% Solids: 91.18

Analyte	Control Limit %R	Spike Sample Result (SSR) (ug/mL)	Sample Result (SR) (ug/mL)	Spike Added (SA) (ug/mL)	%R	
Arsenic	75 - 125	2.01	0.014	2.00	99.9	
Barium	75 - 125	2.35	0.217	2.00	107	
Beryllium	75 - 125	-0.008	-0.060	0.0500		*
Cadmium	75 - 125	0.055	0.003	0.0500	103	
Chromium	75 - 125	0.569	0.359	0.200	105	
Copper	75 - 125	0.502	0.229	0.250	109	
Lead	75 - 125	0.802	0.292	0.500	102	
Manganese	75 - 125	3.64	3.11	0.500	106	
Nickel	75 - 125	0.796	0.256	0.500	108	
Silver	75 - 125	0.011	-0.030	0.0500	22.6	*
Zinc	75 - 125	1.08	0.578	0.500	101	

* Values outside of QC limits

FORM IV **PREPARATION BATCH SUMMARY**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90216 Batch Matrix: Soil Preparation: EPA 3050B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	qbi100419aRE_1-078	10/03/19 11:12	
SB19_8-9	19J0144-02	qbi100419aRE_1-081	10/03/19 11:12	
SB27_0-2	19J0144-03	qbi100419aRE_1-082	10/03/19 11:12	
SB27_6-8	19J0144-04	qbi100419aRE_1-083	10/03/19 11:12	
SB28_0-2	19J0144-05	qbi100419aRE_1-084	10/03/19 11:12	
SB28_5.5-7.5	19J0144-06	qbi100419aRE_1-085	10/03/19 11:12	
Blank	BJ90216-BLK1	qbi100319cRE_1-016	10/03/19 11:12	
SB28_5.5-7.5	BJ90216-DUP1	qbi100419aRE_1-086	10/03/19 11:12	
SB28_5.5-7.5	BJ90216-MS1	qbi100419aRE_1-087	10/03/19 11:12	
SB28_5.5-7.5	BJ90216-PS1	qbi100419aRE_1-088	10/03/19 11:12	[Spk] 0.5g->50mL; 50mL->50mL; Spiked 10mL
Reference	BJ90216-SRM1	qbi100319cRE_1-017	10/03/19 11:12	

FORM I **BLANKS**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170396002

Sequence: Y9J0406 Calibration: 10/03/19 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
Y9J0406-ICB1	Arsenic	-0.0007	0.015	ug/mL		EPA 6010D
	Barium	-0.0002	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00005	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00002	0.003	ug/mL		EPA 6010D
	Chromium	0.00004	0.005	ug/mL		EPA 6010D
	Copper	0.0003	0.020	ug/mL		EPA 6010D
	Lead	0.001	0.005	ug/mL		EPA 6010D
	Manganese	0.00004	0.005	ug/mL		EPA 6010D
	Nickel	0.001	0.010	ug/mL		EPA 6010D
	Selenium	-0.002	0.025	ug/mL		EPA 6010D
	Silver	0.0009	0.005	ug/mL		EPA 6010D
	Zinc	0.0007	0.025	ug/mL		EPA 6010D
Y9J0406-CCB1	Arsenic	-0.004	0.015	ug/mL		EPA 6010D
	Barium	-0.0001	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00003	0.0005	ug/mL		EPA 6010D
	Cadmium	-0.0002	0.003	ug/mL		EPA 6010D
	Chromium	0.0002	0.005	ug/mL		EPA 6010D
	Copper	-0.0003	0.020	ug/mL		EPA 6010D
	Lead	0.001	0.005	ug/mL		EPA 6010D
	Manganese	0.00005	0.005	ug/mL		EPA 6010D
	Nickel	-0.0003	0.010	ug/mL		EPA 6010D
	Selenium	-0.002	0.025	ug/mL		EPA 6010D
	Silver	0.0002	0.005	ug/mL		EPA 6010D
	Zinc	0.0001	0.025	ug/mL		EPA 6010D
BJ90216-BLK1	Arsenic	-0.286	1.50	mg/kg wet		EPA 6010D
	Barium	-0.029	2.50	mg/kg wet		EPA 6010D
	Beryllium	-0.011	0.050	mg/kg wet		EPA 6010D
	Cadmium	0.010	0.300	mg/kg wet		EPA 6010D
	Chromium	-0.007	0.500	mg/kg wet		EPA 6010D
	Copper	0.002	2.00	mg/kg wet		EPA 6010D
	Lead	0.013	0.500	mg/kg wet		EPA 6010D
	Manganese	-0.002	0.500	mg/kg wet		EPA 6010D
	Nickel	0.145	1.00	mg/kg wet		EPA 6010D

FORM I

BLANKS

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170396002

Sequence: Y9J0406 Calibration: 10/03/19 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
BJ90216-BLK1	Selenium	-0.112	2.50	mg/kg wet		EPA 6010D
	Silver	-0.087	0.500	mg/kg wet		EPA 6010D
	Zinc	-0.262	2.50	mg/kg wet		EPA 6010D
Y9J0406-CCB2	Arsenic	-0.002	0.015	ug/mL		EPA 6010D
	Barium	-0.0002	0.025	ug/mL		EPA 6010D
	Beryllium	-0.0001	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00004	0.003	ug/mL		EPA 6010D
	Chromium	0.00004	0.005	ug/mL		EPA 6010D
	Copper	-0.0002	0.020	ug/mL		EPA 6010D
	Lead	-0.0003	0.005	ug/mL		EPA 6010D
	Manganese	0.00004	0.005	ug/mL		EPA 6010D
	Nickel	0.0002	0.010	ug/mL		EPA 6010D
	Selenium	-0.008	0.025	ug/mL		EPA 6010D
	Silver	-0.0003	0.005	ug/mL		EPA 6010D
	Zinc	0.0002	0.025	ug/mL		EPA 6010D

FORM I **BLANKS**

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170396002

Sequence: Y9J0706 Calibration: 10/04/19 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
Y9J0706-ICB1	Arsenic	-0.0003	0.015	ug/mL		EPA 6010D
	Barium	0.0002	0.025	ug/mL		EPA 6010D
	Beryllium	0.00004	0.0005	ug/mL		EPA 6010D
	Cadmium	0.0002	0.003	ug/mL		EPA 6010D
	Chromium	-0.0003	0.005	ug/mL		EPA 6010D
	Copper	-0.0008	0.020	ug/mL		EPA 6010D
	Lead	-0.00003	0.005	ug/mL		EPA 6010D
	Manganese	-0.00004	0.005	ug/mL		EPA 6010D
	Nickel	0.003	0.010	ug/mL		EPA 6010D
	Selenium	-0.002	0.025	ug/mL		EPA 6010D
	Silver	-0.0004	0.005	ug/mL		EPA 6010D
	Zinc	-0.016	0.025	ug/mL		EPA 6010D
Y9J0706-CCB1	Arsenic	-0.002	0.015	ug/mL		EPA 6010D
	Barium	0.00004	0.025	ug/mL		EPA 6010D
	Beryllium	-0.00001	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00004	0.003	ug/mL		EPA 6010D
	Chromium	-0.00003	0.005	ug/mL		EPA 6010D
	Copper	-0.0006	0.020	ug/mL		EPA 6010D
	Lead	-0.001	0.005	ug/mL		EPA 6010D
	Manganese	-0.000008	0.005	ug/mL		EPA 6010D
	Nickel	0.001	0.010	ug/mL		EPA 6010D
	Selenium	0.003	0.025	ug/mL		EPA 6010D
	Silver	-0.00004	0.005	ug/mL		EPA 6010D
	Zinc	-0.016	0.025	ug/mL		EPA 6010D
Y9J0706-CCB6	Arsenic	-0.0004	0.015	ug/mL		EPA 6010D
	Barium	0.0003	0.025	ug/mL		EPA 6010D
	Beryllium	0.0002	0.0005	ug/mL		EPA 6010D
	Cadmium	-0.000006	0.003	ug/mL		EPA 6010D
	Chromium	-0.0002	0.005	ug/mL		EPA 6010D
	Copper	-0.0009	0.020	ug/mL		EPA 6010D
	Lead	-0.003	0.005	ug/mL		EPA 6010D
	Manganese	-0.00001	0.005	ug/mL		EPA 6010D
	Nickel	0.002	0.010	ug/mL		EPA 6010D

FORM I

BLANKS

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: WinLabICP Project: 170396002

Sequence: Y9J0706 Calibration: 10/04/19 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
Y9J0706-CCB6	Selenium	-0.002	0.025	ug/mL		EPA 6010D
	Silver	-0.001	0.005	ug/mL		EPA 6010D
	Zinc	-0.016	0.025	ug/mL		EPA 6010D
Y9J0706-CCB7	Arsenic	0.003	0.015	ug/mL		EPA 6010D
	Barium	0.0001	0.025	ug/mL		EPA 6010D
	Beryllium	0.0003	0.0005	ug/mL		EPA 6010D
	Cadmium	0.00008	0.003	ug/mL		EPA 6010D
	Chromium	-0.0001	0.005	ug/mL		EPA 6010D
	Copper	-0.002	0.020	ug/mL		EPA 6010D
	Lead	-0.002	0.005	ug/mL		EPA 6010D
	Manganese	-0.00002	0.005	ug/mL		EPA 6010D
	Nickel	0.002	0.010	ug/mL		EPA 6010D
	Selenium	0.004	0.025	ug/mL		EPA 6010D
	Silver	-0.0004	0.005	ug/mL		EPA 6010D
	Zinc	-0.015	0.025	ug/mL		EPA 6010D
Y9J0706-CCB8	Arsenic	0.003	0.015	ug/mL		EPA 6010D
	Barium	0.0003	0.025	ug/mL		EPA 6010D
	Beryllium	0.0003	0.0005	ug/mL		EPA 6010D
	Cadmium	0.0001	0.003	ug/mL		EPA 6010D
	Chromium	-0.00008	0.005	ug/mL		EPA 6010D
	Copper	-0.001	0.020	ug/mL		EPA 6010D
	Lead	-0.003	0.005	ug/mL		EPA 6010D
	Manganese	0.00004	0.005	ug/mL		EPA 6010D
	Nickel	0.003	0.010	ug/mL		EPA 6010D
	Selenium	0.007	0.025	ug/mL		EPA 6010D
	Silver	-0.001	0.005	ug/mL		EPA 6010D
	Zinc	0.0007	0.025	ug/mL		EPA 6010D

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010D

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0406	Instrument:	WinLabICP
		Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	Y9J0406-ICV1	qbi100319cRE_1-001	10/03/19 17:38
Initial Cal Blank	Y9J0406-ICB1	qbi100319cRE_1-002	10/03/19 17:41
Instrument RL Check	Y9J0406-CRL1	qbi100319cRE_1-003	10/03/19 17:44
Interference Check A	Y9J0406-IFA1	qbi100319cRE_1-005	10/03/19 17:50
Interference Check B	Y9J0406-IFB1	qbi100319cRE_1-006	10/03/19 17:52
Calibration Check	Y9J0406-CCV1	qbi100319cRE_1-007	10/03/19 17:55
Calibration Blank	Y9J0406-CCB1	qbi100319cRE_1-008	10/03/19 17:58
Blank	BJ90216-BLK1	qbi100319cRE_1-016	10/03/19 18:19
Reference	BJ90216-SRM1	qbi100319cRE_1-017	10/03/19 18:22
Calibration Check	Y9J0406-CCV2	qbi100319cRE_1-019	10/03/19 18:27
Calibration Blank	Y9J0406-CCB2	qbi100319cRE_1-020	10/03/19 18:30

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Sequence: Y9J0706
Instrument: WinLabICP
Calibration: UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	Y9J0706-ICV1	qbi100419aRE_1-001	10/04/19 11:09
Initial Cal Blank	Y9J0706-ICB1	qbi100419aRE_1-002	10/04/19 11:12
Instrument RL Check	Y9J0706-CRL1	qbi100419aRE_1-003	10/04/19 11:15
Interference Check A	Y9J0706-IFA1	qbi100419aRE_1-005	10/04/19 11:21
Interference Check B	Y9J0706-IFB1	qbi100419aRE_1-006	10/04/19 11:23
Calibration Check	Y9J0706-CCV1	qbi100419aRE_1-007	10/04/19 11:26
Calibration Blank	Y9J0706-CCB1	qbi100419aRE_1-008	10/04/19 11:29
Calibration Check	Y9J0706-CCV6	qbi100419aRE_1-067	10/04/19 14:20
Calibration Blank	Y9J0706-CCB6	qbi100419aRE_1-068	10/04/19 14:23
SB19_0-2	19J0144-01	qbi100419aRE_1-078	10/04/19 14:47
Calibration Check	Y9J0706-CCV7	qbi100419aRE_1-079	10/04/19 14:50
Calibration Blank	Y9J0706-CCB7	qbi100419aRE_1-080	10/04/19 14:53
SB19_8-9	19J0144-02	qbi100419aRE_1-081	10/04/19 14:56
SB27_0-2	19J0144-03	qbi100419aRE_1-082	10/04/19 14:58
SB27_6-8	19J0144-04	qbi100419aRE_1-083	10/04/19 15:01
SB28_0-2	19J0144-05	qbi100419aRE_1-084	10/04/19 15:03
SB28_5.5-7.5	19J0144-06	qbi100419aRE_1-085	10/04/19 15:05
SB28_5.5-7.5	BJ90216-DUP1	qbi100419aRE_1-086	10/04/19 15:08
SB28_5.5-7.5	BJ90216-MS1	qbi100419aRE_1-087	10/04/19 15:10
SB28_5.5-7.5	BJ90216-PS1	qbi100419aRE_1-088	10/04/19 15:12
SB28_5.5-7.5	Y9J0706-SRD4	qbi100419aRE_1-089	10/04/19 15:14
Calibration Check	Y9J0706-CCV8	qbi100419aRE_1-091	10/04/19 15:20
Calibration Blank	Y9J0706-CCB8	qbi100419aRE_1-092	10/04/19 15:23

HOLDING TIME SUMMARY

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/03/19 11:12	0.94	180.00	10/04/19 14:47	2.09	180.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/03/19 11:12	0.93	180.00	10/04/19 14:56	2.09	180.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/03/19 11:12	1.03	180.00	10/04/19 14:58	2.19	180.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/03/19 11:12	1.03	180.00	10/04/19 15:01	2.18	180.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/03/19 11:12	0.97	180.00	10/04/19 15:03	2.13	180.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/03/19 11:12	0.96	180.00	10/04/19 15:05	2.13	180.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** WinLabICP

Analyte	LOD	LOQ	Units
Arsenic	1.50	1.50	mg/kg
Barium	2.50	2.50	mg/kg
Beryllium	0.050	0.050	mg/kg
Cadmium	0.300	0.300	mg/kg
Chromium	0.500	0.500	mg/kg
Copper	2.00	2.00	mg/kg
Lead	0.500	0.500	mg/kg
Manganese	0.500	0.500	mg/kg
Nickel	1.00	1.00	mg/kg
Selenium	2.50	2.50	mg/kg
Silver	0.500	0.500	mg/kg
Zinc	2.50	2.50	mg/kg

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: qbi100419aRE_1-078

Sampled: 10/02/19 12:45 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 14:47

Solids: 95.31 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.57	1	U	EPA 6010D
7440-39-3	Barium	30.2	1		EPA 6010D
7440-41-7	Beryllium	0.052	1	U	EPA 6010D
7440-43-9	Cadmium	0.315	1	U	EPA 6010D
7440-47-3	Chromium	21.9	1		EPA 6010D
7440-50-8	Copper	15.3	1		EPA 6010D
7439-92-1	Lead	37.2	1		EPA 6010D
7439-96-5	Manganese	376	1		EPA 6010D
7440-02-0	Nickel	22.9	1		EPA 6010D
7782-49-2	Selenium	2.62	1	U	EPA 6010D
7440-22-4	Silver	0.525	1	U	EPA 6010D
7440-66-6	Zinc	56.1	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: qbi100419aRE_1-081

Sampled: 10/02/19 12:50 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 14:56

Solids: 86.53 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.93	1		EPA 6010D
7440-39-3	Barium	30.8	1		EPA 6010D
7440-41-7	Beryllium	0.058	1	U	EPA 6010D
7440-43-9	Cadmium	0.587	1		EPA 6010D
7440-47-3	Chromium	22.1	1		EPA 6010D
7440-50-8	Copper	22.4	1		EPA 6010D
7439-92-1	Lead	30.5	1		EPA 6010D
7439-96-5	Manganese	297	1		EPA 6010D
7440-02-0	Nickel	19.3	1		EPA 6010D
7782-49-2	Selenium	2.89	1	U	EPA 6010D
7440-22-4	Silver	0.578	1	U	EPA 6010D
7440-66-6	Zinc	106	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: qbi100419aRE_1-082

Sampled: 10/02/19 10:30 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 14:58

Solids: 94.09 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.59	1	U	EPA 6010D
7440-39-3	Barium	36.4	1		EPA 6010D
7440-41-7	Beryllium	0.053	1	U	EPA 6010D
7440-43-9	Cadmium	0.319	1	U	EPA 6010D
7440-47-3	Chromium	16.5	1		EPA 6010D
7440-50-8	Copper	16.8	1		EPA 6010D
7439-92-1	Lead	87.5	1		EPA 6010D
7439-96-5	Manganese	1020	1		EPA 6010D
7440-02-0	Nickel	35.8	1		EPA 6010D
7782-49-2	Selenium	2.66	1	U	EPA 6010D
7440-22-4	Silver	0.531	1	U	EPA 6010D
7440-66-6	Zinc	35.6	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: qbi100419aRE_1-083

Sampled: 10/02/19 10:35 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 15:01

Solids: 83.69 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.79	1	U	EPA 6010D
7440-39-3	Barium	24.8	1		EPA 6010D
7440-41-7	Beryllium	0.060	1	U	EPA 6010D
7440-43-9	Cadmium	0.358	1	U	EPA 6010D
7440-47-3	Chromium	24.7	1		EPA 6010D
7440-50-8	Copper	15.1	1		EPA 6010D
7439-92-1	Lead	16.1	1		EPA 6010D
7439-96-5	Manganese	285	1		EPA 6010D
7440-02-0	Nickel	19.9	1		EPA 6010D
7782-49-2	Selenium	2.99	1	U	EPA 6010D
7440-22-4	Silver	0.597	1	U	EPA 6010D
7440-66-6	Zinc	51.4	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: qbi100419aRE_1-084

Sampled: 10/02/19 12:00 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 15:03

Solids: 92.39 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.62	1	U	EPA 6010D
7440-39-3	Barium	43.1	1		EPA 6010D
7440-41-7	Beryllium	0.054	1	U	EPA 6010D
7440-43-9	Cadmium	0.325	1	U	EPA 6010D
7440-47-3	Chromium	13.7	1		EPA 6010D
7440-50-8	Copper	28.9	1		EPA 6010D
7439-92-1	Lead	227	1		EPA 6010D
7439-96-5	Manganese	561	1		EPA 6010D
7440-02-0	Nickel	15.7	1		EPA 6010D
7782-49-2	Selenium	2.71	1	U	EPA 6010D
7440-22-4	Silver	0.541	1	U	EPA 6010D
7440-66-6	Zinc	35.0	1		EPA 6010D

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 6010D

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: qbi100419aRE_1-085

Sampled: 10/02/19 12:05 Prepared: 10/03/19 11:12 Analyzed: 10/04/19 15:05

Solids: 91.18 Preparation: EPA 3050B Initial/Final: 0.5 g / 50 mL

Batch: BJ90216 Sequence: Y9J0706 Calibration: 10/04/19 1 Instrument: WinLabICP

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.65	1	U	EPA 6010D
7440-39-3	Barium	23.8	1		EPA 6010D
7440-41-7	Beryllium	0.055	1	U	EPA 6010D
7440-43-9	Cadmium	0.383	1		EPA 6010D
7440-47-3	Chromium	39.3	1		EPA 6010D
7440-50-8	Copper	25.1	1		EPA 6010D
7439-92-1	Lead	32.0	1		EPA 6010D
7439-96-5	Manganese	341	1		EPA 6010D
7440-02-0	Nickel	28.0	1		EPA 6010D
7782-49-2	Selenium	2.74	1	U	EPA 6010D
7440-22-4	Silver	0.548	1	U	EPA 6010D
7440-66-6	Zinc	63.4	1		EPA 6010D

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/03/19
Control Limt: +/- 10.00%
Sequence: Y9J0406

Lab Sample ID	Analyte	True	Found	%R		Units	Method
Y9J0406-ICV1	Arsenic	0.250	0.231	92.5		ug/mL	EPA 6010D
	Barium	10.0	9.97	99.7		ug/mL	EPA 6010D
	Beryllium	0.250	0.251	100		ug/mL	EPA 6010D
	Cadmium	0.125	0.112	89.2	*	ug/mL	EPA 6010D
	Chromium	1.00	1.02	102		ug/mL	EPA 6010D
	Copper	1.25	1.25	100		ug/mL	EPA 6010D
	Lead	0.250	0.225	89.9	*	ug/mL	EPA 6010D
	Manganese	2.50	2.46	98.3		ug/mL	EPA 6010D
	Nickel	2.50	2.48	99.2		ug/mL	EPA 6010D
	Selenium	0.250	0.248	99.3		ug/mL	EPA 6010D
	Silver	1.25	1.26	101		ug/mL	EPA 6010D
	Zinc	2.50	2.51	101		ug/mL	EPA 6010D
Y9J0406-CCV1	Arsenic	0.500	0.491	98.2		ug/mL	EPA 6010D
	Barium	10.0	9.99	99.9		ug/mL	EPA 6010D
	Beryllium	0.250	0.247	98.6		ug/mL	EPA 6010D
	Cadmium	0.250	0.248	99.2		ug/mL	EPA 6010D
	Chromium	1.00	1.02	102		ug/mL	EPA 6010D
	Copper	1.25	1.24	99.5		ug/mL	EPA 6010D
	Lead	0.500	0.494	98.8		ug/mL	EPA 6010D
	Manganese	2.50	2.49	99.5		ug/mL	EPA 6010D
	Nickel	2.50	2.48	99.4		ug/mL	EPA 6010D
	Selenium	0.500	0.491	98.2		ug/mL	EPA 6010D
	Silver	1.25	1.27	102		ug/mL	EPA 6010D
	Zinc	2.50	2.54	102		ug/mL	EPA 6010D
Y9J0406-CCV2	Arsenic	0.500	0.487	97.4		ug/mL	EPA 6010D
	Barium	10.0	10.0	100		ug/mL	EPA 6010D
	Beryllium	0.250	0.247	98.6		ug/mL	EPA 6010D
	Cadmium	0.250	0.245	98.2		ug/mL	EPA 6010D
	Chromium	1.00	1.02	102		ug/mL	EPA 6010D
	Copper	1.25	1.24	99.2		ug/mL	EPA 6010D
	Lead	0.500	0.494	98.7		ug/mL	EPA 6010D
	Manganese	2.50	2.49	99.6		ug/mL	EPA 6010D
	Nickel	2.50	2.47	98.7		ug/mL	EPA 6010D
	Selenium	0.500	0.491	98.1		ug/mL	EPA 6010D
	Silver	1.25	1.27	102		ug/mL	EPA 6010D
	Zinc	2.50	2.51	101		ug/mL	EPA 6010D

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/04/19
Control Limt: +/- 10.00%
Sequence: Y9J0706

Lab Sample ID	Analyte	True	Found	%R	Units	Method
Y9J0706-ICV1	Arsenic	0.250	0.248	99.4	ug/mL	EPA 6010D
	Barium	10.0	9.99	99.9	ug/mL	EPA 6010D
	Beryllium	0.250	0.251	100	ug/mL	EPA 6010D
	Cadmium	0.125	0.121	96.9	ug/mL	EPA 6010D
	Chromium	1.00	1.03	103	ug/mL	EPA 6010D
	Copper	1.25	1.26	101	ug/mL	EPA 6010D
	Lead	0.250	0.242	96.7	ug/mL	EPA 6010D
	Manganese	2.50	2.46	98.5	ug/mL	EPA 6010D
	Nickel	2.50	2.50	100	ug/mL	EPA 6010D
	Selenium	0.250	0.273	109	ug/mL	EPA 6010D
	Silver	1.25	1.26	101	ug/mL	EPA 6010D
	Zinc	2.50	2.54	101	ug/mL	EPA 6010D
Y9J0706-CCV1	Arsenic	0.500	0.488	97.7	ug/mL	EPA 6010D
	Barium	10.0	10.1	101	ug/mL	EPA 6010D
	Beryllium	0.250	0.248	99.1	ug/mL	EPA 6010D
	Cadmium	0.250	0.249	99.5	ug/mL	EPA 6010D
	Chromium	1.00	1.03	103	ug/mL	EPA 6010D
	Copper	1.25	1.26	101	ug/mL	EPA 6010D
	Lead	0.500	0.492	98.4	ug/mL	EPA 6010D
	Manganese	2.50	2.50	100	ug/mL	EPA 6010D
	Nickel	2.50	2.51	100	ug/mL	EPA 6010D
	Selenium	0.500	0.504	101	ug/mL	EPA 6010D
	Silver	1.25	1.29	103	ug/mL	EPA 6010D
	Zinc	2.50	2.56	103	ug/mL	EPA 6010D
Y9J0706-CCV6	Arsenic	0.500	0.501	100	ug/mL	EPA 6010D
	Barium	10.0	10.3	103	ug/mL	EPA 6010D
	Beryllium	0.250	0.252	101	ug/mL	EPA 6010D
	Cadmium	0.250	0.252	101	ug/mL	EPA 6010D
	Chromium	1.00	1.05	105	ug/mL	EPA 6010D
	Copper	1.25	1.28	102	ug/mL	EPA 6010D
	Lead	0.500	0.501	100	ug/mL	EPA 6010D
	Manganese	2.50	2.55	102	ug/mL	EPA 6010D
	Nickel	2.50	2.55	102	ug/mL	EPA 6010D
	Selenium	0.500	0.509	102	ug/mL	EPA 6010D
	Silver	1.25	1.30	104	ug/mL	EPA 6010D
	Zinc	2.50	2.61	104	ug/mL	EPA 6010D
Y9J0706-CCV7	Arsenic	0.500	0.494	98.8	ug/mL	EPA 6010D

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/04/19
Control Limt: +/- 10.00%
Sequence: Y9J0706

Lab Sample ID	Analyte	True	Found	%R	Units	Method
Y9J0706-CCV7	Barium	10.0	10.3	103	ug/mL	EPA 6010D
	Beryllium	0.250	0.250	100	ug/mL	EPA 6010D
	Cadmium	0.250	0.250	100	ug/mL	EPA 6010D
	Chromium	1.00	1.04	104	ug/mL	EPA 6010D
	Copper	1.25	1.27	102	ug/mL	EPA 6010D
	Lead	0.500	0.496	99.1	ug/mL	EPA 6010D
	Manganese	2.50	2.54	102	ug/mL	EPA 6010D
	Nickel	2.50	2.54	102	ug/mL	EPA 6010D
	Selenium	0.500	0.502	100	ug/mL	EPA 6010D
	Silver	1.25	1.29	103	ug/mL	EPA 6010D
	Zinc	2.50	2.59	104	ug/mL	EPA 6010D
Y9J0706-CCV8	Arsenic	0.500	0.498	99.7	ug/mL	EPA 6010D
	Barium	10.0	10.3	103	ug/mL	EPA 6010D
	Beryllium	0.250	0.251	101	ug/mL	EPA 6010D
	Cadmium	0.250	0.249	99.6	ug/mL	EPA 6010D
	Chromium	1.00	1.04	104	ug/mL	EPA 6010D
	Copper	1.25	1.27	101	ug/mL	EPA 6010D
	Lead	0.500	0.495	99.0	ug/mL	EPA 6010D
	Manganese	2.50	2.55	102	ug/mL	EPA 6010D
	Nickel	2.50	2.54	101	ug/mL	EPA 6010D
	Selenium	0.500	0.498	99.7	ug/mL	EPA 6010D
	Silver	1.25	1.28	103	ug/mL	EPA 6010D
	Zinc	2.50	2.55	102	ug/mL	EPA 6010D

* Values outside of QC limits

CRDL STANDARD

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/03/19
Sequence: Y9J0406

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
Y9J0406-CRL1	Arsenic	0.0150	0.012	79.3	ug/mL	70 - 130
	Barium	0.0250	0.026	102	ug/mL	70 - 130
	Beryllium	0.000500	0.0005	103	ug/mL	70 - 130
	Cadmium	0.00300	0.003	101	ug/mL	70 - 130
	Chromium	0.00500	0.005	99.6	ug/mL	70 - 130
	Copper	0.0400	0.038	96.1	ug/mL	70 - 130
	Lead	0.00500	0.007	134 *	ug/mL	70 - 130
	Manganese	0.0100	0.010	105	ug/mL	70 - 130
	Nickel	0.0100	0.011	112	ug/mL	70 - 130
	Selenium	0.0250	0.020	81.0	ug/mL	70 - 130
	Silver	0.0100	0.010	101	ug/mL	70 - 130
	Zinc	0.0250	0.062	249 *	ug/mL	70 - 130

* Values outside of QC limits

CRDL STANDARD

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/04/19
Sequence: Y9J0706

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
Y9J0706-CRL1	Arsenic	0.0150	0.010	69.3 *	ug/mL	70 - 130
	Barium	0.0250	0.027	107	ug/mL	70 - 130
	Beryllium	0.000500	0.0005	105	ug/mL	70 - 130
	Cadmium	0.00300	0.003	105	ug/mL	70 - 130
	Chromium	0.00500	0.005	106	ug/mL	70 - 130
	Copper	0.0400	0.039	98.7	ug/mL	70 - 130
	Lead	0.00500	0.004	89.9	ug/mL	70 - 130
	Manganese	0.0100	0.011	105	ug/mL	70 - 130
	Nickel	0.0100	0.011	105	ug/mL	70 - 130
	Selenium	0.0250	0.021	83.2	ug/mL	70 - 130
	Silver	0.0100	0.010	97.7	ug/mL	70 - 130
	Zinc	0.0250	0.025	99.7	ug/mL	70 - 130

* Values outside of QC limits

ICP INTERFERENCE CHECK SAMPLE

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/03/19
Sequence: Y9J0406

Lab Sample ID	Analyte	True	Found	%R	Units
Y9J0406-IFA1	Arsenic		0.00		ug/mL
	Barium		0.01		ug/mL
	Beryllium		0.00		ug/mL
	Cadmium		0.00		ug/mL
	Chromium		0.00		ug/mL
	Copper		0.00		ug/mL
	Lead		0.00		ug/mL
	Manganese		0.00		ug/mL
	Nickel		0.00		ug/mL
	Selenium		0.00		ug/mL
	Silver		0.00		ug/mL
	Zinc		0.00		ug/mL
Y9J0406-IFB1	Arsenic	0.500	0.47	94.8	ug/mL
	Barium	0.500	0.51	102	ug/mL
	Beryllium	0.500	0.50	99.2	ug/mL
	Cadmium	1.00	0.95	94.5	ug/mL
	Chromium	0.500	0.49	98.0	ug/mL
	Copper	0.500	0.55	109	ug/mL
	Lead	1.00	0.97	96.9	ug/mL
	Manganese	0.500	0.49	98.3	ug/mL
	Nickel	1.00	1.03	103	ug/mL
	Selenium	0.500	0.45	90.6	ug/mL
	Silver	1.00	1.07	107	ug/mL
	Zinc	1.00	0.97	97.1	ug/mL

* Values outside of QC limits

ICP INTERFERENCE CHECK SAMPLE

EPA 6010D

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (
Project: 170396002
Instrument ID: WinLabICP
Calibration: 10/04/19
Sequence: Y9J0706

Lab Sample ID	Analyte	True	Found	%R	Units
Y9J0706-IFA1	Arsenic		0.00		ug/mL
	Barium		0.01		ug/mL
	Beryllium		0.00		ug/mL
	Cadmium		0.00		ug/mL
	Chromium		0.00		ug/mL
	Copper		0.00		ug/mL
	Lead		0.00		ug/mL
	Manganese		0.00		ug/mL
	Nickel		0.00		ug/mL
	Selenium		0.00		ug/mL
	Silver		0.00		ug/mL
	Zinc		0.00		ug/mL
Y9J0706-IFB1	Arsenic	0.500	0.47	94.2	ug/mL
	Barium	0.500	0.51	102	ug/mL
	Beryllium	0.500	0.49	98.4	ug/mL
	Cadmium	1.00	0.94	93.7	ug/mL
	Chromium	0.500	0.49	97.1	ug/mL
	Copper	0.500	0.54	109	ug/mL
	Lead	1.00	0.95	95.0	ug/mL
	Manganese	0.500	0.49	97.5	ug/mL
	Nickel	1.00	1.03	103	ug/mL
	Selenium	0.500	0.46	92.3	ug/mL
	Silver	1.00	1.06	106	ug/mL
	Zinc	1.00	0.97	97.1	ug/mL

* Values outside of QC limits

Metals Linear Dynamic Range

EPA 6010D

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Instrument: WinLabICP

CAS NO.	Analyte	Concentration mg/kg dry
7440-38-2	Arsenic	25000
7440-39-3	Barium	12500
7440-41-7	Beryllium	1250
7440-43-9	Cadmium	3000
7440-47-3	Chromium	5000
7440-50-8	Copper	6250
7439-92-1	Lead	15000
7439-96-5	Manganese	7500
7440-02-0	Nickel	12500
7782-49-2	Selenium	10000
7440-22-4	Silver	6250
7440-66-6	Zinc	3000

IEC File Last Saved: 10/4/2019 8:51:47 AM
Printed On: 10/4/2019 8:52:26 AM

Results Data Set Name: qbi030415
Method Name: METHOD FOR IE
Results Library: C:\pe\Mikew\Results\Results.md

Interfering Analytes

	Analytes	Al RADIAL	Ca RADIAL	Fe RADIAL	Mg RADIAL
1	**Ag 338.289**	0	0.011281	-0.035	0
2	**Al 308.215**	0	0.0245069	-0.0817898	0.0376104
3	**Al RADIAL**	**n/a**	0.0296996	-0.105128	0
4	**As 188.979**	0	0	-0.025	0
7	**Ca 227.546**	-0.675005	0	-8.62387	-0.0625929
9	**Cd 226.502**	0	0	0.06	0
10	**Co 228.616**	0	0	-0.015	0
11	**Cr 267.716**	0	0	-0.035	0
12	**Cu 324.752**	0	0	-0.02	0
16	**Mg 279.077**	0	0	0.161547	0
17	**Mg RADIAL**	0	0	0.0994223	**n/a**
18	**Mn 257.610**	0	0	-0.16	0
19	**Na 330.237**	0	-0.983571	-4.63141	0
21	**Ni 232.003**	0	0	0.015	0
22	**Pb 220.353**	-0.129664	-0.0141428	0.06	0
23	**Sb 206.836**	0.000505	0	-0.125	0
24	**Se 196.026**	0	0	0.54	0
25	**Tl 190.801**	0	0	-0.145	0
26	**V 292.402**	0	0	0.07	0
27	**Y 371.029**	9.77357	9.1591	24.475	8.93015
28	**Y RADIAL**	10.2987	9.68204	24.8989	9.399
29	**Zn 206.200**	0	0	0.055	0

IEC File Last Saved: 10/4/2019 12:11:49 PM
Printed On: 10/4/2019 12:12:00 PM

Results Data Set Name: qbi030415
Method Name: METHOD FOR IE
Results Library: C:\pe\Mikew\Results\Results.md

Interfering Analytes

	Analytes	Al RADIAL	Ca RADIAL	Fe RADIAL	Mg RADIAL
1	**Ag 338.289**	0	0.011281	-0.035	0
2	**Al 308.215**	0	0.0245069	-0.0817898	0.0376104
3	**Al RADIAL**	**n/a**	0.0296996	-0.105128	0
4	**As 188.979**	0	0	-0.06	0
7	**Ca 227.546**	-0.675005	0	-8.62387	-0.0625929
9	**Cd 226.502**	0	0	0.06	0
10	**Co 228.616**	0	0	-0.015	0
11	**Cr 267.716**	0	0	-0.035	0
12	**Cu 324.752**	0	0	-0.02	0
16	**Mg 279.077**	0	0	0.161547	0
17	**Mg RADIAL**	0	0	0.0994223	**n/a**
18	**Mn 257.610**	0	0	-0.16	0
19	**Na 330.237**	0	-0.983571	-4.63141	0
21	**Ni 232.003**	0	0	0.02	0
22	**Pb 220.353**	-0.129664	-0.0141428	0.07	0
23	**Sb 206.836**	0.000505	0	-0.21	0
24	**Se 196.026**	0	0	0.575	0
25	**Tl 190.801**	0	0	-0.11	0
26	**V 292.402**	0	0	0.07	0
27	**Y 371.029**	9.77357	9.1591	24.475	8.93015
28	**Y RADIAL**	10.2987	9.68204	24.8989	9.399
29	**Zn 206.200**	0	0	0.01	0

BENCHSHEETS

SDG: 19J0144

CLASS: METALS

METHOD: EPA 6010D

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90216

Preparation Date: 10/03/2019 11:12

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:24:23AM**

Matrix: Soil **Preparation: EPA 3050B** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0015-01 A	Metals, NYSDEC Part 375	0.5	50				
19J0073-01 A	Metals, NYSDEC Part 375	0.5	50				
19J0086-01 A	Metals, NYSDEC Part 375	0.5	50				
19J0139-21 A	Arsenic by EPA 6010	0.5	50				
19J0139-21 A	Lead by EPA 6010	0.5	50				
19J0139-22 A	Lead by EPA 6010	0.5	50				
19J0139-22 A	Arsenic by EPA 6010	0.5	50				
19J0139-23 A	Lead by EPA 6010	0.5	50				
19J0139-23 A	Arsenic by EPA 6010	0.5	50				
19J0139-24 A	Lead by EPA 6010	0.5	50				
19J0139-24 A	Arsenic by EPA 6010	0.5	50				
19J0139-25 A	Arsenic by EPA 6010	0.5	50				
19J0139-25 A	Lead by EPA 6010	0.5	50				
19J0139-26 A	Lead by EPA 6010	0.5	50				
19J0139-26 A	Arsenic by EPA 6010	0.5	50				
19J0139-27 A	Arsenic by EPA 6010	0.5	50				
19J0139-27 A	Lead by EPA 6010	0.5	50				
19J0139-28 A	Arsenic by EPA 6010	0.5	50				
19J0139-28 A	Lead by EPA 6010	0.5	50				
19J0139-29 A	Arsenic by EPA 6010	0.5	50				
19J0139-29 A	Lead by EPA 6010	0.5	50				
19J0139-30 A	Lead by EPA 6010	0.5	50				
19J0139-30 A	Arsenic by EPA 6010	0.5	50				
19J0144-01 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-02 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-03 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-04 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-05 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-06 A	Metals, NYSDEC Part 375	0.5	50				
19J0144-06 A	Arsenic by EPA 6010	0.5	50				Added for BatchQC in: BJ90
19J0144-06 A	Lead by EPA 6010	0.5	50				Added for BatchQC in: BJ90
BJ90216-BLK1	QC	0.5	50				
BJ90216-DUP1	QC	0.5	50		19J0144-06		

Preparations Performed by **SY** **Date:** **10/03/2019 11:12**

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90216

Preparation Date: 10/03/2019 11:12

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:24:23AM**

Matrix: Soil **Preparation: EPA 3050B** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
BJ90216-MS1	QC	0.5	50	Y19I404	19J0144-06	500	
BJ90216-PS1	QC	0.1	10	Y19H202	19J0144-06	100	[Spk] 0.5g->50mL; 50mL->5
BJ90216-SRM1	QC	0.5	50	Y19J032		500	

Reagents:

ID Number	Description	Lot Number
Y19H427	Hydrogen Peroxide, ACS grade	1112X04
Y19I180	Hydrochloric Acid , ACS Grade	0000229506
Y19H602	Nitric Acid , ACS Grade 69-70%	0000226537

Preparations Performed by **SY** **Date:** **10/03/2019 11:12**

Sample Information Detail Report
Document Name: 100319c

File Description
Sample Information File

Parameters Common to All Samples

Batch ID	qbi100319c
Analyst Name	KML
Volume Units	mL
Weight Units	g

Parameters That Vary By Sample

Sample No	A/S Location	Sample ID	Remarks
1	3	SEQ-ICV1	
2	4	SEQ-ICB1	
3	5	SEQ-CRL1	
4	6	SEQ-CRL2	
5	7	SEQ-IFA1	
6	8	SEQ-IFB1	
7	9	SEQ-CCV1	
8	4	SEQ-CCB1	
9	121	19J0139-15	BJ90215
10	122	19J0139-16	BJ90215
11	123	19J0139-17	BJ90215
12	124	19J0139-18	BJ90215
13	125	19J0139-19	BJ90215
14	126	19I0139-20	BJ90215
15	127	SEQ-SRD1	19I0139-08
16	128	BJ90216-BLK1	
17	129	BJ90216-SRM1	
18	130	19J0139-21	
19	9	SEQ-CCV2	
20	4	SEQ-CCB2	
21	131	19J0139-22	
22	132	19J0139-23	
23	133	19J0139-24	
24	134	19J0139-25	
25	135	19J0139-26	
26	136	19J0139-27	
27	137	19J0139-28	
28	138	19J0139-29	
29	139	19J0139-30	
30	140	BJ90249-BLK1	
31	9	SEQ-CCV3	
32	4	SEQ-CCB3	
33	141	BJ90249-BS1	
34	142	19J0145-01	
35	143	19J0050-01	
36	144	19J0116-01	
37	145	BJ90251-BLK1	
38	146	BJ90251-BS1	
39	147	19J0140-01	
40	148	BJ90252-BLK1	
41	149	BJ90252-LBK1	
42	150	BJ90252-BS1	
43	9	SEQ-CCV4	
44	4	SEQ-CCB4	
45	151	19I0538-06	
46	152	19I0538-07	
47	153	19I0610-02	
48	154	19I1139-02	
49	155	19I1139-04	
50	156	19I1224-01	
51	157	19I1224-02	
52	158	19I1224-03	
53	159	19I1224-04	
54	160	BJ90217-BLK1	
55	9	SEQ-CCV5	

56	4	SEQ-CCB5	
57	201	BJ90217-SRM1	
58	202	19J0104-01	
59	203	19J0106-01	
60	204	19J0112-01	
61	205	19J0112-02	
62	206	19J112-03	
63	207	19J0112-04	
64	208	19J0112-05	
65	209	19J0112-06	
66	210	19J0112-07	
67	10	SEQ-CCV6	
68	1	SEQ-CCB6	
69	211	19J0112-08	
70	212	19J0112-09	
71	213	19J0112-10	
72	214	19J0112-11	
73	215	19J0112-12	
74	216	19J0112-13	
75	217	19J0112-14	
76	218	19J0112-15	
77	219	19J0112-16	
78	220	19J0112-17	
79	10	SEQ-CCV7	
80	1	SEQ-CCB7	
81	221	19J0112-18	
82	222	BJ90217-DUP1	
83	223	BJ90217-MS1	
84	224	BJ90217-PS1	
85	225	SEQ-SRD3	19J0112-18
86	10	SEQ-CCV8	
87	1	SEQ-CCB8	
88	5	SEQ-CRL3	
89	6	SEQ-CRL4	
90	7	SEQ-IFA2	
91	8	SEQ-IFB2	
92	405	SEQ-HCV1	
93	1	BLANK1	
94	1	BLANK2	
95	10	SEQ-CCV9	
96	1	SEQ-CCB9	

Sequence No.: 1
Sample ID: Calib Blank 1
Analyst:
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 10/3/2019 5:33:11 PM
Data Type: Reprocessed on 10/4/2019 8:55:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	15226433.7	101993.22	0.67%	5.000	mg/L
Y RADIAL	250259.8	1276.32	0.51%	5.000	mg/L
As 188.979†	-40.3	10.05	24.93%	[0.00]	mg/L
Tl 190.801†	-75.5	9.38	12.42%	[0.00]	mg/L
Se 196.026†	75.8	19.91	26.25%	[0.00]	mg/L
Zn 206.200†	32.8	14.60	44.51%	[0.00]	mg/L
Sb 206.836†	50.9	12.23	24.01%	[0.00]	mg/L
Pb 220.353†	166.0	9.00	5.42%	[0.00]	mg/L
Cd 226.502†	-519.3	21.37	4.12%	[0.00]	mg/L
Co 228.616†	5.3	14.70	279.73%	[0.00]	mg/L
Ni 232.003†	-1188.5	15.23	1.28%	[0.00]	mg/L
Ba 233.527†	173.8	11.78	6.78%	[0.00]	mg/L
Mn 257.610†	991.0	18.45	1.86%	[0.00]	mg/L
Cr 267.716†	419.6	12.30	2.93%	[0.00]	mg/L
Fe 273.955†	-167.6	20.44	12.19%	[0.00]	mg/L
Mg 279.077†	-886.5	44.98	5.07%	[0.00]	mg/L
V 292.402†	-475.7	106.19	22.32%	[0.00]	mg/L
Al 308.215†	13046.8	146.09	1.12%	[0.00]	mg/L
Be 313.107†	-14098.5	260.02	1.84%	[0.00]	mg/L
Cu 324.752†	3729.5	115.92	3.11%	[0.00]	mg/L
Ag 338.289†	-195.6	159.63	81.63%	[0.00]	mg/L
Na 330.237†	1698.2	51.40	3.03%	[0.00]	mg/L
Ca 227.546†	-593.4	18.63	3.14%	[0.00]	mg/L
Al RADIAL†	-86.4	51.52	59.62%	[0.00]	mg/L
Fe RADIAL†	-2.6	3.27	127.16%	[0.00]	mg/L
Ca RADIAL†	2038.4	22.03	1.08%	[0.00]	mg/L
K RADIAL†	335.0	36.66	10.94%	[0.00]	mg/L
Mg RADIAL†	-31.8	14.98	47.12%	[0.00]	mg/L
Na RADIAL†	539.2	105.82	19.63%	[0.00]	mg/L

