Apex Laboratories, LLC
6700 SW Sandburg St. Tigard, Oregon 97223
503.718.2323

Level IV Data Package for

Anchor QEA, LLC

Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores

Apex Laboratories Work Order #:

A9I0885

APEX LABORATORIES, LLC
6700 SW Sandburg St. Tigard, OR 97223 phone 503-718-2323

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APEX LABORATORIES, LLC
6700 SW Sandburg St. Tigard, OR 97223 phone 503-718-2323

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Analytical Case Narrative

Analytical Case Narrative

Client: Anchor QEA, LLC Date: 12/04/2019
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Apex Work Order Number: A9I0885

This data package contains data associated with analysis of samples for the above referenced Apex work order numbers. The data package Table of Contents, along with the PDF bookmarks, allow for ease of navigation and location of items within the data deliverable.

The Sample Receipt Documentation section of this package contains sample receipt information, including sample temperature and condition of receipt documented on Cooler Receipt Form(s). Apex analyzed the samples by the methods indicated on the Chain of Custody. Any additional analyses requested are indicated on the Apex Work Order.

If any anomalies were encountered during analysis that could potentially impact data quality, sample results are qualified and/or a separate Case Narrative is included in the Analytical Report. Please refer to the Notes and Definition section of the Analytical Report(s) for Qualifier explanations, Conventions, and the Blank Policy.

Data represented in this package are in compliance with the referenced method(s), both technically and for completeness, for all conditions other than those stated above and/or noted by qualification of the reported data. The signature below verifies that the Laboratory Director or his designee has authorized release of this data package.

Estella Rieben,
Quality Systems Manager
Apex Laboratories, LLC

Analytical Report

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Saturday, November 2, 2019

Ryan Barth
Anchor QEA, LLC
6720 SW Macadam Ave. Suite 125
Portland, OR 97219

RE: A9I0885 - Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A9I0885, which was received by the laboratory on 9/27/2019 at 10:25:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	2.1 degC	Cooler #2	1.4 degC
Cooler #3	1.1 degC	Cooler #4	1.7 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment	09/25/19 13:59	09/27/19 10:25
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment	09/25/19 14:01	09/27/19 10:25
PDI-TB-1909251448	A9I0885-03	WQ	09/25/19 14:48	09/27/19 10:25
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment	09/26/19 08:58	09/27/19 10:25
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment	09/26/19 08:56	09/27/19 10:25
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment	09/26/19 08:57	09/27/19 10:25
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment	09/26/19 08:58	09/27/19 10:25
PDI-101SC-B-00-02-190926	A9I0885-08	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-02-04-190926	A9I0885-09	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-04-06-190926	A9I0885-10	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-06-08-190926	A9I0885-11	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-08-10-190926	A9I0885-12	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-10-12-190926	A9I0885-13	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-12-14-190926	A9I0885-14	Sediment	09/26/19 15:30	09/27/19 10:25
PDI-101SC-B-14-15.6-190926	A9I0885-15	Sediment	09/26/19 15:30	09/27/19 10:25

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL CASE NARRATIVE

Work Order: A9I0885

Amended Report Revision #1

This report supersedes all previous reports.

Total Organic Carbon (TOC) by SM5310B: Reporting Unit Change
Data for Total Organic Carbon by SM5310B has been amended to report in "% by Weight" units. Data was reported previously in mg/kg units.

Semivolatiles by EPA 8270D: Benzo(j,k)fluoranthene Analyte Name
Apex Laboratories calibrates its Semivolatile Mass Spectrometers for Benzo(k)fluoranthene using Benzo(k)fluoranthene itself, not including the Benzo(j)fluoranthene isomer, which co-elutes with Benzo(k)fluoranthene. Data is reported in this amended report as Benzo(k)fluoranthene, but in the EDD this data is reported as Benzo(j,k)fluoranthene. The data for Benzo(k)fluoranthene and Benzo(j,k)fluoranthene are identical.

Total Xylenes results have been removed. o-Xylene and m,p-Xylenes are reported herein individually.

David Jack
Technical Manager
Apex Laboratories
October 30, 2019

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	ND	6.53	13.1	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Toluene	ND	32.7	65.3	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Ethylbenzene	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
m,p-Xylene	ND	32.7	65.3	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
o-Xylene	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Chlorobenzene	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
1,1-Dichloroethene	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
cis-1,2-Dichloroethene	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Tetrachloroethene (PCE)	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Trichloroethene (TCE)	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Vinyl chloride	ND	16.3	32.7	ug/kg dry	50	09/30/19 13:28	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*09/30/19 13:28*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*09/30/19 13:28*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*97 %*	*80-120 %*	*1*	*09/30/19 13:28*	*5035A/8260C*	
PDI-013SC-B-9.6-12-190925 (A9I0885-02)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	ND	8.33	16.7	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Toluene	ND	41.6	83.3	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Ethylbenzene	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
m,p-Xylene	ND	41.6	83.3	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
o-Xylene	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Chlorobenzene	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
1,1-Dichloroethene	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
cis-1,2-Dichloroethene	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Tetrachloroethene (PCE)	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Trichloroethene (TCE)	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Vinyl chloride	ND	20.8	41.6	ug/kg dry	50	09/30/19 13:55	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*09/30/19 13:55*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*09/30/19 13:55*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*96 %*	*80-120 %*	*1*	*09/30/19 13:55*	*5035A/8260C*	
PDI-TB-1909251448 (A9I0885-03)				**Matrix: WQ**		**Batch: 9100594**		
Benzene	ND	0.100	0.200	ug/L	1	10/04/19 16:08	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	10/04/19 16:08	EPA 8260C	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-TB-1909251448 (A9I0885-03)				**Matrix: WQ**		**Batch: 9100594**		
Ethylbenzene	ND	0.250	0.500	ug/L	1	10/04/19 16:08	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	10/04/19 16:08	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	10/04/19 16:08	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	10/04/19 16:08	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	10/04/19 16:08	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	10/04/19 16:08	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	10/04/19 16:08	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	10/04/19 16:08	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	10/04/19 16:08	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*10/04/19 16:08*	*EPA 8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*10/04/19 16:08*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*93 %*	*80-120 %*	*1*	*10/04/19 16:08*	*EPA 8260C*	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	ND	7.05	14.1	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Toluene	ND	35.3	70.5	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Ethylbenzene	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
m,p-Xylene	ND	35.3	70.5	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
o-Xylene	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Chlorobenzene	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
1,1-Dichloroethene	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
cis-1,2-Dichloroethene	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Tetrachloroethene (PCE)	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Trichloroethene (TCE)	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Vinyl chloride	ND	17.6	35.3	ug/kg dry	50	09/30/19 14:22	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*09/30/19 14:22*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*09/30/19 14:22*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*09/30/19 14:22*	*5035A/8260C*	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	**12.0**	9.47	18.9	ug/kg dry	50	09/30/19 14:49	5035A/8260C	**J**
Toluene	ND	47.3	94.7	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Ethylbenzene	**192**	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
m,p-Xylene	ND	94.7	94.7	ug/kg dry	50	09/30/19 14:49	5035A/8260C	

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)				**Matrix: Sediment**		**Batch: 9091433**		
o-Xylene	**52.2**	47.3	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Chlorobenzene	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
1,1-Dichloroethene	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
cis-1,2-Dichloroethene	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Tetrachloroethene (PCE)	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Trichloroethene (TCE)	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Vinyl chloride	ND	23.7	47.3	ug/kg dry	50	09/30/19 14:49	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*110 %*	*Limits: 80-120 %*	*1*	*09/30/19 14:49*	*5035A/8260C*	
Toluene-d8 (Surr)			*95 %*	*80-120 %*	*1*	*09/30/19 14:49*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*	*1*	*09/30/19 14:49*	*5035A/8260C*	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	ND	6.27	12.5	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Toluene	ND	31.3	62.7	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Ethylbenzene	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
m,p-Xylene	ND	31.3	62.7	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
o-Xylene	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Chlorobenzene	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
1,1-Dichloroethene	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
cis-1,2-Dichloroethene	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Tetrachloroethene (PCE)	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Trichloroethene (TCE)	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Vinyl chloride	ND	15.7	31.3	ug/kg dry	50	09/30/19 15:16	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits: 80-120 %*	*1*	*09/30/19 15:16*	*5035A/8260C*	
Toluene-d8 (Surr)			*96 %*	*80-120 %*	*1*	*09/30/19 15:16*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*96 %*	*80-120 %*	*1*	*09/30/19 15:16*	*5035A/8260C*	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)				**Matrix: Sediment**		**Batch: 9091433**		
Benzene	ND	6.40	12.8	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Toluene	ND	32.0	64.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Ethylbenzene	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
m,p-Xylene	ND	32.0	64.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
o-Xylene	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Chlorobenzene	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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EPA ID: OR01039