Sequence No.: 2
Sample ID: CAL STD 1
Analyst:
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 10/3/2019 5:36:07 PM
Data Type: Reprocessed on 10/4/2019 8:55:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CAL STD 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	14581273.4	83613.44	0.57%	4.788	mg/L
Y RADIAL	243161.6	316.73	0.13%	4.858	mg/L
As 188.979†	1836.7	19.42	1.06%	[1.0000]	mg/L
Tl 190.801†	2183.7	4.25	0.19%	[1.0000]	mg/L
Se 196.026†	2500.8	33.91	1.36%	[1.0000]	mg/L
Zn 206.200†	208062.0	1274.87	0.61%	[5.0000]	mg/L
Sb 206.836†	1250.2	21.91	1.75%	[0.5000]	mg/L
Pb 220.353†	12288.8	68.82	0.56%	[1.0000]	mg/L
Cd 226.502†	77603.5	588.86	0.76%	[0.5000]	mg/L
Co 228.616†	192111.8	1376.17	0.72%	[5.0000]	mg/L
Ni 232.003†	91653.0	529.65	0.58%	[5.0000]	mg/L
Ba 233.527†	1697208.0	9292.53	0.55%	[20.0000]	mg/L
Mn 257.610†	3392808.1	15773.25	0.46%	[5.0000]	mg/L
Cr 267.716†	303465.9	1598.62	0.53%	[2.0000]	mg/L
Fe 273.955†	215363.9	958.52	0.45%	[10.0000]	mg/L
Mg 279.077†	983096.0	4801.97	0.49%	[50.0000]	mg/L
V 292.402†	1233763.8	5573.34	0.45%	[5.0000]	mg/L
Al 308.215†	356044.4	1590.19	0.45%	[20.0000]	mg/L
Be 313.107†	2377053.0	11258.76	0.47%	[0.5000]	mg/L
Cu 324.752†	649810.3	3030.46	0.47%	[2.5000]	mg/L
Ag 338.289†	293799.8	1541.71	0.52%	[2.5000]	mg/L
Na 330.237†	32696.6	123.39	0.38%	[50.0000]	mg/L
Ca 227.546†	11072.9	67.54	0.61%	[50.0000]	mg/L
Al RADIAL†	28344.8	150.63	0.53%	[20.0000]	mg/L
Fe RADIAL†	4644.4	21.36	0.46%	[10.0000]	mg/L
Ca RADIAL†	261543.3	811.99	0.31%	[50.0000]	mg/L
K RADIAL†	13811.5	107.41	0.78%	[10.0000]	mg/L
Mg RADIAL†	25108.9	169.67	0.68%	[50.0000]	mg/L
Na RADIAL†	327669.5	789.87	0.24%	[50.0000]	mg/L

Sequence No.: 3
Sample ID: SEQ-ICV1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 10/3/2019 5:38:35 PM
Data Type: Reprocessed on 10/4/2019 8:55:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14883143.3	4.887	mg/L	0.0406				0.83%
Y RADIAL	247486.4	4.945	mg/L	0.0421				0.85%
As 188.979†	424.6	0.2313	mg/L	0.00523	0.2313	mg/L	0.00523	2.26%
Tl 190.801†	474.7	0.2181	mg/L	0.00678	0.2181	mg/L	0.00678	3.11%
Se 196.026†	627.9	0.2484	mg/L	0.01107	0.2484	mg/L	0.01107	4.46%
Zn 206.200†	104638.4	2.514	mg/L	0.0223	2.514	mg/L	0.0223	0.89%
Sb 206.836†	662.0	0.2654	mg/L	0.00276	0.2654	mg/L	0.00276	1.04%
Pb 220.353†	2743.9	0.2246	mg/L	0.00383	0.2246	mg/L	0.00383	1.70%
Cd 226.502†	17360.0	0.1116	mg/L	0.00113	0.1116	mg/L	0.00113	1.02%
Co 228.616†	95902.7	2.496	mg/L	0.0219	2.496	mg/L	0.0219	0.88%
Ni 232.003†	45470.8	2.481	mg/L	0.0221	2.481	mg/L	0.0221	0.89%
Ba 233.527†	846337.5	9.973	mg/L	0.1405	9.973	mg/L	0.1405	1.41%
Mn 257.610†	1667308.2	2.458	mg/L	0.0349	2.458	mg/L	0.0349	1.42%
Cr 267.716†	155384.2	1.024	mg/L	0.0102	1.024	mg/L	0.0102	1.00%
Fe 273.955†	108554.9	5.041	mg/L	0.0548	5.041	mg/L	0.0548	1.09%
Mg 279.077†	481250.5	24.48	mg/L	0.342	24.48	mg/L	0.342	1.40%
V 292.402†	605288.1	2.453	mg/L	0.0344	2.453	mg/L	0.0344	1.40%
Al 308.215†	176515.5	9.914	mg/L	0.1289	9.914	mg/L	0.1289	1.30%
Be 313.107†	1191633.8	0.25065	mg/L	0.003743	0.25065	mg/L	0.003743	1.49%
Cu 324.752†	324970.9	1.250	mg/L	0.0129	1.250	mg/L	0.0129	1.03%
Ag 338.289†	147799.3	1.258	mg/L	0.0111	1.258	mg/L	0.0111	0.89%
Na 330.237†	15215.5	23.32	mg/L	0.369	23.32	mg/L	0.369	1.58%
Ca 227.546†	5264.4	23.82	mg/L	0.333	23.82	mg/L	0.333	1.40%
Al RADIAL†	14293.0	10.08	mg/L	0.090	10.08	mg/L	0.090	0.90%
Fe RADIAL†	2321.8	4.999	mg/L	0.0585	4.999	mg/L	0.0585	1.17%
Ca RADIAL†	128871.8	24.64	mg/L	0.066	24.64	mg/L	0.066	0.27%
K RADIAL†	6510.6	4.714	mg/L	0.0265	4.714	mg/L	0.0265	0.56%
Mg RADIAL†	12574.9	25.04	mg/L	0.262	25.04	mg/L	0.262	1.05%
Na RADIAL†	163613.1	24.97	mg/L	0.038	24.97	mg/L	0.038	0.15%

Sequence No.: 4
Sample ID: SEQ-ICB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/3/2019 5:41:41 PM
Data Type: Reprocessed on 10/4/2019 8:55:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15247229.7	5.007	mg/L	0.0077				0.15%
Y RADIAL	253444.9	5.064	mg/L	0.0338				0.67%
As 188.979†	-1.2	-0.0007	mg/L	0.00521	-0.0007	mg/L	0.00521	796.63%
Tl 190.801†	-2.2	-0.0010	mg/L	0.00399	-0.0010	mg/L	0.00399	401.17%
Se 196.026†	-5.1	-0.0020	mg/L	0.00440	-0.0020	mg/L	0.00440	215.74%
Zn 206.200†	27.4	0.0007	mg/L	0.00052	0.0007	mg/L	0.00052	79.39%
Sb 206.836†	17.4	0.0070	mg/L	0.00195	0.0070	mg/L	0.00195	27.95%
Pb 220.353†	14.1	0.0012	mg/L	0.00032	0.0012	mg/L	0.00032	27.74%
Cd 226.502†	3.9	0.0000	mg/L	0.00012	0.0000	mg/L	0.00012	491.94%
Co 228.616†	-7.0	-0.0002	mg/L	0.00024	-0.0002	mg/L	0.00024	130.91%
Ni 232.003†	22.6	0.0012	mg/L	0.00107	0.0012	mg/L	0.00107	87.12%
Ba 233.527†	-18.1	-0.0002	mg/L	0.00024	-0.0002	mg/L	0.00024	113.21%
Mn 257.610†	27.8	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	64.58%
Cr 267.716†	6.5	0.0000	mg/L	0.00021	0.0000	mg/L	0.00021	482.58%
Fe 273.955†	11.7	0.0005	mg/L	0.00061	0.0005	mg/L	0.00061	112.43%
Mg 279.077†	-14.5	-0.0007	mg/L	0.00388	-0.0007	mg/L	0.00388	524.51%
V 292.402†	98.3	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	46.36%
Al 308.215†	378.9	0.0213	mg/L	0.00476	0.0213	mg/L	0.00476	22.34%
Be 313.107†	-220.1	-0.00005	mg/L	0.000043	-0.00005	mg/L	0.000043	93.00%
Cu 324.752†	81.1	0.0003	mg/L	0.00046	0.0003	mg/L	0.00046	148.76%
Ag 338.289†	101.4	0.0009	mg/L	0.00161	0.0009	mg/L	0.00161	186.49%
Na 330.237†	-7.3	-0.0112	mg/L	0.09402	-0.0112	mg/L	0.09402	842.10%
Ca 227.546†	-6.8	-0.0306	mg/L	0.04536	-0.0306	mg/L	0.04536	148.24%
Al RADIAL†	58.0	0.0409	mg/L	0.01661	0.0409	mg/L	0.01661	40.62%
Fe RADIAL†	4.8	0.0103	mg/L	0.01007	0.0103	mg/L	0.01007	98.17%
Ca RADIAL†	28.2	0.0054	mg/L	0.00281	0.0054	mg/L	0.00281	52.17%
K RADIAL†	19.9	0.0144	mg/L	0.04038	0.0144	mg/L	0.04038	280.77%
Mg RADIAL†	11.5	0.0228	mg/L	0.03477	0.0228	mg/L	0.03477	152.43%
Na RADIAL†	-139.5	-0.0213	mg/L	0.01179	-0.0213	mg/L	0.01179	55.36%

Sequence No.: 5
Sample ID: SEQ-CRL1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 10/3/2019 5:44:37 PM
Data Type: Reprocessed on 10/4/2019 8:55:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15256440.3	5.010	mg/L	0.0390				0.78%
Y RADIAL	248757.6	4.970	mg/L	0.0375				0.76%
As 188.979†	21.8	0.0119	mg/L	0.00813	0.0119	mg/L	0.00813	68.38%
Tl 190.801†	58.2	0.0267	mg/L	0.00214	0.0267	mg/L	0.00214	8.02%
Se 196.026†	51.3	0.0202	mg/L	0.00668	0.0202	mg/L	0.00668	32.99%
Zn 206.200†	2594.5	0.0623	mg/L	0.00092	0.0623	mg/L	0.00092	1.48%
Sb 206.836†	68.3	0.0274	mg/L	0.00285	0.0274	mg/L	0.00285	10.42%
Pb 220.353†	81.4	0.0067	mg/L	0.00122	0.0067	mg/L	0.00122	18.27%
Cd 226.502†	475.7	0.0030	mg/L	0.00013	0.0030	mg/L	0.00013	4.22%
Co 228.616†	154.0	0.0040	mg/L	0.00030	0.0040	mg/L	0.00030	7.44%
Ni 232.003†	205.9	0.0112	mg/L	0.00087	0.0112	mg/L	0.00087	7.71%
Ba 233.527†	2164.4	0.0255	mg/L	0.00040	0.0255	mg/L	0.00040	1.57%
Mn 257.610†	7044.1	0.0105	mg/L	0.00010	0.0105	mg/L	0.00010	0.96%
Cr 267.716†	753.1	0.0050	mg/L	0.00046	0.0050	mg/L	0.00046	9.16%
Fe 273.955†	10919.8	0.5070	mg/L	0.00132	0.5070	mg/L	0.00132	0.26%
Mg 279.077†	10203.3	0.5189	mg/L	0.00488	0.5189	mg/L	0.00488	0.94%
V 292.402†	2498.9	0.0101	mg/L	0.00022	0.0101	mg/L	0.00022	2.21%
Al 308.215†	8072.2	0.4534	mg/L	0.00957	0.4534	mg/L	0.00957	2.11%
Be 313.107†	2446.2	0.00051	mg/L	0.000060	0.00051	mg/L	0.000060	11.59%
Cu 324.752†	9990.8	0.0384	mg/L	0.00027	0.0384	mg/L	0.00027	0.69%
Ag 338.289†	1188.4	0.0101	mg/L	0.00084	0.0101	mg/L	0.00084	8.31%
Na 330.237†	236.4	0.3653	mg/L	0.11239	0.3653	mg/L	0.11239	30.77%
Ca 227.546†	255.0	1.156	mg/L	0.0441	1.156	mg/L	0.0441	3.81%
Al RADIAL†	733.7	0.5177	mg/L	0.01915	0.5177	mg/L	0.01915	3.70%
Fe RADIAL†	244.3	0.5260	mg/L	0.00948	0.5260	mg/L	0.00948	1.80%
Ca RADIAL†	6836.8	1.307	mg/L	0.0127	1.307	mg/L	0.0127	0.97%
K RADIAL†	645.5	0.4673	mg/L	0.04535	0.4673	mg/L	0.04535	9.70%
Mg RADIAL†	264.9	0.5274	mg/L	0.02213	0.5274	mg/L	0.02213	4.20%
Na RADIAL†	3179.9	0.4852	mg/L	0.00712	0.4852	mg/L	0.00712	1.47%

Sequence No.: 7
Sample ID: SEQ-IFA1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 10/3/2019 5:50:29 PM
Data Type: Reprocessed on 10/4/2019 8:55:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFA1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	13462956.2	4.421	mg/L	0.0375				0.85%
Y RADIAL	238724.7	4.770	mg/L	0.1932				4.05%
As 188.979†	-8.9	-0.0001	mg/L	0.00748	-0.0001	mg/L	0.00748	>999.9%
Tl 190.801†	-61.0	-0.0006	mg/L	0.00738	-0.0006	mg/L	0.00738	>999.9%
Se 196.026†	255.8	0.0005	mg/L	0.01154	0.0005	mg/L	0.01154	>999.9%
Zn 206.200†	442.8	0.0003	mg/L	0.00080	0.0003	mg/L	0.00080	292.46%
Sb 206.836†	-59.9	-0.0006	mg/L	0.00281	-0.0006	mg/L	0.00281	439.94%
Pb 220.353†	-681.8	0.0006	mg/L	0.00951	0.0006	mg/L	0.00951	>999.9%
Cd 226.502†	1809.1	0.0003	mg/L	0.00081	0.0003	mg/L	0.00081	234.31%
Co 228.616†	-94.1	0.0004	mg/L	0.00025	0.0004	mg/L	0.00025	66.18%
Ni 232.003†	42.0	-0.0005	mg/L	0.00693	-0.0005	mg/L	0.00693	>999.9%
Ba 233.527†	430.6	0.0051	mg/L	0.00048	0.0051	mg/L	0.00048	9.47%
Mn 257.610†	-20148.5	0.0005	mg/L	0.00191	0.0005	mg/L	0.00191	410.80%
Cr 267.716†	-1061.5	-0.0004	mg/L	0.00028	-0.0004	mg/L	0.00028	71.01%
Fe 273.955†	4246598.5	197.2	mg/L	1.16	197.2	mg/L	1.16	0.59%
Mg 279.077†	10203327.8	518.9	mg/L	2.21	518.9	mg/L	2.21	0.43%
V 292.402†	3072.2	-0.0007	mg/L	0.00156	-0.0007	mg/L	0.00156	209.32%
Al 308.215†	9758158.6	548.1	mg/L	0.98	548.1	mg/L	0.98	0.18%
Be 313.107†	-1293.0	-0.00027	mg/L	0.000037	-0.00027	mg/L	0.000037	13.50%
Cu 324.752†	-1023.8	-0.0002	mg/L	0.00038	-0.0002	mg/L	0.00038	222.32%
Ag 338.289†	-117.0	0.0006	mg/L	0.00097	0.0006	mg/L	0.00097	165.10%
Na 330.237†	-1515.5	-1.007	mg/L	0.1689	-1.007	mg/L	0.1689	16.76%
Ca 227.546†	115106.9	521.7	mg/L	2.67	521.7	mg/L	2.67	0.51%
Al RADIAL†	668022.7	471.4	mg/L	74.28	471.4	mg/L	74.28	15.76%
Fe RADIAL†	87541.5	188.5	mg/L	12.36	188.5	mg/L	12.36	6.55%
Ca RADIAL†	2325902.8	444.6	mg/L	66.40	444.6	mg/L	66.40	14.93%
K RADIAL†	-13.9	-0.0101	mg/L	0.01762	-0.0101	mg/L	0.01762	175.03%
Mg RADIAL†	241928.1	481.7	mg/L	31.92	481.7	mg/L	31.92	6.63%
Na RADIAL†	97.2	0.0148	mg/L	0.01599	0.0148	mg/L	0.01599	107.83%

Sequence No.: 8
Sample ID: SEQ-IFB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 10/3/2019 5:52:57 PM
Data Type: Reprocessed on 10/4/2019 8:55:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	13766475.8	4.521	mg/L	0.0254				0.56%
Y RADIAL	236215.4	4.719	mg/L	0.0197				0.42%
As 188.979†	861.5	0.4739	mg/L	0.01666	0.4739	mg/L	0.01666	3.52%
Tl 190.801†	1025.6	0.4977	mg/L	0.00852	0.4977	mg/L	0.00852	1.71%
Se 196.026†	1393.5	0.4528	mg/L	0.00489	0.4528	mg/L	0.00489	1.08%
Zn 206.200†	40834.7	0.9707	mg/L	0.00651	0.9707	mg/L	0.00651	0.67%
Sb 206.836†	1175.6	0.4941	mg/L	0.00472	0.4941	mg/L	0.00472	0.96%
Pb 220.353†	11165.7	0.9686	mg/L	0.00691	0.9686	mg/L	0.00691	0.71%
Cd 226.502†	148542.4	0.9455	mg/L	0.00309	0.9455	mg/L	0.00309	0.33%
Co 228.616†	19057.7	0.4989	mg/L	0.00311	0.4989	mg/L	0.00311	0.62%
Ni 232.003†	18894.2	1.028	mg/L	0.0045	1.028	mg/L	0.0045	0.44%
Ba 233.527†	43204.2	0.5091	mg/L	0.00131	0.5091	mg/L	0.00131	0.26%
Mn 257.610†	312690.7	0.4917	mg/L	0.00080	0.4917	mg/L	0.00080	0.16%
Cr 267.716†	73301.7	0.4899	mg/L	0.00158	0.4899	mg/L	0.00158	0.32%
Fe 273.955†	4194833.4	194.8	mg/L	0.45	194.8	mg/L	0.45	0.23%
Mg 279.077†	10184472.6	517.9	mg/L	0.72	517.9	mg/L	0.72	0.14%
V 292.402†	123566.8	0.4872	mg/L	0.00140	0.4872	mg/L	0.00140	0.29%
Al 308.215†	9690361.8	544.3	mg/L	0.89	544.3	mg/L	0.89	0.16%
Be 313.107†	2358016.5	0.49600	mg/L	0.001263	0.49600	mg/L	0.001263	0.25%
Cu 324.752†	140754.8	0.5454	mg/L	0.00123	0.5454	mg/L	0.00123	0.23%
Ag 338.289†	125539.4	1.070	mg/L	0.0020	1.070	mg/L	0.0020	0.19%
Na 330.237†	-885.0	0.0209	mg/L	0.02313	0.0209	mg/L	0.02313	110.89%
Ca 227.546†	113221.5	513.3	mg/L	2.18	513.3	mg/L	2.18	0.42%
Al RADIAL†	707394.5	499.1	mg/L	1.46	499.1	mg/L	1.46	0.29%
Fe RADIAL†	89780.2	193.3	mg/L	0.26	193.3	mg/L	0.26	0.13%
Ca RADIAL†	2546946.5	486.9	mg/L	1.90	486.9	mg/L	1.90	0.39%
K RADIAL†	-13.4	-0.0097	mg/L	0.02642	-0.0097	mg/L	0.02642	272.44%
Mg RADIAL†	247926.1	493.7	mg/L	0.63	493.7	mg/L	0.63	0.13%
Na RADIAL†	75.9	0.0116	mg/L	0.01903	0.0116	mg/L	0.01903	164.24%

Sequence No.: 9
Sample ID: SEQ-CCV1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 10/3/2019 5:55:26 PM
Data Type: Reprocessed on 10/4/2019 8:55:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15038886.5	4.938	mg/L	0.0303				0.61%
Y RADIAL	248582.2	4.966	mg/L	0.0239				0.48%
As 188.979†	901.8	0.4911	mg/L	0.00834	0.4911	mg/L	0.00834	1.70%
Tl 190.801†	1073.5	0.4923	mg/L	0.00487	0.4923	mg/L	0.00487	0.99%
Se 196.026†	1234.8	0.4910	mg/L	0.00732	0.4910	mg/L	0.00732	1.49%
Zn 206.200†	105879.3	2.544	mg/L	0.0297	2.544	mg/L	0.0297	1.17%
Sb 206.836†	637.6	0.2556	mg/L	0.01114	0.2556	mg/L	0.01114	4.36%
Pb 220.353†	6050.9	0.4938	mg/L	0.00658	0.4938	mg/L	0.00658	1.33%
Cd 226.502†	38543.6	0.2480	mg/L	0.00282	0.2480	mg/L	0.00282	1.14%
Co 228.616†	96949.0	2.523	mg/L	0.0262	2.523	mg/L	0.0262	1.04%
Ni 232.003†	45544.8	2.485	mg/L	0.0259	2.485	mg/L	0.0259	1.04%
Ba 233.527†	847978.6	9.993	mg/L	0.1164	9.993	mg/L	0.1164	1.17%
Mn 257.610†	1687107.3	2.487	mg/L	0.0296	2.487	mg/L	0.0296	1.19%
Cr 267.716†	155491.0	1.025	mg/L	0.0111	1.025	mg/L	0.0111	1.08%
Fe 273.955†	109279.3	5.074	mg/L	0.0586	5.074	mg/L	0.0586	1.16%
Mg 279.077†	487634.8	24.80	mg/L	0.302	24.80	mg/L	0.302	1.22%
V 292.402†	608072.0	2.464	mg/L	0.0292	2.464	mg/L	0.0292	1.19%
Al 308.215†	176313.8	9.903	mg/L	0.1026	9.903	mg/L	0.1026	1.04%
Be 313.107†	1172472.7	0.24662	mg/L	0.002968	0.24662	mg/L	0.002968	1.20%
Cu 324.752†	323262.1	1.244	mg/L	0.0115	1.244	mg/L	0.0115	0.93%
Ag 338.289†	149431.2	1.271	mg/L	0.0111	1.271	mg/L	0.0111	0.88%
Na 330.237†	15156.9	23.23	mg/L	0.132	23.23	mg/L	0.132	0.57%
Ca 227.546†	5302.8	24.00	mg/L	0.228	24.00	mg/L	0.228	0.95%
Al RADIAL†	14413.7	10.17	mg/L	0.053	10.17	mg/L	0.053	0.53%
Fe RADIAL†	2369.1	5.101	mg/L	0.0470	5.101	mg/L	0.0470	0.92%
Ca RADIAL†	130875.8	25.02	mg/L	0.054	25.02	mg/L	0.054	0.22%
K RADIAL†	6506.5	4.711	mg/L	0.0265	4.711	mg/L	0.0265	0.56%
Mg RADIAL†	12899.6	25.69	mg/L	0.175	25.69	mg/L	0.175	0.68%
Na RADIAL†	164127.8	25.04	mg/L	0.036	25.04	mg/L	0.036	0.15%

Sequence No.: 10
Sample ID: SEQ-CCB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/3/2019 5:58:32 PM
Data Type: Reprocessed on 10/4/2019 8:55:12 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	15317736.0	5.030	mg/L	0.0419				0.83%
Y RADIAL	251856.5	5.032	mg/L	0.0172				0.34%
As 188.979†	-7.9	-0.0043	mg/L	0.00355	-0.0043	mg/L	0.00355	82.11%
Tl 190.801†	0.4	0.0002	mg/L	0.00518	0.0002	mg/L	0.00518	>999.9%
Se 196.026†	-4.5	-0.0018	mg/L	0.00286	-0.0018	mg/L	0.00286	159.62%
Zn 206.200†	5.4	0.0001	mg/L	0.00019	0.0001	mg/L	0.00019	145.60%
Sb 206.836†	13.7	0.0055	mg/L	0.00230	0.0055	mg/L	0.00230	41.83%
Pb 220.353†	13.3	0.0011	mg/L	0.00100	0.0011	mg/L	0.00100	92.11%
Cd 226.502†	-27.5	-0.0002	mg/L	0.00016	-0.0002	mg/L	0.00016	90.95%
Co 228.616†	2.9	0.0001	mg/L	0.00035	0.0001	mg/L	0.00035	459.25%
Ni 232.003†	-6.1	-0.0003	mg/L	0.00065	-0.0003	mg/L	0.00065	195.31%
Ba 233.527†	-11.7	-0.0001	mg/L	0.00020	-0.0001	mg/L	0.00020	145.16%
Mn 257.610†	33.6	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	92.95%
Cr 267.716†	23.2	0.0002	mg/L	0.00018	0.0002	mg/L	0.00018	115.67%
Fe 273.955†	41.3	0.0019	mg/L	0.00103	0.0019	mg/L	0.00103	53.76%
Mg 279.077†	8.1	0.0004	mg/L	0.00465	0.0004	mg/L	0.00465	>999.9%
V 292.402†	-3.7	0.0000	mg/L	0.00028	0.0000	mg/L	0.00028	>999.9%
Al 308.215†	374.2	0.0210	mg/L	0.00430	0.0210	mg/L	0.00430	20.43%
Be 313.107†	-143.7	-0.00003	mg/L	0.000052	-0.00003	mg/L	0.000052	170.87%
Cu 324.752†	-90.6	-0.0003	mg/L	0.00019	-0.0003	mg/L	0.00019	53.37%
Ag 338.289†	27.7	0.0002	mg/L	0.00068	0.0002	mg/L	0.00068	290.98%
Na 330.237†	-46.1	-0.0706	mg/L	0.07939	-0.0706	mg/L	0.07939	112.46%
Ca 227.546†	-0.6	-0.0025	mg/L	0.07123	-0.0025	mg/L	0.07123	>999.9%
Al RADIAL†	78.2	0.0552	mg/L	0.01320	0.0552	mg/L	0.01320	23.94%
Fe RADIAL†	-3.5	-0.0076	mg/L	0.01629	-0.0076	mg/L	0.01629	213.99%
Ca RADIAL†	6.7	0.0013	mg/L	0.00390	0.0013	mg/L	0.00390	304.44%
K RADIAL†	-10.6	-0.0077	mg/L	0.03283	-0.0077	mg/L	0.03283	426.74%
Mg RADIAL†	4.4	0.0088	mg/L	0.00774	0.0088	mg/L	0.00774	87.51%
Na RADIAL†	-225.4	-0.0344	mg/L	0.00877	-0.0344	mg/L	0.00877	25.49%

Sequence No.: 18
Sample ID: BJ90216-BLK1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 128
Date Collected: 10/3/2019 6:19:18 PM
Data Type: Reprocessed on 10/4/2019 8:55:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BJ90216-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	Sample RSD
Y 371.029	15619471.1	5.129	mg/L	0.0308				0.60%
Y RADIAL	258333.3	5.161	mg/L	0.0520				1.01%
As 188.979†	-5.2	-0.0029	mg/L	0.00819	-0.0029	mg/L	0.00819	286.63%
Tl 190.801†	2.7	0.0012	mg/L	0.00487	0.0012	mg/L	0.00487	390.06%
Se 196.026†	-2.8	-0.0011	mg/L	0.01118	-0.0011	mg/L	0.01118	994.93%
Zn 206.200†	-109.1	-0.0026	mg/L	0.00041	-0.0026	mg/L	0.00041	15.47%
Sb 206.836†	1.5	0.0006	mg/L	0.00522	0.0006	mg/L	0.00522	888.09%
Pb 220.353†	1.5	0.0001	mg/L	0.00094	0.0001	mg/L	0.00094	727.89%
Cd 226.502†	15.4	0.0001	mg/L	0.00010	0.0001	mg/L	0.00010	98.02%
Co 228.616†	6.9	0.0002	mg/L	0.00029	0.0002	mg/L	0.00029	159.36%
Ni 232.003†	26.6	0.0015	mg/L	0.00116	0.0015	mg/L	0.00116	79.79%
Ba 233.527†	-24.3	-0.0003	mg/L	0.00019	-0.0003	mg/L	0.00019	65.71%
Mn 257.610†	-10.2	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	159.30%
Cr 267.716†	-10.9	-0.0001	mg/L	0.00012	-0.0001	mg/L	0.00012	167.10%
Fe 273.955†	81.0	0.0038	mg/L	0.00028	0.0038	mg/L	0.00028	7.32%
Mg 279.077†	-6.6	-0.0003	mg/L	0.00222	-0.0003	mg/L	0.00222	666.57%
V 292.402†	-4.1	0.0000	mg/L	0.00025	0.0000	mg/L	0.00025	>999.9%
Al 308.215†	555.5	0.0312	mg/L	0.00503	0.0312	mg/L	0.00503	16.11%
Be 313.107†	-532.9	-0.00011	mg/L	0.000036	-0.00011	mg/L	0.000036	32.07%
Cu 324.752†	5.0	0.0000	mg/L	0.00024	0.0000	mg/L	0.00024	>999.9%
Ag 338.289†	-102.1	-0.0009	mg/L	0.00163	-0.0009	mg/L	0.00163	188.37%
Na 330.237†	-108.0	-0.1652	mg/L	0.13478	-0.1652	mg/L	0.13478	81.57%
Ca 227.546†	-3.7	-0.0168	mg/L	0.09357	-0.0168	mg/L	0.09357	558.56%
Al RADIAL†	51.3	0.0362	mg/L	0.05533	0.0362	mg/L	0.05533	152.99%
Fe RADIAL†	-1.5	-0.0032	mg/L	0.01550	-0.0032	mg/L	0.01550	481.05%
Ca RADIAL†	-342.4	-0.0655	mg/L	0.00751	-0.0655	mg/L	0.00751	11.47%
K RADIAL†	2.9	0.0021	mg/L	0.06895	0.0021	mg/L	0.06895	>999.9%
Mg RADIAL†	3.3	0.0066	mg/L	0.02449	0.0066	mg/L	0.02449	370.81%
Na RADIAL†	-112.6	-0.0172	mg/L	0.01209	-0.0172	mg/L	0.01209	70.40%

Sequence No.: 19
Sample ID: BJ90216-SRM1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 129
Date Collected: 10/3/2019 6:22:14 PM
Data Type: Reprocessed on 10/4/2019 8:55:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BJ90216-SRM1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	15088322.9	4.955	mg/L	0.0178				0.36%
Y RADIAL	253143.4	5.058	mg/L	0.0297				0.59%
As 188.979†	2400.3	1.310	mg/L	0.0136	1.310	mg/L	0.0136	1.03%
Tl 190.801†	5618.7	2.590	mg/L	0.0139	2.590	mg/L	0.0139	0.54%
Se 196.026†	6116.4	2.381	mg/L	0.0183	2.381	mg/L	0.0183	0.77%
Zn 206.200†	154835.6	3.714	mg/L	0.0065	3.714	mg/L	0.0065	0.18%
Sb 206.836†	985.8	0.4091	mg/L	0.00615	0.4091	mg/L	0.00615	1.50%
Pb 220.353†	14445.2	1.178	mg/L	0.0090	1.178	mg/L	0.0090	0.76%
Cd 226.502†	64856.3	0.4107	mg/L	0.00191	0.4107	mg/L	0.00191	0.47%
Co 228.616†	82282.1	2.143	mg/L	0.0035	2.143	mg/L	0.0035	0.16%
Ni 232.003†	66354.4	3.618	mg/L	0.0084	3.618	mg/L	0.0084	0.23%
Ba 233.527†	552757.1	6.514	mg/L	0.0238	6.514	mg/L	0.0238	0.36%
Mn 257.610†	2162175.1	3.205	mg/L	0.0142	3.205	mg/L	0.0142	0.44%
Cr 267.716†	88435.2	0.5870	mg/L	0.00205	0.5870	mg/L	0.00205	0.35%
Fe 273.955†	2557747.9	118.8	mg/L	0.57	118.8	mg/L	0.57	0.48%
Mg 279.077†	441563.6	22.44	mg/L	0.086	22.44	mg/L	0.086	0.38%
V 292.402†	307630.4	1.238	mg/L	0.0060	1.238	mg/L	0.0060	0.48%
Al 308.215†	1193264.8	67.04	mg/L	0.339	67.04	mg/L	0.339	0.51%
Be 313.107†	7935638.6	1.6692	mg/L	0.00148	1.6692	mg/L	0.00148	0.09%
Cu 324.752†	217138.3	0.8378	mg/L	0.00428	0.8378	mg/L	0.00428	0.51%
Ag 338.289†	33748.9	0.2908	mg/L	0.00270	0.2908	mg/L	0.00270	0.93%
Na 330.237†	1713.5	3.220	mg/L	0.1877	3.220	mg/L	0.1877	5.83%
Ca 227.546†	10199.3	47.13	mg/L	0.234	47.13	mg/L	0.234	0.50%
Al RADIAL†	95013.0	67.05	mg/L	0.181	67.05	mg/L	0.181	0.27%
Fe RADIAL†	55310.8	119.1	mg/L	1.03	119.1	mg/L	1.03	0.86%
Ca RADIAL†	257705.7	49.27	mg/L	0.105	49.27	mg/L	0.105	0.21%
K RADIAL†	26312.4	19.05	mg/L	0.152	19.05	mg/L	0.152	0.80%
Mg RADIAL†	11362.7	22.61	mg/L	0.219	22.61	mg/L	0.219	0.97%
Na RADIAL†	14386.7	2.195	mg/L	0.0122	2.195	mg/L	0.0122	0.55%

Sequence No.: 21
Sample ID: SEQ-CCV2
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 10/3/2019 6:27:09 PM
Data Type: Reprocessed on 10/4/2019 8:55:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14911624.8	4.897	mg/L	0.0559				1.14%
Y RADIAL	248534.3	4.966	mg/L	0.0344				0.69%
As 188.979†	894.6	0.4872	mg/L	0.00530	0.4872	mg/L	0.00530	1.09%
Tl 190.801†	1072.9	0.4921	mg/L	0.00774	0.4921	mg/L	0.00774	1.57%
Se 196.026†	1233.7	0.4906	mg/L	0.00845	0.4906	mg/L	0.00845	1.72%
Zn 206.200†	104566.1	2.513	mg/L	0.0333	2.513	mg/L	0.0333	1.32%
Sb 206.836†	612.6	0.2456	mg/L	0.00376	0.2456	mg/L	0.00376	1.53%
Pb 220.353†	6050.8	0.4937	mg/L	0.00751	0.4937	mg/L	0.00751	1.52%
Cd 226.502†	38145.7	0.2455	mg/L	0.00307	0.2455	mg/L	0.00307	1.25%
Co 228.616†	96351.7	2.508	mg/L	0.0288	2.508	mg/L	0.0288	1.15%
Ni 232.003†	45223.6	2.467	mg/L	0.0290	2.467	mg/L	0.0290	1.18%
Ba 233.527†	851026.5	10.03	mg/L	0.135	10.03	mg/L	0.135	1.35%
Mn 257.610†	1688427.9	2.489	mg/L	0.0320	2.489	mg/L	0.0320	1.29%
Cr 267.716†	154617.4	1.019	mg/L	0.0130	1.019	mg/L	0.0130	1.27%
Fe 273.955†	108416.9	5.034	mg/L	0.0510	5.034	mg/L	0.0510	1.01%
Mg 279.077†	486110.5	24.72	mg/L	0.347	24.72	mg/L	0.347	1.40%
V 292.402†	610428.3	2.473	mg/L	0.0320	2.473	mg/L	0.0320	1.30%
Al 308.215†	175272.1	9.844	mg/L	0.1209	9.844	mg/L	0.1209	1.23%
Be 313.107†	1172412.2	0.24661	mg/L	0.003178	0.24661	mg/L	0.003178	1.29%
Cu 324.752†	322402.2	1.240	mg/L	0.0142	1.240	mg/L	0.0142	1.14%
Ag 338.289†	149410.6	1.271	mg/L	0.0156	1.271	mg/L	0.0156	1.23%
Na 330.237†	15148.0	23.21	mg/L	0.318	23.21	mg/L	0.318	1.37%
Ca 227.546†	5321.7	24.08	mg/L	0.350	24.08	mg/L	0.350	1.45%
Al RADIAL†	14320.5	10.10	mg/L	0.065	10.10	mg/L	0.065	0.64%
Fe RADIAL†	2334.0	5.025	mg/L	0.0322	5.025	mg/L	0.0322	0.64%
Ca RADIAL†	129300.1	24.72	mg/L	0.060	24.72	mg/L	0.060	0.24%
K RADIAL†	6561.2	4.751	mg/L	0.0292	4.751	mg/L	0.0292	0.61%
Mg RADIAL†	12698.1	25.29	mg/L	0.195	25.29	mg/L	0.195	0.77%
Na RADIAL†	163157.0	24.90	mg/L	0.100	24.90	mg/L	0.100	0.40%

Sequence No.: 22
Sample ID: SEQ-CCB2
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/3/2019 6:30:15 PM
Data Type: Reprocessed on 10/4/2019 8:55:24 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Y 371.029	15362675.6	5.045	mg/L	0.0260				0.52%
Y RADIAL	250806.5	5.011	mg/L	0.0163				0.33%
As 188.979†	-4.2	-0.0023	mg/L	0.00375	-0.0023	mg/L	0.00375	163.38%
Tl 190.801†	3.0	0.0014	mg/L	0.00184	0.0014	mg/L	0.00184	132.90%
Se 196.026†	-19.4	-0.0078	mg/L	0.00500	-0.0078	mg/L	0.00500	64.30%
Zn 206.200†	9.6	0.0002	mg/L	0.00026	0.0002	mg/L	0.00026	115.26%
Sb 206.836†	9.8	0.0039	mg/L	0.00334	0.0039	mg/L	0.00334	85.12%
Pb 220.353†	-3.3	-0.0003	mg/L	0.00086	-0.0003	mg/L	0.00086	324.72%
Cd 226.502†	5.6	0.0000	mg/L	0.00010	0.0000	mg/L	0.00010	277.83%
Co 228.616†	-12.2	-0.0003	mg/L	0.00027	-0.0003	mg/L	0.00027	85.31%
Ni 232.003†	4.1	0.0002	mg/L	0.00199	0.0002	mg/L	0.00199	879.61%
Ba 233.527†	-16.3	-0.0002	mg/L	0.00020	-0.0002	mg/L	0.00020	103.75%
Mn 257.610†	23.8	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	59.54%
Cr 267.716†	5.4	0.0000	mg/L	0.00023	0.0000	mg/L	0.00023	659.73%
Fe 273.955†	20.3	0.0009	mg/L	0.00109	0.0009	mg/L	0.00109	115.85%
Mg 279.077†	13.2	0.0007	mg/L	0.00165	0.0007	mg/L	0.00165	246.51%
V 292.402†	80.9	0.0003	mg/L	0.00059	0.0003	mg/L	0.00059	178.62%
Al 308.215†	386.2	0.0217	mg/L	0.00405	0.0217	mg/L	0.00405	18.66%
Be 313.107†	-467.1	-0.00010	mg/L	0.000032	-0.00010	mg/L	0.000032	32.10%
Cu 324.752†	-44.1	-0.0002	mg/L	0.00012	-0.0002	mg/L	0.00012	70.47%
Ag 338.289†	-39.5	-0.0003	mg/L	0.00082	-0.0003	mg/L	0.00082	243.66%
Na 330.237†	-64.7	-0.0990	mg/L	0.04627	-0.0990	mg/L	0.04627	46.75%
Ca 227.546†	-6.0	-0.0269	mg/L	0.07284	-0.0269	mg/L	0.07284	270.39%
Al RADIAL†	40.8	0.0288	mg/L	0.02949	0.0288	mg/L	0.02949	102.40%
Fe RADIAL†	2.0	0.0044	mg/L	0.01019	0.0044	mg/L	0.01019	231.57%
Ca RADIAL†	20.7	0.0040	mg/L	0.00431	0.0040	mg/L	0.00431	108.80%
K RADIAL†	-27.4	-0.0198	mg/L	0.03549	-0.0198	mg/L	0.03549	178.99%
Mg RADIAL†	4.4	0.0088	mg/L	0.02420	0.0088	mg/L	0.02420	274.26%
Na RADIAL†	-159.8	-0.0244	mg/L	0.01298	-0.0244	mg/L	0.01298	53.22%

Sample Information Detail Report
Document Name: 100419a

File Description
Sample Information File

Parameters Common to All Samples

Batch ID	qbi100419a
Analyst Name	KML
Volume Units	mL
Weight Units	g

Parameters That Vary By Sample

Sample No	A/S Location	Sample ID	Remarks
1	3	SEQ-ICV1	
2	4	SEQ-ICB1	
3	5	SEQ-CRL1	
4	6	SEQ-CRL2	
5	7	SEQ-IFA1	
6	8	SEQ-IFB1	
7	9	SEQ-CCV1	
8	4	SEQ-CCB1	
9	101	19I0506-01	
10	102	19I1220-02	
11	103	19I1274-01	
12	104	19I1274-02	
13	105	19I1274-03	
14	106	19I1274-04	
15	107	19I1274-09	
16	108	19I1281-05	
17	109	19I1366-01	
18	110	19I1367-01	
19	9	SEQ-CCV2	
20	4	SEQ-CCB2	
21	111	BJ90252-DUP1	
22	112	BJ90252-MS1	
23	113	BJ90252-PS1	
24	114	19J0036-03	
25	115	SEQ-SRD1	19I1367-01
26	116	BJ90117-BLK1	
27	117	BJ90117-BS1	
28	118	19I1339-01	
29	119	19I1339-02	
30	120	19I1339-03	
31	9	SEQ-CCV3	
32	4	SEQ-CCB3	
33	121	19I1339-04	
34	122	19I1339-05	
35	123	19I1339-06	
36	124	19I1339-07	
37	125	19I1339-08	
38	126	19I1347-01	
39	127	19I1347-02	
40	128	19I1347-03	
41	129	19J0012-01	
42	130	BJ90117-MS2	
43	9	SEQ-CCV4	
44	4	SEQ-CCB4	
45	131	19J0056-01	
46	132	BJ90117-DUP1	
47	133	BJ90117-MS1	
48	134	BJ90117-PS1	
49	135	SEQ-SRD2	19J0056-01
50	136	19J0019-01	BJ90117
51	137	BJ90307-BLK1	
52	138	BJ90307-SRM1	
53	139	19J0172-01	
54	140	19I0482-30	
55	9	SEQ-CCV5	

56	4	SEQ-CCB5	
57	141	19I0482-32	
58	142	19I0482-77	
59	143	19I0607-27	
60	144	19I0607-29	
61	145	19I0607-31	
62	146	19I0607-35	
63	147	19I0607-37	
64	148	19I0607-39	
65	149	19J0209-10	
66	150	19J0209-22	
67	9	SEQ-CCV6	
68	4	SEQ-CCB6	
69	151	19J0209-34	
70	152	19J0209-46	
71	153	BJ90307-DUP1	
72	154	BJ90307-MS1	
73	155	BJ90307-PS1	
74	156	SEQ-SRD3	19J0209-46
75	157	19J0015-01	
76	158	19J0073-01	
77	159	19J0086-01	
78	160	19J0144-01	
79	9	SEQ-CCV7	
80	4	SEQ-CCB7	
81	201	19J0144-02	
82	202	19J0144-03	
83	203	19J0144-04	
84	204	19J0144-05	
85	205	19J0144-06	
86	206	BJ90216-DUP1	
87	207	BJ90216-MS1	
88	208	BJ90216-PS1	
89	209	SEQ-SRD4	19J0144-06
90	210	BJ90317-BLK1	
91	10	SEQ-CCV8	
92	1	SEQ-CCB8	
93	211	BJ90317-LBK1	
94	212	BJ90317-BS1	
95	213	19I1196-04	
96	214	19I1201-01	
97	215	19I1253-01	
98	216	19I1281-06	
99	217	19I1281-07	
100	218	19I1281-08	
101	219	19I1281-09	
102	220	19I1311-01	
103	10	SEQ-CCV9	
104	1	SEQ-CCB9	
105	221	19J0023-01	
106	222	19J0023-02	
107	223	19J0103-01	
108	224	19I1257-01	
109	225	19I1355-01	
110	226	19I1355-02	
111	227	19I1355-03	
112	228	19I1355-04	
113	229	19J0064-02	
114	230	BJ90317-DUP1	
115	10	SEQ-CCVA	
116	1	SEQ-CCBA	
117	231	BJ90317-MS1	
118	232	BJ90317-PS1	
119	233	19J0066-01	
120	234	19J0071-04	
121	235	19J0071-05	
122	236	SEQ-SRD5	19J0064-02
123	237	19J0017-01	

124	238	19J0027-10	
125	239	BJ90249-DUP1	
126	240	BJ90249-MS1	
127	10	SEQ-CCVB	
128	1	SEQ-CCBB	
129	241	BJ90249-PS1	
130	242	19J0085-02	
131	243	19J0108-01	
132	244	19J0108-02	
133	245	19J0108-03	
134	246	19J0108-04	
135	247	19J0109-02	
136	248	SEQ-SRD6	19J0027-10
137	249	19J0081-01	
138	250	19J0081-02	
139	10	SEQ-CCVC	
140	1	SEQ-CCBC	
141	251	19J0091-06	
142	252	19J0107-01	
143	253	19J0141-01	
144	254	19J0142-01	
145	255	19J0142-02	
146	256	19J0142-03	
147	257	19J0142-04	
148	258	19J0142-05	
149	259	19J0142-06	
150	260	BJ90251-MS2	
151	10	SEQ-CCVD	
152	1	SEQ-CCBD	
153	301	19J0142-07	
154	302	BJ90251-DUP1	
155	303	BJ90251-MS1	
156	304	BJ90251-PS1	
157	305	SEQ-SRD7	19J0142-07
158	10	SEQ-CCVE	
159	1	SEQ-CCBE	
160	5	SEQ-CRL3	
161	6	SEQ-CRL4	
162	7	SEQ-IFA2	
163	8	SEQ-IFB2	
164	405	SEQ-HCV1	
165	1	BLANK1	
166	1	BLANK2	
167	9	SEQ-CCVF	
168	4	SEQ-CCBF	

Reprocessing Begun
Logged In Analyst: John Technique: ICP Continuous

Results Data Set (original): qbi100419a
Results Library (original): C:\pe\rqb\Results\Results 070119.mdb
Results Data Set (reprocessed): qbi100419aRE_1
Results Library (reprocessed): C:\pe\john\Results\Results 070119.mdb

Method Loaded
Method Name: TAL METH_091119FAS Method Last Saved: 9/11/2019 12:48:20 PM
IEC File: IEC 060719A.iec MSF File:
Method Description: TAL METALS