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)				**Matrix: Sediment**		**Batch: 9091433**		
1,1-Dichloroethene	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
cis-1,2-Dichloroethene	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Tetrachloroethene (PCE)	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Trichloroethene (TCE)	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Vinyl chloride	ND	16.0	32.0	ug/kg dry	50	09/30/19 16:10	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*09/30/19 16:10*	*5035A/8260C*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*09/30/19 16:10*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*97 %*	*80-120 %*	*1*	*09/30/19 16:10*	*5035A/8260C*	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**15.9**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Acenaphthylene	**1.03**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
Anthracene	**3.54**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Benz(a)anthracene	**1.81**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
Benzo(a)pyrene	**1.74**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
Benzo(b)fluoranthene	**1.76**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
Benzo(k)fluoranthene	ND	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	X
Benzo(g,h,i)perylene	**1.60**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
Chrysene	**2.46**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Fluoranthene	**5.07**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Fluorene	**4.01**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**1.43**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	**J**
2-Methylnaphthalene	**13.5**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Naphthalene	**15.8**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Phenanthrene	**15.7**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Pyrene	**62.4**	0.943	1.89	ug/kg dry	1	10/03/19 15:03	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*88 %*	*Limits: 44-115 %*	*1*	*10/03/19 15:03*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*91 %*	*54-127 %*	*1*	*10/03/19 15:03*	*EPA 8270D*	
PDI-013SC-B-9.6-12-190925 (A9I0885-02RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**38.6**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Acenaphthylene	**1.36**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	**J**
Anthracene	**1.57**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	**J**
Benz(a)anthracene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Benzo(a)pyrene	**1.12**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	**J**
Benzo(b)fluoranthene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Benzo(k)fluoranthene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	X
Benzo(g,h,i)perylene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Chrysene	**1.23**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	**J**
Dibenz(a,h)anthracene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Fluoranthene	**1.59**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	**J**
Fluorene	**2.42**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-9.6-12-190925 (A9I0885-02RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Indeno(1,2,3-cd)pyrene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
2-Methylnaphthalene	ND	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Naphthalene	**17.3**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Phenanthrene	**3.33**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Pyrene	**34.2**	1.07	2.14	ug/kg dry	1	10/03/19 15:35	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*73 %*	*Limits: 44-115 %*	*1*	*10/03/19 15:35*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*63 %*	*54-127 %*	*1*	*10/03/19 15:35*	*EPA 8270D*	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**8.02**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Acenaphthylene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Anthracene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Benz(a)anthracene	**1.10**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Benzo(a)pyrene	**1.30**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Benzo(b)fluoranthene	**1.31**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Benzo(k)fluoranthene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	X
Benzo(g,h,i)perylene	**1.16**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Chrysene	**1.49**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Dibenz(a,h)anthracene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Fluoranthene	**3.40**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Fluorene	**1.37**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Indeno(1,2,3-cd)pyrene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
2-Methylnaphthalene	ND	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Naphthalene	**1.65**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Phenanthrene	**1.80**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	**J**
Pyrene	**4.49**	1.04	2.08	ug/kg dry	1	10/03/19 16:07	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*75 %*	*Limits: 44-115 %*	*1*	*10/03/19 16:07*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*72 %*	*54-127 %*	*1*	*10/03/19 16:07*	*EPA 8270D*	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**50500**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Acenaphthylene	**6250**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Anthracene	**38600**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Benz(a)anthracene	**42600**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Benzo(a)pyrene	**63400**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Benzo(b)fluoranthene	**55000**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Benzo(k)fluoranthene	**17100**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	**M-05, X**
Benzo(g,h,i)perylene	**51400**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Chrysene	**54500**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Dibenz(a,h)anthracene	**4880**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Fluoranthene	**159000**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Fluorene	**31300**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**42500**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
2-Methylnaphthalene	**38200**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Naphthalene	**19900**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Phenanthrene	**185000**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Pyrene	**169000**	2290	4590	ug/kg dry	1000	10/03/19 14:30	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*230 %*	*Limits: 44-115 %*	*1000*	*10/03/19 14:30*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*360 %*	*54-127 %*	*1000*	*10/03/19 14:30*	*EPA 8270D*	*S-05*
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**15.2**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Acenaphthylene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Anthracene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Benz(a)anthracene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Benzo(a)pyrene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Benzo(b)fluoranthene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Benzo(k)fluoranthene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	X
Benzo(g,h,i)perylene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Chrysene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Fluoranthene	**1.24**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	**J**
Fluorene	**4.69**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
2-Methylnaphthalene	ND	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Naphthalene	**1.14**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	**J**

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Phenanthrene	**1.81**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	**J**
Pyrene	**2.00**	0.953	1.91	ug/kg dry	1	10/03/19 16:39	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*85 %*	*Limits: 44-115 %*	*1*	*10/03/19 16:39*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*87 %*	*54-127 %*	*1*	*10/03/19 16:39*	*EPA 8270D*	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**11.5**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Acenaphthylene	ND	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Anthracene	ND	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Benz(a)anthracene	**1.92**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Benzo(a)pyrene	**2.91**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Benzo(b)fluoranthene	**2.80**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Benzo(k)fluoranthene	**1.00**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	**J, X**
Benzo(g,h,i)perylene	**2.63**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Chrysene	**2.28**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Fluoranthene	**5.62**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Fluorene	**2.46**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**2.27**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
2-Methylnaphthalene	ND	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Naphthalene	**1.10**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	**J**
Phenanthrene	**2.88**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Pyrene	**7.68**	0.926	1.85	ug/kg dry	1	10/03/19 17:11	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*87 %*	*Limits: 44-115 %*	*1*	*10/03/19 17:11*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*97 %*	*54-127 %*	*1*	*10/03/19 17:11*	*EPA 8270D*	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.21**	0.304	0.607	mg/kg dry	5	10/07/19 20:11	EPA 6020A	
PDI-013SC-B-9.6-12-190925 (A9I0885-02)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.40**	0.318	0.635	mg/kg dry	5	10/07/19 20:15	EPA 6020A	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.71**	0.333	0.666	mg/kg dry	5	10/07/19 20:20	EPA 6020A	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**4.09**	0.350	0.699	mg/kg dry	5	10/07/19 20:43	EPA 6020A	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.59**	0.296	0.592	mg/kg dry	5	10/07/19 20:47	EPA 6020A	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.77**	0.277	0.555	mg/kg dry	5	10/07/19 20:52	EPA 6020A	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**0.024**	0.020	0.020	% by Weight	1	10/09/19 10:20	SM 5310 B MOD	**AMEND**
PDI-013SC-B-9.6-12-190925 (A9I0885-02)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**0.032**	0.020	0.020	% by Weight	1	10/09/19 10:53	SM 5310 B MOD	**AMEND**
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**0.031**	0.020	0.020	% by Weight	1	10/09/19 11:16	SM 5310 B MOD	**AMEND**
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**4.4**	0.020	0.020	% by Weight	1	10/09/19 11:47	SM 5310 B MOD	**AMEND**
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**0.022**	0.020	0.020	% by Weight	1	10/09/19 12:58	SM 5310 B MOD	**AMEND**
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)				**Matrix: Sediment**				
Batch: 9100515								
Total Organic Carbon	**0.025**	0.020	0.020	% by Weight	1	10/09/19 14:24	SM 5310 B MOD	**AMEND**

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**85.8**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-013SC-B-9.6-12-190925 (A9I0885-02)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**76.0**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**77.9**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**69.4**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**84.1**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**88.3**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-00-02-190926 (A9I0885-08)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**64.8**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-02-04-190926 (A9I0885-09)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**54.1**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-04-06-190926 (A9I0885-10)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**54.7**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-06-08-190926 (A9I0885-11)				**Matrix: Sediment**				
Batch: 9091411								

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-101SC-B-06-08-190926 (A9I0885-11)				**Matrix: Sediment**				
Total Solids	**71.1**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-08-10-190926 (A9I0885-12)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**55.1**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-10-12-190926 (A9I0885-13)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**82.6**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-12-14-190926 (A9I0885-14)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**81.6**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	
PDI-101SC-B-14-15.6-190926 (A9I0885-15)				**Matrix: Sediment**				
Batch: 9091411								
Total Solids	**80.8**	1.00	1.00	% by Weight	1	10/01/19 15:38	SM 2540 G	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091433 - EPA 5035A							**Soil**					
Blank (9091433-BLK1)			Prepared: 09/30/19 10:00 Analyzed: 09/30/19 11:40									
5035A/8260C												
Benzene	ND	3.33	6.67	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 110 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*95 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
LCS (9091433-BS1)			Prepared: 09/30/19 10:00 Analyzed: 09/30/19 10:46									
5035A/8260C												
Benzene	975	5.00	10.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Toluene	858	25.0	50.0	ug/kg wet	50	1000	---	86	80-120%	---	---	
Ethylbenzene	855	12.5	25.0	ug/kg wet	50	1000	---	85	80-120%	---	---	
m,p-Xylene	1770	25.0	50.0	ug/kg wet	50	2000	---	88	80-120%	---	---	
o-Xylene	858	12.5	25.0	ug/kg wet	50	1000	---	86	80-120%	---	---	
Chlorobenzene	917	12.5	25.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
1,1-Dichloroethene	914	12.5	25.0	ug/kg wet	50	1000	---	91	80-120%	---	---	
cis-1,2-Dichloroethene	1010	12.5	25.0	ug/kg wet	50	1000	---	101	80-120%	---	---	
Tetrachloroethene (PCE)	947	12.5	25.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
Trichloroethene (TCE)	1020	12.5	25.0	ug/kg wet	50	1000	---	102	80-120%	---	---	
Vinyl chloride	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 110 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*94 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Duplicate (9091433-DUP1)			Prepared: 09/26/19 08:57 Analyzed: 09/30/19 15:43									

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091433 - EPA 5035A							**Soil**					
Duplicate (9091433-DUP1)			Prepared: 09/26/19 08:57 Analyzed: 09/30/19 15:43									
QC Source Sample: PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)												
5035A/8260C												
Benzene	ND	6.50	13.0	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	32.5	65.0	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	32.5	65.0	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	16.2	32.5	ug/kg dry	50	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 109 %*		*Limits: 80-120 %*		*Dilution: 1x*					
Toluene-d8 (Surr)			*96 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*		*"*					
Matrix Spike (9091433-MS1)			Prepared: 09/26/19 15:30 Analyzed: 09/30/19 17:58									
QC Source Sample: PDI-101SC-B-04-06-190926 (A9I0885-10)												
5035A/8260C												
Benzene	2570	12.6	25.2	ug/kg dry	50	2520	ND	102	77-121%	---	---	
Toluene	2240	62.9	126	ug/kg dry	50	2520	ND	89	77-121%	---	---	
Ethylbenzene	2230	31.5	62.9	ug/kg dry	50	2520	ND	88	76-122%	---	---	
m,p-Xylene	4640	62.9	126	ug/kg dry	50	5040	ND	92	77-124%	---	---	
o-Xylene	2250	31.5	62.9	ug/kg dry	50	2520	ND	89	77-123%	---	---	
Chlorobenzene	2360	31.5	62.9	ug/kg dry	50	2520	ND	93	79-120%	---	---	
1,1-Dichloroethene	2480	31.5	62.9	ug/kg dry	50	2520	ND	99	70-131%	---	---	
cis-1,2-Dichloroethene	2700	31.5	62.9	ug/kg dry	50	2520	ND	107	77-123%	---	---	
Tetrachloroethene (PCE)	2430	31.5	62.9	ug/kg dry	50	2520	ND	96	73-128%	---	---	
Trichloroethene (TCE)	2670	31.5	62.9	ug/kg dry	50	2520	ND	106	77-123%	---	---	
Vinyl chloride	2790	31.5	62.9	ug/kg dry	50	2520	ND	111	56-135%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 111 %*		*Limits: 80-120 %*		*Dilution: 1x*					
Toluene-d8 (Surr)			*94 %*		*80-120 %*		*"*					

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091433 - EPA 5035A							**Soil**					
Matrix Spike (9091433-MS1)				Prepared: 09/26/19 15:30 Analyzed: 09/30/19 17:58								
QC Source Sample: PDI-101SC-B-04-06-190926 (A9I0885-10)												
Surr: 4-Bromofluorobenzene (Surr)				*Recovery: 97 %*	*Limits: 80-120 %*		*Dilution: 1x*					

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100594 - EPA 5030B							**Water**					
Blank (9100594-BLK1)			Prepared: 10/04/19 12:00 Analyzed: 10/04/19 15:41									
EPA 8260C												
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 101 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*94 %*		*80-120 %*			*"*				
LCS (9100594-BS1)			Prepared: 10/04/19 12:00 Analyzed: 10/04/19 13:52									
EPA 8260C												
Benzene	19.7	0.100	0.200	ug/L	1	20.0	---	99	80-120%	---	---	
Toluene	19.3	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Ethylbenzene	20.5	0.250	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Xylenes, total	63.4	0.750	1.50	ug/L	1	60.0	---	106	80-120%	---	---	
Chlorobenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,1-Dichloroethene	20.2	0.200	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
cis-1,2-Dichloroethene	20.5	0.200	0.400	ug/L	1	20.0	---	103	80-120%	---	---	
Tetrachloroethene (PCE)	18.4	0.200	0.400	ug/L	1	20.0	---	92	80-120%	---	---	
Trichloroethene (TCE)	18.7	0.200	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
Vinyl chloride	22.6	0.200	0.400	ug/L	1	20.0	---	113	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 99 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*99 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*92 %*		*80-120 %*			*"*				
LCS Dup (9100594-BSD1)			Prepared: 10/04/19 12:00 Analyzed: 10/04/19 14:19									
EPA 8260C												
Benzene	19.6	0.100	0.200	ug/L	1	20.0	---	98	80-120%	0.8	30%	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100594 - EPA 5030B							**Water**					
LCS Dup (9100594-BSD1)			Prepared: 10/04/19 12:00		Analyzed: 10/04/19 14:19							
Toluene	18.9	0.500	1.00	ug/L	1	20.0	---	94	80-120%	2	30%	
Ethylbenzene	20.0	0.250	0.500	ug/L	1	20.0	---	100	80-120%	3	30%	
Xylenes, total	62.4	0.750	1.50	ug/L	1	60.0	---	104	80-120%	2	30%	
Chlorobenzene	19.1	0.250	0.500	ug/L	1	20.0	---	96	80-120%	1	30%	
1,1-Dichloroethene	19.9	0.200	0.400	ug/L	1	20.0	---	100	80-120%	1	30%	
cis-1,2-Dichloroethene	20.0	0.200	0.400	ug/L	1	20.0	---	100	80-120%	3	30%	
Tetrachloroethene (PCE)	18.0	0.200	0.400	ug/L	1	20.0	---	90	80-120%	2	30%	
Trichloroethene (TCE)	19.0	0.200	0.400	ug/L	1	20.0	---	95	80-120%	1	30%	
Vinyl chloride	22.1	0.200	0.400	ug/L	1	20.0	---	111	80-120%	2	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*98 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*93 %*		*80-120 %*				*"*			
Duplicate (9100594-DUP1)			Prepared: 10/04/19 14:17		Analyzed: 10/04/19 17:30							
QC Source Sample: Non-SDG (A9I0936-09)												
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Xylenes, total	ND	0.750	1.50	ug/L	1	---	ND	---	---	---	30%	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 102 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*100 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*92 %*		*80-120 %*				*"*			
Matrix Spike (9100594-MS1)			Prepared: 10/04/19 14:17		Analyzed: 10/04/19 18:51							
QC Source Sample: Non-SDG (A9I0936-10)												
EPA 8260C												
Benzene	20.6	0.100	0.200	ug/L	1	20.0	ND	103	79-120%	---	---	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100594 - EPA 5030B							**Water**					
Matrix Spike (9100594-MS1)			Prepared: 10/04/19 14:17		Analyzed: 10/04/19 18:51							
QC Source Sample: Non-SDG (A9I0936-10)												
Toluene	20.0	0.500	1.00	ug/L	1	20.0	ND	100	80-121%	---	---	
Ethylbenzene	21.1	0.250	0.500	ug/L	1	20.0	ND	105	79-121%	---	---	
Xylenes, total	64.8	0.750	1.50	ug/L	1	60.0	ND	108	79-121%	---	---	
Chlorobenzene	19.8	0.250	0.500	ug/L	1	20.0	ND	99	80-120%	---	---	
1,1-Dichloroethene	22.0	0.200	0.400	ug/L	1	20.0	ND	110	71-131%	---	---	
cis-1,2-Dichloroethene	21.2	0.200	0.400	ug/L	1	20.0	ND	106	78-123%	---	---	
Tetrachloroethene (PCE)	19.4	0.200	0.400	ug/L	1	20.0	ND	97	74-129%	---	---	
Trichloroethene (TCE)	19.5	0.200	0.400	ug/L	1	20.0	ND	98	79-123%	---	---	
Vinyl chloride	24.7	0.200	0.400	ug/L	1	20.0	ND	123	58-137%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*98 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*92 %*		*80-120 %*			*"*				

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091421 - EPA 3546							**Sediment**					
Blank (9091421-BLK1)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 12:52							
EPA 8270D												
Acenaphthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 94 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*100 %*		*54-127 %*			*"*				
LCS (9091421-BS1)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 13:24							
EPA 8270D												
Acenaphthene	19.1	1.25	2.50	ug/kg wet	1	20.0	---	96	40-122%	---	---	
Acenaphthylene	18.9	1.25	2.50	ug/kg wet	1	20.0	---	94	32-132%	---	---	
Anthracene	18.5	1.25	2.50	ug/kg wet	1	20.0	---	93	47-123%	---	---	
Benz(a)anthracene	19.5	1.25	2.50	ug/kg wet	1	20.0	---	98	49-126%	---	---	
Benzo(a)pyrene	18.9	1.25	2.50	ug/kg wet	1	20.0	---	95	45-129%	---	---	
Benzo(b)fluoranthene	20.7	1.25	2.50	ug/kg wet	1	20.0	---	104	45-132%	---	---	
Benzo(k)fluoranthene	18.2	1.25	2.50	ug/kg wet	1	20.0	---	91	47-132%	---	---	
Benzo(g,h,i)perylene	17.6	1.25	2.50	ug/kg wet	1	20.0	---	88	43-134%	---	---	
Chrysene	19.2	1.25	2.50	ug/kg wet	1	20.0	---	96	50-124%	---	---	
Dibenz(a,h)anthracene	19.0	1.25	2.50	ug/kg wet	1	20.0	---	95	45-134%	---	---	
Fluoranthene	20.4	1.25	2.50	ug/kg wet	1	20.0	---	102	50-127%	---	---	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project:	**Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**
6720 SW Macadam Ave. Suite 125	Project Number:	**[none]**
Portland, OR 97219	Project Manager:	**Ryan Barth**