Sequence No.: 1 Autosampler Location: 1
Sample ID: Calib Blank 1 Date Collected: 10/4/2019 11:04:05 AM
Analyst: Data Type: Reprocessed on 10/7/2019 10:00:13 AM
Logged In Analyst (Original) : rqb
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc.	Units
Y 371.029	15297119.3	98709.87	0.65%	5.000	mg/L
Y RADIAL	251677.5	2740.00	1.09%	5.000	mg/L
As 188.979†	-44.8	9.81	21.92%	[0.00]	mg/L
Tl 190.801†	-77.1	8.46	10.97%	[0.00]	mg/L
Se 196.026†	74.7	10.65	14.25%	[0.00]	mg/L
Zn 206.200†	613.9	23.42	3.81%	[0.00]	mg/L
Sb 206.836†	68.6	3.32	4.83%	[0.00]	mg/L
Pb 220.353†	181.6	12.92	7.12%	[0.00]	mg/L
Cd 226.502†	-523.5	16.88	3.22%	[0.00]	mg/L
Co 228.616†	2.1	4.88	230.82%	[0.00]	mg/L
Ni 232.003†	-1220.2	23.67	1.94%	[0.00]	mg/L
Ba 233.527†	154.2	11.85	7.68%	[0.00]	mg/L
Mn 257.610†	1014.9	17.88	1.76%	[0.00]	mg/L
Cr 267.716†	439.8	40.14	9.13%	[0.00]	mg/L
Fe 273.955†	-162.4	9.27	5.71%	[0.00]	mg/L
Mg 279.077†	-875.1	87.27	9.97%	[0.00]	mg/L
V 292.402†	-466.0	68.65	14.73%	[0.00]	mg/L
Al 308.215†	13351.0	89.99	0.67%	[0.00]	mg/L
Be 313.107†	-14687.8	323.95	2.21%	[0.00]	mg/L
Cu 324.752†	3808.2	77.60	2.04%	[0.00]	mg/L
Ag 338.289†	-90.3	207.03	229.28%	[0.00]	mg/L
Na 330.237†	1650.7	99.88	6.05%	[0.00]	mg/L
Ca 227.546†	-528.1	12.79	2.42%	[0.00]	mg/L
Al RADIAL†	-70.9	35.90	50.66%	[0.00]	mg/L
Fe RADIAL†	-9.2	5.50	59.52%	[0.00]	mg/L
Ca RADIAL†	3747.4	48.79	1.30%	[0.00]	mg/L
K RADIAL†	321.4	110.93	34.52%	[0.00]	mg/L
Mg RADIAL†	-30.3	6.72	22.19%	[0.00]	mg/L
Na RADIAL†	436.7	102.63	23.50%	[0.00]	mg/L

Sequence No.: 2
Sample ID: CAL STD 1
Analyst:
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 10/4/2019 11:07:04 AM
Data Type: Reprocessed on 10/7/2019 10:00:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CAL STD 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	15081691.2	95052.23	0.63%	4.930	mg/L
Y RADIAL	244544.9	3327.36	1.36%	4.858	mg/L
As 188.979†	1774.7	4.80	0.27%	[1.0000]	mg/L
Tl 190.801†	2107.6	16.18	0.77%	[1.0000]	mg/L
Se 196.026†	2382.4	23.05	0.97%	[1.0000]	mg/L
Zn 206.200†	197185.6	921.91	0.47%	[5.0000]	mg/L
Sb 206.836†	1178.2	13.81	1.17%	[0.5000]	mg/L
Pb 220.353†	11794.4	112.51	0.95%	[1.0000]	mg/L
Cd 226.502†	74365.1	479.47	0.64%	[0.5000]	mg/L
Co 228.616†	183921.8	1210.81	0.66%	[5.0000]	mg/L
Ni 232.003†	87582.0	465.52	0.53%	[5.0000]	mg/L
Ba 233.527†	1628613.4	10210.16	0.63%	[20.0000]	mg/L
Mn 257.610†	3257320.7	22292.97	0.68%	[5.0000]	mg/L
Cr 267.716†	291243.0	2053.00	0.70%	[2.0000]	mg/L
Fe 273.955†	205983.5	1227.80	0.60%	[10.0000]	mg/L
Mg 279.077†	938055.2	6184.42	0.66%	[50.0000]	mg/L
V 292.402†	1188352.3	9556.95	0.80%	[5.0000]	mg/L
Al 308.215†	340315.4	2374.91	0.70%	[20.0000]	mg/L
Be 313.107†	2282694.6	16480.81	0.72%	[0.5000]	mg/L
Cu 324.752†	624629.3	4876.57	0.78%	[2.5000]	mg/L
Ag 338.289†	284233.3	2140.75	0.75%	[2.5000]	mg/L
Na 330.237†	31089.8	239.20	0.77%	[50.0000]	mg/L
Ca 227.546†	10587.4	66.04	0.62%	[50.0000]	mg/L
Al RADIAL†	28425.0	440.34	1.55%	[20.0000]	mg/L
Fe RADIAL†	4632.4	98.42	2.12%	[10.0000]	mg/L
Ca RADIAL†	255143.9	5615.61	2.20%	[50.0000]	mg/L
K RADIAL†	14220.2	229.85	1.62%	[10.0000]	mg/L
Mg RADIAL†	24898.3	413.08	1.66%	[50.0000]	mg/L
Na RADIAL†	331727.9	6878.51	2.07%	[50.0000]	mg/L

Sequence No.: 3
Sample ID: SEQ-ICV1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 10/4/2019 11:09:32 AM
Data Type: Reprocessed on 10/7/2019 10:00:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15072222.2	4.926	mg/L	0.0341				0.69%
Y RADIAL	250137.9	4.969	mg/L	0.0308				0.62%
As 188.979†	440.4	0.2484	mg/L	0.00685	0.2484	mg/L	0.00685	2.76%
Tl 190.801†	496.9	0.2363	mg/L	0.00323	0.2363	mg/L	0.00323	1.37%
Se 196.026†	657.3	0.2731	mg/L	0.00417	0.2731	mg/L	0.00417	1.53%
Zn 206.200†	100031.2	2.536	mg/L	0.0251	2.536	mg/L	0.0251	0.99%
Sb 206.836†	625.2	0.2664	mg/L	0.00753	0.2664	mg/L	0.00753	2.83%
Pb 220.353†	2836.5	0.2418	mg/L	0.00242	0.2418	mg/L	0.00242	1.00%
Cd 226.502†	18051.5	0.1211	mg/L	0.00141	0.1211	mg/L	0.00141	1.16%
Co 228.616†	92580.4	2.517	mg/L	0.0239	2.517	mg/L	0.0239	0.95%
Ni 232.003†	43839.6	2.503	mg/L	0.0251	2.503	mg/L	0.0251	1.00%
Ba 233.527†	813248.2	9.987	mg/L	0.0888	9.987	mg/L	0.0888	0.89%
Mn 257.610†	1604070.4	2.463	mg/L	0.0225	2.463	mg/L	0.0225	0.91%
Cr 267.716†	150402.9	1.033	mg/L	0.0102	1.033	mg/L	0.0102	0.99%
Fe 273.955†	104627.4	5.079	mg/L	0.0473	5.079	mg/L	0.0473	0.93%
Mg 279.077†	460242.3	24.53	mg/L	0.215	24.53	mg/L	0.215	0.88%
V 292.402†	583285.9	2.454	mg/L	0.0188	2.454	mg/L	0.0188	0.77%
Al 308.215†	168649.4	9.910	mg/L	0.1002	9.910	mg/L	0.1002	1.01%
Be 313.107†	1145842.9	0.25098	mg/L	0.002121	0.25098	mg/L	0.002121	0.85%
Cu 324.752†	314629.9	1.259	mg/L	0.0131	1.259	mg/L	0.0131	1.04%
Ag 338.289†	143514.1	1.262	mg/L	0.0129	1.262	mg/L	0.0129	1.02%
Na 330.237†	14590.0	23.51	mg/L	0.349	23.51	mg/L	0.349	1.48%
Ca 227.546†	4997.3	23.65	mg/L	0.372	23.65	mg/L	0.372	1.57%
Al RADIAL†	13863.5	9.754	mg/L	0.0816	9.754	mg/L	0.0816	0.84%
Fe RADIAL†	2257.7	4.874	mg/L	0.0316	4.874	mg/L	0.0316	0.65%
Ca RADIAL†	121569.1	23.82	mg/L	0.048	23.82	mg/L	0.048	0.20%
K RADIAL†	6477.4	4.555	mg/L	0.0330	4.555	mg/L	0.0330	0.72%
Mg RADIAL†	12124.5	24.35	mg/L	0.161	24.35	mg/L	0.161	0.66%
Na RADIAL†	160342.4	24.17	mg/L	0.052	24.17	mg/L	0.052	0.21%

Sequence No.: 4
Sample ID: SEQ-ICB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/4/2019 11:12:38 AM
Data Type: Reprocessed on 10/7/2019 10:00:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-ICB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15544173.7	5.081	mg/L	0.0367				0.72%
Y RADIAL	253037.1	5.027	mg/L	0.0376				0.75%
As 188.979†	-0.6	-0.0003	mg/L	0.00681	-0.0003	mg/L	0.00681	>999.9%
Tl 190.801†	9.2	0.0043	mg/L	0.00330	0.0043	mg/L	0.00330	75.93%
Se 196.026†	-4.9	-0.0021	mg/L	0.00879	-0.0021	mg/L	0.00879	427.58%
Zn 206.200†	-639.8	-0.0162	mg/L	0.00056	-0.0162	mg/L	0.00056	3.48%
Sb 206.836†	-4.8	-0.0020	mg/L	0.00397	-0.0020	mg/L	0.00397	195.95%
Pb 220.353†	-0.2	0.0000	mg/L	0.00202	0.0000	mg/L	0.00202	>999.9%
Cd 226.502†	36.0	0.0002	mg/L	0.00012	0.0002	mg/L	0.00012	49.53%
Co 228.616†	-2.9	-0.0001	mg/L	0.00015	-0.0001	mg/L	0.00015	189.01%
Ni 232.003†	45.4	0.0026	mg/L	0.00265	0.0026	mg/L	0.00265	102.12%
Ba 233.527†	13.5	0.0002	mg/L	0.00003	0.0002	mg/L	0.00003	20.91%
Mn 257.610†	-23.5	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	55.15%
Cr 267.716†	-37.0	-0.0003	mg/L	0.00036	-0.0003	mg/L	0.00036	142.46%
Fe 273.955†	-11.3	-0.0005	mg/L	0.00132	-0.0005	mg/L	0.00132	241.71%
Mg 279.077†	-71.1	-0.0038	mg/L	0.00381	-0.0038	mg/L	0.00381	100.48%
V 292.402†	48.2	0.0002	mg/L	0.00039	0.0002	mg/L	0.00039	191.19%
Al 308.215†	-263.3	-0.0155	mg/L	0.00561	-0.0155	mg/L	0.00561	36.31%
Be 313.107†	171.8	0.00004	mg/L	0.000039	0.00004	mg/L	0.000039	103.22%
Cu 324.752†	-190.6	-0.0008	mg/L	0.00029	-0.0008	mg/L	0.00029	38.26%
Ag 338.289†	-49.8	-0.0004	mg/L	0.00087	-0.0004	mg/L	0.00087	200.71%
Na 330.237†	-38.8	-0.0627	mg/L	0.12605	-0.0627	mg/L	0.12605	200.99%
Ca 227.546†	-64.3	-0.3038	mg/L	0.06136	-0.3038	mg/L	0.06136	20.20%
Al RADIAL†	-5.4	-0.0038	mg/L	0.01979	-0.0038	mg/L	0.01979	520.64%
Fe RADIAL†	1.6	0.0035	mg/L	0.01377	0.0035	mg/L	0.01377	396.55%
Ca RADIAL†	-1904.9	-0.3733	mg/L	0.00317	-0.3733	mg/L	0.00317	0.85%
K RADIAL†	-63.9	-0.0449	mg/L	0.02355	-0.0449	mg/L	0.02355	52.41%
Mg RADIAL†	11.4	0.0228	mg/L	0.02004	0.0228	mg/L	0.02004	87.71%
Na RADIAL†	-9.6	-0.0014	mg/L	0.01728	-0.0014	mg/L	0.01728	>999.9%

Sequence No.: 5
Sample ID: SEQ-CRL1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 10/4/2019 11:15:34 AM
Data Type: Reprocessed on 10/7/2019 10:00:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CRL1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15440038.5	5.047	mg/L	0.0230				0.46%
Y RADIAL	252790.4	5.022	mg/L	0.0109				0.22%
As 188.979†	18.4	0.0104	mg/L	0.00082	0.0104	mg/L	0.00082	7.88%
Tl 190.801†	52.2	0.0248	mg/L	0.00525	0.0248	mg/L	0.00525	21.16%
Se 196.026†	50.3	0.0208	mg/L	0.00831	0.0208	mg/L	0.00831	39.96%
Zn 206.200†	983.4	0.0249	mg/L	0.00059	0.0249	mg/L	0.00059	2.36%
Sb 206.836†	42.5	0.0181	mg/L	0.00082	0.0181	mg/L	0.00082	4.49%
Pb 220.353†	52.6	0.0045	mg/L	0.00129	0.0045	mg/L	0.00129	28.70%
Cd 226.502†	470.9	0.0031	mg/L	0.00007	0.0031	mg/L	0.00007	2.34%
Co 228.616†	148.6	0.0040	mg/L	0.00048	0.0040	mg/L	0.00048	11.82%
Ni 232.003†	184.3	0.0105	mg/L	0.00080	0.0105	mg/L	0.00080	7.59%
Ba 233.527†	2173.9	0.0267	mg/L	0.00042	0.0267	mg/L	0.00042	1.57%
Mn 257.610†	6814.3	0.0105	mg/L	0.00014	0.0105	mg/L	0.00014	1.37%
Cr 267.716†	768.0	0.0053	mg/L	0.00024	0.0053	mg/L	0.00024	4.54%
Fe 273.955†	10806.2	0.5246	mg/L	0.00609	0.5246	mg/L	0.00609	1.16%
Mg 279.077†	9699.7	0.5169	mg/L	0.00587	0.5169	mg/L	0.00587	1.14%
V 292.402†	2438.9	0.0102	mg/L	0.00040	0.0102	mg/L	0.00040	3.89%
Al 308.215†	7806.6	0.4588	mg/L	0.00597	0.4588	mg/L	0.00597	1.30%
Be 313.107†	2408.2	0.00053	mg/L	0.000065	0.00053	mg/L	0.000065	12.29%
Cu 324.752†	9859.5	0.0395	mg/L	0.00085	0.0395	mg/L	0.00085	2.15%
Ag 338.289†	1109.3	0.0098	mg/L	0.00076	0.0098	mg/L	0.00076	7.83%
Na 330.237†	234.9	0.3806	mg/L	0.15761	0.3806	mg/L	0.15761	41.41%
Ca 227.546†	92.4	0.4413	mg/L	0.04963	0.4413	mg/L	0.04963	11.25%
Al RADIAL†	741.5	0.5218	mg/L	0.01371	0.5218	mg/L	0.01371	2.63%
Fe RADIAL†	237.4	0.5124	mg/L	0.00764	0.5124	mg/L	0.00764	1.49%
Ca RADIAL†	2374.7	0.4654	mg/L	0.00787	0.4654	mg/L	0.00787	1.69%
K RADIAL†	601.6	0.4231	mg/L	0.02210	0.4231	mg/L	0.02210	5.22%
Mg RADIAL†	258.2	0.5185	mg/L	0.01240	0.5185	mg/L	0.01240	2.39%
Na RADIAL†	3241.0	0.4885	mg/L	0.02172	0.4885	mg/L	0.02172	4.45%

Sequence No.: 7
Sample ID: SEQ-IFA1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 10/4/2019 11:21:26 AM
Data Type: Reprocessed on 10/7/2019 10:00:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFA1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	13798141.6	4.510	mg/L	0.0424				0.94%
Y RADIAL	238703.3	4.742	mg/L	0.0178				0.37%
As 188.979†	-20.0	-0.0001	mg/L	0.00565	-0.0001	mg/L	0.00565	>999.9%
Tl 190.801†	-42.1	0.0004	mg/L	0.00608	0.0004	mg/L	0.00608	>999.9%
Se 196.026†	254.8	0.0002	mg/L	0.00800	0.0002	mg/L	0.00800	>999.9%
Zn 206.200†	59.4	-0.0003	mg/L	0.00081	-0.0003	mg/L	0.00081	233.17%
Sb 206.836†	-93.4	-0.0009	mg/L	0.00458	-0.0009	mg/L	0.00458	506.35%
Pb 220.353†	-652.6	0.0003	mg/L	0.00293	0.0003	mg/L	0.00293	857.64%
Cd 226.502†	1764.0	0.0007	mg/L	0.00033	0.0007	mg/L	0.00033	45.94%
Co 228.616†	-104.2	0.0000	mg/L	0.00029	0.0000	mg/L	0.00029	604.08%
Ni 232.003†	77.6	0.0007	mg/L	0.00551	0.0007	mg/L	0.00551	767.78%
Ba 233.527†	430.8	0.0053	mg/L	0.00028	0.0053	mg/L	0.00028	5.25%
Mn 257.610†	-18966.9	0.0006	mg/L	0.00048	0.0006	mg/L	0.00048	81.92%
Cr 267.716†	-1082.4	-0.0009	mg/L	0.00018	-0.0009	mg/L	0.00018	19.74%
Fe 273.955†	4037896.8	196.0	mg/L	2.91	196.0	mg/L	2.91	1.49%
Mg 279.077†	9734911.8	518.9	mg/L	1.58	518.9	mg/L	1.58	0.30%
V 292.402†	3135.0	0.0002	mg/L	0.00049	0.0002	mg/L	0.00049	248.00%
Al 308.215†	9349336.0	549.4	mg/L	1.37	549.4	mg/L	1.37	0.25%
Be 313.107†	-901.4	-0.00020	mg/L	0.000057	-0.00020	mg/L	0.000057	28.62%
Cu 324.752†	-1115.5	-0.0008	mg/L	0.00035	-0.0008	mg/L	0.00035	46.96%
Ag 338.289†	-147.5	-0.0001	mg/L	0.00108	-0.0001	mg/L	0.00108	806.98%
Na 330.237†	-1411.7	-0.9460	mg/L	0.08404	-0.9460	mg/L	0.08404	8.88%
Ca 227.546†	109801.7	520.5	mg/L	6.87	520.5	mg/L	6.87	1.32%
Al RADIAL†	679351.0	478.0	mg/L	4.15	478.0	mg/L	4.15	0.87%
Fe RADIAL†	85972.7	185.6	mg/L	0.64	185.6	mg/L	0.64	0.35%
Ca RADIAL†	2411680.1	472.6	mg/L	5.09	472.6	mg/L	5.09	1.08%
K RADIAL†	-15.3	-0.0108	mg/L	0.02880	-0.0108	mg/L	0.02880	267.13%
Mg RADIAL†	236318.5	474.5	mg/L	1.94	474.5	mg/L	1.94	0.41%
Na RADIAL†	200.5	0.0302	mg/L	0.01310	0.0302	mg/L	0.01310	43.34%

Sequence No.: 8
Sample ID: SEQ-IFB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 10/4/2019 11:23:54 AM
Data Type: Reprocessed on 10/7/2019 10:00:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-IFB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	13780074.2	4.504	mg/L	0.0148				0.33%
Y RADIAL	237684.4	4.722	mg/L	0.0153				0.32%
As 188.979†	816.2	0.4710	mg/L	0.01657	0.4710	mg/L	0.01657	3.52%
Tl 190.801†	976.2	0.4835	mg/L	0.00571	0.4835	mg/L	0.00571	1.18%
Se 196.026†	1351.7	0.4614	mg/L	0.00547	0.4614	mg/L	0.00547	1.19%
Zn 206.200†	38380.5	0.9714	mg/L	0.00402	0.9714	mg/L	0.00402	0.41%
Sb 206.836†	1124.7	0.5158	mg/L	0.01059	0.5158	mg/L	0.01059	2.05%
Pb 220.353†	10546.2	0.9501	mg/L	0.00487	0.9501	mg/L	0.00487	0.51%
Cd 226.502†	141012.4	0.9370	mg/L	0.00291	0.9370	mg/L	0.00291	0.31%
Co 228.616†	18033.6	0.4930	mg/L	0.00228	0.4930	mg/L	0.00228	0.46%
Ni 232.003†	18191.5	1.035	mg/L	0.0039	1.035	mg/L	0.0039	0.38%
Ba 233.527†	41342.1	0.5077	mg/L	0.00152	0.5077	mg/L	0.00152	0.30%
Mn 257.610†	298318.6	0.4874	mg/L	0.00200	0.4874	mg/L	0.00200	0.41%
Cr 267.716†	69795.0	0.4857	mg/L	0.00177	0.4857	mg/L	0.00177	0.36%
Fe 273.955†	4003823.4	194.4	mg/L	0.81	194.4	mg/L	0.81	0.41%
Mg 279.077†	9595164.6	511.4	mg/L	0.86	511.4	mg/L	0.86	0.17%
V 292.402†	118357.2	0.4851	mg/L	0.00282	0.4851	mg/L	0.00282	0.58%
Al 308.215†	9201919.2	540.8	mg/L	1.07	540.8	mg/L	1.07	0.20%
Be 313.107†	2245995.2	0.49196	mg/L	0.002095	0.49196	mg/L	0.002095	0.43%
Cu 324.752†	134991.8	0.5440	mg/L	0.00217	0.5440	mg/L	0.00217	0.40%
Ag 338.289†	120343.1	1.060	mg/L	0.0042	1.060	mg/L	0.0042	0.40%
Na 330.237†	-861.4	-0.0642	mg/L	0.07501	-0.0642	mg/L	0.07501	116.80%
Ca 227.546†	108508.2	514.4	mg/L	2.00	514.4	mg/L	2.00	0.39%
Al RADIAL†	681356.0	479.4	mg/L	3.88	479.4	mg/L	3.88	0.81%
Fe RADIAL†	85399.3	184.4	mg/L	0.18	184.4	mg/L	0.18	0.10%
Ca RADIAL†	2424428.3	475.1	mg/L	3.74	475.1	mg/L	3.74	0.79%
K RADIAL†	-16.9	-0.0119	mg/L	0.06363	-0.0119	mg/L	0.06363	534.24%
Mg RADIAL†	234665.2	471.2	mg/L	1.05	471.2	mg/L	1.05	0.22%
Na RADIAL†	258.1	0.0389	mg/L	0.00728	0.0389	mg/L	0.00728	18.72%

Sequence No.: 9
Sample ID: SEQ-CCV1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 10/4/2019 11:26:23 AM
Data Type: Reprocessed on 10/7/2019 10:00:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	15102341.1	4.936	mg/L	0.0540				1.09%
Y RADIAL	251527.4	4.997	mg/L	0.0157				0.31%
As 188.979†	866.4	0.4885	mg/L	0.01189	0.4885	mg/L	0.01189	2.43%
Tl 190.801†	1039.7	0.4938	mg/L	0.01148	0.4938	mg/L	0.01148	2.33%
Se 196.026†	1207.2	0.5039	mg/L	0.00769	0.5039	mg/L	0.00769	1.53%
Zn 206.200†	101127.5	2.564	mg/L	0.0661	2.564	mg/L	0.0661	2.58%
Sb 206.836†	600.2	0.2557	mg/L	0.01434	0.2557	mg/L	0.01434	5.61%
Pb 220.353†	5787.5	0.4920	mg/L	0.00924	0.4920	mg/L	0.00924	1.88%
Cd 226.502†	37051.2	0.2488	mg/L	0.00640	0.2488	mg/L	0.00640	2.57%
Co 228.616†	93508.4	2.542	mg/L	0.0586	2.542	mg/L	0.0586	2.31%
Ni 232.003†	43921.6	2.507	mg/L	0.0544	2.507	mg/L	0.0544	2.17%
Ba 233.527†	820124.5	10.07	mg/L	0.164	10.07	mg/L	0.164	1.63%
Mn 257.610†	1629385.8	2.502	mg/L	0.0392	2.502	mg/L	0.0392	1.57%
Cr 267.716†	150205.4	1.032	mg/L	0.0242	1.032	mg/L	0.0242	2.34%
Fe 273.955†	105158.2	5.105	mg/L	0.1200	5.105	mg/L	0.1200	2.35%
Mg 279.077†	466281.2	24.85	mg/L	0.408	24.85	mg/L	0.408	1.64%
V 292.402†	589975.5	2.482	mg/L	0.0407	2.482	mg/L	0.0407	1.64%
Al 308.215†	169607.3	9.967	mg/L	0.2230	9.967	mg/L	0.2230	2.24%
Be 313.107†	1131481.5	0.24784	mg/L	0.003932	0.24784	mg/L	0.003932	1.59%
Cu 324.752†	314569.5	1.259	mg/L	0.0255	1.259	mg/L	0.0255	2.03%
Ag 338.289†	146145.3	1.285	mg/L	0.0232	1.285	mg/L	0.0232	1.80%
Na 330.237†	14539.7	23.43	mg/L	0.497	23.43	mg/L	0.497	2.12%
Ca 227.546†	5126.5	24.26	mg/L	0.430	24.26	mg/L	0.430	1.77%
Al RADIAL†	13915.6	9.791	mg/L	0.0395	9.791	mg/L	0.0395	0.40%
Fe RADIAL†	2265.3	4.890	mg/L	0.0211	4.890	mg/L	0.0211	0.43%
Ca RADIAL†	124721.9	24.44	mg/L	0.093	24.44	mg/L	0.093	0.38%
K RADIAL†	6450.0	4.536	mg/L	0.0328	4.536	mg/L	0.0328	0.72%
Mg RADIAL†	12209.3	24.52	mg/L	0.111	24.52	mg/L	0.111	0.45%
Na RADIAL†	162189.6	24.45	mg/L	0.072	24.45	mg/L	0.072	0.29%

Sequence No.: 10
Sample ID: SEQ-CCB1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/4/2019 11:29:29 AM
Data Type: Reprocessed on 10/7/2019 10:00:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	15438940.6	5.046	mg/L	0.0387				0.77%
Y RADIAL	253960.8	5.045	mg/L	0.0667				1.32%
As 188.979†	-4.2	-0.0023	mg/L	0.00924	-0.0023	mg/L	0.00924	393.74%
Tl 190.801†	8.5	0.0040	mg/L	0.00215	0.0040	mg/L	0.00215	53.55%
Se 196.026†	7.1	0.0030	mg/L	0.00272	0.0030	mg/L	0.00272	91.14%
Zn 206.200†	-641.6	-0.0163	mg/L	0.00049	-0.0163	mg/L	0.00049	3.03%
Sb 206.836†	5.2	0.0022	mg/L	0.00289	0.0022	mg/L	0.00289	129.97%
Pb 220.353†	-12.8	-0.0011	mg/L	0.00023	-0.0011	mg/L	0.00023	21.56%
Cd 226.502†	5.6	0.0000	mg/L	0.00008	0.0000	mg/L	0.00008	208.28%
Co 228.616†	2.9	0.0001	mg/L	0.00022	0.0001	mg/L	0.00022	278.47%
Ni 232.003†	21.2	0.0012	mg/L	0.00114	0.0012	mg/L	0.00114	94.64%
Ba 233.527†	3.5	0.0000	mg/L	0.00028	0.0000	mg/L	0.00028	639.29%
Mn 257.610†	-6.6	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	261.14%
Cr 267.716†	-3.8	0.0000	mg/L	0.00032	0.0000	mg/L	0.00032	>999.9%
Fe 273.955†	23.9	0.0012	mg/L	0.00110	0.0012	mg/L	0.00110	95.21%
Mg 279.077†	-43.0	-0.0023	mg/L	0.00150	-0.0023	mg/L	0.00150	65.43%
V 292.402†	-18.6	-0.0001	mg/L	0.00015	-0.0001	mg/L	0.00015	193.45%
Al 308.215†	-136.9	-0.0080	mg/L	0.00771	-0.0080	mg/L	0.00771	95.88%
Be 313.107†	-46.2	-0.00001	mg/L	0.000057	-0.00001	mg/L	0.000057	560.20%
Cu 324.752†	-138.8	-0.0006	mg/L	0.00068	-0.0006	mg/L	0.00068	121.83%
Ag 338.289†	-5.0	0.0000	mg/L	0.00137	0.0000	mg/L	0.00137	>999.9%
Na 330.237†	-82.6	-0.1332	mg/L	0.05402	-0.1332	mg/L	0.05402	40.57%
Ca 227.546†	-57.8	-0.2730	mg/L	0.05567	-0.2730	mg/L	0.05567	20.40%
Al RADIAL†	29.0	0.0204	mg/L	0.02988	0.0204	mg/L	0.02988	146.49%
Fe RADIAL†	6.2	0.0134	mg/L	0.00631	0.0134	mg/L	0.00631	47.22%
Ca RADIAL†	-1910.3	-0.3744	mg/L	0.00626	-0.3744	mg/L	0.00626	1.67%
K RADIAL†	-7.6	-0.0053	mg/L	0.05530	-0.0053	mg/L	0.05530	>999.9%
Mg RADIAL†	-6.2	-0.0125	mg/L	0.02877	-0.0125	mg/L	0.02877	230.81%
Na RADIAL†	0.9	0.0001	mg/L	0.01564	0.0001	mg/L	0.01564	>999.9%

Sequence No.: 69
Sample ID: SEQ-CCV6
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 10/4/2019 2:20:25 PM
Data Type: Reprocessed on 10/7/2019 10:01:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV6

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15073400.2	4.927	mg/L	0.0271				0.55%
Y RADIAL	254320.2	5.053	mg/L	0.0316				0.62%
As 188.979†	887.9	0.5006	mg/L	0.00375	0.5006	mg/L	0.00375	0.75%
Tl 190.801†	1060.7	0.5038	mg/L	0.00149	0.5038	mg/L	0.00149	0.30%
Se 196.026†	1218.8	0.5087	mg/L	0.00446	0.5087	mg/L	0.00446	0.88%
Zn 206.200†	102857.3	2.608	mg/L	0.0229	2.608	mg/L	0.0229	0.88%
Sb 206.836†	573.2	0.2443	mg/L	0.00470	0.2443	mg/L	0.00470	1.92%
Pb 220.353†	5891.2	0.5008	mg/L	0.00200	0.5008	mg/L	0.00200	0.40%
Cd 226.502†	37520.3	0.2520	mg/L	0.00258	0.2520	mg/L	0.00258	1.03%
Co 228.616†	94908.3	2.580	mg/L	0.0256	2.580	mg/L	0.0256	0.99%
Ni 232.003†	44697.5	2.552	mg/L	0.0260	2.552	mg/L	0.0260	1.02%
Ba 233.527†	837827.5	10.29	mg/L	0.083	10.29	mg/L	0.083	0.81%
Mn 257.610†	1662313.8	2.552	mg/L	0.0194	2.552	mg/L	0.0194	0.76%
Cr 267.716†	152255.4	1.046	mg/L	0.0097	1.046	mg/L	0.0097	0.92%
Fe 273.955†	107172.4	5.203	mg/L	0.0550	5.203	mg/L	0.0550	1.06%
Mg 279.077†	474974.5	25.32	mg/L	0.199	25.32	mg/L	0.199	0.79%
V 292.402†	599813.6	2.523	mg/L	0.0190	2.523	mg/L	0.0190	0.75%
Al 308.215†	172650.6	10.15	mg/L	0.121	10.15	mg/L	0.121	1.19%
Be 313.107†	1150714.2	0.25205	mg/L	0.001929	0.25205	mg/L	0.001929	0.77%
Cu 324.752†	318881.7	1.276	mg/L	0.0164	1.276	mg/L	0.0164	1.28%
Ag 338.289†	147266.1	1.295	mg/L	0.0153	1.295	mg/L	0.0153	1.18%
Na 330.237†	15063.2	24.27	mg/L	0.341	24.27	mg/L	0.341	1.41%
Ca 227.546†	5244.6	24.82	mg/L	0.081	24.82	mg/L	0.081	0.33%
Al RADIAL†	14077.8	9.905	mg/L	0.0681	9.905	mg/L	0.0681	0.69%
Fe RADIAL†	2324.3	5.017	mg/L	0.0407	5.017	mg/L	0.0407	0.81%
Ca RADIAL†	127726.8	25.03	mg/L	0.058	25.03	mg/L	0.058	0.23%
K RADIAL†	6633.9	4.665	mg/L	0.0495	4.665	mg/L	0.0495	1.06%
Mg RADIAL†	12586.5	25.28	mg/L	0.129	25.28	mg/L	0.129	0.51%
Na RADIAL†	162988.2	24.57	mg/L	0.044	24.57	mg/L	0.044	0.18%

Sequence No.: 70
Sample ID: SEQ-CCB6
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/4/2019 2:23:31 PM
Data Type: Reprocessed on 10/7/2019 10:01:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB6

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15543719.7	5.081	mg/L	0.0214				0.42%
Y RADIAL	253536.5	5.037	mg/L	0.0155				0.31%
As 188.979†	-0.7	-0.0004	mg/L	0.00546	-0.0004	mg/L	0.00546	>999.9%
Tl 190.801†	5.0	0.0023	mg/L	0.00323	0.0023	mg/L	0.00323	137.50%
Se 196.026†	-5.1	-0.0021	mg/L	0.00621	-0.0021	mg/L	0.00621	290.11%
Zn 206.200†	-613.1	-0.0155	mg/L	0.00039	-0.0155	mg/L	0.00039	2.51%
Sb 206.836†	-4.9	-0.0021	mg/L	0.00208	-0.0021	mg/L	0.00208	99.25%
Pb 220.353†	-31.8	-0.0027	mg/L	0.00036	-0.0027	mg/L	0.00036	13.30%
Cd 226.502†	-0.9	0.0000	mg/L	0.00007	0.0000	mg/L	0.00007	>999.9%
Co 228.616†	11.1	0.0003	mg/L	0.00020	0.0003	mg/L	0.00020	67.14%
Ni 232.003†	35.3	0.0020	mg/L	0.00098	0.0020	mg/L	0.00098	48.43%
Ba 233.527†	21.4	0.0003	mg/L	0.00019	0.0003	mg/L	0.00019	74.01%
Mn 257.610†	-8.5	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	217.72%
Cr 267.716†	-29.5	-0.0002	mg/L	0.00021	-0.0002	mg/L	0.00021	101.67%
Fe 273.955†	5.1	0.0002	mg/L	0.00093	0.0002	mg/L	0.00093	374.37%
Mg 279.077†	3.6	0.0002	mg/L	0.00093	0.0002	mg/L	0.00093	491.28%
V 292.402†	8.6	0.0000	mg/L	0.00022	0.0000	mg/L	0.00022	597.86%
Al 308.215†	-347.2	-0.0204	mg/L	0.00393	-0.0204	mg/L	0.00393	19.28%
Be 313.107†	900.6	0.00020	mg/L	0.000037	0.00020	mg/L	0.000037	18.73%
Cu 324.752†	-225.9	-0.0009	mg/L	0.00033	-0.0009	mg/L	0.00033	36.55%
Ag 338.289†	-122.4	-0.0011	mg/L	0.00102	-0.0011	mg/L	0.00102	95.42%
Na 330.237†	-78.9	-0.1272	mg/L	0.09734	-0.1272	mg/L	0.09734	76.51%
Ca 227.546†	-63.8	-0.3015	mg/L	0.06794	-0.3015	mg/L	0.06794	22.53%
Al RADIAL†	-0.2	-0.0001	mg/L	0.03191	-0.0001	mg/L	0.03191	>999.9%
Fe RADIAL†	-1.0	-0.0021	mg/L	0.02462	-0.0021	mg/L	0.02462	>999.9%
Ca RADIAL†	-1878.4	-0.3681	mg/L	0.00403	-0.3681	mg/L	0.00403	1.09%
K RADIAL†	159.0	0.1118	mg/L	0.06820	0.1118	mg/L	0.06820	61.00%
Mg RADIAL†	8.9	0.0178	mg/L	0.01985	0.0178	mg/L	0.01985	111.24%
Na RADIAL†	859.9	0.1296	mg/L	0.01306	0.1296	mg/L	0.01306	10.08%

Sequence No.: 80
Sample ID: 19J0144-01
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 160
Date Collected: 10/4/2019 2:47:59 PM
Data Type: Reprocessed on 10/7/2019 10:01:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-01

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14840466.6	4.851	mg/L	0.1129				2.33%
Y RADIAL	252636.5	5.019	mg/L	0.0390				0.78%
As 188.979†	-11.4	0.0040	mg/L	0.00387	0.0040	mg/L	0.00387	96.20%
Tl 190.801†	-113.5	-0.0347	mg/L	0.01240	-0.0347	mg/L	0.01240	35.74%
Se 196.026†	94.8	-0.0604	mg/L	0.00876	-0.0604	mg/L	0.00876	14.50%
Zn 206.200†	21171.0	0.5351	mg/L	0.01064	0.5351	mg/L	0.01064	1.99%
Sb 206.836†	-93.8	-0.0033	mg/L	0.00399	-0.0033	mg/L	0.00399	122.11%
Pb 220.353†	4146.0	0.3550	mg/L	0.00868	0.3550	mg/L	0.00868	2.45%
Cd 226.502†	1851.0	0.0020	mg/L	0.00037	0.0020	mg/L	0.00037	18.44%
Co 228.616†	4456.4	0.1238	mg/L	0.00319	0.1238	mg/L	0.00319	2.58%
Ni 232.003†	3885.2	0.2183	mg/L	0.00547	0.2183	mg/L	0.00547	2.51%
Ba 233.527†	23444.5	0.2879	mg/L	0.00534	0.2879	mg/L	0.00534	1.86%
Mn 257.610†	2317754.6	3.586	mg/L	0.0824	3.586	mg/L	0.0824	2.30%
Cr 267.716†	29468.8	0.2085	mg/L	0.00456	0.2085	mg/L	0.00456	2.19%
Fe 273.955†	3766319.8	182.8	mg/L	4.32	182.8	mg/L	4.32	2.36%
Mg 279.077†	1820211.1	96.99	mg/L	2.213	96.99	mg/L	2.213	2.28%
V 292.402†	64686.1	0.2600	mg/L	0.00463	0.2600	mg/L	0.00463	1.78%
Al 308.215†	2157989.8	126.8	mg/L	3.02	126.8	mg/L	3.02	2.38%
Be 313.107†	-157513.8	-0.03450	mg/L	0.000928	-0.03450	mg/L	0.000928	2.69%
Cu 324.752†	35559.9	0.1458	mg/L	0.00323	0.1458	mg/L	0.00323	2.21%
Ag 338.289†	-3217.7	-0.0226	mg/L	0.00124	-0.0226	mg/L	0.00124	5.47%
Na 330.237†	-1433.4	-1.461	mg/L	0.1781	-1.461	mg/L	0.1781	12.19%
Ca 227.546†	7832.4	38.58	mg/L	0.853	38.58	mg/L	0.853	2.21%
Al RADIAL†	165724.7	116.6	mg/L	0.14	116.6	mg/L	0.14	0.12%
Fe RADIAL†	80734.6	174.3	mg/L	0.20	174.3	mg/L	0.20	0.11%
Ca RADIAL†	190612.1	37.35	mg/L	0.097	37.35	mg/L	0.097	0.26%
K RADIAL†	13283.9	9.342	mg/L	0.0573	9.342	mg/L	0.0573	0.61%
Mg RADIAL†	45954.5	92.27	mg/L	0.299	92.27	mg/L	0.299	0.32%
Na RADIAL†	12119.8	1.827	mg/L	0.0124	1.827	mg/L	0.0124	0.68%

Sequence No.: 81
Sample ID: SEQ-CCV7
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 10/4/2019 2:50:24 PM
Data Type: Reprocessed on 10/7/2019 10:01:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV7

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15175855.7	4.960	mg/L	0.0184				0.37%
Y RADIAL	251181.9	4.990	mg/L	0.0377				0.76%
As 188.979†	875.8	0.4938	mg/L	0.00911	0.4938	mg/L	0.00911	1.85%
Tl 190.801†	1055.7	0.5015	mg/L	0.00806	0.5015	mg/L	0.00806	1.61%
Se 196.026†	1202.7	0.5019	mg/L	0.00592	0.5019	mg/L	0.00592	1.18%
Zn 206.200†	102089.4	2.589	mg/L	0.0162	2.589	mg/L	0.0162	0.62%
Sb 206.836†	571.4	0.2436	mg/L	0.00523	0.2436	mg/L	0.00523	2.15%
Pb 220.353†	5831.1	0.4957	mg/L	0.00597	0.4957	mg/L	0.00597	1.21%
Cd 226.502†	37249.4	0.2501	mg/L	0.00190	0.2501	mg/L	0.00190	0.76%
Co 228.616†	94291.0	2.563	mg/L	0.0190	2.563	mg/L	0.0190	0.74%
Ni 232.003†	44519.9	2.542	mg/L	0.0213	2.542	mg/L	0.0213	0.84%
Ba 233.527†	834676.2	10.25	mg/L	0.135	10.25	mg/L	0.135	1.32%
Mn 257.610†	1653917.9	2.540	mg/L	0.0327	2.540	mg/L	0.0327	1.29%
Cr 267.716†	151316.2	1.039	mg/L	0.0106	1.039	mg/L	0.0106	1.02%
Fe 273.955†	106561.9	5.173	mg/L	0.0452	5.173	mg/L	0.0452	0.87%
Mg 279.077†	471198.4	25.11	mg/L	0.339	25.11	mg/L	0.339	1.35%
V 292.402†	596807.0	2.511	mg/L	0.0313	2.511	mg/L	0.0313	1.25%
Al 308.215†	172096.9	10.11	mg/L	0.104	10.11	mg/L	0.104	1.03%
Be 313.107†	1143585.7	0.25049	mg/L	0.003264	0.25049	mg/L	0.003264	1.30%
Cu 324.752†	318150.1	1.273	mg/L	0.0105	1.273	mg/L	0.0105	0.82%
Ag 338.289†	146681.2	1.290	mg/L	0.0080	1.290	mg/L	0.0080	0.62%
Na 330.237†	15065.8	24.28	mg/L	0.141	24.28	mg/L	0.141	0.58%
Ca 227.546†	5226.9	24.74	mg/L	0.285	24.74	mg/L	0.285	1.15%
Al RADIAL†	14273.6	10.04	mg/L	0.062	10.04	mg/L	0.062	0.62%
Fe RADIAL†	2365.4	5.106	mg/L	0.0399	5.106	mg/L	0.0399	0.78%
Ca RADIAL†	127190.4	24.93	mg/L	0.042	24.93	mg/L	0.042	0.17%
K RADIAL†	6563.1	4.615	mg/L	0.0260	4.615	mg/L	0.0260	0.56%
Mg RADIAL†	12693.1	25.49	mg/L	0.134	25.49	mg/L	0.134	0.53%
Na RADIAL†	161875.6	24.40	mg/L	0.042	24.40	mg/L	0.042	0.17%

Sequence No.: 82
Sample ID: SEQ-CCB7
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 10/4/2019 2:53:30 PM
Data Type: Reprocessed on 10/7/2019 10:01:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB7

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15419803.9	5.040	mg/L	0.0327				0.65%
Y RADIAL	255814.8	5.082	mg/L	0.0504				0.99%
As 188.979†	5.2	0.0029	mg/L	0.00625	0.0029	mg/L	0.00625	215.01%
Tl 190.801†	4.8	0.0023	mg/L	0.00276	0.0023	mg/L	0.00276	121.02%
Se 196.026†	9.9	0.0042	mg/L	0.00531	0.0042	mg/L	0.00531	127.65%
Zn 206.200†	-590.8	-0.0150	mg/L	0.00055	-0.0150	mg/L	0.00055	3.66%
Sb 206.836†	-7.6	-0.0032	mg/L	0.00347	-0.0032	mg/L	0.00347	108.23%
Pb 220.353†	-20.5	-0.0017	mg/L	0.00089	-0.0017	mg/L	0.00089	51.00%
Cd 226.502†	11.5	0.0001	mg/L	0.00013	0.0001	mg/L	0.00013	172.29%
Co 228.616†	6.4	0.0002	mg/L	0.00038	0.0002	mg/L	0.00038	221.05%
Ni 232.003†	36.9	0.0021	mg/L	0.00169	0.0021	mg/L	0.00169	79.98%
Ba 233.527†	10.1	0.0001	mg/L	0.00025	0.0001	mg/L	0.00025	200.49%
Mn 257.610†	-10.5	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	306.10%
Cr 267.716†	-20.1	-0.0001	mg/L	0.00016	-0.0001	mg/L	0.00016	113.40%
Fe 273.955†	25.5	0.0012	mg/L	0.00118	0.0012	mg/L	0.00118	95.01%
Mg 279.077†	10.1	0.0005	mg/L	0.00522	0.0005	mg/L	0.00522	970.66%
V 292.402†	14.6	0.0001	mg/L	0.00044	0.0001	mg/L	0.00044	708.29%
Al 308.215†	-814.0	-0.0478	mg/L	0.00514	-0.0478	mg/L	0.00514	10.75%
Be 313.107†	1291.0	0.00028	mg/L	0.000043	0.00028	mg/L	0.000043	15.25%
Cu 324.752†	-433.1	-0.0017	mg/L	0.00031	-0.0017	mg/L	0.00031	18.08%
Ag 338.289†	-40.6	-0.0004	mg/L	0.00057	-0.0004	mg/L	0.00057	160.05%
Na 330.237†	-19.4	-0.0315	mg/L	0.14296	-0.0315	mg/L	0.14296	453.99%
Ca 227.546†	-51.4	-0.2429	mg/L	0.09302	-0.2429	mg/L	0.09302	38.29%
Al RADIAL†	12.3	0.0087	mg/L	0.04228	0.0087	mg/L	0.04228	487.36%
Fe RADIAL†	-0.5	-0.0011	mg/L	0.01668	-0.0011	mg/L	0.01668	>999.9%
Ca RADIAL†	-1882.0	-0.3688	mg/L	0.00477	-0.3688	mg/L	0.00477	1.29%
K RADIAL†	127.0	0.0893	mg/L	0.02721	0.0893	mg/L	0.02721	30.46%
Mg RADIAL†	4.1	0.0081	mg/L	0.02831	0.0081	mg/L	0.02831	347.45%
Na RADIAL†	760.6	0.1146	mg/L	0.00876	0.1146	mg/L	0.00876	7.64%

Sequence No.: 83
Sample ID: 19J0144-02
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 201
Date Collected: 10/4/2019 2:56:26 PM
Data Type: Reprocessed on 10/7/2019 10:01:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-02