Report ID:
A9I0885 - 11 02 19 0439

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091421 - EPA 3546							**Sediment**					
LCS (9091421-BS1)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 13:24							
Fluorene	19.0	1.25	2.50	ug/kg wet	1	20.0	---	95	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	18.4	1.25	2.50	ug/kg wet	1	20.0	---	92	45-133%	---	---	
2-Methylnaphthalene	18.0	1.25	2.50	ug/kg wet	1	20.0	---	90	38-122%	---	---	
Naphthalene	19.2	1.25	2.50	ug/kg wet	1	20.0	---	96	35-123%	---	---	
Phenanthrene	19.6	1.25	2.50	ug/kg wet	1	20.0	---	98	50-121%	---	---	
Pyrene	18.2	1.25	2.50	ug/kg wet	1	20.0	---	91	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 99 %*		*Limits: 44-115 %*				*Dilution: 1x*			
p-Terphenyl-d14 (Surr)			*98 %*		*54-127 %*				*"*			
Duplicate (9091421-DUP2)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 15:31							
QC Source Sample: Non-SDG (A9I0879-01)												
Acenaphthene	**22.5**	1.56	3.13	ug/kg dry	1	---	32.3	---	---	**36**	**30%**	Q-04
Acenaphthylene	ND	1.56	3.13	ug/kg dry	1	---	1.68	---	---	***	**30%**	Q-05
Anthracene	ND	1.56	3.13	ug/kg dry	1	---	1.67	---	---	***	**30%**	Q-05
Benz(a)anthracene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Chrysene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Dibenz(a,h)anthracene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Fluoranthene	**1.63**	1.56	3.13	ug/kg dry	1	---	1.82	---	---	11	30%	J
Fluorene	ND	1.56	3.13	ug/kg dry	1	---	1.80	---	---	***	**30%**	Q-05
Indeno(1,2,3-cd)pyrene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
2-Methylnaphthalene	ND	1.56	3.13	ug/kg dry	1	---	ND	---	---	---	30%	
Naphthalene	**2.89**	1.56	3.13	ug/kg dry	1	---	5.53	---	---	**63**	**30%**	Q-05, J
Phenanthrene	**2.95**	1.56	3.13	ug/kg dry	1	---	3.56	---	---	19	30%	J
Pyrene	**41.8**	1.56	3.13	ug/kg dry	1	---	41.0	---	---	2	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 90 %*		*Limits: 44-115 %*				*Dilution: 1x*			
p-Terphenyl-d14 (Surr)			*89 %*		*54-127 %*				*"*			
Matrix Spike (9091421-MS1)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 16:03							
QC Source Sample: Non-SDG (A9I0879-06)												

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091421 - EPA 3546							**Sediment**					
Matrix Spike (9091421-MS1)			Prepared: 09/30/19 07:00		Analyzed: 09/30/19 16:03							
QC Source Sample: Non-SDG (A9I0879-06)												
EPA 8270D												
Acenaphthene	15900	1630	3260	ug/kg dry	1000	26.1	7470	**32200**	**40-122%**	---	---	Q-11
Acenaphthylene	5170	1630	3260	ug/kg dry	1000	26.1	2690	**9480**	**32-132%**	---	---	Q-11
Anthracene	6240	1630	3260	ug/kg dry	1000	26.1	2490	**14400**	**47-123%**	---	---	Q-11
Benz(a)anthracene	20500	1630	3260	ug/kg dry	1000	26.1	8500	**46000**	**49-126%**	---	---	Q-11
Benzo(a)pyrene	28900	1630	3260	ug/kg dry	1000	26.1	12900	**61500**	**45-129%**	---	---	Q-11
Benzo(b)fluoranthene	25800	1630	3260	ug/kg dry	1000	26.1	11500	**54700**	**45-132%**	---	---	Q-11
Benzo(k)fluoranthene	7970	1630	3260	ug/kg dry	1000	26.1	3720	**16300**	**47-132%**	---	---	Q-11
Benzo(g,h,i)perylene	22300	1630	3260	ug/kg dry	1000	26.1	10300	**46200**	**43-134%**	---	---	Q-11
Chrysene	30800	1630	3260	ug/kg dry	1000	26.1	12400	**70300**	**50-124%**	---	---	Q-11
Dibenz(a,h)anthracene	2300	1630	3260	ug/kg dry	1000	26.1	ND	**8800**	**45-134%**	---	---	Q-11, J
Fluoranthene	76300	1630	3260	ug/kg dry	1000	26.1	21600	**210000**	**50-127%**	---	---	Q-11
Fluorene	2530	1630	3260	ug/kg dry	1000	26.1	2080	**1720**	**43-125%**	---	---	Q-11, J
Indeno(1,2,3-cd)pyrene	19300	1630	3260	ug/kg dry	1000	26.1	8670	**40600**	**45-133%**	---	---	Q-11
2-Methylnaphthalene	1920	1630	3260	ug/kg dry	1000	26.1	ND	**7350**	**38-122%**	---	---	Q-11, J
Naphthalene	16600	1630	3260	ug/kg dry	1000	26.1	8640	**30500**	**35-123%**	---	---	Q-11
Phenanthrene	5020	1630	3260	ug/kg dry	1000	26.1	2430	**9930**	**50-121%**	---	---	Q-11
Pyrene	90400	1630	3260	ug/kg dry	1000	26.1	33100	**220000**	**47-127%**	---	---	Q-11
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 130 %*		*Limits: 44-115 %*		*Dilution: 1000x*					S-05
p-Terphenyl-d14 (Surr)			*170 %*		*54-127 %*		*"*					S-05
Matrix Spike Dup (9091421-MSD1)			Prepared: 09/30/19 07:01		Analyzed: 09/30/19 16:35							
QC Source Sample: Non-SDG (A9I0879-06)												
Acenaphthene	13800	1630	3260	ug/kg dry	1000	26.1	7470	**24100**	**40-122%**	14	30%	Q-11
Acenaphthylene	3660	1630	3260	ug/kg dry	1000	26.1	2690	**3720**	**32-132%**	**34**	**30%**	Q-11
Anthracene	3510	1630	3260	ug/kg dry	1000	26.1	2490	**3890**	**47-123%**	**56**	**30%**	Q-11
Benz(a)anthracene	11000	1630	3260	ug/kg dry	1000	26.1	8500	**9410**	**49-126%**	**61**	**30%**	Q-11
Benzo(a)pyrene	15400	1630	3260	ug/kg dry	1000	26.1	12900	**9450**	**45-129%**	**61**	**30%**	Q-11
Benzo(b)fluoranthene	14100	1630	3260	ug/kg dry	1000	26.1	11500	**9740**	**45-132%**	**59**	**30%**	Q-11
Benzo(k)fluoranthene	4820	1630	3260	ug/kg dry	1000	26.1	3720	**4230**	**47-132%**	**49**	**30%**	Q-11
Benzo(g,h,i)perylene	12400	1630	3260	ug/kg dry	1000	26.1	10300	**8330**	**43-134%**	**57**	**30%**	Q-11
Chrysene	15700	1630	3260	ug/kg dry	1000	26.1	12400	**12600**	**50-124%**	**65**	**30%**	Q-11
Dibenz(a,h)anthracene	ND	1630	3260	ug/kg dry	1000	26.1	ND		**45-134%**	**200**	**30%**	Q-11

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091421 - EPA 3546							**Sediment**					
Matrix Spike Dup (9091421-MSD1)			Prepared: 09/30/19 07:01		Analyzed: 09/30/19 16:35							
QC Source Sample: Non-SDG (A9I0879-06)												
Fluoranthene	36400	1630	3260	ug/kg dry	1000	26.1	21600	**56700**	**50-127%**	**71**	**30%**	Q-11
Fluorene	3690	1630	3260	ug/kg dry	1000	26.1	2080	**6170**	**43-125%**	**37**	**30%**	Q-11
Indeno(1,2,3-cd)pyrene	10600	1630	3260	ug/kg dry	1000	26.1	8670	**7270**	**45-133%**	**58**	**30%**	Q-11
2-Methylnaphthalene	2460	1630	3260	ug/kg dry	1000	26.1	ND	**9450**	**38-122%**	25	30%	Q-11, J
Naphthalene	27400	1630	3260	ug/kg dry	1000	26.1	8640	**71900**	**35-123%**	**49**	**30%**	Q-11
Phenanthrene	5250	1630	3260	ug/kg dry	1000	26.1	2430	**10800**	**50-121%**	4	30%	Q-11
Pyrene	56400	1630	3260	ug/kg dry	1000	26.1	33100	**89400**	**47-127%**	**46**	**30%**	Q-11
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 110 %*		*Limits: 44-115 %*			*Dilution: 1000x*				S-05
p-Terphenyl-d14 (Surr)			*130 %*		*54-127 %*			*"*				S-05

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100583 - EPA 3546							**Sediment**					
Blank (9100583-BLK1)			Prepared: 10/03/19 06:49 Analyzed: 10/03/19 11:49									
EPA 8270D												
Acenaphthene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	0.781	1.56	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 92 %*	*Limits: 44-115 %*				*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*108 %*	*54-127 %*				*"*				
LCS (9100583-BS1)			Prepared: 10/03/19 06:49 Analyzed: 10/03/19 12:21									
EPA 8270D												
Acenaphthene	12.6	0.833	1.67	ug/kg wet	1	13.3	---	94	40-122%	---	---	
Acenaphthylene	12.0	0.833	1.67	ug/kg wet	1	13.3	---	90	32-132%	---	---	
Anthracene	12.8	0.833	1.67	ug/kg wet	1	13.3	---	96	47-123%	---	---	
Benz(a)anthracene	12.1	0.833	1.67	ug/kg wet	1	13.3	---	91	49-126%	---	---	
Benzo(a)pyrene	12.6	0.833	1.67	ug/kg wet	1	13.3	---	95	45-129%	---	---	
Benzo(b)fluoranthene	13.4	0.833	1.67	ug/kg wet	1	13.3	---	100	45-132%	---	---	
Benzo(k)fluoranthene	12.8	0.833	1.67	ug/kg wet	1	13.3	---	96	47-132%	---	---	
Benzo(g,h,i)perylene	12.7	0.833	1.67	ug/kg wet	1	13.3	---	95	43-134%	---	---	
Chrysene	13.2	0.833	1.67	ug/kg wet	1	13.3	---	99	50-124%	---	---	
Dibenz(a,h)anthracene	12.5	0.833	1.67	ug/kg wet	1	13.3	---	93	45-134%	---	---	
Fluoranthene	13.1	0.833	1.67	ug/kg wet	1	13.3	---	99	50-127%	---	---	

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Apex Laboratories, LLC
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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100583 - EPA 3546							**Sediment**					
LCS (9100583-BS1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 12:21							
Fluorene	13.2	0.833	1.67	ug/kg wet	1	13.3	---	99	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	12.7	0.833	1.67	ug/kg wet	1	13.3	---	95	45-133%	---	---	
2-Methylnaphthalene	11.4	0.833	1.67	ug/kg wet	1	13.3	---	85	38-122%	---	---	
Naphthalene	12.2	0.833	1.67	ug/kg wet	1	13.3	---	92	35-123%	---	---	
Phenanthrene	12.7	0.833	1.67	ug/kg wet	1	13.3	---	95	50-121%	---	---	
Pyrene	12.6	0.833	1.67	ug/kg wet	1	13.3	---	94	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 93 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*98 %*		*54-127 %*			*"*				
Matrix Spike (9100583-MS1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:26							
QC Source Sample: Non-SDG (A9I0922-09)												
EPA 8270D												
Acenaphthene	16.3	0.964	1.93	ug/kg dry	1	15.4	5.33	71	40-122%	---	---	
Acenaphthylene	13.4	0.964	1.93	ug/kg dry	1	15.4	ND	87	32-132%	---	---	
Anthracene	14.1	0.964	1.93	ug/kg dry	1	15.4	ND	92	47-123%	---	---	
Benz(a)anthracene	13.5	0.964	1.93	ug/kg dry	1	15.4	ND	88	49-126%	---	---	
Benzo(a)pyrene	13.9	0.964	1.93	ug/kg dry	1	15.4	ND	90	45-129%	---	---	
Benzo(b)fluoranthene	14.3	0.964	1.93	ug/kg dry	1	15.4	ND	92	45-132%	---	---	
Benzo(k)fluoranthene	14.1	0.964	1.93	ug/kg dry	1	15.4	ND	91	47-132%	---	---	
Benzo(g,h,i)perylene	13.0	0.964	1.93	ug/kg dry	1	15.4	ND	85	43-134%	---	---	
Chrysene	14.2	0.964	1.93	ug/kg dry	1	15.4	ND	92	50-124%	---	---	
Dibenz(a,h)anthracene	13.1	0.964	1.93	ug/kg dry	1	15.4	ND	85	45-134%	---	---	
Fluoranthene	14.8	0.964	1.93	ug/kg dry	1	15.4	ND	96	50-127%	---	---	
Fluorene	15.0	0.964	1.93	ug/kg dry	1	15.4	ND	97	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	13.2	0.964	1.93	ug/kg dry	1	15.4	ND	85	45-133%	---	---	
2-Methylnaphthalene	12.7	0.964	1.93	ug/kg dry	1	15.4	ND	82	38-122%	---	---	
Naphthalene	13.5	0.964	1.93	ug/kg dry	1	15.4	ND	88	35-123%	---	---	
Phenanthrene	14.0	0.964	1.93	ug/kg dry	1	15.4	ND	91	50-121%	---	---	
Pyrene	12.9	0.964	1.93	ug/kg dry	1	15.4	ND	84	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 87 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*86 %*		*54-127 %*			*"*				
Matrix Spike Dup (9100583-MSD1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:58							

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100583 - EPA 3546							**Sediment**					
Matrix Spike Dup (9100583-MSD1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:58							
QC Source Sample: Non-SDG (A9I0922-09)												
Acenaphthene	18.3	0.934	1.87	ug/kg dry	1	14.9	5.33	87	40-122%	11	30%	
Acenaphthylene	12.5	0.934	1.87	ug/kg dry	1	14.9	ND	84	32-132%	7	30%	
Anthracene	13.5	0.934	1.87	ug/kg dry	1	14.9	ND	90	47-123%	5	30%	
Benz(a)anthracene	13.3	0.934	1.87	ug/kg dry	1	14.9	ND	89	49-126%	2	30%	
Benzo(a)pyrene	13.8	0.934	1.87	ug/kg dry	1	14.9	ND	92	45-129%	0.4	30%	
Benzo(b)fluoranthene	14.3	0.934	1.87	ug/kg dry	1	14.9	ND	96	45-132%	0.3	30%	
Benzo(k)fluoranthene	13.9	0.934	1.87	ug/kg dry	1	14.9	ND	93	47-132%	1	30%	
Benzo(g,h,i)perylene	13.6	0.934	1.87	ug/kg dry	1	14.9	ND	91	43-134%	4	30%	
Chrysene	14.3	0.934	1.87	ug/kg dry	1	14.9	ND	95	50-124%	0.7	30%	
Dibenz(a,h)anthracene	13.2	0.934	1.87	ug/kg dry	1	14.9	ND	89	45-134%	1	30%	
Fluoranthene	14.5	0.934	1.87	ug/kg dry	1	14.9	ND	97	50-127%	2	30%	
Fluorene	14.4	0.934	1.87	ug/kg dry	1	14.9	ND	97	43-125%	4	30%	
Indeno(1,2,3-cd)pyrene	13.3	0.934	1.87	ug/kg dry	1	14.9	ND	89	45-133%	1	30%	
2-Methylnaphthalene	11.9	0.934	1.87	ug/kg dry	1	14.9	ND	79	38-122%	6	30%	
Naphthalene	13.1	0.934	1.87	ug/kg dry	1	14.9	ND	88	35-123%	3	30%	
Phenanthrene	13.5	0.934	1.87	ug/kg dry	1	14.9	ND	91	50-121%	3	30%	
Pyrene	14.1	0.934	1.87	ug/kg dry	1	14.9	ND	94	47-127%	9	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 84 %*		*Limits: 44-115 %*		*Dilution: 1x*					
p-Terphenyl-d14 (Surr)			*92 %*		*54-127 %*		*"*					

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100531 - EPA 3051A								**Sediment**				
Blank (9100531-BLK1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 20:01							
EPA 6020A												
Arsenic	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
LCS (9100531-BS1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 20:06							
EPA 6020A												
Arsenic	23.4	0.250	0.500	mg/kg wet	5	25.0	---	93	80-120%	---	---	
Matrix Spike (9100531-MS1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 21:43							
QC Source Sample: Non-SDG (A9I0922-09)												
EPA 6020A												
Arsenic	31.3	0.303	0.606	mg/kg dry	5	30.3	1.06	100	75-125%	---	---	
Matrix Spike Dup (9100531-MSD1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 21:47							
QC Source Sample: Non-SDG (A9I0922-09)												
Arsenic	28.5	0.294	0.589	mg/kg dry	5	29.4	1.06	93	75-125%	9	40%	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Demand Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100515 - PSEP-5310B TOC							**Sediment**					
Blank (9100515-BLK1)			Prepared: 09/30/19 15:31		Analyzed: 10/09/19 08:05							
SM 5310 B MOD												
Total Organic Carbon	ND	0.020	0.020	% by Weight	1	---	---	---	---	---	---	AMEND
LCS (9100515-BS1)			Prepared: 09/30/19 15:31		Analyzed: 10/09/19 08:37							
SM 5310 B MOD												
Total Organic Carbon	10000			mg/kg	1	10000	---	105	90-110%	---	---	AMEND
Duplicate (9100515-DUP1)			Prepared: 09/30/19 15:31		Analyzed: 10/09/19 09:51							
QC Source Sample: Non-SDG (A9I0879-07)												
Total Organic Carbon	**0.062**	0.020	0.020	% by Weight	1	---	0.064	---	---	3	20%	AMEND

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AMENDED REPORT

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091411 - Total Solids (SM2540G/PSEP)							**Sediment**					
Duplicate (9091411-DUP1)			Prepared: 09/27/19 17:11		Analyzed: 10/01/19 15:38							
QC Source Sample: Non-SDG (A9I0879-01)												
Total Solids	**75.7**	1.00	1.00	% by Weight	1	---	77.3	---	---	2	10%	
Duplicate (9091411-DUP2)			Prepared: 09/27/19 17:11		Analyzed: 10/01/19 15:38							
QC Source Sample: Non-SDG (A9I0879-06)												
Total Solids	**75.2**	1.00	1.00	% by Weight	1	---	75.2	---	---	0.02	10%	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

SAMPLE PREPARATION INFORMATION

Selected Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100594							
A9I0885-03	WQ	EPA 8260C	09/25/19 14:48	10/04/19 14:17	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9091433							
A9I0885-01	Sediment	5035A/8260C	09/25/19 13:59	09/25/19 13:59	5.11g/5mL	5g/5mL	0.98
A9I0885-02	Sediment	5035A/8260C	09/25/19 14:01	09/25/19 14:01	4.88g/5mL	5g/5mL	1.02
A9I0885-04	Sediment	5035A/8260C	09/26/19 08:58	09/26/19 08:58	5.7g/5mL	5g/5mL	0.88
A9I0885-05	Sediment	5035A/8260C	09/26/19 08:56	09/26/19 08:56	4.96g/5mL	5g/5mL	1.01
A9I0885-06	Sediment	5035A/8260C	09/26/19 08:57	09/26/19 08:57	5.58g/5mL	5g/5mL	0.90
A9I0885-07	Sediment	5035A/8260C	09/26/19 08:58	09/26/19 08:58	4.93g/5mL	5g/5mL	1.01