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14258460.2	4.661	mg/L	0.0305				0.65%
Y RADIAL	244999.2	4.867	mg/L	0.0160				0.33%
As 188.979†	9.1	0.0167	mg/L	0.00515	0.0167	mg/L	0.00515	30.91%
Tl 190.801†	-150.5	-0.0503	mg/L	0.00263	-0.0503	mg/L	0.00263	5.23%
Se 196.026†	258.5	-0.0020	mg/L	0.00963	-0.0020	mg/L	0.00963	482.39%
Zn 206.200†	36188.0	0.9157	mg/L	0.00794	0.9157	mg/L	0.00794	0.87%
Sb 206.836†	-109.7	-0.0063	mg/L	0.00543	-0.0063	mg/L	0.00543	86.49%
Pb 220.353†	3029.1	0.2635	mg/L	0.00211	0.2635	mg/L	0.00211	0.80%
Cd 226.502†	2469.6	0.0051	mg/L	0.00019	0.0051	mg/L	0.00019	3.67%
Co 228.616†	3441.1	0.0964	mg/L	0.00115	0.0964	mg/L	0.00115	1.19%
Ni 232.003†	2996.0	0.1672	mg/L	0.00638	0.1672	mg/L	0.00638	3.82%
Ba 233.527†	21734.9	0.2669	mg/L	0.00193	0.2669	mg/L	0.00193	0.72%
Mn 257.610†	1654228.4	2.570	mg/L	0.0173	2.570	mg/L	0.0173	0.67%
Cr 267.716†	26810.1	0.1908	mg/L	0.00112	0.1908	mg/L	0.00112	0.59%
Fe 273.955†	4124941.5	200.3	mg/L	1.35	200.3	mg/L	1.35	0.67%
Mg 279.077†	6900039.1	367.8	mg/L	4.81	367.8	mg/L	4.81	1.31%
V 292.402†	67992.1	0.2726	mg/L	0.00248	0.2726	mg/L	0.00248	0.91%
Al 308.215†	2113041.3	124.2	mg/L	0.65	124.2	mg/L	0.65	0.52%
Be 313.107†	-220748.3	-0.04835	mg/L	0.000649	-0.04835	mg/L	0.000649	1.34%
Cu 324.752†	47453.8	0.1938	mg/L	0.00090	0.1938	mg/L	0.00090	0.47%
Ag 338.289†	-3671.0	-0.0304	mg/L	0.00263	-0.0304	mg/L	0.00263	8.65%
Na 330.237†	-2173.2	-2.188	mg/L	0.1525	-2.188	mg/L	0.1525	6.97%
Ca 227.546†	95033.7	450.6	mg/L	2.06	450.6	mg/L	2.06	0.46%
Al RADIAL†	154740.4	108.9	mg/L	0.18	108.9	mg/L	0.18	0.17%
Fe RADIAL†	89006.8	192.1	mg/L	0.42	192.1	mg/L	0.42	0.22%
Ca RADIAL†	2165797.5	424.4	mg/L	2.55	424.4	mg/L	2.55	0.60%
K RADIAL†	32244.0	22.67	mg/L	0.056	22.67	mg/L	0.056	0.25%
Mg RADIAL†	172742.4	346.9	mg/L	0.47	346.9	mg/L	0.47	0.14%
Na RADIAL†	16788.6	2.530	mg/L	0.0118	2.530	mg/L	0.0118	0.46%

Sequence No.: 84
Sample ID: 19J0144-03
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 202
Date Collected: 10/4/2019 2:58:53 PM
Data Type: Reprocessed on 10/7/2019 10:01:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-03

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15110925.9	4.939	mg/L	0.0171				0.35%
Y RADIAL	255435.5	5.075	mg/L	0.0363				0.71%
As 188.979†	-52.8	-0.0007	mg/L	0.00543	-0.0007	mg/L	0.00543	739.22%
Tl 190.801†	-151.5	-0.0187	mg/L	0.00501	-0.0187	mg/L	0.00501	26.80%
Se 196.026†	-343.9	-0.4223	mg/L	0.00310	-0.4223	mg/L	0.00310	0.73%
Zn 206.200†	13413.5	0.3353	mg/L	0.00215	0.3353	mg/L	0.00215	0.64%
Sb 206.836†	-132.4	0.0453	mg/L	0.00265	0.0453	mg/L	0.00265	5.85%
Pb 220.353†	10002.8	0.8233	mg/L	0.00476	0.8233	mg/L	0.00476	0.58%
Cd 226.502†	4735.1	0.0028	mg/L	0.00051	0.0028	mg/L	0.00051	18.07%
Co 228.616†	11530.1	0.3207	mg/L	0.00190	0.3207	mg/L	0.00190	0.59%
Ni 232.003†	6073.3	0.3371	mg/L	0.00427	0.3371	mg/L	0.00427	1.27%
Ba 233.527†	27912.3	0.3428	mg/L	0.00155	0.3428	mg/L	0.00155	0.45%
Mn 257.610†	6230721.2	9.642	mg/L	0.0136	9.642	mg/L	0.0136	0.14%
Cr 267.716†	20195.4	0.1556	mg/L	0.00103	0.1556	mg/L	0.00103	0.66%
Fe 273.955†	9813012.7	476.4	mg/L	0.51	476.4	mg/L	0.51	0.11%
Mg 279.077†	868505.1	46.21	mg/L	0.194	46.21	mg/L	0.194	0.42%
V 292.402†	82019.8	0.3113	mg/L	0.00136	0.3113	mg/L	0.00136	0.44%
Al 308.215†	1157953.8	68.09	mg/L	0.254	68.09	mg/L	0.254	0.37%
Be 313.107†	-80296.1	-0.01759	mg/L	0.000112	-0.01759	mg/L	0.000112	0.64%
Cu 324.752†	37001.7	0.1578	mg/L	0.00084	0.1578	mg/L	0.00084	0.53%
Ag 338.289†	-2874.5	-0.0090	mg/L	0.00104	-0.0090	mg/L	0.00104	11.47%
Na 330.237†	-515.6	1.468	mg/L	0.0772	1.468	mg/L	0.0772	5.26%
Ca 227.546†	11925.5	60.53	mg/L	0.354	60.53	mg/L	0.354	0.58%
Al RADIAL†	89877.1	63.29	mg/L	0.233	63.29	mg/L	0.233	0.37%
Fe RADIAL†	223958.1	483.5	mg/L	1.67	483.5	mg/L	1.67	0.35%
Ca RADIAL†	301303.5	59.05	mg/L	0.192	59.05	mg/L	0.192	0.33%
K RADIAL†	9438.1	6.637	mg/L	0.0194	6.637	mg/L	0.0194	0.29%
Mg RADIAL†	22303.0	44.74	mg/L	0.211	44.74	mg/L	0.211	0.47%
Na RADIAL†	20907.5	3.151	mg/L	0.0226	3.151	mg/L	0.0226	0.72%

Sequence No.: 85
Sample ID: 19J0144-04
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 203
Date Collected: 10/4/2019 3:01:11 PM
Data Type: Reprocessed on 10/7/2019 10:01:35 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-04

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15025191.3	4.911	mg/L	0.0455				0.93%
Y RADIAL	253293.9	5.032	mg/L	0.0387				0.77%
As 188.979†	2.6	0.0125	mg/L	0.00453	0.0125	mg/L	0.00453	36.21%
Tl 190.801†	-128.0	-0.0404	mg/L	0.00457	-0.0404	mg/L	0.00457	11.29%
Se 196.026†	91.2	-0.0677	mg/L	0.00853	-0.0677	mg/L	0.00853	12.59%
Zn 206.200†	17024.3	0.4298	mg/L	0.00477	0.4298	mg/L	0.00477	1.11%
Sb 206.836†	-100.6	-0.0040	mg/L	0.00318	-0.0040	mg/L	0.00318	78.79%
Pb 220.353†	1569.8	0.1349	mg/L	0.00245	0.1349	mg/L	0.00245	1.81%
Cd 226.502†	2038.9	0.0026	mg/L	0.00026	0.0026	mg/L	0.00026	9.83%
Co 228.616†	2879.5	0.0810	mg/L	0.00066	0.0810	mg/L	0.00066	0.81%
Ni 232.003†	2987.4	0.1669	mg/L	0.00178	0.1669	mg/L	0.00178	1.07%
Ba 233.527†	16880.9	0.2073	mg/L	0.00247	0.2073	mg/L	0.00247	1.19%
Mn 257.610†	1535714.9	2.387	mg/L	0.0136	2.387	mg/L	0.0136	0.57%
Cr 267.716†	29208.8	0.2070	mg/L	0.00082	0.2070	mg/L	0.00082	0.40%
Fe 273.955†	3929694.4	190.8	mg/L	0.95	190.8	mg/L	0.95	0.50%
Mg 279.077†	1953749.6	104.1	mg/L	0.44	104.1	mg/L	0.44	0.42%
V 292.402†	66834.1	0.2683	mg/L	0.00142	0.2683	mg/L	0.00142	0.53%
Al 308.215†	2029075.7	119.3	mg/L	0.75	119.3	mg/L	0.75	0.63%
Be 313.107†	-168466.4	-0.03690	mg/L	0.000256	-0.03690	mg/L	0.000256	0.69%
Cu 324.752†	30608.6	0.1262	mg/L	0.00093	0.1262	mg/L	0.00093	0.74%
Ag 338.289†	-3105.2	-0.0212	mg/L	0.00070	-0.0212	mg/L	0.00070	3.29%
Na 330.237†	-1089.4	-0.8727	mg/L	0.05626	-0.8727	mg/L	0.05626	6.45%
Ca 227.546†	5296.8	26.69	mg/L	0.444	26.69	mg/L	0.444	1.66%
Al RADIAL†	157542.8	110.9	mg/L	0.45	110.9	mg/L	0.45	0.41%
Fe RADIAL†	85403.2	184.4	mg/L	0.67	184.4	mg/L	0.67	0.37%
Ca RADIAL†	131700.2	25.81	mg/L	0.108	25.81	mg/L	0.108	0.42%
K RADIAL†	16981.5	11.94	mg/L	0.031	11.94	mg/L	0.031	0.26%
Mg RADIAL†	49993.2	100.4	mg/L	0.47	100.4	mg/L	0.47	0.47%
Na RADIAL†	17213.7	2.595	mg/L	0.0142	2.595	mg/L	0.0142	0.55%

Sequence No.: 86
Sample ID: 19J0144-05
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 204
Date Collected: 10/4/2019 3:03:29 PM
Data Type: Reprocessed on 10/7/2019 10:01:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-05

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15093283.2	4.933	mg/L	0.0418				0.85%
Y RADIAL	255221.1	5.070	mg/L	0.0509				1.00%
As 188.979†	-2.3	0.0105	mg/L	0.00530	0.0105	mg/L	0.00530	50.57%
Tl 190.801†	-91.3	-0.0217	mg/L	0.00147	-0.0217	mg/L	0.00147	6.78%
Se 196.026†	-66.0	-0.1407	mg/L	0.00698	-0.1407	mg/L	0.00698	4.96%
Zn 206.200†	12832.0	0.3234	mg/L	0.00273	0.3234	mg/L	0.00273	0.85%
Sb 206.836†	-65.2	0.0135	mg/L	0.00624	0.0135	mg/L	0.00624	46.04%
Pb 220.353†	24724.5	2.093	mg/L	0.0184	2.093	mg/L	0.0184	0.88%
Cd 226.502†	2066.0	0.0021	mg/L	0.00007	0.0021	mg/L	0.00007	3.40%
Co 228.616†	2788.4	0.0788	mg/L	0.00046	0.0788	mg/L	0.00046	0.58%
Ni 232.003†	2607.3	0.1449	mg/L	0.00440	0.1449	mg/L	0.00440	3.04%
Ba 233.527†	32444.7	0.3984	mg/L	0.00319	0.3984	mg/L	0.00319	0.80%
Mn 257.610†	3355871.4	5.183	mg/L	0.0464	5.183	mg/L	0.0464	0.89%
Cr 267.716†	17411.2	0.1264	mg/L	0.00110	0.1264	mg/L	0.00110	0.87%
Fe 273.955†	4193901.8	203.6	mg/L	1.97	203.6	mg/L	1.97	0.97%
Mg 279.077†	756389.0	40.29	mg/L	0.381	40.29	mg/L	0.381	0.94%
V 292.402†	42612.1	0.1655	mg/L	0.00137	0.1655	mg/L	0.00137	0.83%
Al 308.215†	1368258.9	80.42	mg/L	0.728	80.42	mg/L	0.728	0.91%
Be 313.107†	-41106.3	-0.00900	mg/L	0.000158	-0.00900	mg/L	0.000158	1.76%
Cu 324.752†	65790.3	0.2672	mg/L	0.00269	0.2672	mg/L	0.00269	1.01%
Ag 338.289†	-1432.5	-0.0064	mg/L	0.00058	-0.0064	mg/L	0.00058	9.12%
Na 330.237†	2010.1	4.199	mg/L	0.0798	4.199	mg/L	0.0798	1.90%
Ca 227.546†	11746.1	57.22	mg/L	0.466	57.22	mg/L	0.466	0.81%
Al RADIAL†	107671.6	75.78	mg/L	0.227	75.78	mg/L	0.227	0.30%
Fe RADIAL†	91048.2	196.5	mg/L	0.66	196.5	mg/L	0.66	0.33%
Ca RADIAL†	291629.1	57.15	mg/L	0.212	57.15	mg/L	0.212	0.37%
K RADIAL†	13295.6	9.350	mg/L	0.1090	9.350	mg/L	0.1090	1.17%
Mg RADIAL†	19468.7	39.08	mg/L	0.054	39.08	mg/L	0.054	0.14%
Na RADIAL†	38071.8	5.738	mg/L	0.0316	5.738	mg/L	0.0316	0.55%

Sequence No.: 87
Sample ID: 19J0144-06
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 205
Date Collected: 10/4/2019 3:05:46 PM
Data Type: Reprocessed on 10/7/2019 10:01:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: 19J0144-06

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15178435.4	4.961	mg/L	0.0469				0.95%
Y RADIAL	254813.4	5.062	mg/L	0.0346				0.68%
As 188.979†	0.8	0.0136	mg/L	0.01306	0.0136	mg/L	0.01306	96.29%
Tl 190.801†	-156.5	-0.0502	mg/L	0.00420	-0.0502	mg/L	0.00420	8.36%
Se 196.026†	121.8	-0.0745	mg/L	0.01034	-0.0745	mg/L	0.01034	13.88%
Zn 206.200†	22875.9	0.5779	mg/L	0.00624	0.5779	mg/L	0.00624	1.08%
Sb 206.836†	-126.8	-0.0080	mg/L	0.00431	-0.0080	mg/L	0.00431	53.75%
Pb 220.353†	3403.1	0.2921	mg/L	0.00319	0.2921	mg/L	0.00319	1.09%
Cd 226.502†	2469.8	0.0035	mg/L	0.00019	0.0035	mg/L	0.00019	5.55%
Co 228.616†	4292.9	0.1200	mg/L	0.00135	0.1200	mg/L	0.00135	1.13%
Ni 232.003†	4555.7	0.2557	mg/L	0.00648	0.2557	mg/L	0.00648	2.53%
Ba 233.527†	17685.8	0.2172	mg/L	0.00267	0.2172	mg/L	0.00267	1.23%
Mn 257.610†	2004389.8	3.112	mg/L	0.0234	3.112	mg/L	0.0234	0.75%
Cr 267.716†	51102.6	0.3586	mg/L	0.00246	0.3586	mg/L	0.00246	0.69%
Fe 273.955†	4568902.6	221.8	mg/L	0.48	221.8	mg/L	0.48	0.22%
Mg 279.077†	2699619.9	143.9	mg/L	1.10	143.9	mg/L	1.10	0.76%
V 292.402†	89805.5	0.3626	mg/L	0.00340	0.3626	mg/L	0.00340	0.94%
Al 308.215†	2639313.4	155.1	mg/L	1.26	155.1	mg/L	1.26	0.81%
Be 313.107†	-273601.7	-0.05993	mg/L	0.000738	-0.05993	mg/L	0.000738	1.23%
Cu 324.752†	56127.3	0.2290	mg/L	0.00206	0.2290	mg/L	0.00206	0.90%
Ag 338.289†	-4224.6	-0.0298	mg/L	0.00269	-0.0298	mg/L	0.00269	9.02%
Na 330.237†	-1485.6	-1.350	mg/L	0.0335	-1.350	mg/L	0.0335	2.48%
Ca 227.546†	5707.9	28.95	mg/L	0.333	28.95	mg/L	0.333	1.15%
Al RADIAL†	202549.8	142.5	mg/L	0.36	142.5	mg/L	0.36	0.25%
Fe RADIAL†	101214.7	218.5	mg/L	0.43	218.5	mg/L	0.43	0.20%
Ca RADIAL†	141569.8	27.74	mg/L	0.053	27.74	mg/L	0.053	0.19%
K RADIAL†	28220.1	19.85	mg/L	0.076	19.85	mg/L	0.076	0.38%
Mg RADIAL†	68888.2	138.3	mg/L	0.47	138.3	mg/L	0.47	0.34%
Na RADIAL†	25727.0	3.878	mg/L	0.0089	3.878	mg/L	0.0089	0.23%

Sequence No.: 88
Sample ID: BJ90216-DUP1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 206
Date Collected: 10/4/2019 3:08:04 PM
Data Type: Reprocessed on 10/7/2019 10:01:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BJ90216-DUP1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14972778.3	4.894	mg/L	0.0163				0.33%
Y RADIAL	253832.7	5.043	mg/L	0.0258				0.51%
As 188.979†	3.0	0.0149	mg/L	0.01363	0.0149	mg/L	0.01363	91.36%
Tl 190.801†	-188.7	-0.0652	mg/L	0.00108	-0.0652	mg/L	0.00108	1.66%
Se 196.026†	122.3	-0.0757	mg/L	0.00750	-0.0757	mg/L	0.00750	9.91%
Zn 206.200†	24536.2	0.6200	mg/L	0.00213	0.6200	mg/L	0.00213	0.34%
Sb 206.836†	-129.3	-0.0085	mg/L	0.00449	-0.0085	mg/L	0.00449	52.57%
Pb 220.353†	3039.1	0.2623	mg/L	0.00143	0.2623	mg/L	0.00143	0.55%
Cd 226.502†	2520.5	0.0037	mg/L	0.00019	0.0037	mg/L	0.00019	5.13%
Co 228.616†	4248.0	0.1188	mg/L	0.00024	0.1188	mg/L	0.00024	0.20%
Ni 232.003†	4204.7	0.2356	mg/L	0.00329	0.2356	mg/L	0.00329	1.39%
Ba 233.527†	17381.1	0.2134	mg/L	0.00066	0.2134	mg/L	0.00066	0.31%
Mn 257.610†	2016656.4	3.131	mg/L	0.0268	3.131	mg/L	0.0268	0.86%
Cr 267.716†	47103.0	0.3312	mg/L	0.00370	0.3312	mg/L	0.00370	1.12%
Fe 273.955†	4627961.6	224.7	mg/L	0.24	224.7	mg/L	0.24	0.11%
Mg 279.077†	2858820.2	152.3	mg/L	1.45	152.3	mg/L	1.45	0.96%
V 292.402†	101038.2	0.4097	mg/L	0.00409	0.4097	mg/L	0.00409	1.00%
Al 308.215†	2835853.0	166.7	mg/L	1.44	166.7	mg/L	1.44	0.86%
Be 313.107†	-288494.8	-0.06319	mg/L	0.000754	-0.06319	mg/L	0.000754	1.19%
Cu 324.752†	53449.3	0.2183	mg/L	0.00215	0.2183	mg/L	0.00215	0.99%
Ag 338.289†	-5000.5	-0.0366	mg/L	0.00147	-0.0366	mg/L	0.00147	4.03%
Na 330.237†	-1732.0	-1.734	mg/L	0.0899	-1.734	mg/L	0.0899	5.18%
Ca 227.546†	5913.2	29.94	mg/L	0.069	29.94	mg/L	0.069	0.23%
Al RADIAL†	216231.6	152.2	mg/L	0.35	152.2	mg/L	0.35	0.23%
Fe RADIAL†	102349.0	220.9	mg/L	0.70	220.9	mg/L	0.70	0.32%
Ca RADIAL†	146243.1	28.66	mg/L	0.117	28.66	mg/L	0.117	0.41%
K RADIAL†	28929.2	20.34	mg/L	0.061	20.34	mg/L	0.061	0.30%
Mg RADIAL†	72236.9	145.0	mg/L	0.49	145.0	mg/L	0.49	0.34%
Na RADIAL†	25491.8	3.842	mg/L	0.0207	3.842	mg/L	0.0207	0.54%

Sequence No.: 89
Sample ID: BJ90216-MS1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 207
Date Collected: 10/4/2019 3:10:22 PM
Data Type: Reprocessed on 10/7/2019 10:01:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BJ90216-MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	15013274.9	4.907	mg/L	0.0232				0.47%
Y RADIAL	254307.4	5.052	mg/L	0.0384				0.76%
As 188.979†	3382.1	1.916	mg/L	0.0083	1.916	mg/L	0.0083	0.43%
Tl 190.801†	4097.2	1.963	mg/L	0.0084	1.963	mg/L	0.0084	0.43%
Se 196.026†	4428.8	1.760	mg/L	0.0128	1.760	mg/L	0.0128	0.73%
Zn 206.200†	39600.2	1.002	mg/L	0.0034	1.002	mg/L	0.0034	0.34%
Sb 206.836†	143.1	0.0969	mg/L	0.00575	0.0969	mg/L	0.00575	5.94%
Pb 220.353†	13404.7	1.142	mg/L	0.0027	1.142	mg/L	0.0027	0.24%
Cd 226.502†	9222.1	0.0516	mg/L	0.00036	0.0516	mg/L	0.00036	0.70%
Co 228.616†	22170.1	0.6053	mg/L	0.00218	0.6053	mg/L	0.00218	0.36%
Ni 232.003†	12802.2	0.7274	mg/L	0.00318	0.7274	mg/L	0.00318	0.44%
Ba 233.527†	181253.7	2.226	mg/L	0.0148	2.226	mg/L	0.0148	0.66%
Mn 257.610†	2347213.4	3.631	mg/L	0.0236	3.631	mg/L	0.0236	0.65%
Cr 267.716†	66561.2	0.4631	mg/L	0.00332	0.4631	mg/L	0.00332	0.72%
Fe 273.955†	3669885.2	178.2	mg/L	1.22	178.2	mg/L	1.22	0.68%
Mg 279.077†	2141496.8	114.1	mg/L	0.89	114.1	mg/L	0.89	0.78%
V 292.402†	188044.3	0.7791	mg/L	0.00516	0.7791	mg/L	0.00516	0.66%
Al 308.215†	2379713.5	139.9	mg/L	0.87	139.9	mg/L	0.87	0.62%
Be 313.107†	34065.5	0.00746	mg/L	0.000150	0.00746	mg/L	0.000150	2.01%
Cu 324.752†	107170.7	0.4324	mg/L	0.00329	0.4324	mg/L	0.00329	0.76%
Ag 338.289†	2110.9	0.0242	mg/L	0.00093	0.0242	mg/L	0.00093	3.86%
Na 330.237†	152.6	1.082	mg/L	0.0440	1.082	mg/L	0.0440	4.07%
Ca 227.546†	7843.6	38.63	mg/L	0.240	38.63	mg/L	0.240	0.62%
Al RADIAL†	183808.8	129.3	mg/L	0.31	129.3	mg/L	0.31	0.24%
Fe RADIAL†	79988.8	172.7	mg/L	0.31	172.7	mg/L	0.31	0.18%
Ca RADIAL†	191342.8	37.50	mg/L	0.099	37.50	mg/L	0.099	0.26%
K RADIAL†	24617.9	17.31	mg/L	0.105	17.31	mg/L	0.105	0.61%
Mg RADIAL†	54688.8	109.8	mg/L	0.23	109.8	mg/L	0.23	0.21%
Na RADIAL†	29599.4	4.461	mg/L	0.0232	4.461	mg/L	0.0232	0.52%

Sequence No.: 90
Sample ID: BJ90216-PS1
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 208
Date Collected: 10/4/2019 3:12:40 PM
Data Type: Reprocessed on 10/7/2019 10:01:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BJ90216-PS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	14972997.8	4.894	mg/L	0.0396				0.81%
Y RADIAL	255483.5	5.076	mg/L	0.0225				0.44%
As 188.979†	3546.2	2.011	mg/L	0.0364	2.011	mg/L	0.0364	1.81%
Tl 190.801†	4270.1	2.050	mg/L	0.0238	2.050	mg/L	0.0238	1.16%
Se 196.026†	4668.2	1.834	mg/L	0.0121	1.834	mg/L	0.0121	0.66%
Zn 206.200†	42863.0	1.085	mg/L	0.0176	1.085	mg/L	0.0176	1.63%
Sb 206.836†	558.8	0.2828	mg/L	0.00582	0.2828	mg/L	0.00582	2.06%
Pb 220.353†	9412.7	0.8019	mg/L	0.00794	0.8019	mg/L	0.00794	0.99%
Cd 226.502†	10123.9	0.0550	mg/L	0.00064	0.0550	mg/L	0.00064	1.17%
Co 228.616†	24029.2	0.6565	mg/L	0.00716	0.6565	mg/L	0.00716	1.09%
Ni 232.003†	14019.0	0.7960	mg/L	0.01637	0.7960	mg/L	0.01637	2.06%
Ba 233.527†	191260.9	2.349	mg/L	0.0324	2.349	mg/L	0.0324	1.38%
Mn 257.610†	2351139.8	3.644	mg/L	0.0447	3.644	mg/L	0.0447	1.23%
Cr 267.716†	81717.2	0.5688	mg/L	0.00894	0.5688	mg/L	0.00894	1.57%
Fe 273.955†	4560536.4	221.4	mg/L	0.36	221.4	mg/L	0.36	0.16%
Mg 279.077†	2717043.4	144.8	mg/L	1.75	144.8	mg/L	1.75	1.21%
V 292.402†	213122.1	0.8815	mg/L	0.01091	0.8815	mg/L	0.01091	1.24%
Al 308.215†	2683973.7	157.7	mg/L	2.16	157.7	mg/L	2.16	1.37%
Be 313.107†	-35934.2	-0.00787	mg/L	0.000284	-0.00787	mg/L	0.000284	3.60%
Cu 324.752†	124278.7	0.5018	mg/L	0.00690	0.5018	mg/L	0.00690	1.38%
Ag 338.289†	457.4	0.0113	mg/L	0.00102	0.0113	mg/L	0.00102	9.05%
Na 330.237†	-433.2	0.3397	mg/L	0.05283	0.3397	mg/L	0.05283	15.55%
Ca 227.546†	5949.3	30.08	mg/L	0.293	30.08	mg/L	0.293	0.97%
Al RADIAL†	204303.7	143.8	mg/L	0.13	143.8	mg/L	0.13	0.09%
Fe RADIAL†	100847.2	217.7	mg/L	0.56	217.7	mg/L	0.56	0.26%
Ca RADIAL†	145491.7	28.51	mg/L	0.094	28.51	mg/L	0.094	0.33%
K RADIAL†	29613.7	20.83	mg/L	0.084	20.83	mg/L	0.084	0.40%
Mg RADIAL†	68781.6	138.1	mg/L	0.34	138.1	mg/L	0.34	0.25%
Na RADIAL†	32261.2	4.863	mg/L	0.0184	4.863	mg/L	0.0184	0.38%

Sequence No.: 91
Sample ID: SEQ-SRD4
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 209
Date Collected: 10/4/2019 3:14:59 PM
Data Type: Reprocessed on 10/7/2019 10:01:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-SRD4

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15331806.7	5.011	mg/L	0.0318				0.63%
Y RADIAL	257370.0	5.113	mg/L	0.0227				0.44%
As 188.979†	18.6	0.0132	mg/L	0.00254	0.0132	mg/L	0.00254	19.27%
Tl 190.801†	-28.1	-0.0084	mg/L	0.00557	-0.0084	mg/L	0.00557	66.61%
Se 196.026†	68.8	0.0029	mg/L	0.00766	0.0029	mg/L	0.00766	265.33%
Zn 206.200†	4563.4	0.1153	mg/L	0.00132	0.1153	mg/L	0.00132	1.15%
Sb 206.836†	-35.3	-0.0055	mg/L	0.00400	-0.0055	mg/L	0.00400	72.74%
Pb 220.353†	697.5	0.0599	mg/L	0.00142	0.0599	mg/L	0.00142	2.37%
Cd 226.502†	515.7	0.0008	mg/L	0.00019	0.0008	mg/L	0.00019	25.03%
Co 228.616†	913.0	0.0255	mg/L	0.00007	0.0255	mg/L	0.00007	0.28%
Ni 232.003†	1056.3	0.0594	mg/L	0.00144	0.0594	mg/L	0.00144	2.42%
Ba 233.527†	3774.5	0.0464	mg/L	0.00051	0.0464	mg/L	0.00051	1.11%
Mn 257.610†	417254.6	0.6477	mg/L	0.00392	0.6477	mg/L	0.00392	0.61%
Cr 267.716†	10667.4	0.0748	mg/L	0.00092	0.0748	mg/L	0.00092	1.22%
Fe 273.955†	981333.4	47.64	mg/L	0.293	47.64	mg/L	0.293	0.61%
Mg 279.077†	554439.4	29.55	mg/L	0.196	29.55	mg/L	0.196	0.66%
V 292.402†	18683.7	0.0754	mg/L	0.00071	0.0754	mg/L	0.00071	0.93%
Al 308.215†	512655.8	30.13	mg/L	0.223	30.13	mg/L	0.223	0.74%
Be 313.107†	-55551.6	-0.01217	mg/L	0.000051	-0.01217	mg/L	0.000051	0.42%
Cu 324.752†	11177.6	0.0456	mg/L	0.00035	0.0456	mg/L	0.00035	0.76%
Ag 338.289†	-1022.8	-0.0075	mg/L	0.00110	-0.0075	mg/L	0.00110	14.74%
Na 330.237†	-588.1	-0.7309	mg/L	0.15614	-0.7309	mg/L	0.15614	21.36%
Ca 227.546†	1102.5	5.619	mg/L	0.0792	5.619	mg/L	0.0792	1.41%
Al RADIAL†	42299.1	29.77	mg/L	0.298	29.77	mg/L	0.298	1.00%
Fe RADIAL†	20956.9	45.24	mg/L	0.444	45.24	mg/L	0.444	0.98%
Ca RADIAL†	27853.5	5.458	mg/L	0.0625	5.458	mg/L	0.0625	1.14%
K RADIAL†	5976.5	4.203	mg/L	0.0405	4.203	mg/L	0.0405	0.96%
Mg RADIAL†	14179.7	28.47	mg/L	0.234	28.47	mg/L	0.234	0.82%
Na RADIAL†	5958.7	0.8981	mg/L	0.02286	0.8981	mg/L	0.02286	2.54%

Sequence No.: 93
Sample ID: SEQ-CCV8
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 10/4/2019 3:20:18 PM
Data Type: Reprocessed on 10/7/2019 10:01:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCV8

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15172923.6	4.959	mg/L	0.0146				0.29%
Y RADIAL	255065.3	5.067	mg/L	0.0259				0.51%
As 188.979†	884.0	0.4984	mg/L	0.00673	0.4984	mg/L	0.00673	1.35%
Tl 190.801†	1059.4	0.5032	mg/L	0.00515	0.5032	mg/L	0.00515	1.02%
Se 196.026†	1194.2	0.4983	mg/L	0.00961	0.4983	mg/L	0.00961	1.93%
Zn 206.200†	100608.0	2.551	mg/L	0.0323	2.551	mg/L	0.0323	1.26%
Sb 206.836†	577.2	0.2460	mg/L	0.00509	0.2460	mg/L	0.00509	2.07%
Pb 220.353†	5824.6	0.4951	mg/L	0.00203	0.4951	mg/L	0.00203	0.41%
Cd 226.502†	37062.6	0.2489	mg/L	0.00292	0.2489	mg/L	0.00292	1.18%
Co 228.616†	93567.1	2.544	mg/L	0.0300	2.544	mg/L	0.0300	1.18%
Ni 232.003†	44414.1	2.535	mg/L	0.0282	2.535	mg/L	0.0282	1.11%
Ba 233.527†	835935.5	10.27	mg/L	0.059	10.27	mg/L	0.059	0.58%
Mn 257.610†	1657809.2	2.546	mg/L	0.0181	2.546	mg/L	0.0181	0.71%
Cr 267.716†	150898.3	1.036	mg/L	0.0140	1.036	mg/L	0.0140	1.35%
Fe 273.955†	105934.8	5.143	mg/L	0.0621	5.143	mg/L	0.0621	1.21%
Mg 279.077†	472321.0	25.17	mg/L	0.221	25.17	mg/L	0.221	0.88%
V 292.402†	599733.7	2.523	mg/L	0.0188	2.523	mg/L	0.0188	0.75%
Al 308.215†	171319.9	10.07	mg/L	0.103	10.07	mg/L	0.103	1.03%
Be 313.107†	1147534.9	0.25136	mg/L	0.001884	0.25136	mg/L	0.001884	0.75%
Cu 324.752†	316772.7	1.268	mg/L	0.0120	1.268	mg/L	0.0120	0.95%
Ag 338.289†	146073.8	1.285	mg/L	0.0093	1.285	mg/L	0.0093	0.72%
Na 330.237†	15008.3	24.18	mg/L	0.180	24.18	mg/L	0.180	0.74%
Ca 227.546†	5188.9	24.56	mg/L	0.274	24.56	mg/L	0.274	1.12%
Al RADIAL†	14160.5	9.963	mg/L	0.0551	9.963	mg/L	0.0551	0.55%
Fe RADIAL†	2335.4	5.041	mg/L	0.0341	5.041	mg/L	0.0341	0.68%
Ca RADIAL†	126271.8	24.75	mg/L	0.077	24.75	mg/L	0.077	0.31%
K RADIAL†	6542.1	4.601	mg/L	0.0373	4.601	mg/L	0.0373	0.81%
Mg RADIAL†	12531.9	25.17	mg/L	0.177	25.17	mg/L	0.177	0.70%
Na RADIAL†	162676.1	24.52	mg/L	0.075	24.52	mg/L	0.075	0.31%

Sequence No.: 94
Sample ID: SEQ-CCB8
Analyst: KML
Logged In Analyst (Original) : rqb
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 10/4/2019 3:23:24 PM
Data Type: Reprocessed on 10/7/2019 10:01:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: SEQ-CCB8

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	15446881.3	5.049	mg/L	0.0195				0.39%
Y RADIAL	258000.6	5.126	mg/L	0.0607				1.18%
As 188.979†	4.9	0.0027	mg/L	0.00526	0.0027	mg/L	0.00526	191.90%
Tl 190.801†	6.0	0.0029	mg/L	0.00406	0.0029	mg/L	0.00406	141.80%
Se 196.026†	15.7	0.0066	mg/L	0.00643	0.0066	mg/L	0.00643	97.30%
Zn 206.200†	28.3	0.0007	mg/L	0.00031	0.0007	mg/L	0.00031	43.48%
Sb 206.836†	-7.8	-0.0033	mg/L	0.00283	-0.0033	mg/L	0.00283	85.75%
Pb 220.353†	-34.5	-0.0029	mg/L	0.00078	-0.0029	mg/L	0.00078	26.70%
Cd 226.502†	21.1	0.0001	mg/L	0.00016	0.0001	mg/L	0.00016	113.33%
Co 228.616†	14.1	0.0004	mg/L	0.00017	0.0004	mg/L	0.00017	43.45%
Ni 232.003†	57.5	0.0033	mg/L	0.00130	0.0033	mg/L	0.00130	39.61%
Ba 233.527†	23.4	0.0003	mg/L	0.00019	0.0003	mg/L	0.00019	66.96%
Mn 257.610†	27.0	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	76.15%
Cr 267.716†	-11.5	-0.0001	mg/L	0.00024	-0.0001	mg/L	0.00024	305.35%
Fe 273.955†	17.1	0.0008	mg/L	0.00096	0.0008	mg/L	0.00096	115.90%
Mg 279.077†	95.8	0.0051	mg/L	0.00124	0.0051	mg/L	0.00124	24.23%
V 292.402†	-21.3	-0.0001	mg/L	0.00038	-0.0001	mg/L	0.00038	417.53%
Al 308.215†	-597.8	-0.0351	mg/L	0.00780	-0.0351	mg/L	0.00780	22.20%
Be 313.107†	1373.1	0.00030	mg/L	0.000026	0.00030	mg/L	0.000026	8.70%
Cu 324.752†	-248.5	-0.0010	mg/L	0.00064	-0.0010	mg/L	0.00064	64.45%
Ag 338.289†	-114.1	-0.0010	mg/L	0.00145	-0.0010	mg/L	0.00145	144.96%
Na 330.237†	-81.1	-0.1304	mg/L	0.08682	-0.1304	mg/L	0.08682	66.56%
Ca 227.546†	3.6	0.0172	mg/L	0.08963	0.0172	mg/L	0.08963	520.36%
Al RADIAL†	54.9	0.0386	mg/L	0.03103	0.0386	mg/L	0.03103	80.32%
Fe RADIAL†	4.6	0.0099	mg/L	0.00675	0.0099	mg/L	0.00675	68.21%
Ca RADIAL†	62.1	0.0122	mg/L	0.01031	0.0122	mg/L	0.01031	84.74%
K RADIAL†	60.3	0.0424	mg/L	0.02777	0.0424	mg/L	0.02777	65.48%
Mg RADIAL†	3.0	0.0060	mg/L	0.00499	0.0060	mg/L	0.00499	83.12%
Na RADIAL†	499.8	0.0753	mg/L	0.00663	0.0753	mg/L	0.00663	8.80%

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: HG
METHOD: EPA 7473

DATA PACKAGE COVER PAGE

EPA 7473

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID: QBHGDMA80-02 100819A-007

Sampled: 10/02/19 12:45 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 11:20

Solids: 95.31 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0417	1		EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID: QBHGDMA80-02 100819A-008

Sampled: 10/02/19 12:50 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 11:30

Solids: 86.53 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0347	1	U	EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID: QBHGDMA80-02 100819A-009

Sampled: 10/02/19 10:30 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 11:39

Solids: 94.09 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.162	1		EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID: QBHGDMA80-02 100819A-010

Sampled: 10/02/19 10:35 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 11:48

Solids: 83.69 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0358	1	U	EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID: QBHGDMA80-02 100819A-011

Sampled: 10/02/19 12:00 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 11:57

Solids: 92.39 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0656	1		EPA 7473

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7473

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID: QBHGDMA80-02 100819A-012

Sampled: 10/02/19 12:05 Prepared: 10/08/19 10:45 Analyzed: 10/08/19 12:06

Solids: 91.18 Preparation: EPA 7473 soil Initial/Final: 0.2 g / 0.2 g

Batch: BJ90473 Sequence: Y9J0845 Calibration: 10/08/19 1 Instrument: DMA 80-02

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7439-97-6	Mercury	0.0329	1	U	EPA 7473

FORM I

METHOD BLANK DATA SHEET

EPA 7473

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90473-BLK1	File ID:	QBHGDMA80-02 100819A-004
Prepared:	10/08/19 10:45	Preparation:	EPA 7473 soil	Initial/Final:	0.2 g / 0.2 g
Analyzed:	10/08/19 10:56	Instrument:	DMA 80-02		
Batch:	BJ90473	Sequence:	Y9J0845	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
7439-97-6	Mercury	0.0300	U

STANDARD REFERENCE MATERIAL RECOVERY

EPA 7473

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Batch: BJ90473
Laboratory ID: BJ90473-SRM1
Preparation: EPA 7473 soil
Initial/Final: 0.02 g / 0.02 g

ANALYTE	TRUE (mg/kg)	FOUND (mg/kg)	SRM % REC.	QC LIMITS REC.
Mercury	3.71	3.1308	84.4	65 - 135

* Values outside of QC limits

METHOD DETECTION AND REPORTING LIMITS

EPA 7473

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:** DMA 80-02

Analyte	LOD	LOQ	Units
Mercury	0.0300	0.0300	mg/kg

FORM IV **PREPARATION BATCH SUMMARY**

EPA 7473

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90473 Batch Matrix: Soil Preparation: EPA 7473 soil

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01	HGDMA80-02 100819A-	10/08/19 10:45	
SB19_8-9	19J0144-02	HGDMA80-02 100819A-	10/08/19 10:45	
SB27_0-2	19J0144-03	HGDMA80-02 100819A-	10/08/19 10:45	
SB27_6-8	19J0144-04	HGDMA80-02 100819A-	10/08/19 10:45	
SB28_0-2	19J0144-05	HGDMA80-02 100819A-	10/08/19 10:45	
SB28_5.5-7.5	19J0144-06	HGDMA80-02 100819A-	10/08/19 10:45	
Blank	BJ90473-BLK1	HGDMA80-02 100819A-	10/08/19 10:45	
Reference	BJ90473-SRM1	HGDMA80-02 100819A-	10/08/19 10:45	

FORM V

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7473

Laboratory:	York Analytical Laboratories, Inc.	SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)	Project:	170396002
Sequence:	Y9J0845	Instrument:	DMA 80-02
		Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	Y9J0845-CCV1	QBHGDMA80-02 100819A-002	10/08/19 10:35
Calibration Blank	Y9J0845-CCB1	QBHGDMA80-02 100819A-003	10/08/19 10:41
Blank	BJ90473-BLK1	QBHGDMA80-02 100819A-004	10/08/19 10:56
Reference	BJ90473-SRM1	QBHGDMA80-02 100819A-005	10/08/19 11:02
SB19_0-2	19J0144-01	QBHGDMA80-02 100819A-007	10/08/19 11:20
SB19_8-9	19J0144-02	QBHGDMA80-02 100819A-008	10/08/19 11:30
SB27_0-2	19J0144-03	QBHGDMA80-02 100819A-009	10/08/19 11:39
SB27_6-8	19J0144-04	QBHGDMA80-02 100819A-010	10/08/19 11:48
SB28_0-2	19J0144-05	QBHGDMA80-02 100819A-011	10/08/19 11:57
SB28_5.5-7.5	19J0144-06	QBHGDMA80-02 100819A-012	10/08/19 12:06
Calibration Check	Y9J0845-CCV2	QBHGDMA80-02 100819A-014	10/08/19 12:29
Calibration Blank	Y9J0845-CCB2	QBHGDMA80-02 100819A-015	10/08/19 12:36
Calibration Check	Y9J0845-CCV3	QBHGDMA80-02 100819A-026	10/08/19 14:24
Calibration Blank	Y9J0845-CCB3	QBHGDMA80-02 100819A-027	10/08/19 14:30
Calibration Check	Y9J0845-CCV4	QBHGDMA80-02 100819A-038	10/08/19 16:24
Calibration Blank	Y9J0845-CCB4	QBHGDMA80-02 100819A-039	10/08/19 16:31

CONTINUING CALIBRATION CHECK

EPA 7473

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Instrument ID: DMA 80-02
Calibration: 10/08/19
Control Limt: +/- %
Sequence: Y9J0845

Lab Sample ID	Analyte	True	Found	%R	Units	Method
Y9J0845-CCV1	Mercury	0.100	0.10330	103	mg/kg	EPA 7473
Y9J0845-CCV2	Mercury	0.100	0.091100	91.1	mg/kg	EPA 7473
Y9J0845-CCV3	Mercury	0.100	0.099500	99.5	mg/kg	EPA 7473
Y9J0845-CCV4	Mercury	0.100	0.10070	101	mg/kg	EPA 7473

* Values outside of QC limits

FORM I **BLANKS**

EPA 7473

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC

Instrument ID: DMA 80-02 Project: 170396002

Sequence: Y9J0845 Calibration: 10/08/19 1

Lab Sample ID	Analyte	Found	MRL	Units	C	Method
Y9J0845-CCB1	Mercury	0.00460	0.0300	mg/kg		EPA 7473
BJ90473-BLK1	Mercury	0.00210	0.0300	mg/kg wet		EPA 7473
Y9J0845-CCB2	Mercury	0.00430	0.0300	mg/kg		EPA 7473
Y9J0845-CCB3	Mercury	0.00420	0.0300	mg/kg		EPA 7473
Y9J0845-CCB4	Mercury	0.00450	0.0300	mg/kg		EPA 7473

BENCHSHEETS

SDG: 19J0144

CLASS: HG

METHOD: EPA 7473

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90473

Preparation Date: 10/08/2019 10:45

York Analytical Laboratories, Inc.