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100583							
A9I0885-01RE1	Sediment	EPA 8270D	09/25/19 13:59	10/03/19 06:49	15.45g/5mL	10g/5mL	0.65
A9I0885-02RE1	Sediment	EPA 8270D	09/25/19 14:01	10/03/19 06:49	15.39g/5mL	10g/5mL	0.65
A9I0885-04RE1	Sediment	EPA 8270D	09/26/19 08:58	10/03/19 06:49	15.46g/5mL	10g/5mL	0.65
A9I0885-05RE1	Sediment	EPA 8270D	09/26/19 08:56	10/03/19 06:49	15.7g/10mL	10g/5mL	1.27
A9I0885-06RE1	Sediment	EPA 8270D	09/26/19 08:57	10/03/19 06:49	15.58g/5mL	10g/5mL	0.64
A9I0885-07RE1	Sediment	EPA 8270D	09/26/19 08:58	10/03/19 06:49	15.28g/5mL	10g/5mL	0.65

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100531							
A9I0885-01	Sediment	EPA 6020A	09/25/19 13:59	10/02/19 08:34	0.48g/50mL	0.5g/50mL	1.04
A9I0885-02	Sediment	EPA 6020A	09/25/19 14:01	10/02/19 08:34	0.518g/50mL	0.5g/50mL	0.97
A9I0885-04	Sediment	EPA 6020A	09/26/19 08:58	10/02/19 08:34	0.482g/50mL	0.5g/50mL	1.04
A9I0885-05	Sediment	EPA 6020A	09/26/19 08:56	10/02/19 08:34	0.515g/50mL	0.5g/50mL	0.97
A9I0885-06	Sediment	EPA 6020A	09/26/19 08:57	10/02/19 08:34	0.502g/50mL	0.5g/50mL	1.00
A9I0885-07	Sediment	EPA 6020A	09/26/19 08:58	10/02/19 08:34	0.51g/50mL	0.5g/50mL	0.98

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

SAMPLE PREPARATION INFORMATION

Demand Parameters

Prep: PSEP-5310B TOC

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100515							
A9I0885-01	Sediment	SM 5310 B MOD	09/25/19 13:59	09/30/19 15:31			NA
A9I0885-02	Sediment	SM 5310 B MOD	09/25/19 14:01	09/30/19 15:31			NA
A9I0885-04	Sediment	SM 5310 B MOD	09/26/19 08:58	09/30/19 15:31			NA
A9I0885-05	Sediment	SM 5310 B MOD	09/26/19 08:56	09/30/19 15:31			NA
A9I0885-06	Sediment	SM 5310 B MOD	09/26/19 08:57	09/30/19 15:31			NA
A9I0885-07	Sediment	SM 5310 B MOD	09/26/19 08:58	09/30/19 15:31			NA

Solid and Moisture Determinations

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9091411							
A9I0885-01	Sediment	SM 2540 G	09/25/19 13:59	09/27/19 17:11			NA
A9I0885-02	Sediment	SM 2540 G	09/25/19 14:01	09/27/19 17:11			NA
A9I0885-04	Sediment	SM 2540 G	09/26/19 08:58	09/27/19 17:11			NA
A9I0885-05	Sediment	SM 2540 G	09/26/19 08:56	09/27/19 17:11			NA
A9I0885-06	Sediment	SM 2540 G	09/26/19 08:57	09/27/19 17:11			NA
A9I0885-07	Sediment	SM 2540 G	09/26/19 08:58	09/27/19 17:11			NA
A9I0885-08	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-09	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-10	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-11	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-12	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-13	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-14	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA
A9I0885-15	Sediment	SM 2540 G	09/26/19 15:30	09/27/19 17:11			NA

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

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AMEND	Result for this sample or analyte has been amended from the original report. See Case Narrative for details.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
M-05	Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
Q-04	Spike recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.
Q-05	Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
Q-11	Spike recovery cannot be accurately quantified due to sample dilution required for high analyte concentration and/or matrix interference.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
X	See Case Narrative.

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

LABORATORY ACCREDITATION INFORMATION

TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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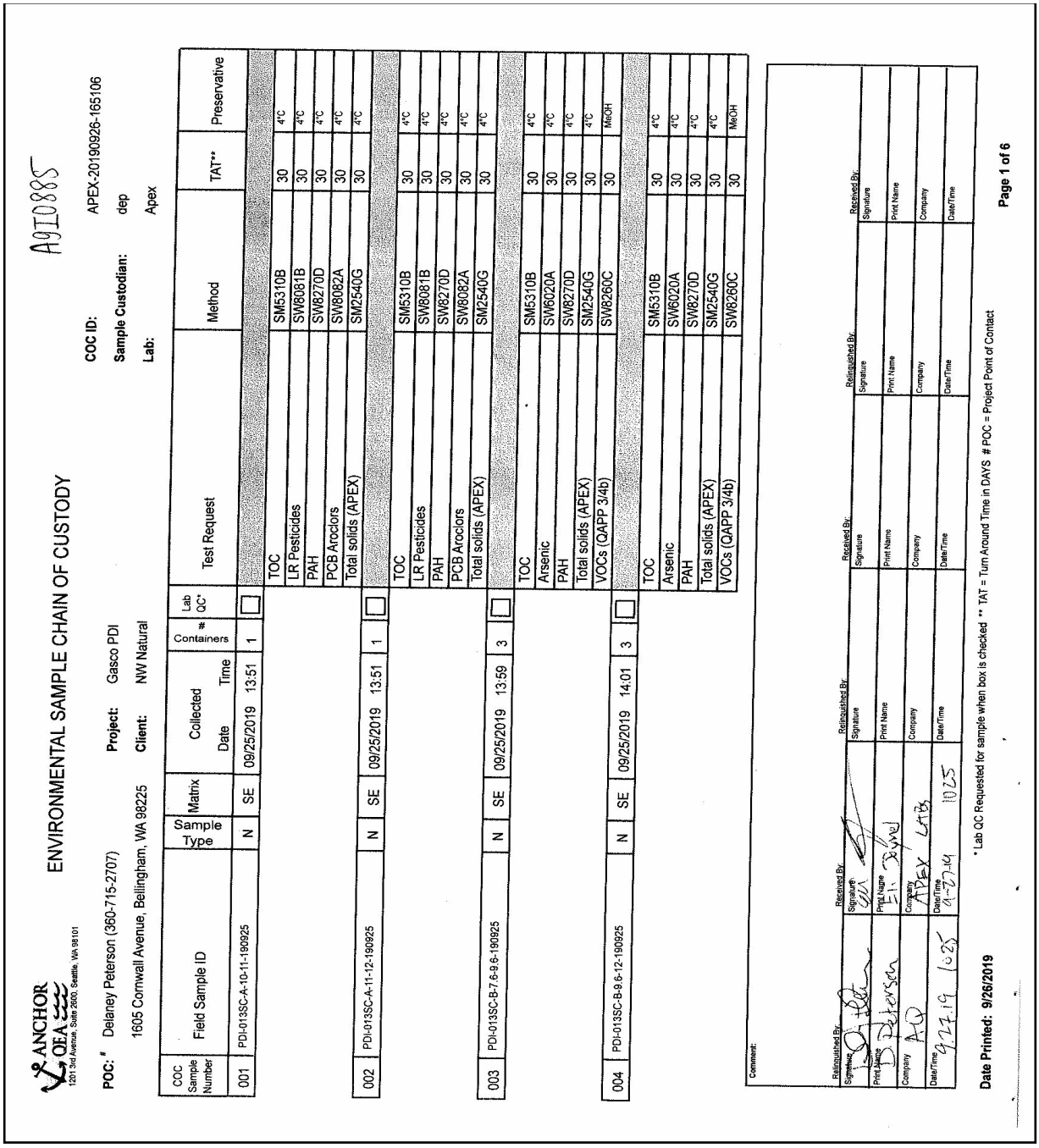
Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA, LLC
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-013SC-A-10-11-190925	N	SE	09/25/2019	13:51	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Arocolors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
002	PDI-013SC-A-11-12-190925	N	SE	09/25/2019	13:51	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Arocolors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
003	PDI-013SC-B-7.6-9.6-190925	N	SE	09/25/2019	13:59	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
004	PDI-013SC-B-9.6-12-190925	N	SE	09/25/2019	14:01	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time — Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name: D Peterson / Company: AQ / Date/Time: 9.27.19 1025 — Received By: Signature / Print Name: E. Boyd / Company: APEX Labs / Date/Time: 9-27-19 1025

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Date Printed: 9/26/2019

Page 1 of 6

Apex Laboratories

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Darwin Thomas, Business Development Director

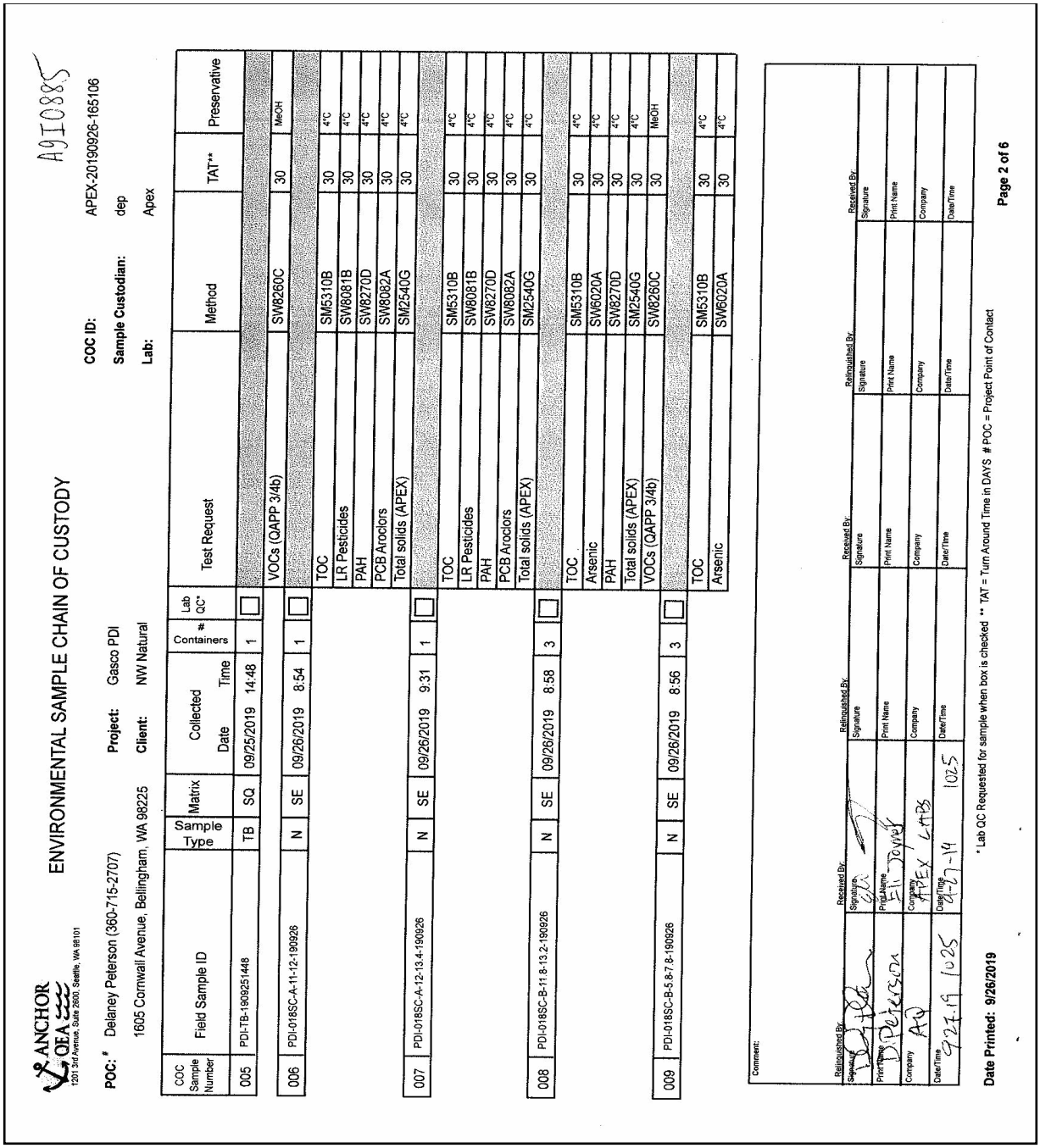
Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC
6720 SW Macadam Ave. Suite 125
Portland, OR 97219

Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**
Project Number: **[none]**
Project Manager: **Ryan Barth**

Report ID:
A9I0885 - 11 02 19 0439



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA LLC, 1201 3rd Avenue, Suite 2600, Seattle, WA 98101

POC: * Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
005	PDI-TB-190925448	TB	SQ	09/25/2019	14:48	1	☐	VOCs (QAPP 3/4b)	SW8260C	30	MeOH
006	PDI-018SC-A-11-12-190926	N	SE	09/26/2019	8:54	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
007	PDI-018SC-A-12-13.4-190926	N	SE	09/26/2019	9:31	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
008	PDI-018SC-B-11.8-13.2-190926	N	SE	09/26/2019	8:58	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
009	PDI-018SC-B-5.8-7.8-190926	N	SE	09/26/2019	8:56	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C

Comment:

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name: D Peterson / Company: AQ / Date/Time: 9.27.19 1025 — Received By: Signature / Print Name: Eli Boyd / Company: APEX Labs / Date/Time: 9-27-19 1025

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

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Page 2 of 6

Apex Laboratories

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Darwin Thomas, Business Development Director

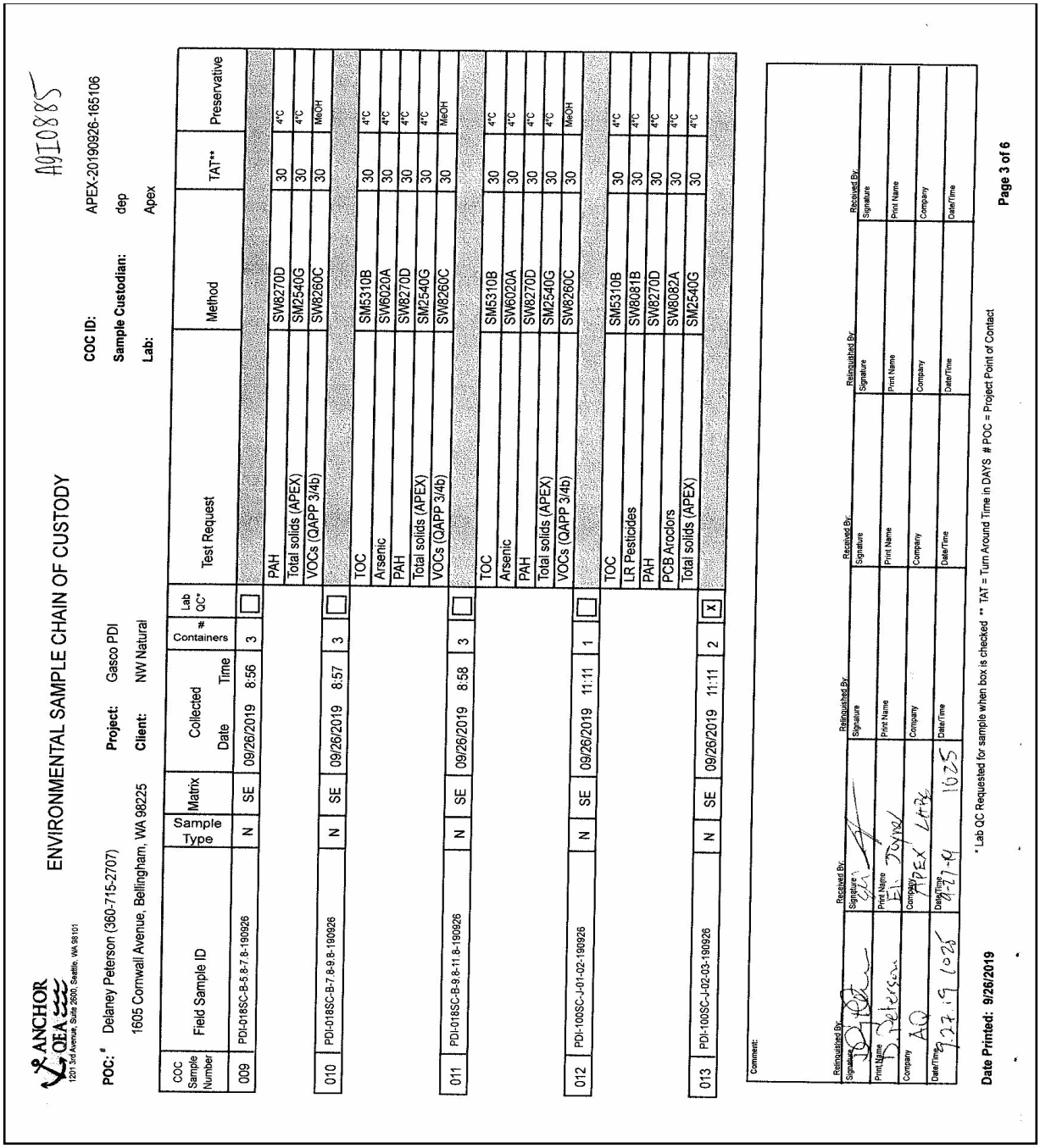
Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC
6720 SW Macadam Ave. Suite 125
Portland, OR 97219

Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**
Project Number: **[none]**
Project Manager: **Ryan Barth**

Report ID:
A9I0885 - 11 02 19 0439



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
009	PDI-018SC-B-5.8-7.8-190926	N	SE	09/26/2019	8:56	3	☐	PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
010	PDI-018SC-B-7.8-9.8-190926	N	SE	09/26/2019	8:57	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
011	PDI-018SC-B-9.8-11.8-190926	N	SE	09/26/2019	8:58	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
012	PDI-100SC-J-01-02-190926	N	SE	09/26/2019	11:11	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
013	PDI-100SC-J-02-03-190926	N	SE	09/26/2019	11:11	2	X				

Comment:

Relinquished By / Received By / Relinquished By / Received By / Relinquished By / Received By
Signature / Print Name / Company / Date/Time

Relinquished By: Signature: [signature] Print Name: D. Peterson Company: AQ Date/Time: 9.27.19 1025
Received By: Signature: [signature] Print Name: Eli Joyner Company: APEX LABS Date/Time: 9.27.19 1035