Printed: 10/9/2019 12:45:26PM

Matrix: Soil **Preparation: EPA 7473 soil** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	Comments
19J0144-01 A	Mercury by 7473	0.2	0.2				
19J0144-02 A	Mercury by 7473	0.2	0.2				
19J0144-03 A	Mercury by 7473	0.2	0.2				
19J0144-04 A	Mercury by 7473	0.2	0.2				
19J0144-05 A	Mercury by 7473	0.2	0.2				
19J0144-06 A	Mercury by 7473	0.2	0.2				
19J0146-04 A	Mercury by 7473	0.2	0.2				
19J0146-05 A	Mercury by 7473	0.2	0.2				
19J0146-06 A	Mercury by 7473	0.2	0.2				
19J0146-07 A	Mercury by 7473	0.2	0.2				
19J0149-01 E	Mercury by 7473	0.2	0.2				
19J0152-01 A	Mercury by 7473	0.2	0.2				
19J0152-03 A	Mercury by 7473	0.2	0.2				
19J0174-01 A	Mercury by 7473	0.2	0.2				
19J0174-02 A	Mercury by 7473	0.2	0.2				
19J0183-01 A	Mercury by 7473	0.2	0.2				
19J0197-01 B	Mercury by 7473	0.2	0.2				
19J0210-01 E	Mercury by 7473	0.2	0.2				
19J0229-01 F	Mercury by 7473	0.2	0.2				
19J0329-01 A	Mercury by 7473	0.2	0.2				
BJ90473-BLK1	QC	0.2	0.2				
BJ90473-DUP1	QC	0.2	0.2		19J0197-01		
BJ90473-MS1	QC	0.2	0.2	Y19G047	19J0197-01	100	
BJ90473-SRM1	QC	0.02	0.02	Y18L192		0.02	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **SY** **Date:** **10/08/2019 10:45**

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [µg/kg]	Cal-Factor	Calibration file Date	Method file Date
1 1	mb	0.1000	g	08.10.2019 10:40:16	✓	0.0020	0.4006	4.0060	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
2 2	SEQ-CCV1	0.1000	g	08.10.2019 10:52:27	✓	0.4518	10.3323	103.3226	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
3 3	SEQ-CCB1	0.1000	g	08.10.2019 10:52:31	✓	0.0051	0.4601	4.6006	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
4 4	BJ90473-BLK1	0.2000	g	08.10.2019 11:05:25	✓	0.0029	0.4171	2.0856	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
5 5	BJ90473-SRM1	0.0220	g	08.10.2019 11:05:37	✓	0.0607	68.8772	3,130.7808	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
6 6	19J0329-01	0.2093	g	08.10.2019 11:06:00	✓	0.6356	15.6236	74.6470	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
7 7	19J0144-01	0.2094	g	08.10.2019 11:06:03	✓	0.3716	8.3183	39.7243	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
8 8	19J0144-02	0.2090	g	08.10.2019 11:06:06	✓	0.1775	3.9311	18.8089	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
9 9	19J0144-03	0.2108	g	08.10.2019 11:06:09	✓	0.0242	32.0364	151.9751	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
10 10	19J0144-04	0.2010	g	08.10.2019 11:06:11	✓	0.2005	4.4200	21.9900	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
11 11	19J0144-05	0.2113	g	08.10.2019 11:06:14	✓	0.5424	12.8022	60.5876	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
12 12	19J0144-06	0.2082	g	08.10.2019 11:06:16	✓	0.1273	2.8837	13.8509	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
13 13	19J0149-01	0.2021	g	08.10.2019 11:06:19	✓	0.1011	2.3501	11.6286	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
14 14	SEQ-CCV2	0.1000	g	08.10.2019 12:44:06	✓	0.4039	9.1117	91.1174	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
15 15	SEQ-CCB2	0.1000	g	08.10.2019 12:47:12	✓	0.0033	0.4255	4.2552	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
16 16	19J0146-04	0.2156	g	08.10.2019 12:54:16	✓	0.0349	42.7130	198.1124	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
17 17	19J0146-05	0.2157	g	08.10.2019 12:54:20	✓	0.2979	6.5784	30.4981	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
18 18	19J0146-06	0.2097	g	08.10.2019 12:54:23	✓	0.2607	5.7366	27.3563	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
19 19	19J0146-07	0.2079	g	08.10.2019 12:54:25	✓	0.0777	1.8807	9.0461	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
20 20	19J0152-01	0.2029	g	08.10.2019 12:54:27	✓	0.4321	9.8240	48.4182	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
21 21	19J0152-03	0.2023	g	08.10.2019 12:54:29	✓	0.5403	12.7430	62.9905	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
22 22	19J0174-01	0.2028	g	08.10.2019 12:54:34	✓	0.0787	1.9001	9.3694	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [µg/kg]	Cal-Factor	Calibration file Date	Method file Date
23 23	19J0174-02	0.2033	g	08.10.2019 12:54:37	✓	0.1061	2.4513	12.0578	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
24 24	19J0183-01	0.2097	g	08.10.2019 12:54:40	✓	0.0784	1.8947	9.0351	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
25 25	19J0229-01	0.2106	g	08.10.2019 12:54:43	✓	0.5675	13.5298	64.2442	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
26 26	SEQ-CCV3	0.1000	g	08.10.2019 14:41:58	✓	0.4371	9.9531	99.5306	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
27 27	SEQ-CCB3	0.1000	g	08.10.2019 14:42:00	✓	0.0029	0.4172	4.1718	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
28 28	19J0197-01	0.2160	g	08.10.2019 14:50:23	✓	0.6167	15.0225	69.5485	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
29 29	19J0210-01	0.2007	g	08.10.2019 14:50:29	✓	0.0475	55.4151	276.1090	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
30 30	BJ90473-DUP1	0.2006	g	08.10.2019 15:25:59	✓	0.5005	11.6304	57.9781	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
31 31	BJ90473-MS1	0.2079	g	08.10.2019 15:35:01	✓	0.0899	99.2504	477.3949	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
32 32	BJ90502-BLK1	0.2000	g	08.10.2019 15:43:36	✓	0.0162	0.6745	3.3723	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
33 33	BJ90502-SRM1	0.0226	g	08.10.2019 15:43:44	✓	0.0665	74.8440	3,311.6821	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
34 34	19J0218-03	0.2048	g	08.10.2019 15:43:52	✓	0.6856	17.2949	84.4479	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
35 35	19J0218-04	0.2021	g	08.10.2019 15:43:56	✓	0.1374	3.0925	15.3019	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
36 36	19J0218-05	0.2145	g	08.10.2019 15:43:58	✓	0.7522	19.7588	92.1157	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
37 37	19J0315-01	0.2091	g	08.10.2019 15:44:00	✓	0.0257	33.5271	160.3401	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
38 38	SEQ-CCV4	0.1000	g	08.10.2019 16:40:25	✓	0.4416	10.0682	100.6824	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
39 39	SEQ-CCB4	0.1000	g	08.10.2019 16:40:28	✓	0.0048	0.4543	4.5431	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
40 40	19J0216-01	0.2007	g	08.10.2019 17:20:20	✓	0.0544	62.4319	311.0709	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
41 1	BJ90502-DUP1	0.2095	g	08.10.2019 17:45:36	✓	0.0492	57.1398	272.7437	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
42 2	BJ90502-MS1	0.2049	g	08.10.2019 17:52:52	✓	0.1357	148.6841	725.6424	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
43 -	auto BV (1)	0.0000	g	08.10.2019 18:01:29	✓B	0.0162	0.6734	0.0000	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	29.08.2014
44 3	19J0216-02	0.2016	g	08.10.2019 18:01:33	✓	0.5617	13.3591	66.2656	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [µg/kg]	Cal-Factor	Calibration file Date	Method file Date
45 4	19J0216-03	0.2039	g	08.10.2019 18:01:37	✓	0.0225	30.3492	148.8433	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
46 5	19J0216-04	0.2047	g	08.10.2019 18:01:39	✓	0.4866	11.2539	54.9775	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
47 6	19J0216-05	0.2036	g	08.10.2019 18:01:44	✓	0.2781	320.2719	1,573.0447	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
48 -	auto BV (1)	0.0000	g	08.10.2019 18:40:43	✓B	0.0280	0.9029	0.0000	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	29.08.2014
49 7	19J0320-01	0.2119	g	08.10.2019 18:01:47	✓	0.1229	2.7933	13.1820	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
50 8	19J0320-03	0.2112	g	08.10.2019 18:01:50	✓	0.1633	3.6319	17.1965	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
51 9	19J0320-05	0.2116	g	08.10.2019 18:01:53	✓	0.1418	3.1839	15.0469	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
52 10	SEQ-CCV5	0.1000	g	08.10.2019 19:14:28	✓	0.4407	10.0453	100.4526	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
53 11	SEQ-CCB5	0.1000	g	08.10.2019 19:14:33	✓	0.0065	0.4870	4.8695	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
54 12	19J0320-07	0.2018	g	08.10.2019 19:27:43	✓	0.1172	2.6786	13.2734	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
55 13	19J0320-09	0.2093	g	08.10.2019 19:27:47	✓	0.1590	3.5401	16.9139	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
56 14	19J0320-11	0.2160	g	08.10.2019 19:27:49	✓	0.1274	2.8858	13.3602	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
57 15	19J0320-13	0.2044	g	08.10.2019 19:27:51	✓	0.0768	1.8627	9.1132	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
58 16	19J0320-15	0.2119	g	08.10.2019 19:27:55	✓	0.2136	4.7026	22.1924	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
59 17	19J0320-17	0.2082	g	08.10.2019 19:27:57	✓	0.2716	5.9825	28.7344	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
60 18	19J0320-19	0.2057	g	08.10.2019 19:27:59	✓	0.2693	5.9301	28.8288	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
61 19	19J0320-21	0.2056	g	08.10.2019 19:28:01	✓	0.1466	3.2826	15.9658	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
62 20	BJ90504-SRM1	0.0214	g	08.10.2019 19:28:06	✓	0.0595	67.6466	3,161.0576	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
63 21	BJ90504-BLK1	0.2000	g	08.10.2019 19:28:13	✓	0.0172	0.6931	3.4654	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
64 22	SEQ-CCV6	0.1000	g	08.10.2019 21:16:50	✓	0.4394	10.0123	100.1229	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
65 23	SEQ-CCB6	0.1000	g	08.10.2019 21:16:53	✓	0.0059	0.4754	4.7543	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
66 24	19J0292-08	0.2105	g	08.10.2019 21:58:51	✓	0.1598	3.5570	16.8977	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014

Pos Nr	Samplename Remak	Weight	U	Creation Date	State	Height	Hg [ng]	Concentr. [µg/kg]	Cal-Factor	Calibration file Date	Method file Date
67 25	19J0292-09	0.2126	g	08.10.2019 22:00:08	✓	0.0814	1.9546	9.1937	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
68 26	BJ90594-DUP1 BJ90504-DUP1 MAO	0.2147	g	08.10.2019 22:00:17	✓	0.1079	2.4878	11.5875	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
69 27	BJ90594-MS1 BJ90504-MS1 MAO	0.2097	g	08.10.2019 22:26:28	✓	0.0826	91.5779	436.7092	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
70 28	SEQ-CCV7	0.1000	g	08.10.2019 22:34:15	✓	0.4555	10.4293	104.2927	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
71 29	SEQ-CCB7	0.1000	g	08.10.2019 22:57:04	✓	0.0102	0.5581	5.5810	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
72 30	19J0308-01	0.2155	g	08.10.2019 22:57:17	✓	0.4540	10.3907	48.2169	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
73 31	19J0308-02	0.2090	g	08.10.2019 22:57:27	✓	0.6039	14.6274	69.9877	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
74 32	19J0308-03	0.2141	g	08.10.2019 22:57:31	✓	0.5260	12.3372	57.6235	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
75 33	19J0308-04	0.2092	g	08.10.2019 22:57:34	✓	0.0003	0.3680	1.7592	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
76 34	19J0318-01	0.2050	g	08.10.2019 22:57:42	✓	0.0003	0.3688	1.7992	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
77 35	19J0318-03	0.2008	g	08.10.2019 22:57:56	✓	0.7378	19.1993	95.6143	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
78 36	19J0333-03	0.2013	g	08.10.2019 22:58:07	✓	0.0871	2.0697	10.2816	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
79 37	19J0333-06	0.2070	g	08.10.2019 22:58:17	✓	0.0819	1.9644	9.4896	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
80 38	19J0333-09	0.2032	g	08.10.2019 22:58:24	✓	0.0508	1.3474	6.6308	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
81 39	19J0333-12	0.2080	g	08.10.2019 22:58:32	✓	0.0479	1.2904	6.2038	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
82 40	SEQ-CCV8	0.1000	g	09.10.2019 06:15:34	✓	0.4354	9.9079	99.0786	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014
83 1	SEQ-CCB8	0.1000	g	09.10.2019 06:22:54	✓	0.0128	0.6082	6.0818	1.0000	ICAL Soil DMA80-02 060618a.c80 06.06.2018 10:42:26	Soil.m80 29.08.2014

Sample listing "QBHgDMA80-02ICAL060618C.d80"

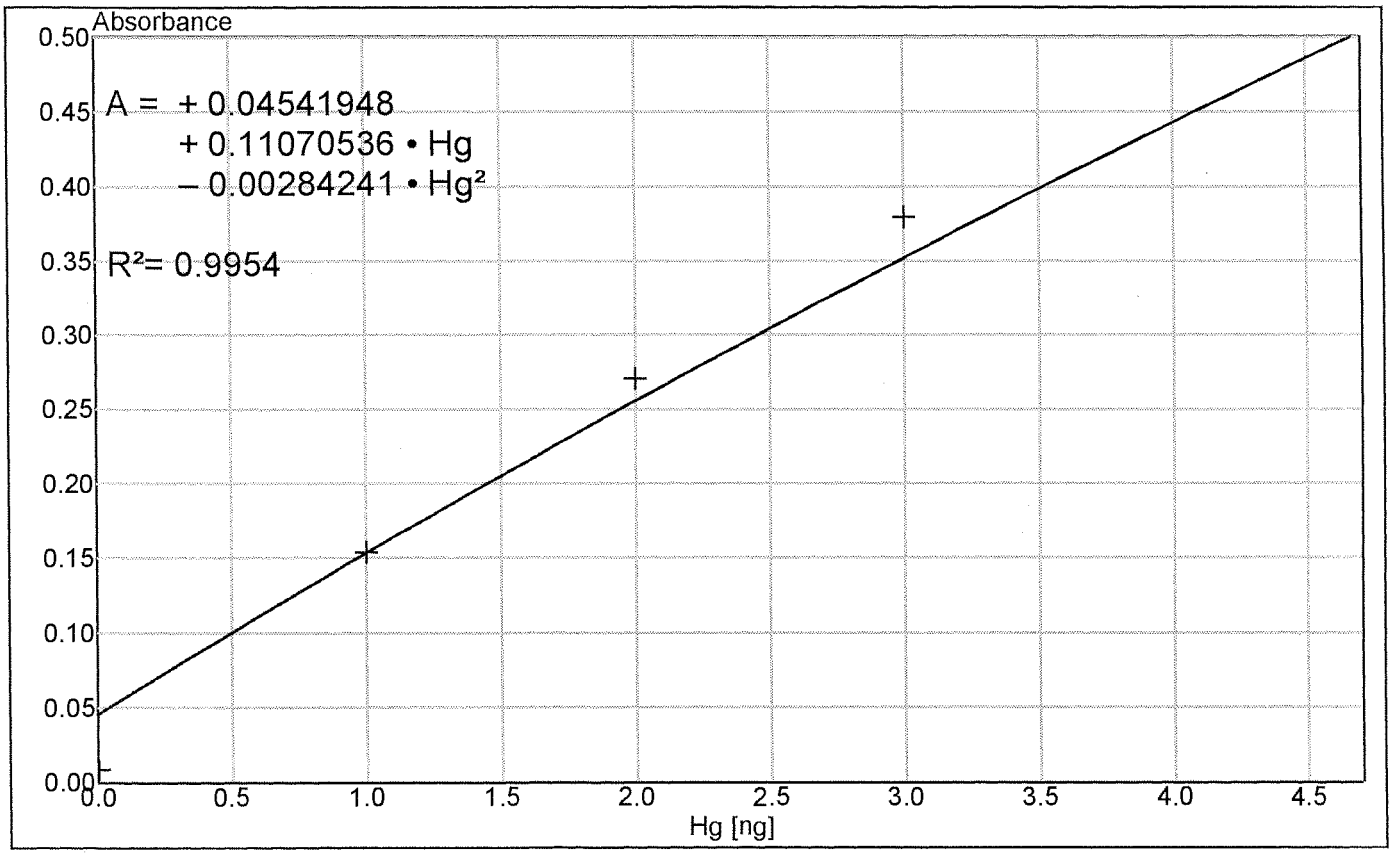
Created by "Service"
06.06.2018 17:06:44

Pos Nr.	Samplename Remark	Amount Date	State Date	Height	Hg [ng]	Concentr. [µg/kg]	Σ	Cal- Factor
1 (1)	0.0 ng	0.1000 g 06.06.18 14:27	✔ C 06.06.18 14:36	0.0087	0.0000	0.0001		1.0000
2 (2)	1.0 ng	0.1000 g 06.06.18 14:28	✔ C 06.06.18 14:43	0.1542	1.0000	10.0000		1.0000
3 (3)	2.0 ng	0.2000 g 06.06.18 14:28	✔ C 06.06.18 14:52	0.2706	2.0000	10.0000		1.0000
4 (4)	3.0 ng	0.3000 g 06.06.18 14:29	✔ C 06.06.18 15:01	0.3794	3.0000	10.0000		1.0000
5 (5)	5.0 ng	0.5000 g 06.06.18 14:29	✔ C 06.06.18 15:10	0.5511	5.0000	10.0000		1.0000
6 (6)	10.0 ng	0.1000 g 06.06.18 14:30	✔ C 06.06.18 15:19	0.8312	10.0000	100.0000		1.0000
7 (7)	20.0 ng	0.2000 g 06.06.18 14:30	✔ C 06.06.18 15:29	1.1296	20.0000	100.0000		1.0000
8 (8)	50.0 ng	0.5000 g 06.06.18 14:31	✔ C 06.06.18 15:38	0.0410	50.0000	100.0000		1.0000
9 (9)	100 ng	0.1000 g 06.06.18 14:31	✔ C 06.06.18 15:47	0.0993	100.0000	1000.000		1.0000
10 (10)	200 ng	0.2000 g 06.06.18 14:31	✔ C 06.06.18 15:56	0.1851	200.0000	1000.000		1.0000
- (11)	auto BV (1)	0.0000 g 06.06.18 16:06	✔ B 06.06.18 16:05	0.0484	0.0000			1.0000
11 (12)	500 ng	0.5000 g 06.06.18 14:32	✔ C 06.06.18 16:09	0.4031	500.0000	1000.000		1.0000
- (13)	auto BV (1)	0.0000 g 06.06.18 16:18	✔ B 06.06.18 16:18	0.1764	0.0000			1.0000
1 (14)	mb	0.1000 g 06.06.18 16:35	✔ 06.06.18 16:36	0.1513	0.9811	9.8113		1.0000
2 (15)	ICV	0.1000 g 06.06.18 16:35	✔ 06.06.18 16:43	0.4985	10.6445	106.4454		1.0000
1 (16)	mb	0.1000 g 06.06.18 16:55	✔ 06.06.18 16:55	0.0571	0.1058	1.0580		1.0000

Calibration data "ICAL Soil DMA80-2 060618C.c80"

Created by "Service" at
06.06.2018 16:35:24

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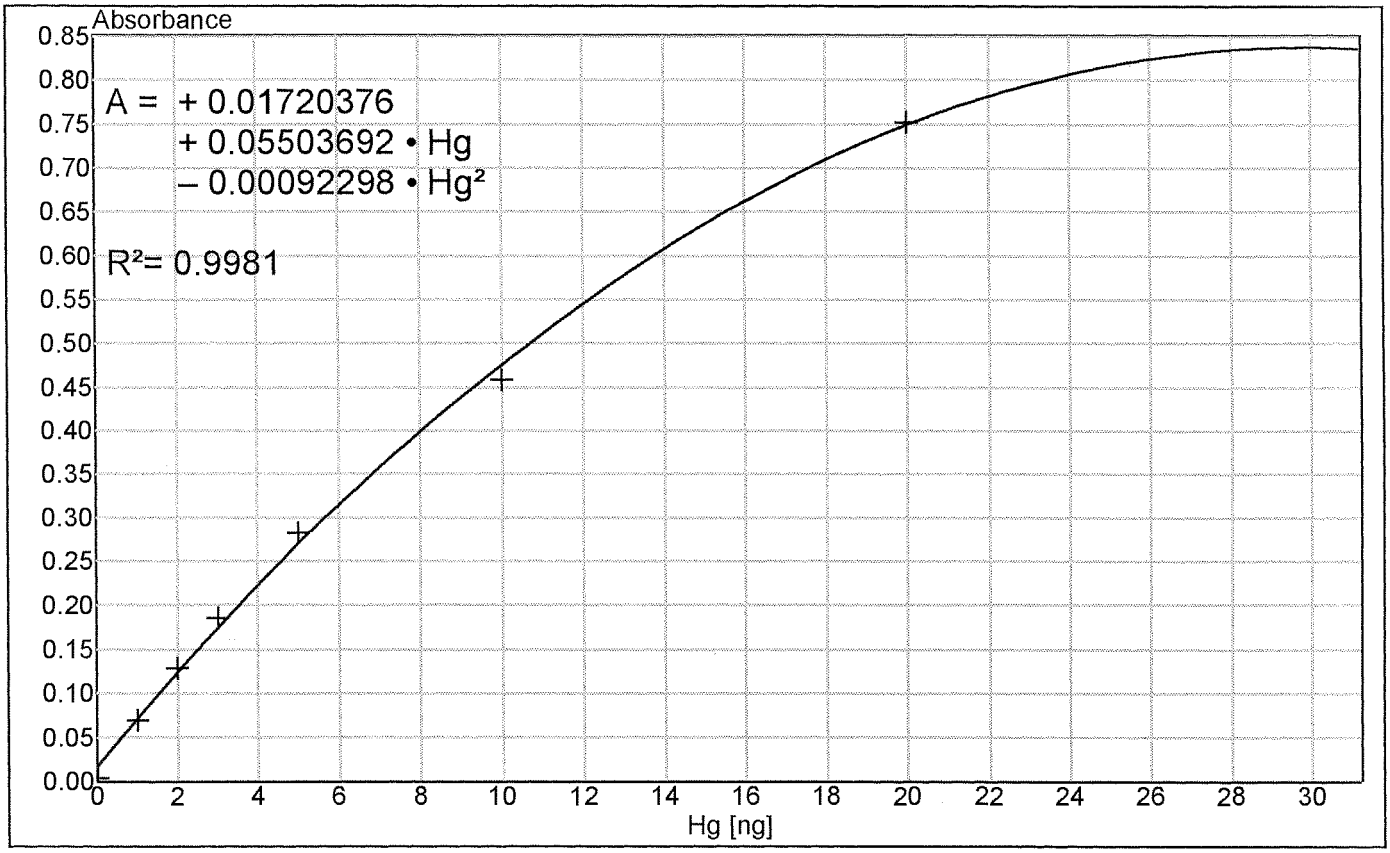


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3	✔	2.0000	0.2706	0.0151	06.06.2018 15:01:32	
4	✔	3.0000	0.3794	0.0274	06.06.2018 15:10:44	
5	✔	5.0000	0.5511	0.0232	06.06.2018 15:20:00	
6	✔	10.0000	0.8312	-0.0370	06.06.2018 15:29:13	
7	✔	20.0000	1.1296	0.0070	06.06.2018 15:38:27	

Calibration data "ICAL Soil DMA80-2 060618C.c80"

Created by "Service" at
06.06.2018 16:35:24

Cell 1

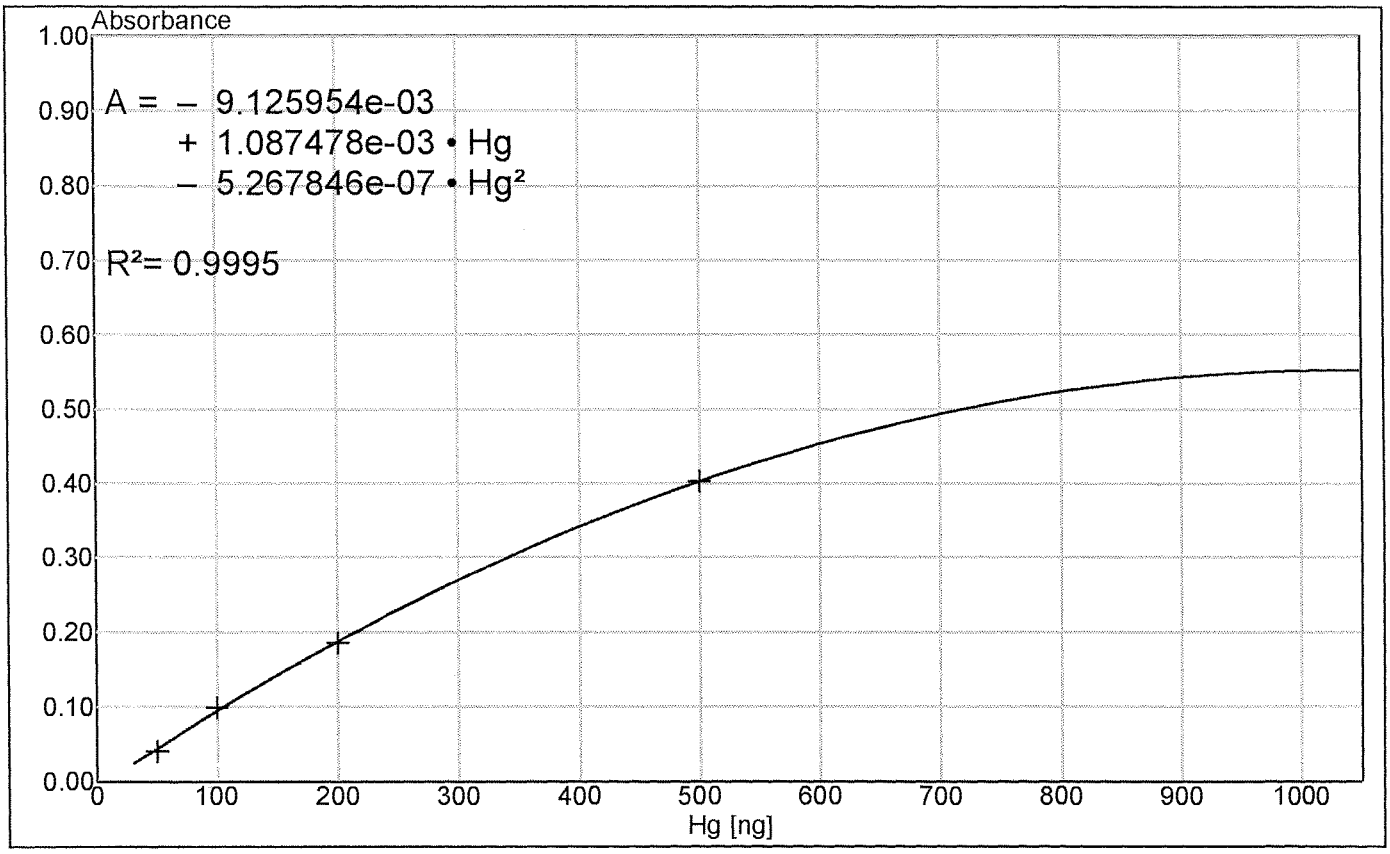


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2	✓	1.0000	0.0695	-0.0018	06.06.2018 14:52:19	
3	✓	2.0000	0.1284	0.0048	06.06.2018 15:01:32	
4	✓	3.0000	0.1852	0.0112	06.06.2018 15:10:44	
5	✓	5.0000	0.2821	0.0128	06.06.2018 15:20:00	
6	✓	10.0000	0.4585	-0.0167	06.06.2018 15:29:13	
7	✓	20.0000	0.7518	0.0031	06.06.2018 15:38:27	

Calibration data "ICAL Soil DMA80-2 060618C.c80"

Created by "Service" at
06.06.2018 16:35:24

Cell 2



Nr.		Hg [ng]	Height ^	Error ⊿E [%]	Date	Remarks
1	✔	50.0000	0.0410	-0.0029	06.06.2018 15:47:39	
2	✔	100.0000	0.0993	0.0049	06.06.2018 15:56:53	
3	✔	200.0000	0.1851	-0.0022	06.06.2018 16:06:05	
4	✔	500.0000	0.4031	0.0002	06.06.2018 16:18:11	

INITIAL CALIBRATION VERIFICATION (Hg)

Lab Name: York Analytical Laboratories, Inc.

I Cal Source: Inorganic Ventures

Sequence: DMA80-02 060618C.d80

C Cal Source: Absolute Standards

Concentration units: ug/kg

Analyte	TRUE	ICV FOUND	%R(1)
Mercury	100.0000	106.4454	106.4

(1) Control Limits Hg 80-120 %

INITIAL CALIBRATION BLANK

Lab Name: York Analytical Laboratories, Inc

Preparation Blank Matrix: Soil

Prep Blank ID: N/A

Prep. Blank Conc. Units: ug/kg

Sequence ID: DMA80-02 060618C.d80

Initial Calibration Blank (ug/kg)		
Analyte	ICB	C
Mercury	0.00	U

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: WET
METHOD: Calculation

DATA PACKAGE COVER PAGE

Calculation

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID:

Sampled: 10/02/19 12:45 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 95.31 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	21.9	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID:

Sampled: 10/02/19 12:50 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 86.53 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	22.1	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID:

Sampled: 10/02/19 10:30 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 94.09 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	16.5	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID:

Sampled: 10/02/19 10:35 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 83.69 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	24.7	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID:

Sampled: 10/02/19 12:00 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 92.39 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	13.7	1		Calculation

FORM I **INORGANIC ANALYSIS DATA SHEET**

Calculation

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID:

Sampled: 10/02/19 12:05 Prepared: 10/09/19 12:39 Analyzed: 10/09/19 17:59

Solids: 91.18 Preparation: Analysis Preparation Initial/Final: 2.5 g / 100 mL

Batch: BJ90573 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg)	Dilution Factor	Q	Method
16065-83-1	Chromium, Trivalent	39.3	1		Calculation

FORM IV **PREPARATION BATCH SUMMARY**

Calculation

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90573 Batch Matrix: Soil Preparation: Analysis Preparation

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01		10/09/19 12:39	
SB19_8-9	19J0144-02		10/09/19 12:39	
SB27_0-2	19J0144-03		10/09/19 12:39	
SB27_6-8	19J0144-04		10/09/19 12:39	
SB28_0-2	19J0144-05		10/09/19 12:39	
SB28_5.5-7.5	19J0144-06		10/09/19 12:39	

BENCHSHEETS

SDG: 19J0144
CLASS: WET
METHOD: Calculation

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90573

Preparation Date: 10/09/2019 12:39

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:19AM**

Matrix: Soil **Preparation: Analysis Preparatio** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0073-01 A	Chromium, Trivalent	2.5	100				
19J0086-01 A	Chromium, Trivalent	2.5	100				
19J0144-01 A	Chromium, Trivalent	2.5	100				
19J0144-02 A	Chromium, Trivalent	2.5	100				
19J0144-03 A	Chromium, Trivalent	2.5	100				
19J0144-04 A	Chromium, Trivalent	2.5	100				
19J0144-05 A	Chromium, Trivalent	2.5	100				
19J0144-06 A	Chromium, Trivalent	2.5	100				
19J0146-04 A	Chromium, Trivalent	2.5	100				
19J0146-05 A	Chromium, Trivalent	2.5	100				
19J0146-06 A	Chromium, Trivalent	2.5	100				
19J0146-07 A	Chromium, Trivalent	2.5	100				

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **PAM** **Date:** **10/09/2019 12:39**

HOLDING TIME SUMMARY

Calculation

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/09/19 12:39	7.00	30.00	10/09/19 17:59	7.22	30.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/09/19 12:39	6.99	30.00	10/09/19 17:59	7.21	30.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/09/19 12:39	7.09	30.00	10/09/19 17:59	7.31	30.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/09/19 12:39	7.09	30.00	10/09/19 17:59	7.31	30.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/09/19 12:39	7.03	30.00	10/09/19 17:59	7.25	30.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/09/19 12:39	7.02	30.00	10/09/19 17:59	7.25	30.00	

METHOD DETECTION AND REPORTING LIMITS

Calculation

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
Chromium, Trivalent	0.250	0.500	mg/kg

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: WET
METHOD: EPA 7196A

DATA PACKAGE COVER PAGE

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID:

Sampled: 10/02/19 12:45 Prepared: 10/08/19 08:56 Analyzed: 10/08/19 22:37

Solids: 95.31 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90452 Sequence: Calibration: 10/08/19 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.525	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID:

Sampled: 10/02/19 12:50 Prepared: 10/08/19 08:56 Analyzed: 10/08/19 22:37

Solids: 86.53 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90452 Sequence: Calibration: 10/08/19 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.578	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID:

Sampled: 10/02/19 10:30 Prepared: 10/08/19 08:56 Analyzed: 10/08/19 22:37

Solids: 94.09 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90452 Sequence: Calibration: 10/08/19 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.531	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID:

Sampled: 10/02/19 10:35 Prepared: 10/08/19 08:56 Analyzed: 10/08/19 22:37

Solids: 83.69 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90452 Sequence: Calibration: 10/08/19 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.597	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID:

Sampled: 10/02/19 12:00 Prepared: 10/08/19 08:56 Analyzed: 10/08/19 22:37

Solids: 92.39 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90452 Sequence: Calibration: 10/08/19 2 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.541	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID:

Sampled: 10/02/19 12:05 Prepared: 10/09/19 08:45 Analyzed: 10/09/19 15:40

Solids: 91.18 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BJ90530 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.548	1	U	EPA 7196A

STANDARD REFERENCE MATERIAL RECOVERY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Batch: BJ90452
Laboratory ID: BJ90452-SRM1
Preparation: EPA SW846-3060
Initial/Final: 0.2 g / 100 mL

ANALYTE	TRUE (mg/L)	FOUND (mg/L)	SRM % REC.	QC LIMITS REC.
Chromium, Hexavalent	71.8	98.5	137	18.8 - 206.1

* Values outside of QC limits

STANDARD REFERENCE MATERIAL RECOVERY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc.
SDG: 19J0144
Client: Langan Engineering & Environmental Services (NYC)
Project: 170396002
Matrix: Soil
Batch: BJ90530
Laboratory ID: BJ90530-SRM1
Preparation: EPA SW846-3060
Initial/Final: 0.2 g / 100 mL

ANALYTE	TRUE (mg/L)	FOUND (mg/L)	SRM % REC.	QC LIMITS REC.
Chromium, Hexavalent	71.8	53.6	74.6	18.8 - 206.1

* Values outside of QC limits

FORM I

METHOD BLANK DATA SHEET

EPA 7196A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90452-BLK1	File ID:	
Prepared:	10/08/19 08:56	Preparation:	EPA SW846-3060	Initial/Final:	2.5 g / 100 mL
Analyzed:	10/08/19 22:37	Instrument:	Inst		
Batch:	BJ90452	Sequence:		Calibration:	

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
18540-29-9	Chromium, Hexavalent	0.500	U

FORM I

METHOD BLANK DATA SHEET

EPA 7196A

Laboratory:	York Analytical Laboratories, Inc.			SDG:	19J0144
Client:	Langan Engineering & Environmental Services (NYC)			Project:	170396002
Matrix:	Soil	Laboratory ID:	BJ90530-BLK1	File ID:	
Prepared:	10/09/19 08:45	Preparation:	EPA SW846-3060	Initial/Final:	2.5 g / 100 mL
Analyzed:	10/09/19 15:40	Instrument:	Inst		
Batch:	BJ90530	Sequence:		Calibration:	

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
18540-29-9	Chromium, Hexavalent	0.500	U

FORM IV **PREPARATION BATCH SUMMARY**

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90452 Batch Matrix: Soil Preparation: EPA SW846-3060

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01		10/08/19 08:56	
SB19_8-9	19J0144-02		10/08/19 08:56	
SB27_0-2	19J0144-03		10/08/19 08:56	
SB27_6-8	19J0144-04		10/08/19 08:56	
SB28_0-2	19J0144-05		10/08/19 08:56	
Blank	BJ90452-BLK1		10/08/19 08:56	
Reference	BJ90452-SRM1		10/08/19 08:56	

FORM IV **PREPARATION BATCH SUMMARY**

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90530 Batch Matrix: Soil Preparation: EPA SW846-3060

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB28_5.5-7.5	19J0144-06		10/09/19 08:45	
Blank	BJ90530-BLK1		10/09/19 08:45	
Reference	BJ90530-SRM1		10/09/19 08:45	

BENCHSHEETS

SDG: 19J0144

CLASS: WET

METHOD: EPA 7196A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90452

Preparation Date: 10/08/2019 08:56

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:54:46PM**

Matrix: Soil **Preparation: EPA SW846-3060** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0076-01 A	Chromium, Hexavalent	2.5	100				
19J0076-02 A	Chromium, Hexavalent	2.5	100				
19J0076-03 A	Chromium, Hexavalent	2.5	100				
19J0077-01 A	Chromium, Hexavalent	2.5	100				
19J0077-02 A	Chromium, Hexavalent	2.5	100				
19J0078-01 A	Chromium, Hexavalent	2.5	100				
19J0078-02 A	Chromium, Hexavalent	2.5	100				
19J0078-03 A	Chromium, Hexavalent	2.5	100				
19J0113-01 A	Chromium, Hexavalent	2.5	100				
19J0113-02 A	Chromium, Hexavalent	2.5	100				
19J0144-01 A	Chromium, Hexavalent	2.5	100				
19J0144-02 A	Chromium, Hexavalent	2.5	100				
19J0144-03 A	Chromium, Hexavalent	2.5	100				
19J0144-04 A	Chromium, Hexavalent	2.5	100				
19J0144-05 A	Chromium, Hexavalent	2.5	100				
19J0194-29 A	Chromium, Hexavalent	2.5	100				
19J0194-30 A	Chromium, Hexavalent	2.5	100				
19J0194-31 A	Chromium, Hexavalent	2.5	100				
BJ90452-BLK1	QC	2.5	100				
BJ90452-DUP1	QC	2.5	100		19J0076-01		
BJ90452-MS1	QC	2.5	100	Y19I311	19J0076-01	1000	
BJ90452-SRM1	QC	0.2	100	Y19B289		1	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **MSP** **Date:** **10/08/2019 08:56**

BENCHSHEETS

SDG: 19J0144

CLASS: WET

METHOD: EPA 7196A

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90530

Preparation Date: 10/09/2019 08:45

York Analytical Laboratories, Inc. **Printed: 10/10/2019 10:23:34AM**

Matrix: Soil **Preparation: EPA SW846-3060** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	Comments
19J0073-01 A	Chromium, Hexavalent	2.5	100				
19J0086-01 A	Chromium, Hexavalent	2.5	100				
19J0144-06 A	Chromium, Hexavalent	2.5	100				
19J0146-04 A	Chromium, Hexavalent	2.5	100				
19J0146-05 A	Chromium, Hexavalent	2.5	100				
19J0146-06 A	Chromium, Hexavalent	2.5	100				
19J0146-07 A	Chromium, Hexavalent	2.5	100				
19J0148-01 E	Chromium, Hexavalent	2.5	100				
19J0149-01 E	Chromium, Hexavalent	2.5	100				
19J0303-01 A	Chromium, Hexavalent	2.5	100				
19J0303-03 A	Chromium, Hexavalent	2.5	100				
19J0303-05 A	Chromium, Hexavalent	2.5	100				
19J0303-07 A	Chromium, Hexavalent	2.5	100				
19J0303-09 A	Chromium, Hexavalent	2.5	100				
19J0303-11 A	Chromium, Hexavalent	2.5	100				
19J0303-13 A	Chromium, Hexavalent	2.5	100				
19J0303-15 A	Chromium, Hexavalent	2.5	100				
19J0303-17 A	Chromium, Hexavalent	2.5	100				
19J0303-19 A	Chromium, Hexavalent	2.5	100				
19J0303-23 A	Chromium, Hexavalent	2.5	100				
BJ90530-BLK1	QC	2.5	100				
BJ90530-DUP1	QC	2.5	100		19J0073-01		
BJ90530-MS1	QC	2.5	100	Y19I311	19J0073-01	1000	
BJ90530-SRM1	QC	0.2	100	Y19B289		1	

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **MSP** **Date:** **10/09/2019 08:45**

Calibration Curve Data

CALIBRATION CURVE

Hexavalent Chromium

METHOD: **Colorimetric** SPEC A

DATE: **8/8/2019**

ppm	µg/100 ml	Absorbance
0.01	1	0.008
0.05	5	0.038
0.1	10	0.068
0.25	25	0.188
0.5	50	0.364
0.75	75	0.51

WAVELENGTH: 540 nm

LIGHT PATH: 1 cm

FILTER: NO

SLOPE	1.448697
INTERCEPT	-0.007278
CORRELATION	0.997470

ICV Concentration (ppm)	0.5
ICV Absorbance	0.354
ICV Calculated Conc. (ppm)	0.51
ICV Percent Recovery	101.11

ANALYST: **Mathew Christman**

HEXAVALENT CHROMIUM (CR^{+6})

Date: 10/08/19		
Analyst: MSP		
Batch: BJ90530	**Matrix:** Soil	**Spectrophotometer ID:** A
Calibration Date: 08/08/19	**Slope:** 1.468697	**y-intercept:** -0.067278

SAMPLE I.D.	DIL	ABS	mg/l from Curve	mg/kg	QA/QC
Method Blank (<0.1mg/L_____)		0	0		
CCV (90-110%)		0357	0.510		102.0%
LCS (80-120%)		0.042	0.054	53.57	74.61%
1 19J0073-01		0	0		
2 -86-01					
3 144-06					
4 146-04					
5 05					
6 06					
7 07					
8 146-01					
9 149-01					
10 303-01					
11 03					
12 05					
13 07					
14 09					
15 11					
16 13					
17 17					
18 19					
19 15~~23~~		↓	↓		
20 23		0.055	0.072		
DUP (≤35% RPD) 19J0073-01		0	0		
Spike (75-125%)		0.044	0.056		113 %
CCV (90-110%)		0.355	0.507		101.4 %

STANDARD/REAGENT	DATE PREPARED	EXPIRATION DATE	TRACEABILITY
CCV @ 0.5 mg/L			Page A
SPK @ 0.5 mg/L			Page A
LCS @ 718			Page B
Diphenylcarbazide Solution			Page C
Sulfuric Acid (Conc)			Page C
Filter Paper			Page C
Digestion Solution			Page D
Magnesium Chloride			Page D
Antifoam			Page D
Phosphate Buffer			Page E
5M Nitric Acid			Page E
Ottawa Sand -For Soil Method Blanks Only			Page E

HEXAVALENT CHROMIUM (CR^{+6})

Date: 10·8·19		
Analyst: MO/MSP		
Batch: BJ90452	**Matrix:** SO:1	**Spectrophotometer ID:** A
Calibration Date:	**Slope:** 1.448697	**y-intercept:** -0.007278

SAMPLE I.D.	DIL	ABS	mg/l from Curve	mg/kg	QA/QC
Method Blank (<0.1mg/L_____)		0			
CCV (90-110%)		0.342	0.488		97.6 %
LCS (80-120%)		0.073	0.098	98.5	137 %
1 19J0076-01		0			
2 -02					
3 -03					
4 77-01					
5 -02					
6 78-01					
7 -02					
8 -03					
9 113-01					
10 -02					
11 144-01					
12 -02					
13 -03					
14 -04					
15 -05					
16 194-29					
17 -30					
18 -31		0.054	0.071		
19					
20					
DUP (≤35% RPD) 76-01		0			
Spike (75-125%) ↓		0.049	0.064		12.8 %
CCV (90-110%)		0.344	0.491		98.2 %

STANDARD/REAGENT	DATE PREPARED	EXPIRATION DATE	TRACEABILITY
CCV @ 0.5 mg/L			Page A
SPK @ 0.5 mg/L			Page A
LCS @ 71.8			Page B
Diphenylcarbazide Solution			Page C
Sulfuric Acid (Conc)			Page C
Filter Paper			Page C
Digestion Solution			Page D
Magnesium Chloride			Page D
Antifoam			Page D
Phosphate Buffer			Page E
5M Nitric Acid			Page E
Ottawa Sand -For Soil Method Blanks Only			Page E

HOLDING TIME SUMMARY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/08/19 08:56	5.84	30.00	10/08/19 22:37	0.57	7.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/08/19 08:56	5.84	30.00	10/08/19 22:37	0.57	7.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/08/19 08:56	5.93	30.00	10/08/19 22:37	0.57	7.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/08/19 08:56	5.93	30.00	10/08/19 22:37	0.57	7.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/08/19 08:56	5.87	30.00	10/08/19 22:37	0.57	7.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/09/19 08:45	6.86	30.00	10/09/19 15:40	0.29	7.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
Chromium, Hexavalent	0.350	0.500	mg/kg

York Analytical Laboratories, Inc.
SDG: 19J0144
CLASS: WET
METHOD: SM 2540G

DATA PACKAGE COVER PAGE

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Client Sample Id:	Lab Sample Id:
SB19_0-2	19J0144-01
SB19_8-9	19J0144-02
SB27_0-2	19J0144-03
SB27_6-8	19J0144-04
SB28_0-2	19J0144-05
SB28_5.5-7.5	19J0144-06

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 project narrative. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the

Signature:  Name: Benjamin Gulizia

Date: 10/14/2019 Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB19_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-01 File ID:

Sampled: 10/02/19 12:45 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 95.31 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	95.3	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB19_8-9

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-02 File ID:

Sampled: 10/02/19 12:50 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 86.53 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	86.5	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB27_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-03 File ID:

Sampled: 10/02/19 10:30 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 94.09 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	94.1	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB27_6-8

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-04 File ID:

Sampled: 10/02/19 10:35 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 83.69 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	83.7	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB28_0-2

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-05 File ID:

Sampled: 10/02/19 12:00 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 92.39 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.4	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

SB28_5.5-7.5

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Matrix: Soil Laboratory ID: 19J0144-06 File ID:

Sampled: 10/02/19 12:05 Prepared: 10/08/19 20:28 Analyzed: 10/09/19 10:07

Solids: 91.18 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BJ90520 Sequence: Calibration: 10/09/19 1 Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.2	1		SM 2540G

FORM IV **PREPARATION BATCH SUMMARY**

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Batch: BJ90520 Batch Matrix: Soil Preparation: % Solids Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
SB19_0-2	19J0144-01		10/08/19 20:28	
SB19_8-9	19J0144-02		10/08/19 20:28	
SB27_0-2	19J0144-03		10/08/19 20:28	
SB27_6-8	19J0144-04		10/08/19 20:28	
SB28_0-2	19J0144-05		10/08/19 20:28	
SB28_5.5-7.5	19J0144-06		10/08/19 20:28	

BENCHSHEETS

SDG: 19J0144

CLASS: WET

METHOD: SM 2540G

PREPARATION BENCH SHEET-SOILS/SOLIDS: BJ90520

Preparation Date: 10/08/2019 20:28

York Analytical Laboratories, Inc. **Printed: 10/11/2019 12:55:25PM**

Matrix: Soil **Preparation: % Solids Prep** **(No Surrogate)** **ul**

Lab Number	Analysis	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	Comments
19J0095-01 B	Total Solids	5	5				
19J0095-02 B	Total Solids	5	5				
19J0095-03 B	Total Solids	5	5				
19J0095-04 B	Total Solids	5	5				
19J0098-01 E	Total Solids	5	5				
19J0105-01 A	Total Solids	5	5				
19J0111-01 B	Total Solids	5	5				
19J0113-01 A	Total Solids	5	5				
19J0113-02 A	Total Solids	5	5				
19J0115-01 A	Total Solids	5	5				
19J0115-02 A	Total Solids	5	5				
19J0119-01 B	Total Solids	5	5				
19J0119-02 B	Total Solids	5	5				
19J0144-01 A	Total Solids	5	5				
19J0144-02 A	Total Solids	5	5				
19J0144-03 A	Total Solids	5	5				
19J0144-04 A	Total Solids	5	5				
19J0144-05 A	Total Solids	5	5				
19J0144-06 A	Total Solids	5	5				
19J0148-01 E	Total Solids	5	5				
BJ90520-DUP1	QC	5	5		19J0148-01		

Reagents:

ID Number	Description	Lot Number	ID Number	Description	Lot Number

Preparations Performed by **MAO** **Date:** **10/08/2019 20:28**

YORK
ANALYTICAL LABORATORIES, INC.

TOTAL SOLIDS ELECTRONIC LOG

Sample No.	Analyte	Analysis Date	Analyst	Batch ID	Init. Result	Final Result	Units	Prep. Units
19J0144-01	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	95.31	95.3	%	g
19J0144-01	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.99	4.99	%	g
19J0144-01	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	5.17	5.17	%	g
19J0144-01	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.22	1.22	%	g
19J0144-02	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	86.53	86.5	%	g
19J0144-02	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	6.36	6.36	%	g
19J0144-02	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	7.16	7.16	%	g
19J0144-02	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g
19J0144-03	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	94.09	94.1	%	g
19J0144-03	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	3.30	3.30	%	g
19J0144-03	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	3.43	3.43	%	g
19J0144-03	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g
19J0144-04	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	83.69	83.7	%	g
19J0144-04	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	6.30	6.30	%	g
19J0144-04	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	7.29	7.29	%	g
19J0144-04	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.22	1.22	%	g
19J0144-05	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	92.39	92.4	%	g
19J0144-05	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.28	4.28	%	g
19J0144-05	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.53	4.53	%	g
19J0144-05	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g
19J0144-06	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	91.18	91.2	%	g
19J0144-06	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	6.52	6.52	%	g
19J0144-06	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	7.03	7.03	%	g
19J0144-06	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g
19J0148-01	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	99.48	99.5	%	g
19J0148-01	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.19	4.19	%	g
19J0148-01	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.21	4.21	%	g
19J0148-01	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g
BJ90520-DUP1	% Solids	10/9/2019 10:07:07AM	TJM	BJ90520	99.46	99.5	%	g
BJ90520-DUP1	Final Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.73	4.73	%	g
BJ90520-DUP1	Initial Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	4.75	4.75	%	g
BJ90520-DUP1	Tare Wt.	10/9/2019 10:07:07AM	TJM	BJ90520	1.23	1.23	%	g

Note: Units for Tare, Initial and Final Wts. are in grams

HOLDING TIME SUMMARY

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 19J0144

Client: Langan Engineering & Environmental Services (NYC) Project: 170396002

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
SB19_0-2	10/02/19 12:45	10/02/19 19:36	10/08/19 20:28	6.32	28.00	10/09/19 10:07	6.89	28.00	
SB19_8-9	10/02/19 12:50	10/02/19 19:36	10/08/19 20:28	6.32	28.00	10/09/19 10:07	6.89	28.00	
SB27_0-2	10/02/19 10:30	10/02/19 19:36	10/08/19 20:28	6.42	28.00	10/09/19 10:07	6.98	28.00	
SB27_6-8	10/02/19 10:35	10/02/19 19:36	10/08/19 20:28	6.41	28.00	10/09/19 10:07	6.98	28.00	
SB28_0-2	10/02/19 12:00	10/02/19 19:36	10/08/19 20:28	6.35	28.00	10/09/19 10:07	6.92	28.00	
SB28_5.5-7.5	10/02/19 12:05	10/02/19 19:36	10/08/19 20:28	6.35	28.00	10/09/19 10:07	6.92	28.00	

METHOD DETECTION AND REPORTING LIMITS

SM 2540G

Laboratory: York Analytical Laboratories, Inc. **SDG:** 19J0144

Client: Langan Engineering & Environmental Services (NYC) **Project:** 170396002

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
% Solids	0.100	0.100	%

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone: 860.645.1102 • Fax: 860.645.0823

NY ANALYTICAL SERVICES PROTOCOL DATA PACKAGE

York Analytical Laboratories

GCE25939

Ver 1

Friday, October 11, 2019

Attn: Mr. Phil Murphy
York Analytical Laboratories
120 Research Drive
Stratford, CT 06615

Project ID:
SDG ID: GCE25939
Sample ID#s: CE25939 - CE25941

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

NY ANALYTICAL SERVICES PROTOCOL
DATA PACKAGE

Client: York Analytical Laboratories

Project:

Laboratory Project: GCE25939

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

NY Analytical Services Protocol Format

October 11, 2019

SDG I.D.: GCE25939

York Analytical Laboratories

Methodology Summary

Accelerated Solvent Extraction (ASE)

Soil Sample - USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods 3rd Ed.Update III, Method 3545A.

Semi-volatiles analysis

USEPA SW-846 Test Methods for Evaluating Solid Waste Physical/Chemical Methods 3rd Ed. Update IV, Method 8270D (SIM - selective ion monitoring mode).

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06040
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

NY Analytical Services Protocol Format

October 11, 2019

SDG I.D.: GCE25939

York Analytical Laboratories

Laboratory Chronicle

The samples in this delivery group were received at 4.2°C.

Sample	Analysis	Collection Date	Prep Date	Analysis Date	Analyst	Hold Time Met
CE25939	1,4-Dioxane	10/02/19	10/03/19	10/04/19	WB	Y
CE25939	Percent Solid	10/02/19	10/03/19	10/03/19	VT	Y
CE25940	1,4-Dioxane	10/02/19	10/03/19	10/04/19	WB	Y
CE25940	Percent Solid	10/02/19	10/03/19	10/03/19	VT	Y
CE25941	1,4-Dioxane	10/02/19	10/03/19	10/04/19	WB	Y
CE25941	Percent Solid	10/02/19	10/03/19	10/03/19	VT	Y

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

October 11, 2019

SDG I.D.: GCE25939

Any compound that is not detected above the MDL/LOD is reported as ND on the report and is reported in the electronic deliverables (EDD) as <RL or U at the RL per state and EPA guidance.

Version 1: Analysis results minus raw data.

Version 2: Complete report with raw data.

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NY # 11301

Sample Id Cross Reference

October 11, 2019

SDG I.D.: GCE25939

Project ID:

Client Id	Lab Id	Matrix
SB19_8-9	CE25939	SOIL
SB27_6-8	CE25940	SOIL
SB28_5.5-7.5	CE25941	SOIL

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Analysis Report

October 11, 2019

FOR: Attn: Mr. Phil Murphy
York Analytical Laboratories
120 Research Drive
Stratford, CT 06615

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/19	12:50
Location Code:	YORK	Received by:	LB	10/03/19	8:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	19J0144				

Laboratory Data

SDG ID: GCE25939
Phoenix ID: CE25939

Project ID:
Client ID: SB19_8-9

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88			%		10/03/19	VT	SW846-%Solid
Extraction for SVOA SIM	Completed					10/03/19	KK/UL	SW3545A
1,4-Dioxane								
1,4-dioxane	ND	75	75	ug/Kg	1	10/04/19	WB	SW8270D (SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	48			%	1	10/04/19	WB	30 - 130 %
% Nitrobenzene-d5	43			%	1	10/04/19	WB	30 - 130 %
% Terphenyl-d14	46			%	1	10/04/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 11, 2019
Reviewed and Released by: Rashmi Makol, Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 11, 2019

FOR: Attn: Mr. Phil Murphy
York Analytical Laboratories
120 Research Drive
Stratford, CT 06615

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/19	10:35
Location Code:	YORK	Received by:	LB	10/03/19	8:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	19J0144				

Laboratory Data

SDG ID: GCE25939
Phoenix ID: CE25940

Project ID:
Client ID: SB27_6-8

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Percent Solid	86			%		10/03/19	VT	SW846-%Solid
Extraction for SVOA SIM	Completed					10/03/19	KK/UL	SW3545A
1,4-Dioxane								
1,4-dioxane	ND	77	77	ug/Kg	1	10/04/19	WB	SW8270D (SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	46			%	1	10/04/19	WB	30 - 130 %
% Nitrobenzene-d5	45			%	1	10/04/19	WB	30 - 130 %
% Terphenyl-d14	40			%	1	10/04/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director
October 11, 2019
Reviewed and Released by: Rashmi Makol, Project Manager

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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 11, 2019

FOR: Attn: Mr. Phil Murphy
York Analytical Laboratories
120 Research Drive
Stratford, CT 06615

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:		10/02/19	12:05
Location Code:	YORK	Received by:	LB	10/03/19	8:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	19J0144				

Laboratory Data

SDG ID: GCE25939
Phoenix ID: CE25941

Project ID:
Client ID: SB28_5.5-7.5

Parameter	Result	RL/ PQL	LOD/ MDL	Units	Dilution	Date/Time	By	Reference
Percent Solid	87			%		10/03/19	VT	SW846-%Solid
Extraction for SVOA SIM	Completed					10/03/19	KK/UL	SW3545A
1,4-Dioxane								
1,4-dioxane	ND	75	75	ug/Kg	1	10/04/19	WB	SW8270D (SIM)
QA/QC Surrogates								
% 2-Fluorobiphenyl	46			%	1	10/04/19	WB	30 - 130 %
% Nitrobenzene-d5	40			%	1	10/04/19	WB	30 - 130 %
% Terphenyl-d14	39			%	1	10/04/19	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low LOD=Limit of Detection MDL=Method Detection Limit1
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 11, 2019
Reviewed and Released by: Rashmi Makol, Project Manager

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Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

QA/QC Report

October 11, 2019

QA/QC Data

SDG I.D.: GCE25939

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 499939 (ug/kg), QC Sample No: CE24858 (CE25939, CE25940, CE25941)											
Polynuclear Aromatic HC - Soil											
1,4-dioxane	ND	67	97	95	2.1	99	103	4.0	30 - 130	30	
% 2-Fluorobiphenyl	55	%	49	52	5.9	34	53	43.7	30 - 130	30	r
% Nitrobenzene-d5	49	%	48	52	8.0	37	58	44.2	30 - 130	30	r
% Terphenyl-d14	56	%	49	46	6.3	35	56	46.2	30 - 130	30	r

r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
October 11, 2019

Sample Criteria Exceedances Report

GCE25939 - YORK

Criteria: None
State: NY

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

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NY # 11301

NY Temperature Narration

October 11, 2019

SDG I.D.: GCE25939

The samples in this delivery group were received at 4.2°C.
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)

NCP 4.2

10/2/2019

YORK
Analytical Laboratories, Inc.

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody
York Project No.: 19J0144

This information is being sent to inform you that York intends to subcontract certain samples to another licensed laboratory for specific parameters that we cannot perform in-house. The specific paramters that will be subcontracted are detailed below. Do not contact the subcontract laboratory directly. Please contact the YORK project manager for further information.

Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

SENDING LABORATORY:

York Analytical Laboratories, Inc.
120 Research Drive
Stratford, CT 06615
Phone: 203.325.1371
Fax: 203.357.0166
Contact: **York Analytical**

RECEIVING LABORATORY:

Phoenix Environmental Laboratories, Inc. S
587 East Middle Turnpike P.O. Box 370
Manchester, CT 06045
Phone :(860) 645-1102
Fax: (860) 645-0823

York Ref: 19J0144-02

Sample ID: SB19_8-9 **Matrix:** Soil **Date Sampled :** 10/02/2019 12:50

Analysis Needed	Date Due	Holding Time Expires	Comments
Semi-Volatiles, 1,4-Dioxane by 82	10/16/2019 16:30	10/30/2019 12:50	25939

Containers Supplied:
06_4 oz. WM Clear Glass Cool to 4° C (G)

York Ref: 19J0144-04

Sample ID: SB27_6-8 **Matrix:** Soil **Date Sampled :** 10/02/2019 10:35

Analysis Needed	Date Due	Holding Time Expires	Comments
Semi-Volatiles, 1,4-Dioxane by 82	10/16/2019 16:30	10/30/2019 10:35	25940

Containers Supplied:
06_4 oz. WM Clear Glass Cool to 4° C (G)

York Purchase Order No.: 19J0144 Samples from State of: NY

Deliverables required: NYSDEC ASP B **Data Pkg DUE: 10/16/2019**

EDDs required: **Special Info:**

Reporting level: MDL/LOD

Chain-of-Custody Information

Tom Gabrielson 10/2/2019 — Released By York Sample Control — Date

10/2/15 0700 — Received By — Date

Received By — Date

10/3/19 856 — Received in Subcontract Lab By — Date

WCIP4.2
10/2/2019

YORK
Analytical Laboratories, Inc.

SUBCONTRACT Notification, Purchase Order and Chain-of-Custody

York Project No.: 19J0144

This information is being sent to inform you that York intends to subcontract certain samples to another licensed laboratory for specific parameters that we cannot perform in-house. The specific paramters that will be subcontracted are detailed below. Do not contact the subcontract laboratory directly. Please contact the YORK project manager for further information.

Note: E-mail lab reports to: York_Lab_Report@yorklab.com **Mail/Fax Hard Copies to: York Analytical at the address below**

York Ref: 19J0144-06

Sample ID: SB28_5.5-7.5 **Matrix: Soil** **Date Sampled : 10/02/2019 12:05**

Analysis Needed	Date Due	Holding Time Expires	Comments
Semi-Volatiles, 1,4-Dioxane by 82'	10/16/2019 16:30	10/30/2019 12:05	

Containers Supplied:
06_4 oz. WM Clear Glass Cool to 4° C (G) 25941

York Purchase Order No.: 19J0144 Samples from State of: NY

Deliverables required: NYSDEC ASP B **Data Pkg DUE: 10/16/2019**

EDDs required: **Special Info:**

Reporting level: MDL/LOD

Chain-of-Custody Information

Tom Gabrielson	10/2/2019		0700
Released By York Sample Control	Date	Received By	Date
Received By	Date	Received in Subcontract Lab By	Date

Page 2 of 2

PHOENIX
Environmental Laboratories, Inc.

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Telephone: 860.645.1102 • Fax: 860.645.0823

NY ANALYTICAL SERVICES PROTOCOL
DATA PACKAGE

Client: York Analytical Laboratories

Laboratory Project: GCE25939

Dioxane Soil (Isotope) (Soil)
Ver 1

Organic Data Flags

LOD(MDL): Limit of Detection or Method Detection Limit
The minimum reportable concentration that can be measured with confidence.

PQL(RL): Practical Quantitation Level or Reporting Level
This value is at or above the MDL and is supported by the lowest calibration standard.

· · Q Qualifiers:

U - The compound was analyzed for but not detected at or above the MDL. The number immediately preceding the "U" represents the PQL reporting level corrected for percent solids, weight and/or volume calculations, and dilution factors.

J - Indicates an estimated value, may indicate one of the following, depending on the situation:
a) The reported value is estimated and below the MDL
b) Used when estimating a concentration for TIC where a 1:1 response is assumed or when the result indicates the presence of a compound that meets the indentification criteria, but the results is less than the quantitation limit, but greater than zero.
c) QC associated with this analyte is within warning limits.

X - The concentration is not reported. This quantitation file was not evaluated for this compound at this dilution; a volatile purging or related issue may be the cause.

L - Biased Low

N - The concentration is based on the response of the nearest internal. This flag is used on the TIC form for all compounds identified.

S - This compound is a solvent that is used in the laboratory. Laboratory contamination is suspected if concentration is less than five times the reporting level.

B - This compound was also present in the method blank

D - The reported concentration is the result of a diluted analysis.

E - The reported value is estimated because the concentration exceeded the calibration range.

A - Indicates that the tentatively identified compound is a suspected aldol condensation product. Aldol condensation products are produced during the extraction process.

Q - For TICS, this compound was quantitated using a calibration curve. This compound is part of the instrument method, but not part of the client target list.

P- Percent difference is greater than 25% between the two GC columns and the lower result is reported.

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG: GCE25939

SVOADIOXSOIL Conformance / Non-Conformance Summary

Project ID / Client ID: , York Analytical Laboratories

The samples were analyzed for a 1,4 Dioxane by GC/MS sim analysis with Isotope preparation.

Form 1 (Analysis):

No observations noted.

Form 2 (Surrogates):

All surrogates met criteria with the following exceptions: None.

Form 3 (Laboratory Control/Matrix Spike):

Sample: CE24858 LCS
All LCS recoveries met criteria with the following exceptions: None.
All LCSD recoveries met criteria with the following exceptions: None.
All LCS/LCSD RPDs met criteria with the following exceptions: None.

Sample: CE24858 MS
All MS recoveries met criteria with the following exceptions: None.
All MSD recoveries met criteria with the following exceptions: None.
All MS/MSD RPDs met criteria with the following exceptions: None.

Form 4 (Method Blank):

File: CHEM33 1004_05.D
All compounds were non-detect with the following exceptions: None.

Form 5 (Tune):

File: CHEM33 0914_07.D
All Tune criteria was met with the following exceptions: None.

File: CHEM33 1004_02.D
All Tune criteria was met with the following exceptions: None.

Form 6 (Initial Calibration):

Calibration: CHEM33 09/14/19 - 09/14/19
100% of method compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CVS (CHEM33 0914_15.D) was used as the ICV second source verification of initial calibration.
This second source met method criteria with the following exception: None.

Form 7 (Continuing Calibration):

File: CHEM33 1004_03.D (Opening)
100% of method compounds met criteria.

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG: GCE25939

SVOADIOXSOIL Conformance / Non-Conformance Summary

Project ID / Client ID: , York Analytical Laboratories

Internal standard areas were within 50%-200% of the initial calibration with the following exceptions: None.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

File: CHEM33 1004_27.D (Closing)
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet minimum response factors: None.

Form 8 (Internal Standard and Retention Time):

File: CHEM33 - 33_DIOX_0914.M / 0914_11.D
All samples met internal standard area and retention time critieria with the following exceptions: None.

File: CHEM33 - 33_DIOX_0914.M / 1004_03.D
All samples met internal standard area and retention time critieria with the following exceptions: None.



10/09/19

Alejandro Paredes
Project Manager

2C
Soil 1,4 DIOXANE (ISOTOPE) SURROGATE RECOVERY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: _____ SDG No.: GCE25939

QC Batch Id: 499939 QC Sample Id: CE24858

	CLIENT ID	LAB ID	#		S3 NBZ #	S4 FBP #		S6 TPH #	TOT OUT
01	CE24858 BLANK	CE24858 BLANK			49	55		56	0
02	CE24858 LCS	CE24858 LCS			48	49		49	0
03	CE24858 LCSD	CE24858 LCSD			52	52		46	0
04	CE24858 MS	CE24858 MS			37	34		35	0
05	CE24858 MSD	CE24858 MSD			58	53		56	0
06	SB19_8-9	CE25939			43	48		46	0
07	SB27_6-8	CE25940			45	46		40	0
08	SB28_5.5-7.5	CE25941			40	46		39	0
09									
10									
11									
12									
13									
14									
15									
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21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

QC LIMITS

S3 (NBZ) = % Nitrobenzene-d5 30 - 130
S4 (FBP) = % 2-Fluorobiphenyl 30 - 130

S6 (TPH) = % Terphenyl-d14 30 - 130

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

FORM II SV

3D

SOIL 1,4 DIOXANE (ISOTOPE) LCS SPIKE / LCS SPIKE DUPLICATE RECOVERY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No: SAS No: SDG No GCE25939

LCS Spike - Client Id: CE24858 LCS Level:(low/med)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.	
1,4-DIOXANE	3333	0.0	3236	97	30	130

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.	
1,4-DIOXANE	3333	3177	95	2.1	30	30	130

FORM III SV

3D

SOIL 1,4 DIOXANE (ISOTOPE) MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No: SAS No: SDG No GCE25939

Matrix Spike - Client Id: CE24858 MS Level:(low/med)

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.	
1,4-DIOXANE	3615	0.0	3577	99	30	130

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.	
1,4-DIOXANE	3662	3778	103	4.0	30	30	130

FORM III SV

4B

1,4 DIOXANE (ISOTOPE) METHOD BLANK SUMMARY

Client ID: CE24858 BLANK

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID: 1004_05.D Lab Sample ID: CE24858 BLK

Instrument ID: CHEM33 Date Extracted: 10/03/2019

Matrix: (soil/water) Soil Date Analyzed: 10/04/2019

Level: (low/med) n.a. Time Analyzed: 01:43

QC Batch Id: 499939

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	CE24858 LCS	CE24858 LCS	CHEM33 - 1004_06.D	10/04/19
02	CE24858 LCSD	CE24858 LCSD	CHEM33 - 1004_07.D	10/04/19
03	CE24858 MS	CE24858 MS	CHEM33 - 1004_08.D	10/04/19
04	CE24858 MSD	CE24858 MSD	CHEM33 - 1004_09.D	10/04/19
05	SB19_8-9	CE25939	CHEM33 - 1004_16.D	10/04/19
06	SB27_6-8	CE25940	CHEM33 - 1004_17.D	10/04/19
07	SB28_5.5-7.5	CE25941	CHEM33 - 1004_21.D	10/04/19
08				
09				
10				
11				
12				
13				
14				
15				

COMMENTS:

FORM IV SV

5B

1,4 DIOXANE (ISOTOPE) ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID: 0914_07.D DFTPP Injection Date: 09/14/19

Instrument ID: CHEM33 DFTPP Injection Time: 10:24

AutoFind: Scans 1085, 1086, 1087; Background Corrected with Scan 1079

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	41.5	
68	Less than 2.0% of mass 69	1.4	(0.6)1
69	Mass 69 relative abundance	38.9	
70	Less than 2.0% of mass 69	0.5	(0.2)1
127	10.0 - 80.0% of mass 198	48.8	
197	Less than 2.0% of mass 198	0.4	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	7.0	
275	10.0 - 60.0% of mass 198	22.4	
365	Greater than 1.0% of mass 198	2.9	
441	Present, but less than mass 442	14.6	
442	Greater than 50.0% of mass 198	87.6	
443	15.0 - 24.0% of mass 442	19.9	

1-Value is % mass 69

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	*
01	ICAL 100	100PPM DIOXANE	0914_09.D	09/14/19	11:22	
02	ICAL 50	50PPM DIOXANE	0914_10.D	09/14/19	11:47	
03	ICAL 25	25PPM DIOXANE	0914_11.D	09/14/19	12:13	
04	ICAL 10	10PPM DIOXANE	0914_12.D	09/14/19	12:38	
05	ICAL 5	5PPM DIOXANE	0914_13.D	09/14/19	13:04	
06	ICAL 1	1PPM DIOXANE	0914_14.D	09/14/19	13:30	
07	DIOXANE CVS	DIOXANE	0914_15.D	09/14/19	13:55	
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

(*) Outside 12 hr clock

FORM V SV

DFTPP

Data Path : C:\SV2019\chem33\09SEP\14\
Data File : 0914_07.D
Acq On : 14 Sep 2019 10:24 am
Operator :
Sample : 50PPM DFTPP/BENZ; 87S
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Title : Semivolatiles by GC/MS - EPA Method 625/8270
Last Update : Mon Aug 19 09:49:07 2019

AutoFind: Scans 1085, 1086, 1087; Background Corrected with Scan 1079

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	41.5	1717232	PASS
68	69	0.00	2	1.4	23134	PASS
70	69	0.00	2	0.5	7858	PASS
127	198	10	80	48.8	2019904	PASS
197	198	0.00	2	0.4	18521	PASS
198	198	50	100	100.0	4140203	PASS
199	198	5	9	7.0	289408	PASS
275	198	10	60	22.4	928000	PASS
365	198	1	100	2.9	120891	PASS
441	442	0.01	24	14.6	530709	PASS
442	198	50	200	87.6	3627349	PASS
443	442	15	24	19.9	720341	PASS

33_DIOX_0914.M Sun Sep 15 11:13:11 2019

5B

1,4 DIOXANE (ISOTOPE) ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID: 1004_02.D DFTPP Injection Date: 10/04/19

Instrument ID: CHEM33 DFTPP Injection Time: 00:20

AutoFind: Scans 1085, 1086, 1087; Background Corrected with Scan 1078

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	41.9	
68	Less than 2.0% of mass 69	1.5	(0.6)1
69	Mass 69 relative abundance	39.3	
70	Less than 2.0% of mass 69	0.6	(0.2)1
127	10.0 - 80.0% of mass 198	49.2	
197	Less than 2.0% of mass 198	0.8	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.7	
275	10.0 - 60.0% of mass 198	22.1	
365	Greater than 1.0% of mass 198	3.1	
441	Present, but less than mass 442	14.6	
442	Greater than 50.0% of mass 198	86.6	
443	15.0 - 24.0% of mass 442	19.2	

1-Value is % mass 69

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	CLIENT ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	*
01	CCAL 25	25PPM DIOXANE	1004_03.D	10/04/19	00:45	
02	CE24858 BLANK	CE24858 BLANK	1004_05.D	10/04/19	01:43	
03	CE24858 LCS	CE24858 LCS	1004_06.D	10/04/19	02:08	
04	CE24858 LCSD	CE24858 LCSD	1004_07.D	10/04/19	02:33	
05	CE24858 MS	CE24858 MS	1004_08.D	10/04/19	02:58	
06	CE24858 MSD	CE24858 MSD	1004_09.D	10/04/19	03:23	
07	SB19_8-9	CE25939	1004_16.D	10/04/19	06:20	
08	SB27_6-8	CE25940	1004_17.D	10/04/19	06:45	
09	SB28_5.5-7.5	CE25941	1004_21.D	10/04/19	08:26	
10	CCAL 25	25PPM DIOXANE	1004_27.D	10/04/19	10:58	
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

(*) Outside 12 hr clock

FORM V SV

DFTPP

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_02.D
Acq On : 4 Oct 2019 12:20 am
Operator :
Sample : 50PPM DFTPP/BENZ; 90O
Misc :
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Title : Semivolatiles by GC/MS - EPA Method 625/8270
Last Update : Sun Sep 15 11:15:27 2019

AutoFind: Scans 1085, 1086, 1087; Background Corrected with Scan 1078

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	41.9	1007825	PASS
68	69	0.00	2	1.5	14086	PASS
70	69	0.00	2	0.6	5291	PASS
127	198	10	80	49.2	1184615	PASS
197	198	0.00	2	0.8	18326	PASS
198	198	50	100	100.0	2406248	PASS
199	198	5	9	6.7	162204	PASS
275	198	10	60	22.1	532117	PASS
365	198	1	100	3.1	74029	PASS
441	442	0.01	24	14.6	305264	PASS
442	198	50	200	86.6	2084181	PASS
443	442	15	24	19.2	400768	PASS

33_DIOX_0914.M Fri Oct 04 11:52:59 2019

8B

1,4 DIOXANE (ISOTOPE) INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID (Standard): 33_DIOX_0914.M / 0914_11.D Date Analyzed: 09/14/19

Instrument ID: CHEM33 Time Analyzed: 12:13

		IS1 (DCB) AREA	#	RT	#	IS2 (NPT) AREA	#	RT	#	IS3 (ANT) AREA	#	RT	#	File ID
	12 HOUR STD	116770		4.16		488942		5.19		250465		6.71		0914_11.D
	UPPER LIMIT	239379		4.66		1002331		5.69		513453		7.21		0914_11.D
	LOWER LIMIT	57801		3.66		242026		4.69		123980		6.21		0914_11.D
	CLIENT ID													
01	ICAL 25	116770		4.16		488942		5.19		250465		6.71		0914_11.D
02	ICAL 100	133050		4.16		557401		5.19		293080		6.71		0914_09.D
03	ICAL 50	133089		4.16		551083		5.19		285699		6.71		0914_10.D
04	ICAL 10	117864		4.16		495985		5.19		258742		6.71		0914_12.D
05	ICAL 5	125219		4.16		527034		5.19		273108		6.71		0914_13.D
06	ICAL 1	110745		4.16		468395		5.19		246616		6.71		0914_14.D
07	DIOXANE CVS	116452		4.16		511422		5.19		268277		6.71		0914_15.D
08														
09														
10														
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18														
19														
20														
21														
22														

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = 1,4-Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM VIII SV

8C

1,4 DIOXANE (ISOTOPE) INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID (Standard): 33_DIOX_0914.M / 0914_11.D Date Analyzed: 09/14/19

Instrument ID: CHEM33 Time Analyzed: 12:13

		IS4 (PHN) AREA	#	RT	#	IS5 (CRY) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#	File ID
	12 HOUR STD	446478		8.00		344823		11.04		359445		14.49		0914_11.D
	UPPER LIMIT	915280		8.50		706887		11.54		736862		14.99		0914_11.D
	LOWER LIMIT	221007		7.50		170687		10.54		177925		13.99		0914_11.D
	CLIENT ID													
01	ICAL 25	446478		8.00		344823		11.04		359445		14.49		0914_11.D
02	ICAL 100	537766		8.00		425819		11.04		436932		14.50		0914_09.D
03	ICAL 50	528456		8.00		422952		11.04		429833		14.50		0914_10.D
04	ICAL 10	467875		8.00		361694		11.04		368189		14.50		0914_12.D
05	ICAL 5	506316		8.00		395827		11.04		391143		14.49		0914_13.D
06	ICAL 1	458260		8.00		371928		11.04		392461		14.50		0914_14.D
07	DIOXANE CVS	504076		8.00		376928		11.04		382261		14.49		0914_15.D
08														
09														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = 1,4-Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM VIII SV

8B

1,4 DIOXANE (ISOTOPE) INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID (Standard): 33_DIOX_0914.M / 1004_03.D Date Analyzed: 10/04/19

Instrument ID: CHEM33 Time Analyzed: 00:45

		IS1 (DCB) AREA	#	RT	#	IS2 (NPT) AREA	#	RT	#	IS3 (ANT) AREA	#	RT	#	File ID
	12 HOUR STD	78856		4.16		365209		5.20		199606		6.72		1004_03.D
	UPPER LIMIT	161655		4.66		748678		5.70		409192		7.22		1004_03.D
	LOWER LIMIT	39034		3.66		180778		4.70		98805		6.22		1004_03.D
	CLIENT ID													
01	CCAL 25	78856		4.16		365209		5.20		199606		6.72		1004_03.D
02	CE24858 BLANK	72199		4.16		303474		5.19		153890		6.72		1004_05.D
03	CE24858 LCS	68971		4.16		301933		5.19		159161		6.72		1004_06.D
04	CE24858 LCSD	62729		4.16		270460		5.19		141084		6.72		1004_07.D
05	CE24858 MS	65510		4.16		269136		5.19		144766		6.72		1004_08.D
06	CE24858 MSD	57318		4.16		250248		5.19		137758		6.72		1004_09.D
07	SB19_8-9	64189		4.16		266607		5.19		146422		6.71		1004_16.D
08	SB27_6-8	63156		4.16		271674		5.19		143770		6.72		1004_17.D
09	SB28_5.5-7.5	60309		4.16		261104		5.19		144864		6.72		1004_21.D
10	CCAL 25	63456		4.16		276239		5.20		165326		6.72		1004_27.D
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = 1,4-Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM VIII SV

8C

1,4 DIOXANE (ISOTOPE) INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Lab File ID (Standard): 33_DIOX_0914.M / 1004_03.D Date Analyzed: 10/04/19

Instrument ID: CHEM33 Time Analyzed: 00:45

		IS4 (PHN) AREA	#	RT	#	IS5 (CRY) AREA	#	RT	#	IS6 (PRY) AREA	#	RT	#	File ID
	12 HOUR STD	372123		8.00		288922		11.06		296438		14.54		1004_03.D
	UPPER LIMIT	762852		8.50		592290		11.56		607698		15.04		1004_03.D
	LOWER LIMIT	184201		7.50		143016		10.56		146737		14.04		1004_03.D
	CLIENT ID													
01	CCAL 25	372123		8.00		288922		11.06		296438		14.54		1004_03.D
02	CE24858 BLANK	289699		8.00		230009		11.06		205803		14.53		1004_05.D
03	CE24858 LCS	285357		8.00		232928		11.06		215069		14.53		1004_06.D
04	CE24858 LCSD	261033		8.00		217452		11.05		204887		14.53		1004_07.D
05	CE24858 MS	265713		8.00		223747		11.06		205373		14.53		1004_08.D
06	CE24858 MSD	243591		8.00		206654		11.06		192496		14.53		1004_09.D
07	SB19_8-9	258419		8.00		225255		11.06		208993		14.53		1004_16.D
08	SB27_6-8	265523		8.00		220300		11.06		203767		14.53		1004_17.D
09	SB28_5.5-7.5	261559		8.00		200219		11.06		191532		14.54		1004_21.D
10	CCAL 25	319274		8.01		255104		11.06		249375		14.54		1004_27.D
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = 1,4-Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.
* Values outside of QC limits.

FORM VIII SV

CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

SB19_8-9

Client: YORK Lab: Phoenix Env. Labs

SDG No.: GCE25939 Lab Sample ID: CE25939

Sample wt/vol: 15.11 (g/mL) g Lab File ID: 1004_16.D

Concentrated Extract Volume: 1000 (uL) Date Received: 10/03/19

% Moisture: 12 Date Extracted: 10/03/19

Instrument: CHEM33 Inj. Vol. 1.0 (uL) Date Analyzed: 10/04/19

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

Matrix: (soil/water) Soil CONCENTRATION UNITS:(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	75	U	75	75	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_16.D
Acq On : 4 Oct 2019 6:20 am
Operator :
Client ID : SB19_8-9
Lab ID : CE25939
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 04 11:53:53 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

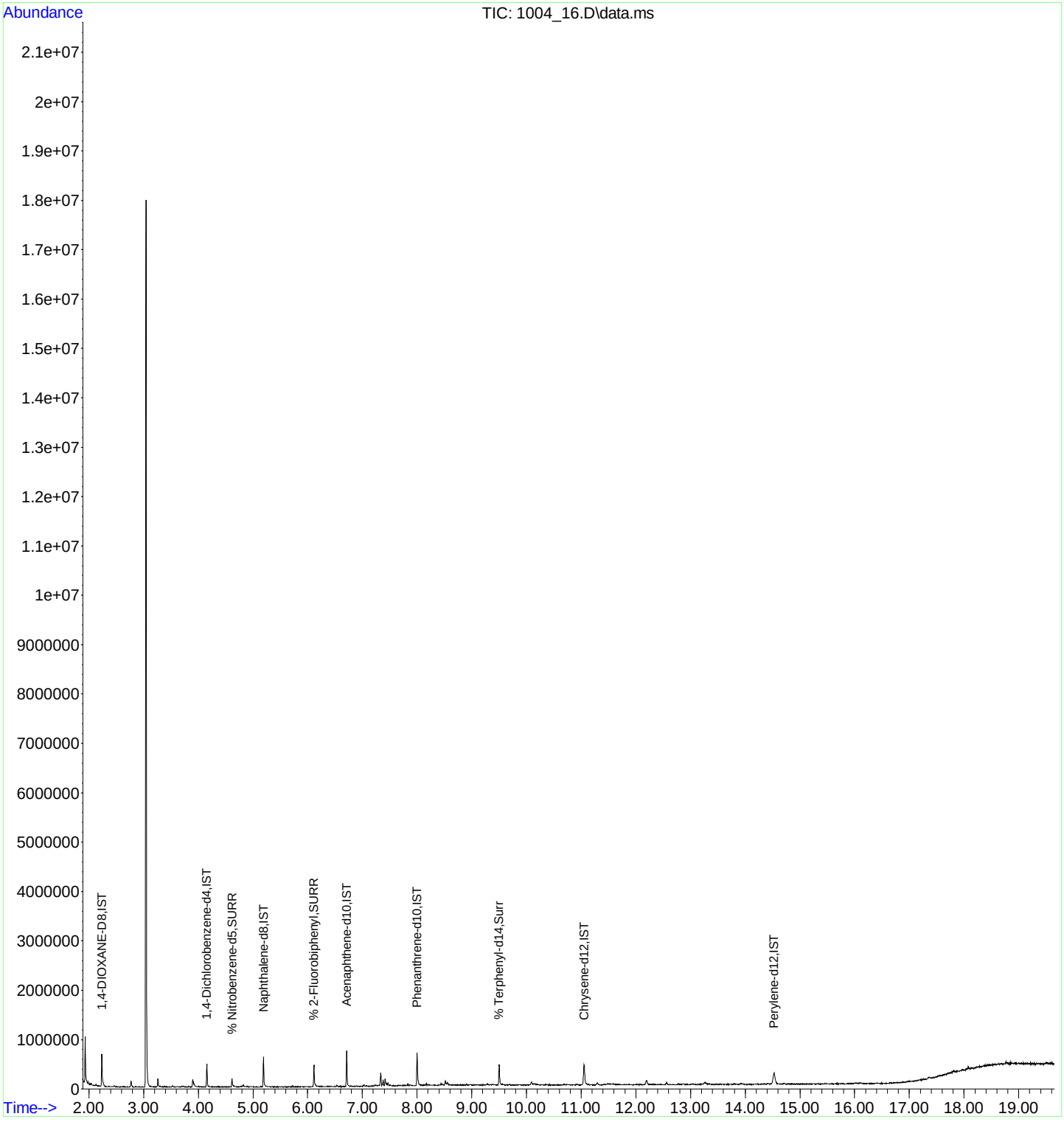
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	64189	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	215528	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	266607	100.000	ng	0.00
6) Acenaphthene-d10	6.714	164	146422	100.000	ng	0.00
8) Phenanthrene-d10	8.002	188	258419	100.000	ng	0.00
10) Chrysene-d12	11.056	240	225255	100.000	ng	0.00
11) Perylene-d12	14.525	264	208993	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.617	82	57438	2.148	ng	0.00
Spiked Amount 5.000			Recovery =	43.00%		
7) % 2-Fluorobiphenyl	6.118	172	140381	2.412	ng	0.00
Spiked Amount 5.000			Recovery =	48.20%		
9) % Terphenyl-d14	9.499	244	143846	2.295	ng	-0.01
Spiked Amount 5.000			Recovery =	45.80%		
Target Compounds						Qvalue

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_16.D
Acq On : 4 Oct 2019 6:20 am
Operator :
Client ID : SB19_8-9
Lab ID : CE25939
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 04 11:53:53 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

SB27_6-8

Client: YORK Lab: Phoenix Env. Labs

SDG No.: GCE25939 Lab Sample ID: CE25940

Sample wt/vol: 15.20 (g/mL) g Lab File ID: 1004_17.D

Concentrated Extract Volume: 1000 (uL) Date Received: 10/03/19

% Moisture: 14 Date Extracted: 10/03/19

Instrument: CHEM33 Inj. Vol. 1.0 (uL) Date Analyzed: 10/04/19

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

Matrix: (soil/water) Soil CONCENTRATION UNITS:(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	77	U	77	77	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_17.D
Acq On : 4 Oct 2019 6:45 am
Operator :
Client ID : SB27_6-8
Lab ID : CE25940
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 04 11:53:54 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

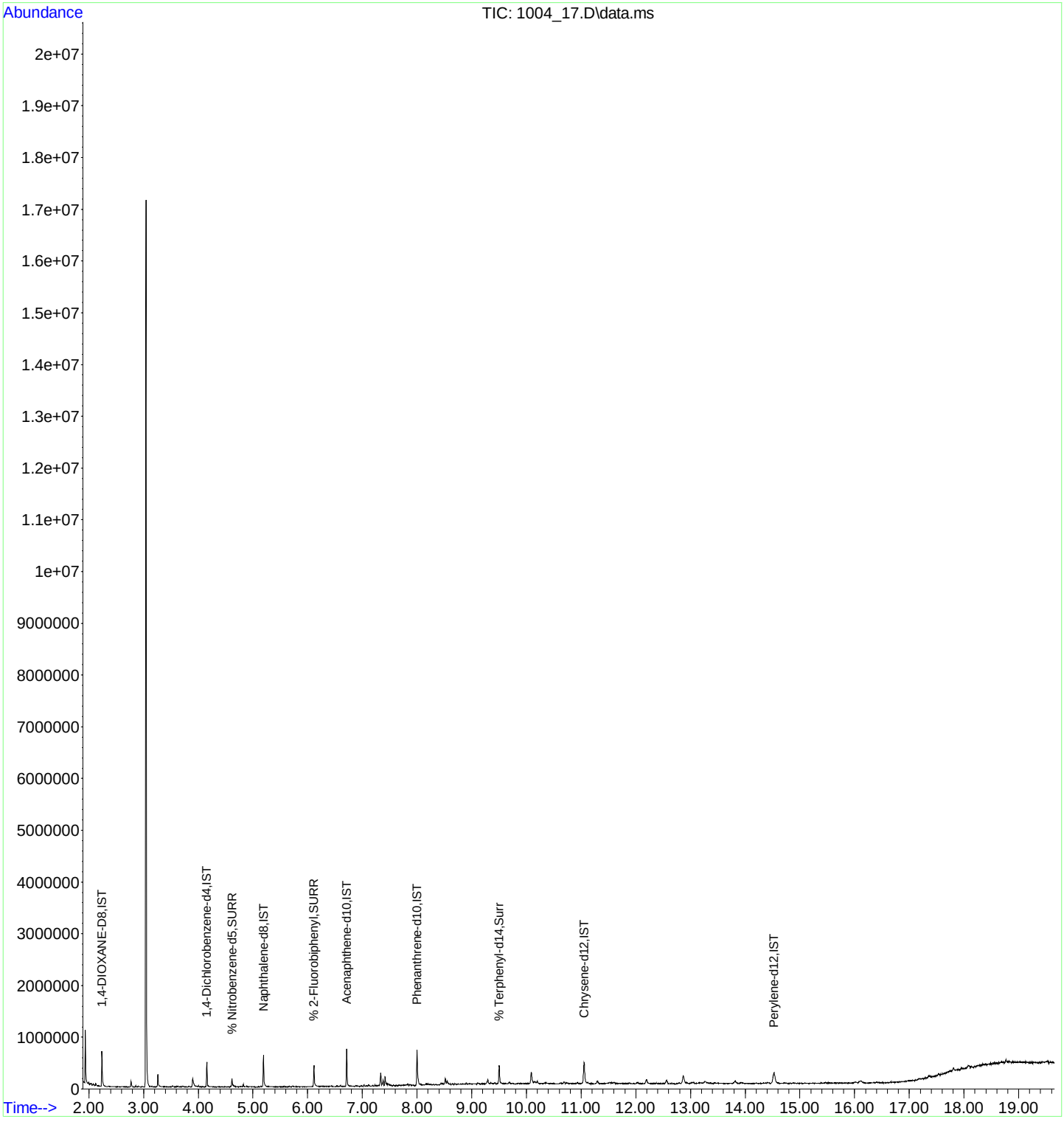
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	63156	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	204529	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	271674	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	143770	100.000	ng	0.00
8) Phenanthrene-d10	8.002	188	265523	100.000	ng	0.00
10) Chrysene-d12	11.056	240	220300	100.000	ng	0.00
11) Perylene-d12	14.526	264	203767	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.617	82	59655	2.267	ng	0.00
Spiked Amount 5.000			Recovery =	45.40%		
7) % 2-Fluorobiphenyl	6.118	172	131344	2.298	ng	0.00
Spiked Amount 5.000			Recovery =	46.00%		
9) % Terphenyl-d14	9.502	244	127552	1.981	ng	0.00
Spiked Amount 5.000			Recovery =	39.60%		
Target Compounds						Qvalue

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_17.D
Acq On : 4 Oct 2019 6:45 am
Operator :
Client ID : SB27_6-8
Lab ID : CE25940
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 04 11:53:54 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



1

CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

Client:	YORK		Lab:	Phoenix Env. Labs	SB28_5.5-7.5
SDG No.:	GCE25939			Lab Sample ID:	CE25941
Sample wt/vol:	15.40	(g/mL) g		Lab File ID:	1004_21.D
Concentrated Extract Volume:	1000	(uL)		Date Received:	10/03/19
% Moisture:	13			Date Extracted:	10/03/19
Instrument:	CHEM33	Inj. Vol. 1.0	(uL)	Date Analyzed:	10/04/19
GPC Cleanup:(Y/N)	N	pH:		Dilution Factor:	1
Matrix: (soil/water)	Soil			CONCENTRATION UNITS:(ug/L or ug/Kg)	ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	75	U	75	75	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_21.D
Acq On : 4 Oct 2019 8:26 am
Operator :
Client ID : SB28_5.5-7.5
Lab ID : CE25941
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 04 11:53:58 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

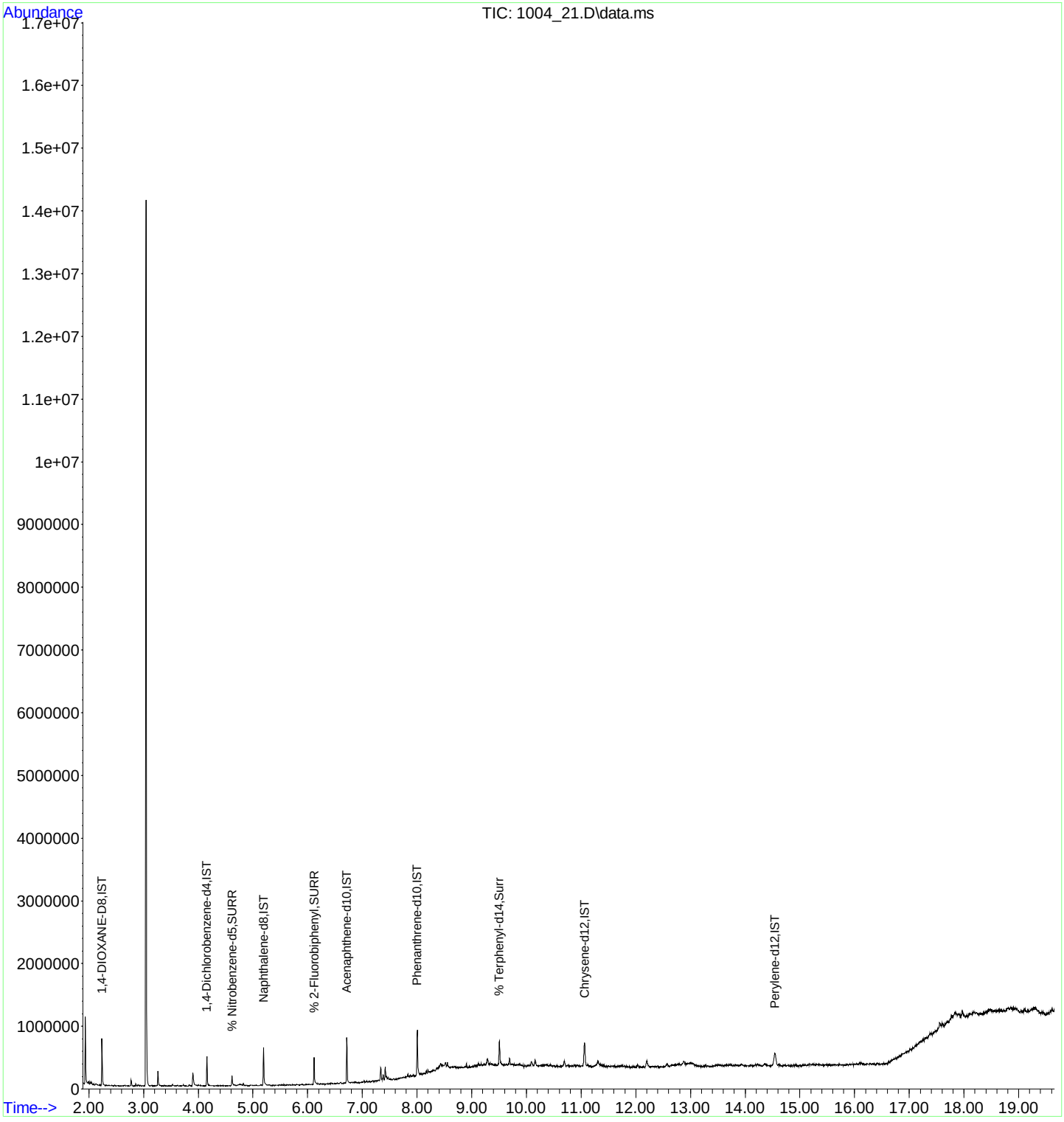
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	60309	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	203487	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	261104	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	144864	100.000	ng	0.00
8) Phenanthrene-d10	8.005	188	261559	100.000	ng	0.00
10) Chrysene-d12	11.062	240	200219	100.000	ng	0.00
11) Perylene-d12	14.540	264	191532	100.000	ng	0.03
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.618	82	50233	1.999	ng	0.00
Spiked Amount 5.000			Recovery =	40.00%		
7) % 2-Fluorobiphenyl	6.121	172	133195	2.313	ng	0.00
Spiked Amount 5.000			Recovery =	46.20%		
9) % Terphenyl-d14	9.505	244	123049	1.940	ng	0.00
Spiked Amount 5.000			Recovery =	38.80%		
Target Compounds						Qvalue

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_21.D
Acq On : 4 Oct 2019 8:26 am
Operator :
Client ID : SB28_5.5-7.5
Lab ID : CE25941
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 04 11:53:58 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



6B
1,4 DIOXANE (ISOTOPE) ORGANICS INITIAL CALIBRATION DATA

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Instrument ID: CHEM33 Calibration Date(s): 09/14/19 09/14/19

Heated Purge (Y/N): n.a. Calibration Time(s): 11:22 13:30

GC Column: Method File: 33_DIOX_0914.M

LAB FILE ID:

RRF 1	0914_14.D	RRF 5	0914_13.D	RRF 10	0914_12.D	RRF 25	0914_11.D
RRF 50	0914_10.D	RRF 100	0914_09.D				

COMPOUND		RRF 1	RRF 5	RRF 10	RRF 25	RRF 50	RRF 100			$\overline{RRF}$	% RSD	% RSD LIMITS
1,4-DIOXANE		1.003	1.103	1.067	1.045	1.004	1.006			1.038	4.0	()
% Nitrobenzene-d5		43.640	38.580	42.570	40.720	41.750	42.700			41.660	0.0	20 (40)
% 2-Fluorobiphenyl		46.190	38.460	42.330	38.800	36.510	36.210			39.750	0.0	20 (40)
% Terphenyl-d14		29.140	23.060	24.790	23.350	22.580	22.610			24.260	0.0	20 (40)

* The minimum RRF was not met for this compound. (#) The maximum %RSD was not met for this compound

(*) Recommended RRF not met (+) %D exceeds criteria % (#) %D exceeds (maximum) %

%D: 10% of target compounds are allowed to be above criteria %, but must be less than the (maximum) %

(l) linear (li) linear inverse conc weight (li2) linear inverse conc weight squared (q) quadratic (qi) quadratic inverse conc weight (qi2) quadratic inverse conc weight squared

Compounds not using average response (l, li, li2, q, qi, qi2) display concentrations and not response factors

Method Path : H:\SV2019\CHEM33\Methods\
Method File : 33_DIOX_0914.M
Title : Semivolatiles by GC/MS - EPA Method 625/8270
Last Update : Sun Sep 15 11:15:27 2019
Response Via : Initial Calibration

Calibration Files (Note: Curves (l,lf,q,qf) display calculated conc and corr. coefficient.)
1 =0914_14.D 5 =0914_13.D 10 =0914_12.D 25 =0914_11.D 50 =0914_10.D 100 =0914_09.D

	Compound	1	5	10	25	50	100	Avg	%RSD
1)	IST 1,4-Dichlorobenzen...	----------	ISTD	----------					
2)	SURR% Nitrobenzene-d5	4.364	3.858	4.257	4.072	4.175	4.270	4.166 E1	4.32
3)	IST 1,4-DIOXANE-D8	----------	ISTD	----------					
4)	1,4-DIOXANE	1.003	1.103	1.067	1.045	1.004	1.006	1.038	3.96
5)	IST Naphthalene-d8	----------	ISTD	----------					
6)	IST Acenaphthene-d10	----------	ISTD	----------					
7)	SURR% 2-Fluorobiph...	4.619	3.846	4.233	3.880	3.651	3.621	3.975 E1	9.66
8)	IST Phenanthrene-d10	----------	ISTD	----------					
9)	Surr% Terphenyl-d14	2.914	2.306	2.479	2.335	2.258	2.261	2.426 E1	10.41
10)	IST Chrysene-d12	----------	ISTD	----------					
11)	IST Perylene-d12	----------	ISTD	----------					

(#,$,@)=Out of Range l=linear lf=linear(0,0) q=Quadratic qf=Quadratic(0,0)

Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_09.D
Acq On : 14 Sep 2019 11:22 am
Operator :
Client ID : ICAL 100
Lab ID : 100PPM DIOXANE
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 15 11:13:34 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Mon Aug 19 09:49:07 2019
Response via : Initial Calibration

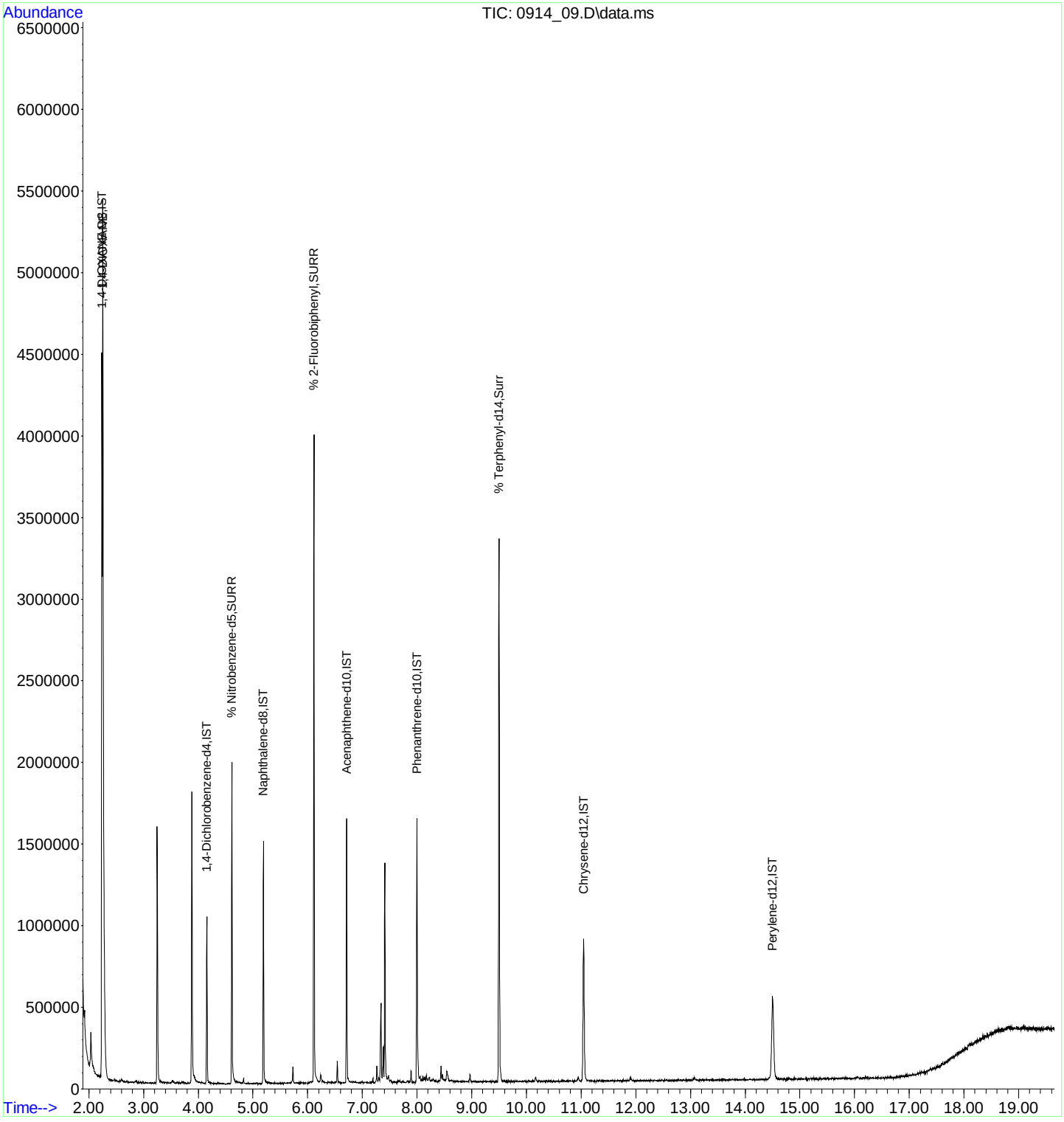
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	133050	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	1819121	100.000	ng	0.00
5) Naphthalene-d8	5.191	136	557401	100.000	ng	0.00
6) Acenaphthene-d10	6.714	164	293080	100.000	ng	0.00
8) Phenanthrene-d10	7.999	188	537766	100.000	ng	0.00
10) Chrysene-d12	11.045	240	425819	100.000	ng	-0.01
11) Perylene-d12	14.497	264	436932	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.615	82	568060	12.695	ng	0.00
Spiked Amount 5.000			Recovery = 253.80%			
7) % 2-Fluorobiphenyl	6.115	172	1061107	9.417	ng	0.00
Spiked Amount 5.000			Recovery = 188.40%			
9) % Terphenyl-d14	9.499	244	1215825	11.195	ng	-0.01
Spiked Amount 5.000			Recovery = 224.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	1830165	96.924	ng	# 79

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_09.D
Acq On : 14 Sep 2019 11:22 am
Operator :
Client ID : ICAL 100
Lab ID : 100PPM DIOXANE
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 15 11:13:34 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Mon Aug 19 09:49:07 2019
Response via : Initial Calibration



Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_10.D
Acq On : 14 Sep 2019 11:47 am
Operator :
Client ID : ICAL 50
Lab ID : 50PPM DIOXANE
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 15 11:13:35 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration

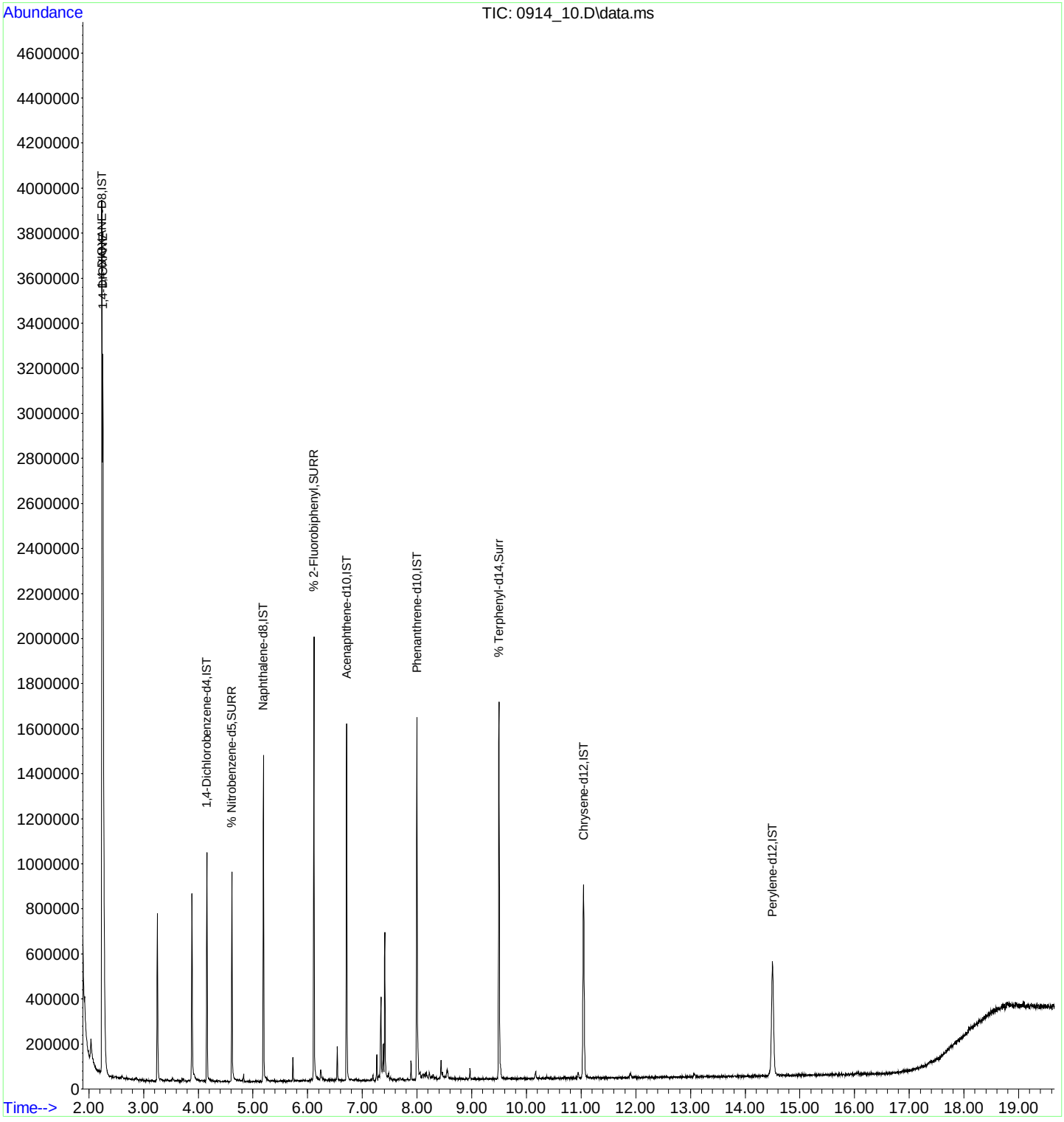
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	133089	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	1835208	100.000	ng	0.00
5) Naphthalene-d8	5.192	136	551083	100.000	ng	0.00
6) Acenaphthene-d10	6.715	164	285699	100.000	ng	0.00
8) Phenanthrene-d10	7.999	188	528456	100.000	ng	0.00
10) Chrysene-d12	11.045	240	422952	100.000	ng	-0.01
11) Perylene-d12	14.497	264	429833	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.615	82	277831	6.207	ng	0.00
Spiked Amount 5.000			Recovery = 124.20%			
7) % 2-Fluorobiphenyl	6.115	172	521610	4.749	ng	0.00
Spiked Amount 5.000			Recovery = 95.00%			
9) % Terphenyl-d14	9.496	244	596725	5.591	ng	-0.01
Spiked Amount 5.000			Recovery = 111.80%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.256	88	921430	48.370	ng	# 79

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_10.D
Acq On : 14 Sep 2019 11:47 am
Operator :
Client ID : ICAL 50
Lab ID : 50PPM DIOXANE
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 15 11:13:35 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration



Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_11.D
Acq On : 14 Sep 2019 12:13 pm
Operator :
Client ID : ICAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 6 Sample Multiplier: 1

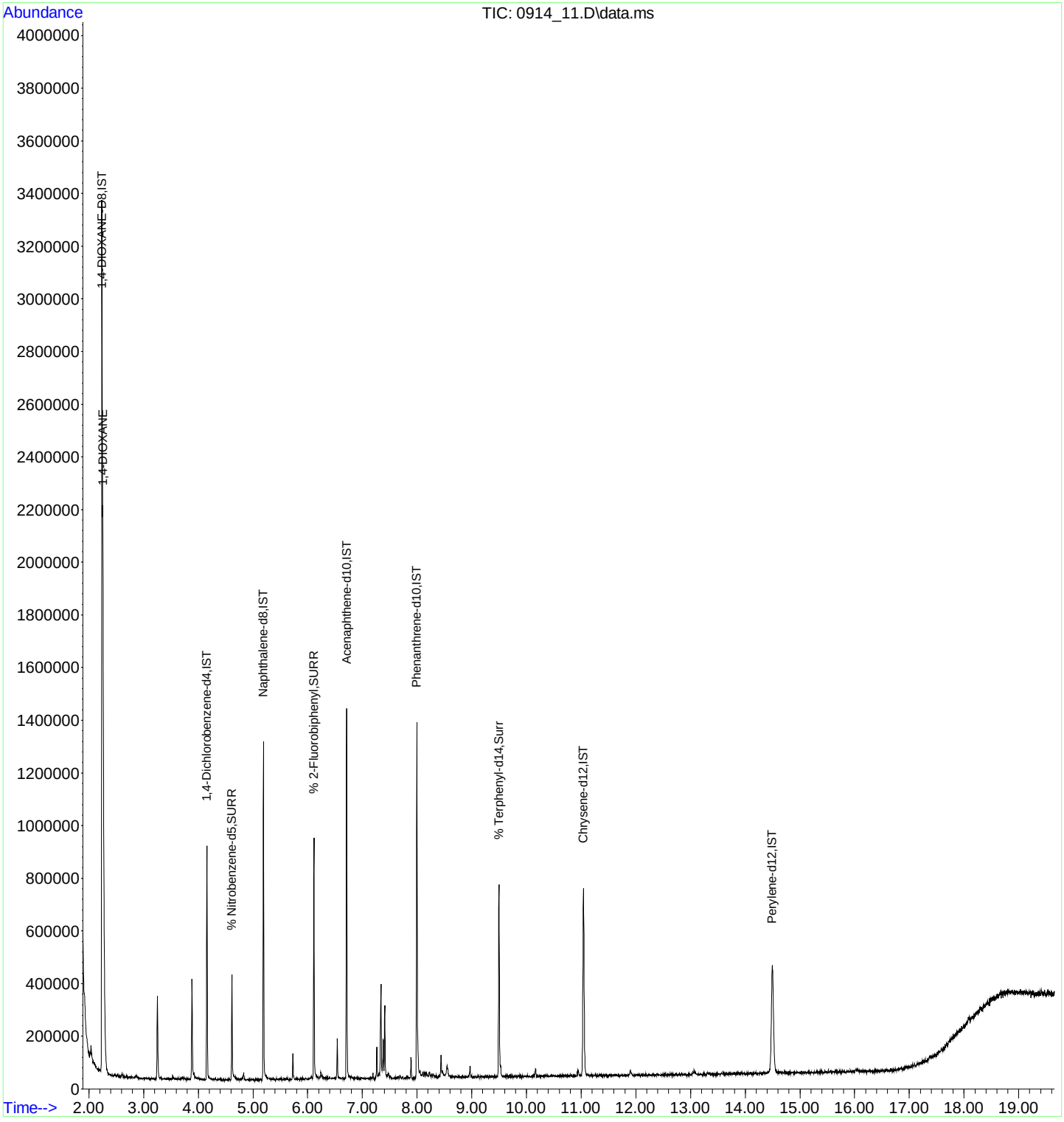
Quant Time: Sep 15 11:13:36 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	116770	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	1656197	100.000	ng	0.00
5) Naphthalene-d8	5.191	136	488942	100.000	ng	0.00
6) Acenaphthene-d10	6.714	164	250465	100.000	ng	0.00
8) Phenanthrene-d10	7.996	188	446478	100.000	ng	0.00
10) Chrysene-d12	11.042	240	344823	100.000	ng	-0.02
11) Perylene-d12	14.489	264	359445	100.000	ng	-0.03
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.615	82	118877	3.027	ng	0.00
Spiked Amount 5.000			Recovery =	60.60%		
7) % 2-Fluorobiphenyl	6.115	172	242929	2.523	ng	0.00
Spiked Amount 5.000			Recovery =	50.40%		
9) % Terphenyl-d14	9.496	244	260670	2.891	ng	-0.01
Spiked Amount 5.000			Recovery =	57.80%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.256	88	432817	25.176	ng	# 80

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_11.D
Acq On : 14 Sep 2019 12:13 pm
Operator :
Client ID : ICAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 15 11:13:36 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration



Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_12.D
Acq On : 14 Sep 2019 12:38 pm
Operator :
Client ID : ICAL 10
Lab ID : 10PPM DIOXANE
ALS Vial : 7 Sample Multiplier: 1

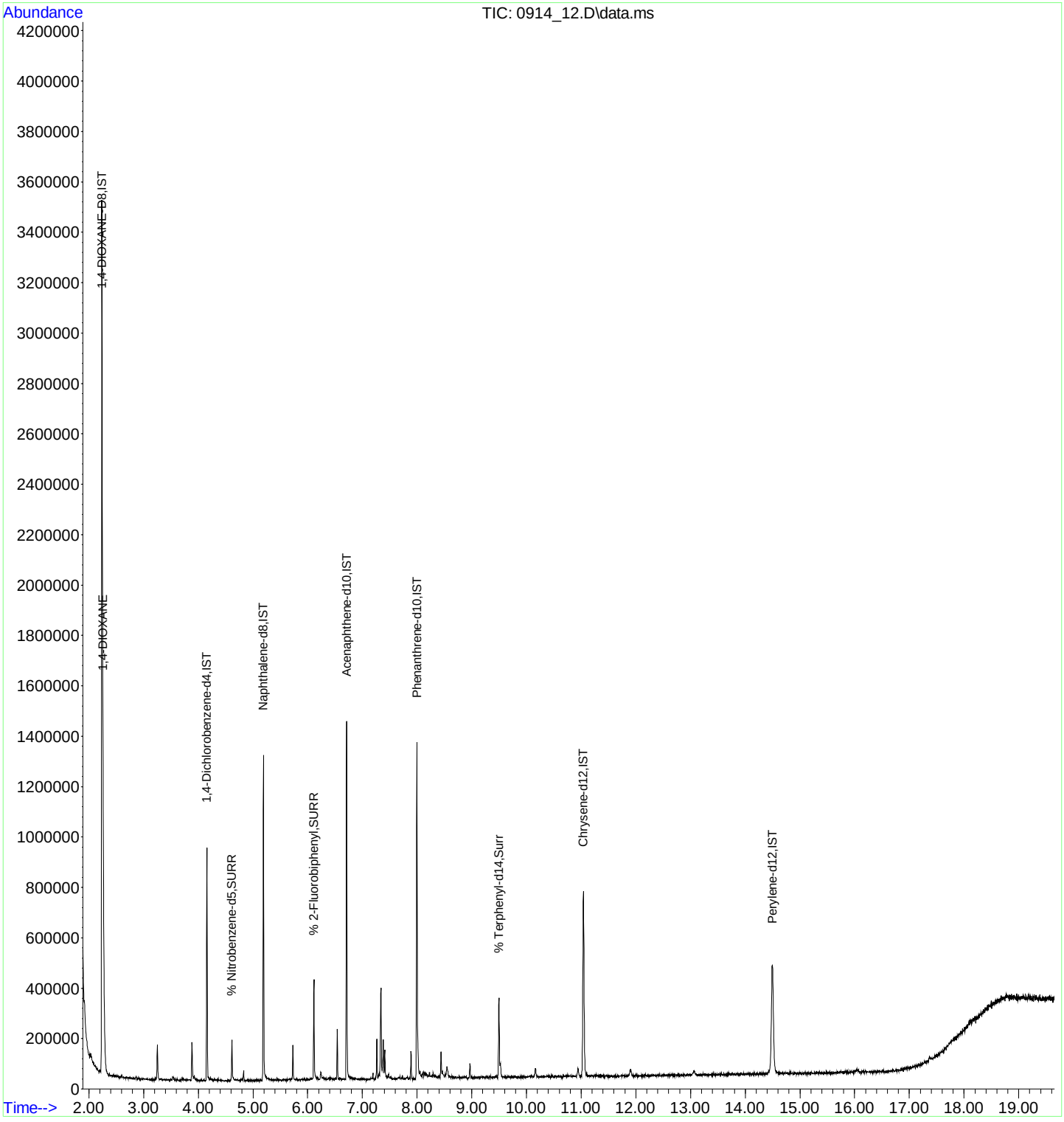
Quant Time: Sep 15 11:13:37 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	117864	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	1678312	100.000	ng	0.00
5) Naphthalene-d8	5.191	136	495985	100.000	ng	0.00
6) Acenaphthene-d10	6.714	164	258742	100.000	ng	0.00
8) Phenanthrene-d10	7.999	188	467875	100.000	ng	0.00
10) Chrysene-d12	11.042	240	361694	100.000	ng	-0.02
11) Perylene-d12	14.497	264	368189	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.615	82	50169	1.266	ng	0.00
Spiked Amount 5.000			Recovery =	25.40%		
7) % 2-Fluorobiphenyl	6.115	172	109534	1.101	ng	0.00
Spiked Amount 5.000			Recovery =	22.00%		
9) % Terphenyl-d14	9.496	244	115989	1.228	ng	-0.01
Spiked Amount 5.000			Recovery =	24.60%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.256	88	179021	10.276	ng	# 78

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_12.D
Acq On : 14 Sep 2019 12:38 pm
Operator :
Client ID : ICAL 10
Lab ID : 10PPM DIOXANE
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 15 11:13:37 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration



Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_13.D
Acq On : 14 Sep 2019 1:04 pm
Operator :
Client ID : ICAL 5
Lab ID : 5PPM DIOXANE
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 15 11:13:38 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration

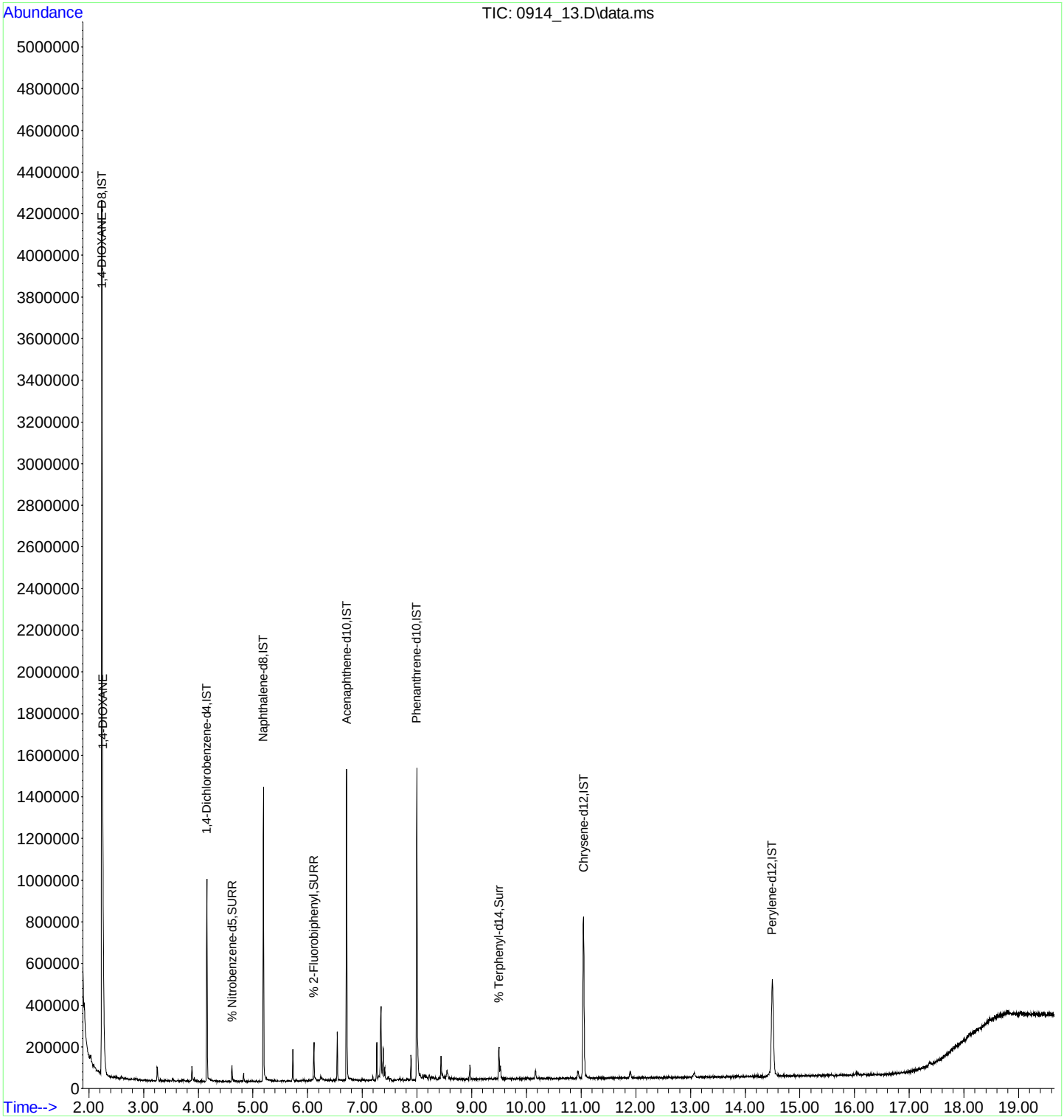
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	125219	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	1796210	100.000	ng	0.00
5) Naphthalene-d8	5.192	136	527034	100.000	ng	0.00
6) Acenaphthene-d10	6.715	164	273108	100.000	ng	0.00
8) Phenanthrene-d10	7.996	188	506316	100.000	ng	0.00
10) Chrysene-d12	11.045	240	395827	100.000	ng	-0.01
11) Perylene-d12	14.494	264	391143	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.618	82	24154	0.574	ng	0.00
Spiked Amount 5.000			Recovery =	11.40%		
7) % 2-Fluorobiphenyl	6.115	172	52522	0.500	ng	0.00
Spiked Amount 5.000			Recovery =	10.00%		
9) % Terphenyl-d14	9.496	244	58373	0.571	ng	-0.01
Spiked Amount 5.000			Recovery =	11.40%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	99029	5.311	ng	80

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_13.D
Acq On : 14 Sep 2019 1:04 pm
Operator :
Client ID : ICAL 5
Lab ID : 5PPM DIOXANE
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 15 11:13:38 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration



Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_14.D
Acq On : 14 Sep 2019 1:30 pm
Operator :
Client ID : ICAL 1
Lab ID : 1PPM DIOXANE
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 15 11:13:39 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration

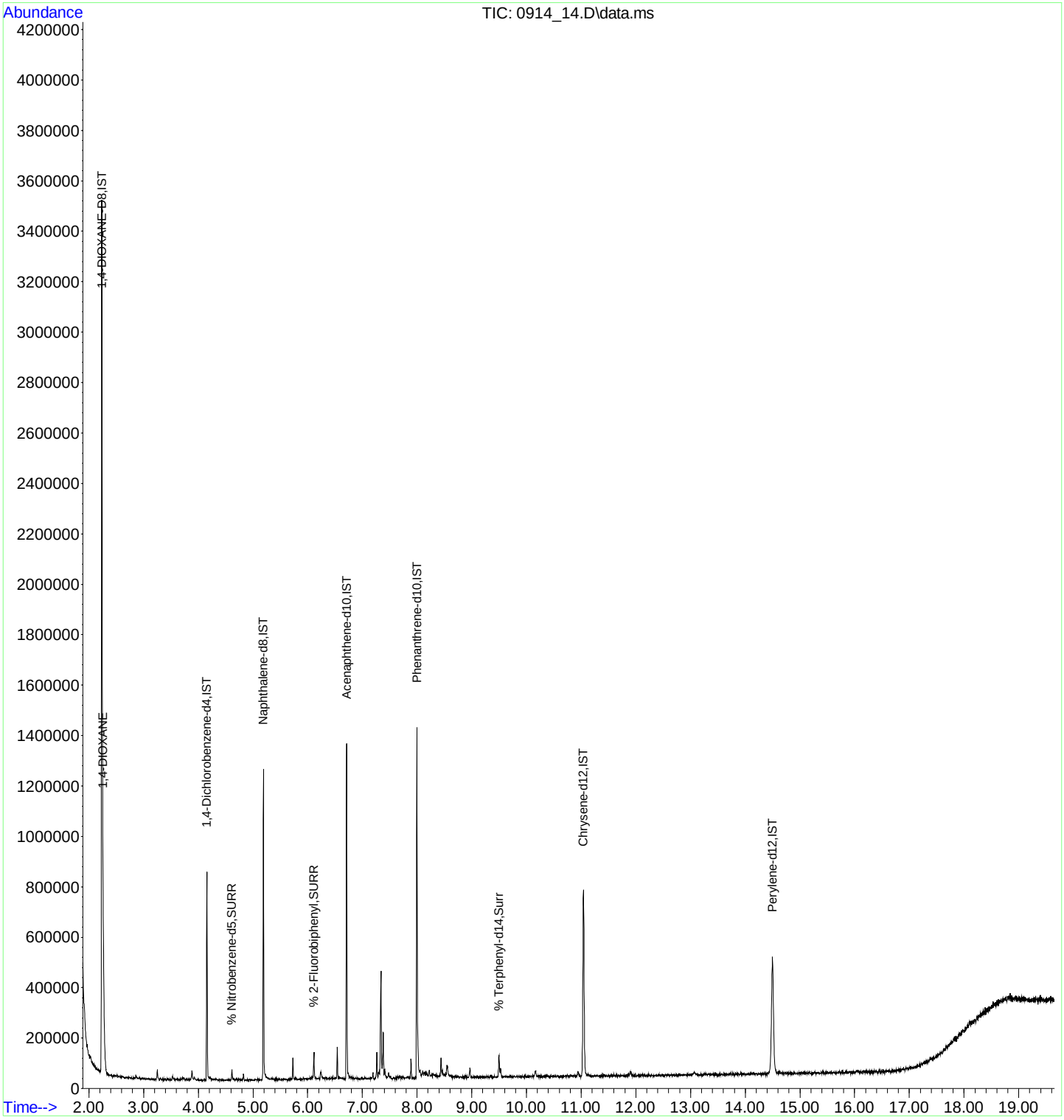
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	110745	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	1572198	100.000	ng	0.00
5) Naphthalene-d8	5.191	136	468395	100.000	ng	0.00
6) Acenaphthene-d10	6.714	164	246616	100.000	ng	0.00
8) Phenanthrene-d10	7.999	188	458260	100.000	ng	0.00
10) Chrysene-d12	11.042	240	371928	100.000	ng	-0.02
11) Perylene-d12	14.497	264	392461	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.614	82	12081	0.324	ng	0.00
Spiked Amount 5.000			Recovery =	6.40%		
7) % 2-Fluorobiphenyl	6.115	172	28480	0.300	ng	0.00
Spiked Amount 5.000			Recovery =	6.00%		
9) % Terphenyl-d14	9.496	244	33382	0.361	ng	-0.01
Spiked Amount 5.000			Recovery =	7.20%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	15771	0.966	ng	99

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (RF) (QT Reviewed)

Data Path : H:\SV2019\chem33\09SEP\14\
Data File : 0914_14.D
Acq On : 14 Sep 2019 1:30 pm
Operator :
Client ID : ICAL 1
Lab ID : 1PPM DIOXANE
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 15 11:13:39 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Fri Aug 23 12:59:54 2019
Response via : Initial Calibration



6D
ICV 2ND SOURCE ICAL VERIFICATION STANDARD

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No: SAS No: SDG No GCE25939

Instrument: CHEM33 Calibration Date: 09/14/19 Time: 13:55

Lab File Id: 0914_15.D Init. Calib. Date(s): 09/14/19 09/14/19

Init. Calib. Times: 11:22 13:30

GC Column: rtx-vms

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.	
1,4-DIOXANE	25	0.0	25.727	103	80	120

FORM VI-D SVOA

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\09SEP\14\
Data File : 0914_15.D
Acq On : 14 Sep 2019 1:55 pm
Operator :
Client ID : DIOXANE CVS
Lab ID : DIOXANE
ALS Vial : 10 Sample Multiplier: 1

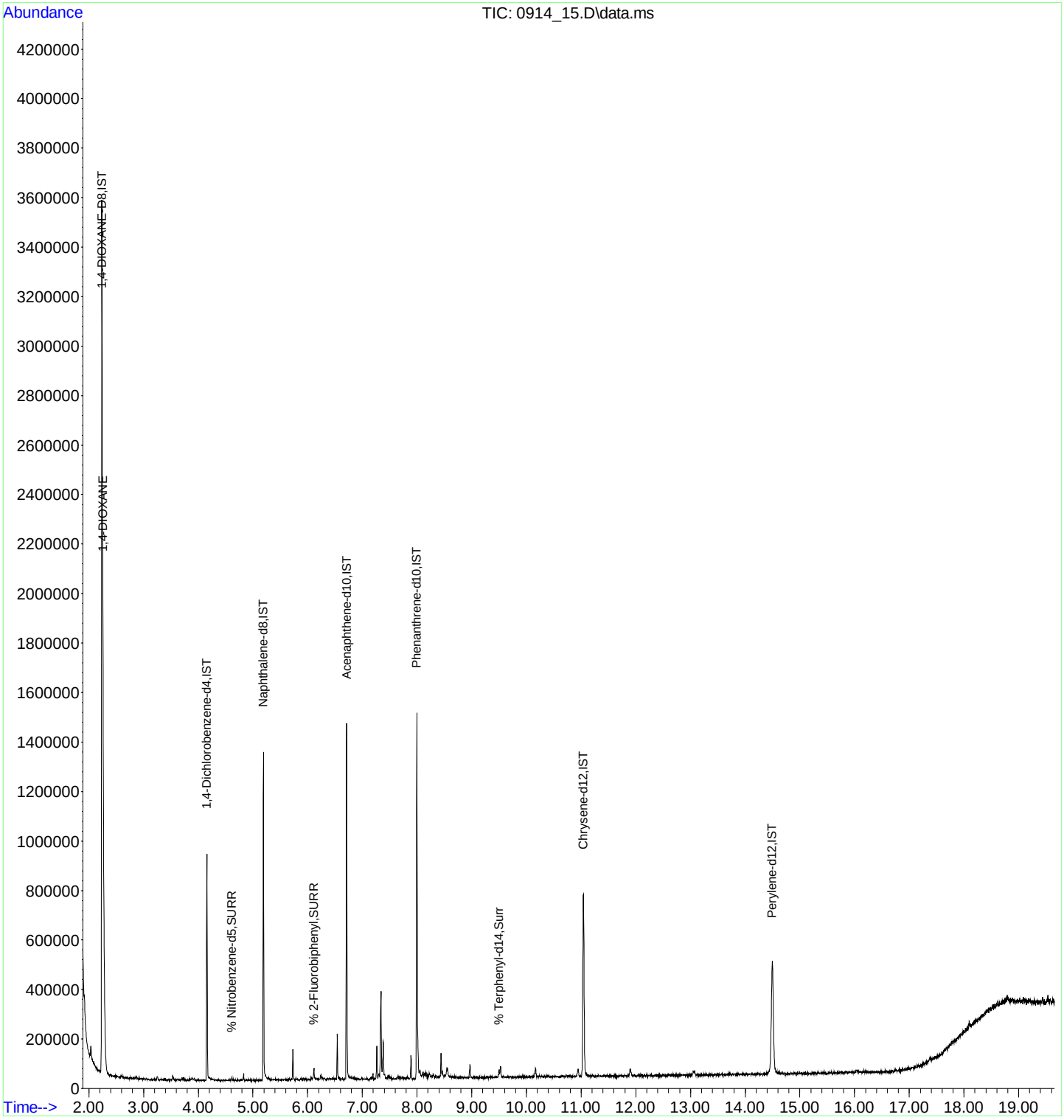
Quant Time: Sep 16 07:40:55 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	116452	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	1701036	100.000	ng	0.00
5) Naphthalene-d8	5.191	136	511422	100.000	ng	0.00
6) Acenaphthene-d10	6.715	164	268277	100.000	ng	0.00
8) Phenanthrene-d10	7.996	188	504076	100.000	ng	0.00
10) Chrysene-d12	11.042	240	376928	100.000	ng	-0.02
11) Perylene-d12	14.494	264	382261	100.000	ng	-0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.615	82	4717	0.097	ng	0.00
Spiked Amount 5.000			Recovery =	2.00%		
7) % 2-Fluorobiphenyl	6.118	172	10028	0.094	ng	0.00
Spiked Amount 5.000			Recovery =	1.80%		
9) % Terphenyl-d14	9.496	244	11246	0.092	ng	-0.01
Spiked Amount 5.000			Recovery =	1.80%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.256	88	454254	25.727	ng	# 80

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Data Path : H:\SV2019\CHEM33\09SEP\14\
Data File : 0914_15.D
Acq On : 14 Sep 2019 1:55 pm
Operator :
Client ID : DIOXANE CVS
Lab ID : DIOXANE
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 16 07:40:55 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



7B
1,4 DIOXANE (ISOTOPE) CONTINUING CALIBRATION CHECK

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Instrument: CHEM33 Calibration Date: 10/04/19 Time: 00:45

Lab File Id: 1004_03.D Init. Calib. Date(s): 09/14/19 09/14/19

Heated Purge (Y/N): n.a. Init. Calib. Times: 11:22 13:30

GC Column: RTX-5MS Method File: 33_DIOX_0914.M

COMPOUND		RRF	RRF50	RRF MIN	%D	% D LIMITS
1,4-Dichlorobenzene-d4	(IS Areas & Pct)		78856	n.a.		50-200
1,4-DIOXANE-D8	(IS Areas & Pct)		1088330	n.a.		50-200
Naphthalene-d8	(IS Areas & Pct)		365209	n.a.		50-200
Acenaphthene-d10	(IS Areas & Pct)		199606	n.a.		50-200
Phenanthrene-d10	(IS Areas & Pct)		372123	n.a.		50-200
Chrysene-d12	(IS Areas & Pct)		288922	n.a.		50-200
Perylene-d12	(IS Areas & Pct)		296438	n.a.		50-200
1,4-DIOXANE		1.038	1.018		1.9	()
% Nitrobenzene-d5		41.660	41.067	0.010	1.4	20 (40)
% 2-Fluorobiphenyl		39.750	36.509	0.010	8.2	20 (40)
% Terphenyl-d14		24.260	23.171	0.010	4.5	20 (40)

(*) Recommended RRF not met (+) %D exceeds criteria % (#) %D exceeds (maximum) criteria

%D: 10% of target compounds are allowed to be above criteria %, but must be less than the (maximum) %D

(l) linear (li) linear inv conc wgt (li2) linear inv conc wgt^2 (q) quadratic (qi) quadratic inv conc wgt (qi2) quadratic inv conc wg^2

Compounds not using average response (l, li, li2, q, qi, qi2) display concentrations and not response factors

Evaluate Continuing Calibration Report

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_03.D
Acq On : 4 Oct 2019 12:45 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 01:16:55 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

Note: Curves (l,lf,q,qf) display calculated concentration.
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%
1	ISTD 1,4-Dichlorobenzene-d4	1.000	1.000	0.0	68
2	SURR % Nitrobenzene-d5	41.658	41.067	1.4	
3	ISTD 1,4-DIOXANE-D8	1.000	1.000	0.0	66
4	1,4-DIOXANE	1.038	1.018	1.9	
5	ISTD Naphthalene-d8	1.000	1.000	0.0	75
6	ISTD Acenaphthene-d10	1.000	1.000	0.0	80
7	SURR % 2-Fluorobiphenyl	39.751	36.509	8.2	
8	ISTD Phenanthrene-d10	1.000	1.000	0.0	83
9	Surr % Terphenyl-d14	24.255	23.171	4.5	
10	ISTD Chrysene-d12	1.000	1.000	0.0	84
11	ISTD Perylene-d12	1.000	1.000	0.0	82

(#)=Out of Range l=linear, lf=liner(0,0), q=quadratic, qf=quadratic(0,0)
Laboratory Warning Limits Out = 0

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_03.D
Acq On : 4 Oct 2019 12:45 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 01:16:55 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

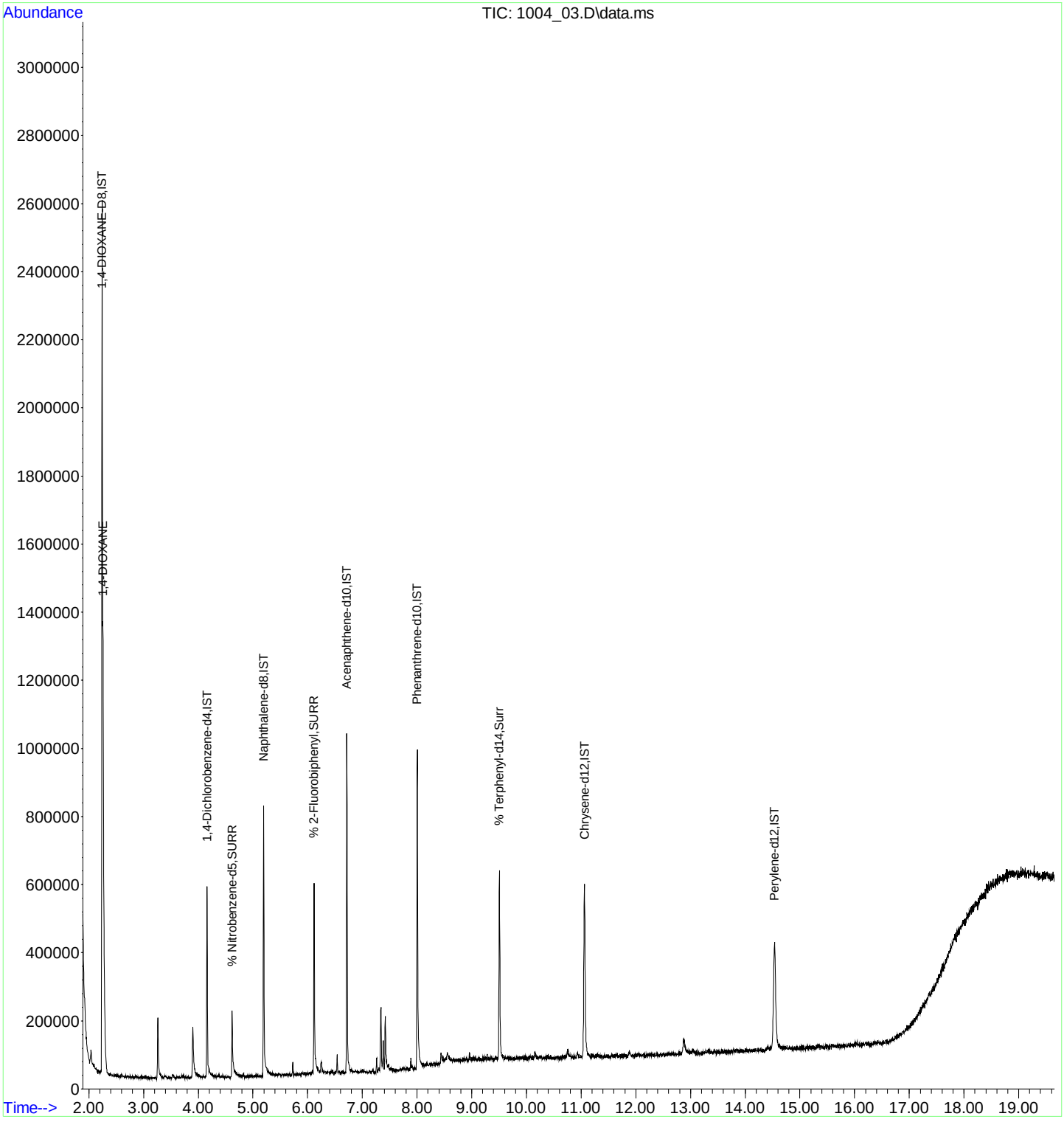
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.160	152	78856	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.242	96	1088330	100.000	ng	0.00
5) Naphthalene-d8	5.197	136	365209	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	199606	100.000	ng	0.00
8) Phenanthrene-d10	8.004	188	372123	100.000	ng	0.00
10) Chrysene-d12	11.062	240	288922	100.000	ng	0.00
11) Perylene-d12	14.537	264	296438	100.000	ng	0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.620	82	80960	2.465	ng	0.00
Spiked Amount 5.000			Recovery =	49.20%		
7) % 2-Fluorobiphenyl	6.118	172	182187	2.296	ng	0.00
Spiked Amount 5.000			Recovery =	46.00%		
9) % Terphenyl-d14	9.505	244	215560	2.388	ng	0.00
Spiked Amount 5.000			Recovery =	47.80%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.259	88	277065	24.526	ng	80

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_03.D
Acq On : 4 Oct 2019 12:45 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 01:16:55 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



7B
1,4 DIOXANE (ISOTOPE) ENDING CALIBRATION CHECK

Lab Name: Phoenix Environmental Labs Client: YORK

Lab Code: Phoenix Case No.: SAS No.: SDG No.: GCE25939

Instrument: CHEM33 Calibration Date: 10/04/19 Time: 10:58

Lab File Id: 1004_27.D Init. Calib. Date(s): 09/14/19 09/14/19

Heated Purge (Y/N): n.a. Init. Calib. Times: 11:22 13:30

GC Column: RTX-5MS Method File: 33_DIOX_0914.M

COMPOUND	RRF	RRF50	RRF MIN	%D	% D LIMITS
1,4-DIOXANE	1.038	1.035	0.010	0.3	50
% Nitrobenzene-d5	41.660	39.482	0.010	5.2	50
% 2-Fluorobiphenyl	39.750	36.316	0.010	8.6	50
% Terphenyl-d14	24.260	23.652	0.010	2.5	50

(*) Recommended RRF not met (+) %D exceeds criteria % (#) %D exceeds (maximum) criteria

%D: 10% of target compounds are allowed to be above criteria %, but must be less than the (maximum) %D

(*) Recommended RRF not met. (#) Maximum %D not met.

Evaluate Continuing Calibration Report

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_27.D
Acq On : 4 Oct 2019 10:58 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Oct 04 11:54:04 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

Note: Curves (l,lf,q,qf) display calculated concentration.
Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%
1	ISTD 1,4-Dichlorobenzene-d4	1.000	1.000	0.0	54
2	SURR % Nitrobenzene-d5	41.658	39.482	5.2	
3	ISTD 1,4-DIOXANE-D8	1.000	1.000	0.0	52
4	1,4-DIOXANE	1.038	1.035	0.3	
5	ISTD Naphthalene-d8	1.000	1.000	0.0	56
6	ISTD Acenaphthene-d10	1.000	1.000	0.0	66
7	SURR % 2-Fluorobiphenyl	39.751	36.316	8.6	
8	ISTD Phenanthrene-d10	1.000	1.000	0.0	72
9	Surr % Terphenyl-d14	24.255	23.652	2.5	
10	ISTD Chrysene-d12	1.000	1.000	0.0	74
11	ISTD Perylene-d12	1.000	1.000	0.0	69

(#)=Out of Range l=linear, lf=liner(0,0), q=quadratic, qf=quadratic(0,0)
Laboratory Warning Limits Out = 0

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_27.D
Acq On : 4 Oct 2019 10:58 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 26 Sample Multiplier: 1

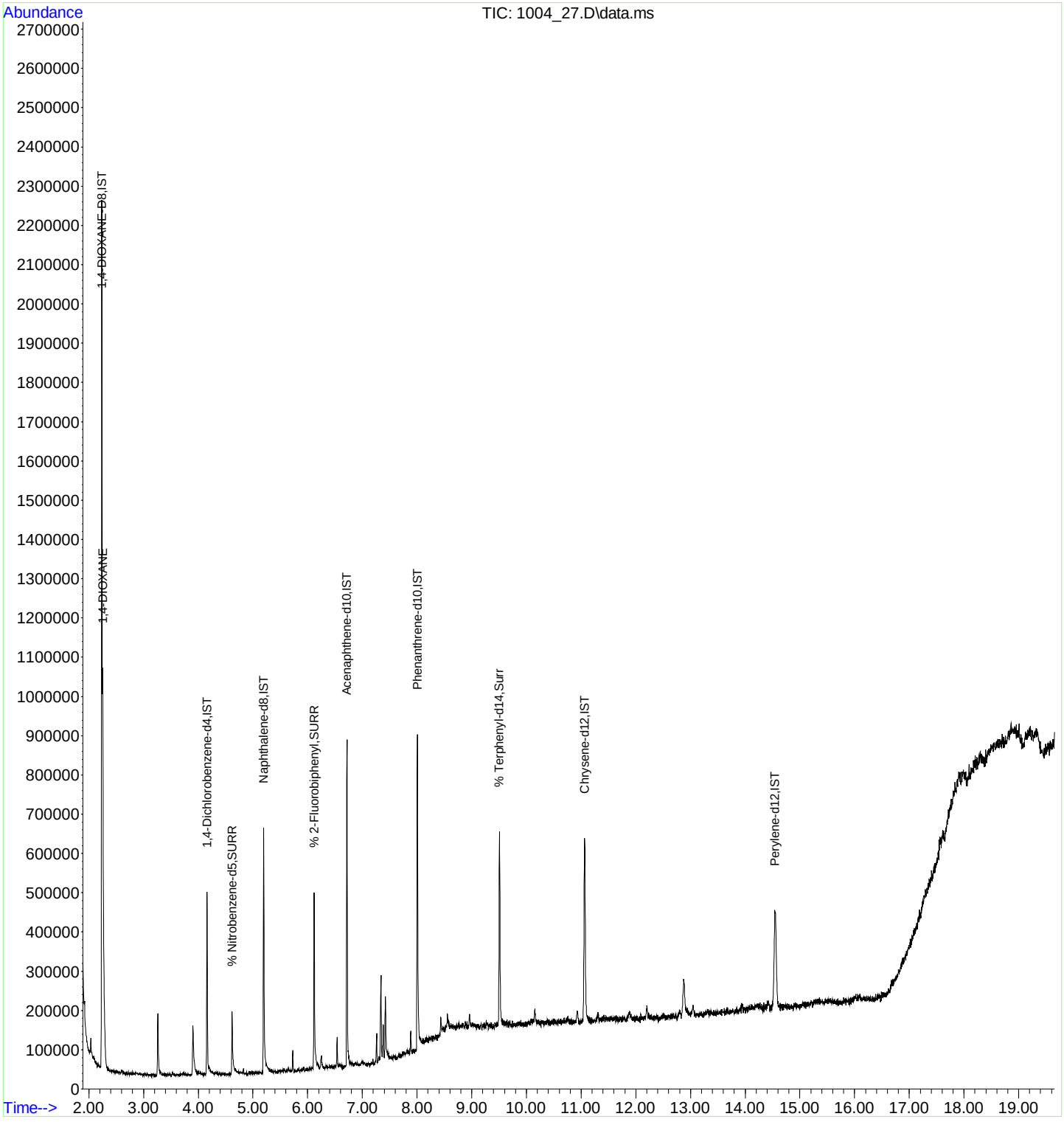
Quant Time: Oct 04 11:54:04 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.160	152	63456	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	861056	100.000	ng	0.00
5) Naphthalene-d8	5.197	136	276239	100.000	ng	0.00
6) Acenaphthene-d10	6.720	164	165326	100.000	ng	0.00
8) Phenanthrene-d10	8.007	188	319274	100.000	ng	0.00
10) Chrysene-d12	11.062	240	255104	100.000	ng	0.00
11) Perylene-d12	14.543	264	249375	100.000	ng	0.03
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.620	82	62634	2.369	ng	0.00
Spiked Amount 5.000			Recovery =	47.40%		
7) % 2-Fluorobiphenyl	6.121	172	150099	2.284	ng	0.00
Spiked Amount 5.000			Recovery =	45.60%		
9) % Terphenyl-d14	9.508	244	188788	2.438	ng	0.00
Spiked Amount 5.000			Recovery =	48.80%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	222830	24.931	ng	# 80

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_27.D
Acq On : 4 Oct 2019 10:58 am
Operator :
Client ID : CCAL 25
Lab ID : 25PPM DIOXANE
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Oct 04 11:54:04 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

CE24858 LCS

Client: YORK Lab: Phoenix Env. Labs

SDG No.: GCE25939 Lab Sample ID: CE24858 LCS

Sample wt/vol: 15.00 (g/mL) g Lab File ID: 1004_06.D

Concentrated Extract Volume: 1000 (uL) Date Received: 10/02/19

% Moisture: n.a. Date Extracted: 10/03/19

Instrument: CHEM33 Inj. Vol. 1.0 (uL) Date Analyzed: 10/04/19

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

Matrix: (soil/water) Soil CONCENTRATION UNITS:(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	3236		67	67	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_06.D
Acq On : 4 Oct 2019 2:08 am
Operator :
Client ID : CE24858 LCS
Lab ID : CE24858 LCS
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 11:53:43 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

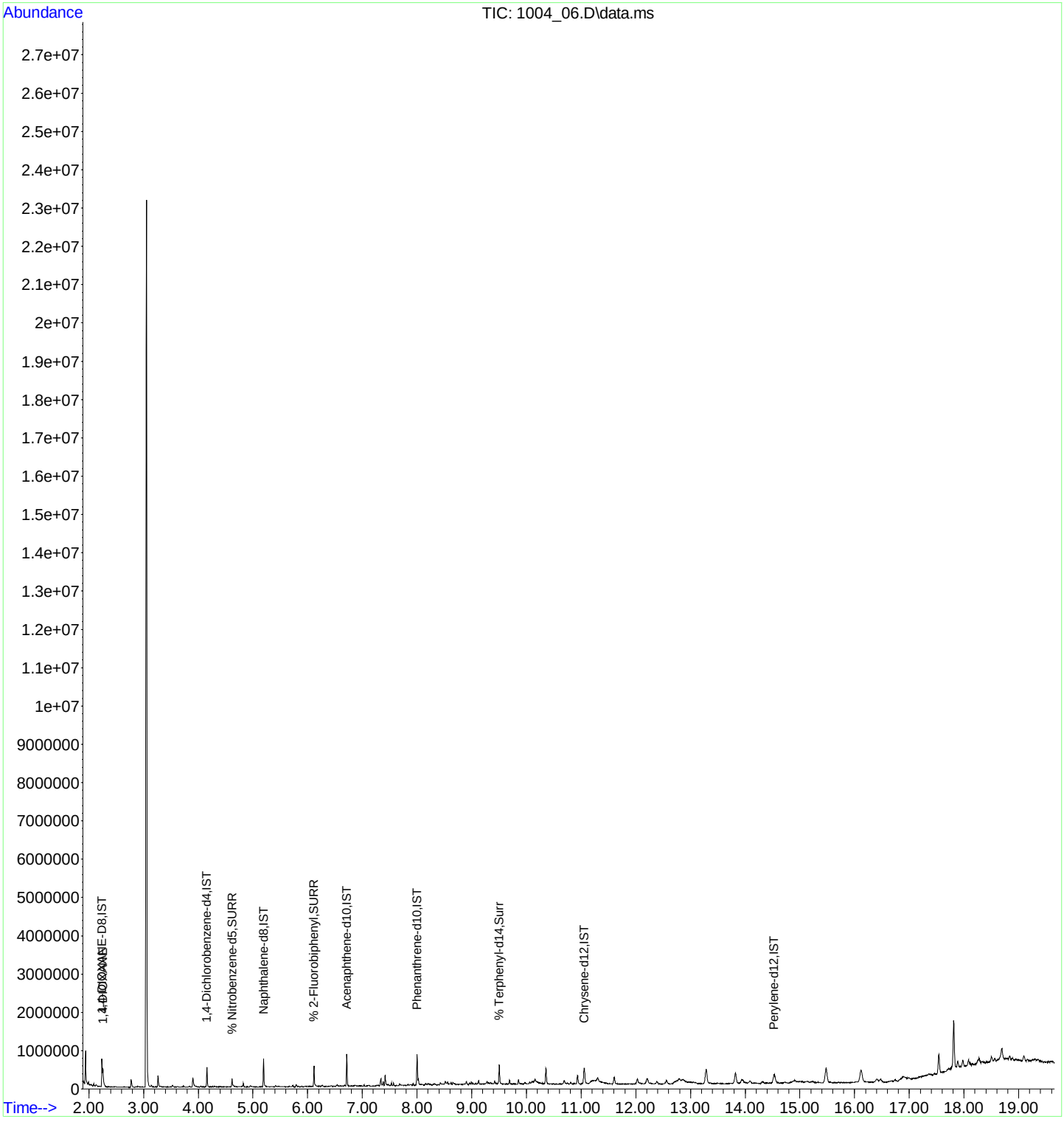
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	68971	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	253358	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	301933	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	159161	100.000	ng	0.00
8) Phenanthrene-d10	8.002	188	285357	100.000	ng	0.00
10) Chrysene-d12	11.056	240	232928	100.000	ng	0.00
11) Perylene-d12	14.526	264	215069	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.618	82	69544	2.420	ng	0.00
Spiked Amount 5.000			Recovery =	48.40%		
7) % 2-Fluorobiphenyl	6.118	172	156522	2.474	ng	0.00
Spiked Amount 5.000			Recovery =	49.40%		
9) % Terphenyl-d14	9.502	244	168497	2.434	ng	0.00
Spiked Amount 5.000			Recovery =	48.60%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.256	88	127664	48.544	ng	# 73

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_06.D
Acq On : 4 Oct 2019 2:08 am
Operator :
Client ID : CE24858 LCS
Lab ID : CE24858 LCS
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 11:53:43 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

CE24858 LCSD

Client: YORK Lab: Phoenix Env. Labs

SDG No.: GCE25939 Lab Sample ID: CE24858 LCSD

Sample wt/vol: 15.00 (g/mL) g Lab File ID: 1004_07.D

Concentrated Extract Volume: 1000 (uL) Date Received: 10/02/19

% Moisture: n.a. Date Extracted: 10/03/19

Instrument: CHEM33 Inj. Vol. 1.0 (uL) Date Analyzed: 10/04/19

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

Matrix: (soil/water) Soil CONCENTRATION UNITS:(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	3177		67	67	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_07.D
Acq On : 4 Oct 2019 2:33 am
Operator :
Client ID : CE24858 LCSD
Lab ID : CE24858 LCSD
ALS Vial : 6 Sample Multiplier: 1

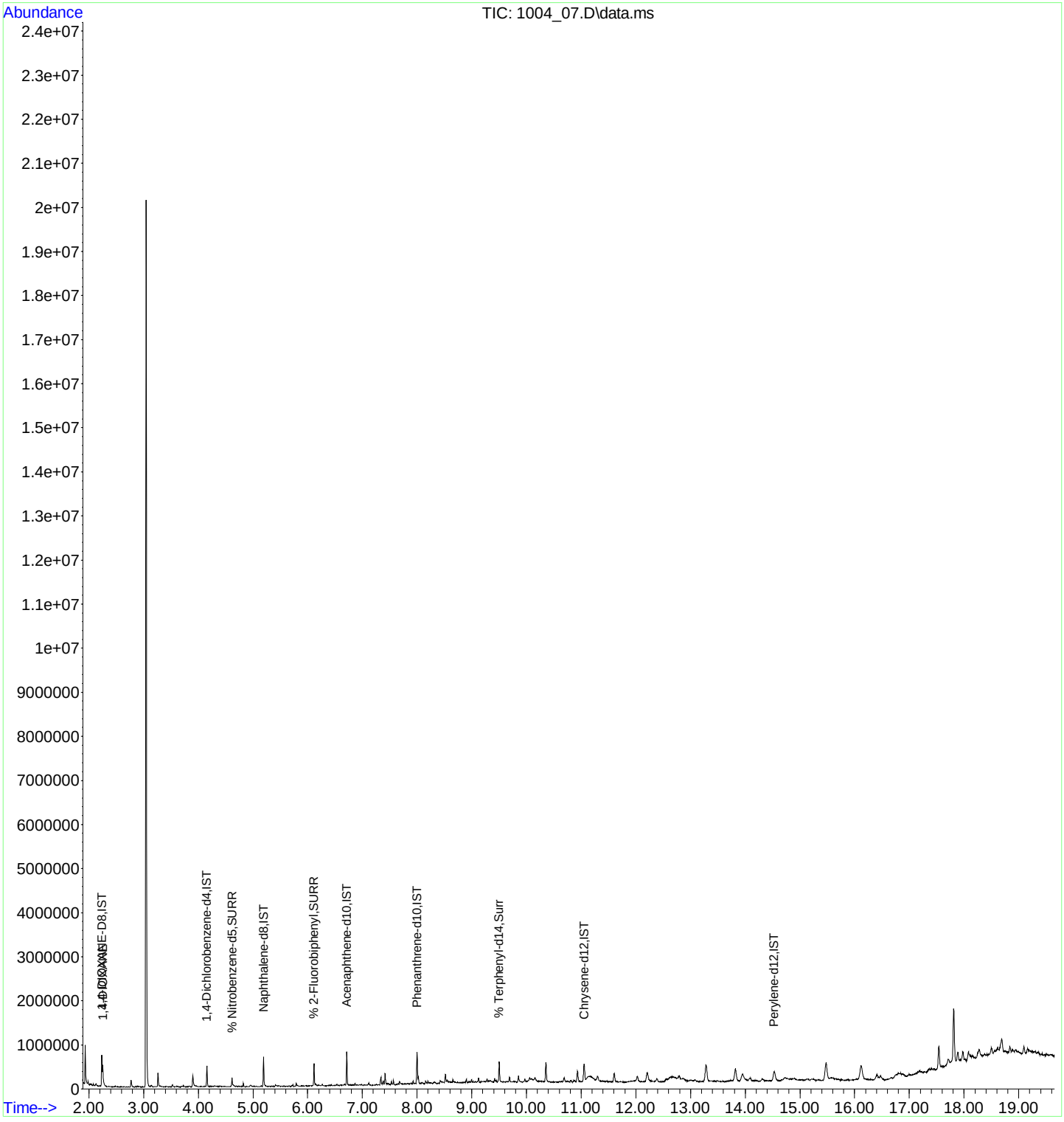
Quant Time: Oct 04 11:53:44 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	62729	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	258081	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	270460	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	141084	100.000	ng	0.00
8) Phenanthrene-d10	8.002	188	261033	100.000	ng	0.00
10) Chrysene-d12	11.053	240	217452	100.000	ng	0.00
11) Perylene-d12	14.528	264	204887	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.617	82	67699	2.591	ng	0.00
Spiked Amount 5.000			Recovery =	51.80%		
7) % 2-Fluorobiphenyl	6.118	172	145660	2.597	ng	0.00
Spiked Amount 5.000			Recovery =	52.00%		
9) % Terphenyl-d14	9.499	244	146702	2.317	ng	-0.01
Spiked Amount 5.000			Recovery =	46.40%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	127675	47.660	ng	# 79

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_07.D
Acq On : 4 Oct 2019 2:33 am
Operator :
Client ID : CE24858 LCSD
Lab ID : CE24858 LCSD
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 04 11:53:44 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



1

CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

Client:	YORK		Lab:	Phoenix Env. Labs	CE24858 MS
SDG No.:	GCE25939			Lab Sample ID:	CE24858 MS
Sample wt/vol:	15.37 (g/mL)	g		Lab File ID:	1004_08.D
Concentrated Extract Volume:	1000 (uL)			Date Received:	10/02/19
% Moisture:	10			Date Extracted:	10/03/19
Instrument:	CHEM33	Inj. Vol. 1.0 (uL)		Date Analyzed:	10/04/19
GPC Cleanup:(Y/N)	N	pH:		Dilution Factor:	1
Matrix: (soil/water)	Soil			CONCENTRATION UNITS:(ug/L or ug/Kg)	ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	3577		72	72	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_08.D
Acq On : 4 Oct 2019 2:58 am
Operator :
Client ID : CE24858 MS
Lab ID : CE24858 MS
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 04 11:53:45 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

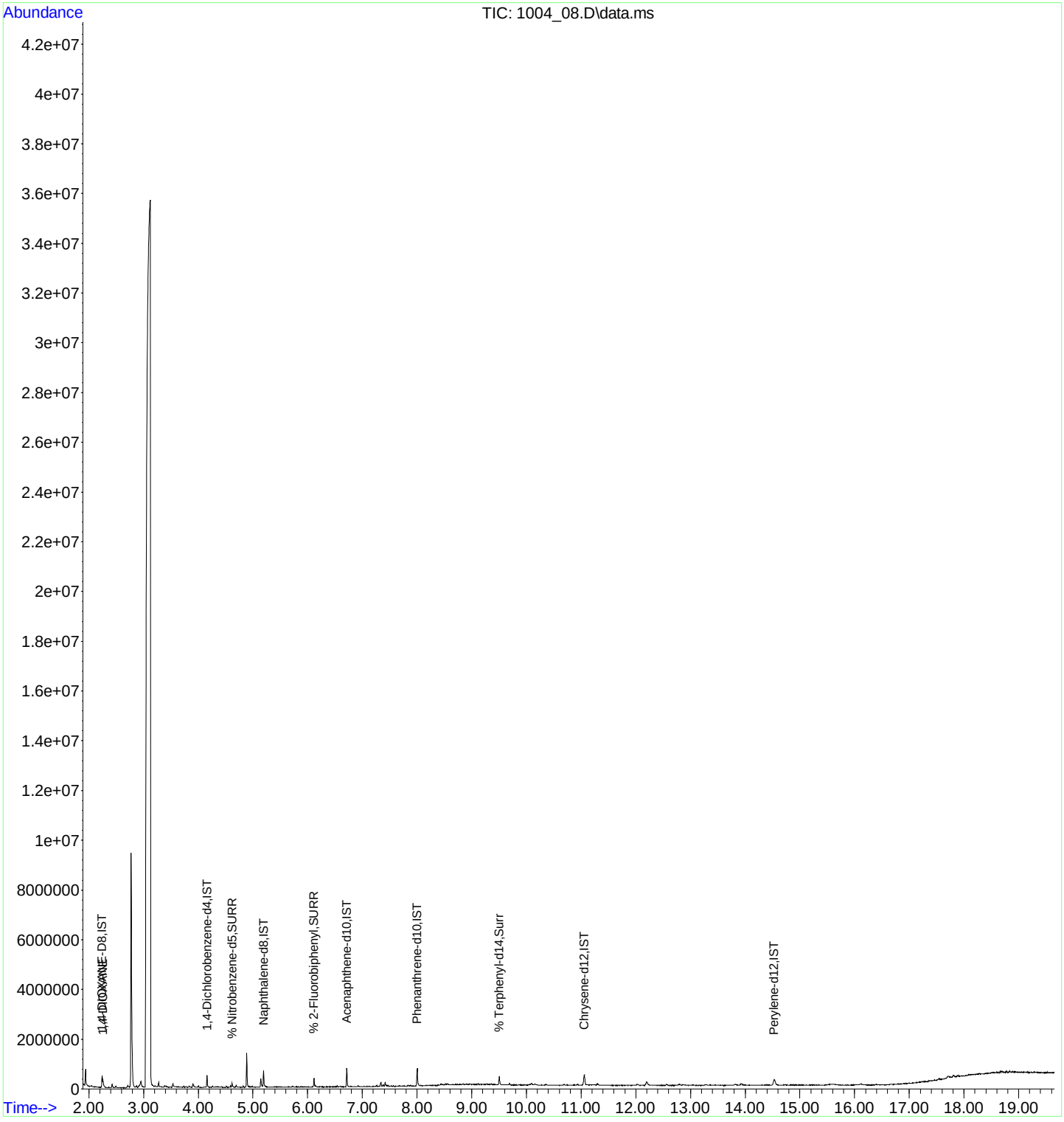
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.160	152	65510	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	159048	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	269136	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	144766	100.000	ng	0.00
8) Phenanthrene-d10	8.002	188	265713	100.000	ng	0.00
10) Chrysene-d12	11.059	240	223747	100.000	ng	0.00
11) Perylene-d12	14.528	264	205373	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.617	82	50387	1.846	ng	0.00
Spiked Amount 5.000			Recovery =	37.00%		
7) % 2-Fluorobiphenyl	6.118	172	97791	1.699	ng	0.00
Spiked Amount 5.000			Recovery =	34.00%		
9) % Terphenyl-d14	9.502	244	112380	1.744	ng	0.00
Spiked Amount 5.000			Recovery =	34.80%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.259	88	81683	49.477	ng	83

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_08.D
Acq On : 4 Oct 2019 2:58 am
Operator :
Client ID : CE24858 MS
Lab ID : CE24858 MS
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 04 11:53:45 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



1

CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

Client:	YORK		Lab:	Phoenix Env. Labs	CE24858 MSD
SDG No.:	GCE25939			Lab Sample ID:	CE24858 MSD
Sample wt/vol:	15.17 (g/mL) g			Lab File ID:	1004_09.D
Concentrated Extract Volume:	1000 (uL)			Date Received:	10/02/19
% Moisture:	10			Date Extracted:	10/03/19
Instrument:	CHEM33	Inj. Vol. 1.0 (uL)		Date Analyzed:	10/04/19
GPC Cleanup:(Y/N)	N	pH:		Dilution Factor:	1
Matrix: (soil/water)	Soil			CONCENTRATION UNITS:(ug/L or ug/Kg)	ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	3778		73	73	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_09.D
Acq On : 4 Oct 2019 3:23 am
Operator :
Client ID : CE24858 MSD
Lab ID : CE24858 MSD
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 04 11:53:46 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

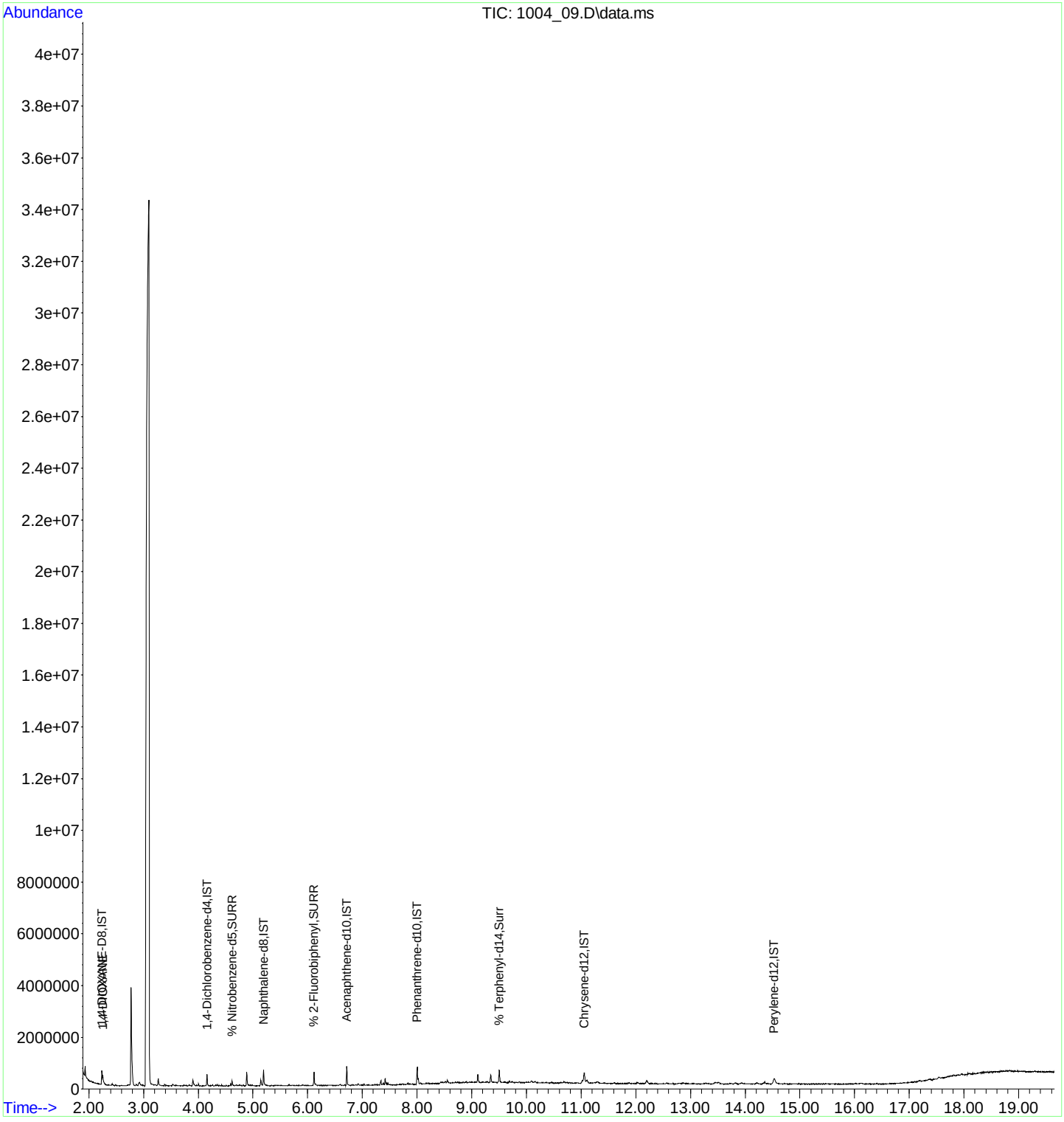
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.160	152	57318	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.236	96	196772	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	250248	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	137758	100.000	ng	0.00
8) Phenanthrene-d10	8.004	188	243591	100.000	ng	0.00
10) Chrysene-d12	11.056	240	206654	100.000	ng	0.00
11) Perylene-d12	14.528	264	192496	100.000	ng	0.01
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.617	82	69231	2.899	ng	0.00
Spiked Amount 5.000			Recovery =	58.00%		
7) % 2-Fluorobiphenyl	6.118	172	144878	2.646	ng	0.00
Spiked Amount 5.000			Recovery =	53.00%		
9) % Terphenyl-d14	9.502	244	165263	2.797	ng	0.00
Spiked Amount 5.000			Recovery =	56.00%		
Target Compounds						Qvalue
4) 1,4-DIOXANE	2.253	88	105356	51.582	ng	82

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_09.D
Acq On : 4 Oct 2019 3:23 am
Operator :
Client ID : CE24858 MSD
Lab ID : CE24858 MSD
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 04 11:53:46 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



1

CLIENT ID

1,4 DIOXANE (ISOTOPE) ORGANICS ANALYSIS DATA SHEET

CE24858 BLANK

Client: YORK Lab: Phoenix Env. Labs

SDG No.: GCE25939 Lab Sample ID: CE24858 BL

Sample wt/vol: 15.00 (g/mL) g Lab File ID: 1004_05.D

Concentrated Extract Volume: 1000 (uL) Date Received: 10/02/19

% Moisture: n.a. Date Extracted: 10/03/19

Instrument: CHEM33 Inj. Vol. 1.0 (uL) Date Analyzed: 10/04/19

GPC Cleanup:(Y/N) N pH: Dilution Factor: 1

Matrix: (soil/water) Soil CONCENTRATION UNITS:(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONC.	Q	MDL	PQL	R
123-91-1	1,4-DIOXANE	67	U	67	67	r

FORM I SV

r=Result Reported U=Not Detected D=Reported Dilution E/J=Estimated Value X=Not Used S=Lab Solvent

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_05.D
Acq On : 4 Oct 2019 1:43 am
Operator :
Client ID : CE24858 BLANK
Lab ID : CE24858 BLANK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 12:09:38 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration

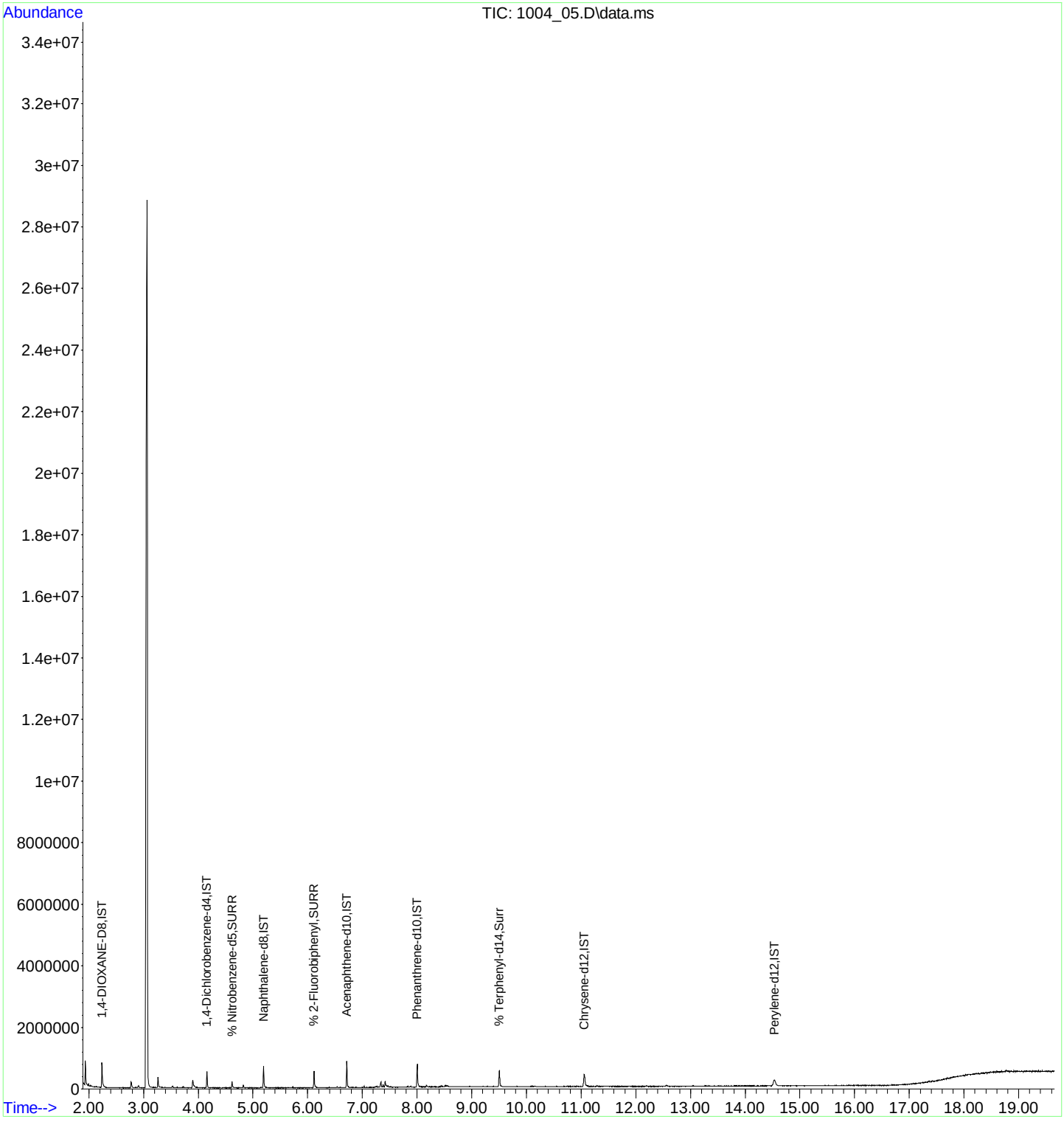
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	4.157	152	72199	100.000	ng	0.00
3) 1,4-DIOXANE-D8	2.239	96	264865	100.000	ng	0.00
5) Naphthalene-d8	5.194	136	303474	100.000	ng	0.00
6) Acenaphthene-d10	6.717	164	153890	100.000	ng	0.00
8) Phenanthrene-d10	8.005	188	289699	100.000	ng	0.00
10) Chrysene-d12	11.056	240	230009	100.000	ng	0.00
11) Perylene-d12	14.534	264	205803m	100.000	ng	0.02
System Monitoring Compounds						
2) % Nitrobenzene-d5	4.618	82	73857	2.456	ng	0.00
Spiked Amount 5.000			Recovery =	49.20%		
7) % 2-Fluorobiphenyl	6.118	172	168348	2.752	ng	0.00
Spiked Amount 5.000			Recovery =	55.00%		
9) % Terphenyl-d14	9.502	244	197446	2.810	ng	0.00
Spiked Amount 5.000			Recovery =	56.20%		
Target Compounds						Qvalue

(#)out of range (m)manual integration reviewed by analyst (+)signals summed

Quantitation Report (QT Reviewed)

Data Path : H:\SV2019\CHEM33\10OCT\04\
Data File : 1004_05.D
Acq On : 4 Oct 2019 1:43 am
Operator :
Client ID : CE24858 BLANK
Lab ID : CE24858 BLANK
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 12:09:38 2019
Quant Method : H:\SV2019\CHEM33\Methods\33_DIOX_0914.M
Quant Title : Semivolatiles by GC/MS - EPA Method 625/8270
QLast Update : Sun Sep 15 11:15:29 2019
Response via : Initial Calibration



Injection Log

Data Directory: H:\SV2019\CHEM33\09SEP\14\

Line	Vl	FileName	SampleName	MiscInfo	Injection Time
1)	3	0914_01.D	xxxxxxxxxx		09/14/19 1:30
2)	4	0914_02.D	xxxxxxxxxx		09/14/19 1:56
3)	3	0914_03.D	xxxxxxxxxx		09/14/19 2:22
4)	1	0914_04.D	xxxxxxxxxx		09/14/19 2:48
5)	2	0914_05.D	xxxxxxxxxx		09/14/19 3:14
6)	3	0914_06.D	xxxxxxxxxx		09/14/19 9:59
7)	1	0914_07.D	DFTPP TUNE	50PPM DFTPP/BENZ; 87	09/14/19 10:24
8)	2	0914_08.D	xxxxxxxxxx		09/14/19 10:49
9)	4	0914_09.D	ICAL 100	100PPM DIOXANE	09/14/19 11:22
10)	5	0914_10.D	ICAL 50	50PPM DIOXANE	09/14/19 11:47
11)	6	0914_11.D	ICAL 25	25PPM DIOXANE	09/14/19 12:13
12)	7	0914_12.D	ICAL 10	10PPM DIOXANE	09/14/19 12:38
13)	8	0914_13.D	ICAL 5	5PPM DIOXANE	09/14/19 13:04
14)	9	0914_14.D	ICAL 1	1PPM DIOXANE	09/14/19 13:30
15)	10	0914_15.D	DIOXANE CVS	DIOXANE	09/14/19 13:55

Injection Log

Data Directory: H:\SV2019\CHEM33\10OCT\04\

Line	Vl	FileName	SampleName	MiscInfo	Injection Time
1)	3	1004_01.D	xxxxxxxxxx		10/03/19 23:55
2)	1	1004_02.D	DFTPP TUNE	50PPM DFTPP/BENZ; 90	10/04/19 0:20
3)	2	1004_03.D	CCAL 25	25PPM DIOXANE	10/04/19 0:45
4)	3	1004_04.D	xxxxxxxxxx		10/04/19 1:18
5)	4	1004_05.D	CE24858 BLANK	CE24858 BLANK	10/04/19 1:43
6)	5	1004_06.D	CE24858 LCS	CE24858 LCS	10/04/19 2:08
7)	6	1004_07.D	CE24858 LCSD	CE24858 LCSD	10/04/19 2:33
8)	7	1004_08.D	CE24858 MS	CE24858 MS	10/04/19 2:58
9)	8	1004_09.D	CE24858 MSD	CE24858 MSD	10/04/19 3:23
10)	9	1004_10.D	xxxxxxxxxx		10/04/19 3:48
11)	10	1004_11.D	xxxxxxxxxx		10/04/19 4:13
12)	11	1004_12.D	xxxxxxxxxx		10/04/19 4:38
13)	12	1004_13.D	xxxxxxxxxx		10/04/19 5:04
14)	13	1004_14.D	xxxxxxxxxx		10/04/19 5:29
15)	14	1004_15.D	xxxxxxxxxx		10/04/19 5:54
16)	15	1004_16.D	SB19_8-9	CE25939	10/04/19 6:20
17)	16	1004_17.D	SB27_6-8	CE25940	10/04/19 6:45
18)	17	1004_18.D	xxxxxxxxxx		10/04/19 7:11
19)	18	1004_19.D	xxxxxxxxxx		10/04/19 7:36
20)	19	1004_20.D	xxxxxxxxxx		10/04/19 8:01
21)	20	1004_21.D	SB28_5.5-7.5	CE25941	10/04/19 8:26
22)	21	1004_22.D	xxxxxxxxxx		10/04/19 8:52
23)	22	1004_23.D	xxxxxxxxxx		10/04/19 9:17
24)	23	1004_24.D	xxxxxxxxxx		10/04/19 9:42
25)	24	1004_25.D	xxxxxxxxxx		10/04/19 10:07
26)	25	1004_26.D	xxxxxxxxxx		10/04/19 10:32
27)	26	1004_27.D	CCAL 25	25PPM DIOXANE	10/04/19 10:58
28)	3	1004_28.D	xxxxxxxxxx		10/04/19 22:28
29)	1	1004_29.D	xxxxxxxxxx		10/04/19 22:52
30)	2	1004_30.D	xxxxxxxxxx		10/04/19 23:18

ASE

asediox-499939 **QAQC Code** #Q$DIOX-SM82 **QAQC Sample #** CE24858 10/03/19 2:00 PM

	Sample / C#	Acode	Analysis	Wt(g)	Surrogate Vol (ml)	Final Vol (ml)	Cell #	Comments	Start Date	Finish Date	Initials
0	CE24858	BLK	ASE	15	.05 + 0.1(	1	E110	4 NUM	10/03	10/03	VV/UL
0	CE24858	LCS	ASE	15	.05 + 0.1(	1	P237	25 uL spk,	10/03	10/03	VV/UL
0	CE24858	LCSD	ASE	15	.05 + 0.1(	1	P227	25 uL spk,	10/03	10/03	VV/UL
0	CE24858 - 1	MS	ASE	15.37	.05 + 0.1(	1	E27	25 uL spk,	10/03	10/03	KK/UL
0	CE24858 - 1	MSD	ASE	15.17	.05 + 0.1(	1	E191	25 uL spk,	10/03	10/03	KK/UL
1	CE24858 - 1	ASEDIOX	ASE	15.12	.05 + 0.1(	1	X82		10/03	10/03	K/V/UL
2	CE24859 - 1	ASEDIOX	ASE	15.12	.05 + 0.1(	1	T197		10/03	10/03	K/V/UL
3	CE24860 - 1	ASEDIOX	ASE	15.40	.05 + 0.1(	1	T172		10/03	10/03	K/V/UL
4	CE24861 - 1	ASEDIOX	ASE	15.06	.05 + 0.1(	1	T130		10/03	10/03	K/V/UL
5	CE25401 ** - 1	ASEDIOX	ASE VOA	15.11	.05 + 0.1(	1	X121		10/03	10/03	K/V/UL
6	CE25932 ** - 2	ASEDIOX	ASE	15.22	.05 + 0.1(	1	P234		10/03	10/03	KK/UL
7	CE25933 ** - 2	ASEDIOX	ASE	15.38	.05 + 0.1(	1	D18		10/03	10/03	KK/UL
8	CE25934 ** - 2	ASEDIOX	ASE	15.40	.05 + 0.1(	1	R284		10/03	10/03	KK/UL
9	CE25935 ** - 2	ASEDIOX	ASE	15.20	.05 + 0.1(	1	X253		10/03	10/03	KK/UL
10	CE25936 ** - 1	ASEDIOX	ASE	15.27	.05 + 0.1(	1	X16		10/03	10/03	KK/UL
11	CE25939 - 2	ASEDIOX	ASE	15.11	.05 + 0.1(	1	X1	4 NUM	10/03	10/03	KK/UL
12	CE25940 - 2	ASEDIOX	ASE	15.20	.05 + 0.1(	1	X32		10/03	10/03	KK/UL
13	CE25941 - 1	ASEDIOX	ASE	15.40	.05 + 0.1(	1	T147		10/03	10/03	KK/UL
14	CE26199 ** - 5	ASEDIOX	ASE	15.28	.05 + 0.1(	1	X119		10/03	10/03	KK/UL
15	CE26656 - 1	ASEDIOX	ASE	15.15	.05 + 0.1(	1	X34		10/03	10/03	KK/UL
16	CE26657 - 2	ASEDIOX	ASE	15.45	.05 + 0.1(	1	E13		10/03	10/03	KK/UL
17	CE26658 - 1	ASEDIOX	ASE	15.28	.05 + 0.1(	1	E58A		10/03	10/03	KK/UL

QC Rpt Cmnt

Prep Comment

Post Comment

Surrogate Id # **Tracking #** **Time In**

Spike # **Tracking #** **Time Out**

LCSID # **Tracking #** **Temp**

Time Basic

Standards

Vendor Id	Item ID	Phoenix Lot Number	Vendor Lot Number	Expiration Date
Absolute Standa	1,4-Dioxane-d8	S#MN8	060619	03/31/20
Brand-Nu	Acetone	S#MRG	236884	03/23/20
Brand-Nu	Dcm	S#MSM	DX181-US	03/27/20
Restek	1,4-Dioxane	S#LUF	A0148650	03/26/20
Ultra	Semi-volatile Sm Surrogate W/o Color Ind. Cus-8804	S#ME1	6483694	03/30/20