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

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Page 3 of 6

Apex Laboratories

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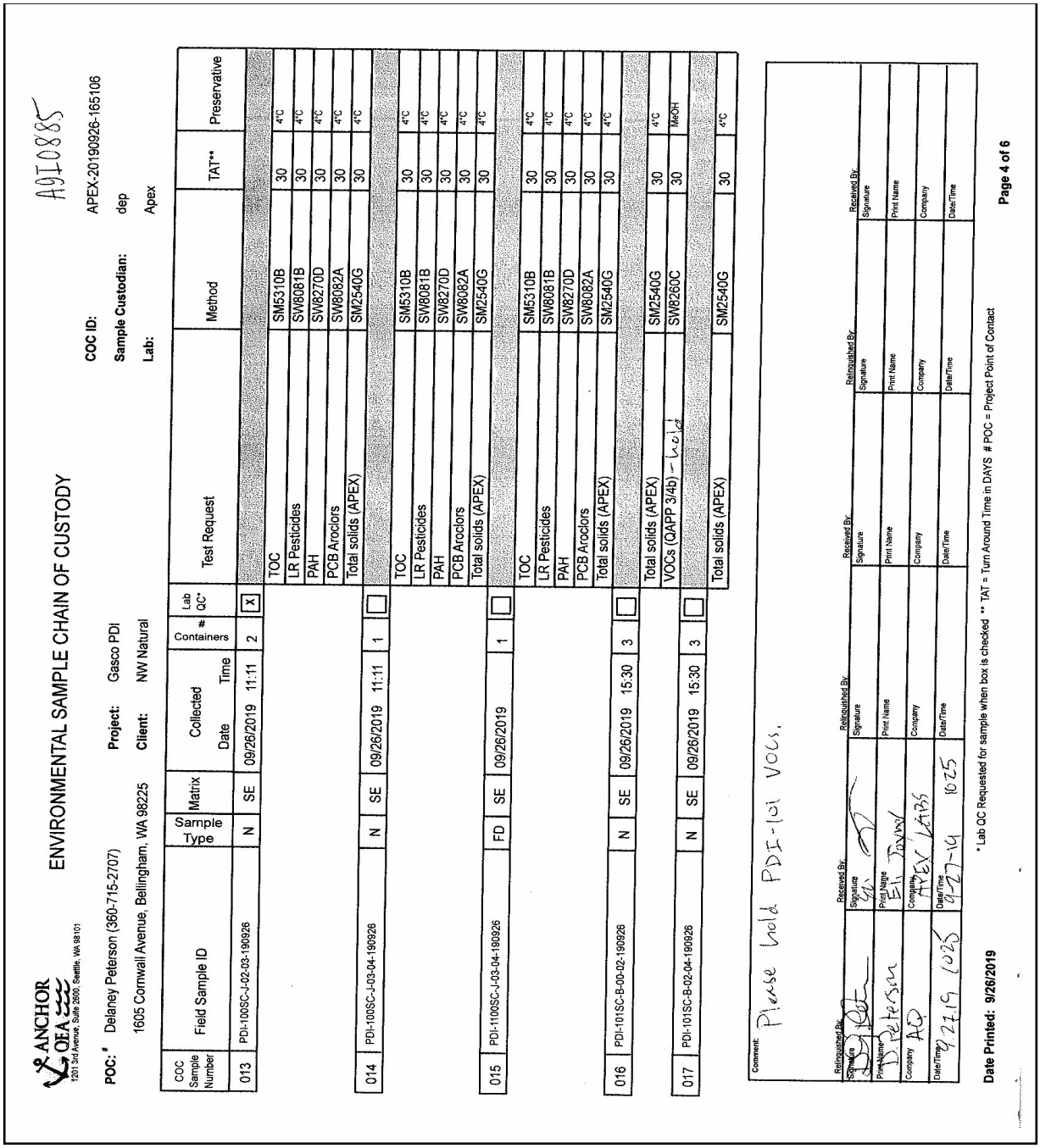
AMENDED REPORT

Anchor QEA, LLC
6720 SW Macadam Ave. Suite 125
Portland, OR 97219

Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**
Project Number: **[none]**
Project Manager: **Ryan Barth**

Report ID:
A9I0885 - 11 02 19 0439



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA, LLC, 1201 3rd Avenue, Suite 2600, Seattle, WA 98101

COC ID: APEX-20190926-165106

POC: * Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI

Client: NW Natural

Sample Custodian: dep

Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
013	PDI-100SC-J-02-03-190926	N	SE	09/26/2019	11:11	2	X	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
014	PDI-100SC-J-03-04-190926	N	SE	09/26/2019	11:11	1		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
015	PDI-1100SC-J-03-04-190926	FD	SE	09/26/2019		1		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
016	PDI-101SC-B-00-02-190926	N	SE	09/26/2019	15:30	3		Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - Ind	SW8260C	30	MeOH
017	PDI-101SC-B-02-04-190926	N	SE	09/26/2019	15:30	3		Total solids (APEX)	SM2540G	30	4°C

Comment: Please hold PDI-101 VOCs.

Relinquished By: Signature / Print Name / Company / Date/Time: 9.27.19 1025

Received By: Signature / Print Name: D Peterson / Company: APEX Labs / Date/Time: 9-27-19 1025

Relinquished By: Signature / Print Name / Company / Date/Time

Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name / Company / Date/Time

Received By: Signature / Print Name / Company / Date/Time

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

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Page 4 of 6

Apex Laboratories

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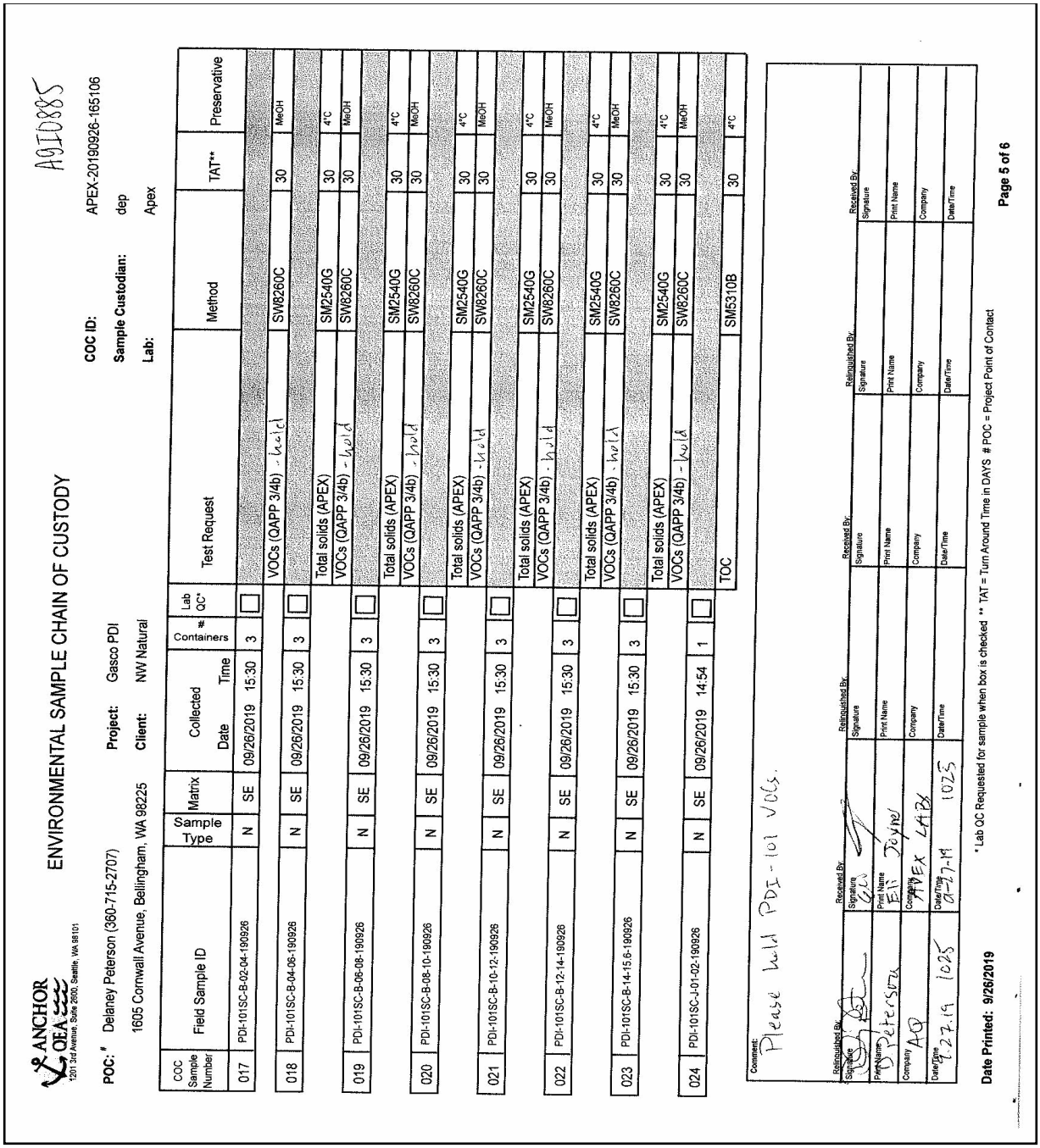
Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA, LLC — 1201 3rd Avenue, Suite 2600, Seattle, WA 98101

POC: # Delaney Peterson (360-715-2707) — Project: Gasco PDI — COC ID: APEX-20190926-165106

1605 Cornwall Avenue, Bellingham, WA 98225 — Client: NW Natural — Lab: Apex — Sample Custodian: dep

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
017	PDI-101SC-B-02-04-190926	N	SE	09/26/2019	15:30	3	☐	VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
018	PDI-101SC-B-04-06-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
019	PDI-101SC-B-06-08-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
020	PDI-101SC-B-08-10-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
021	PDI-101SC-B-10-12-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
022	PDI-101SC-B-12-14-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
023	PDI-101SC-B-14-15.6-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
024	PDI-101SC-J-01-02-190926	N	SE	09/26/2019	14:54	1	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
								TOC	SM5310B	30	4°C

Comment: Please hold PDI-101 VOCs.

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

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Apex Laboratories

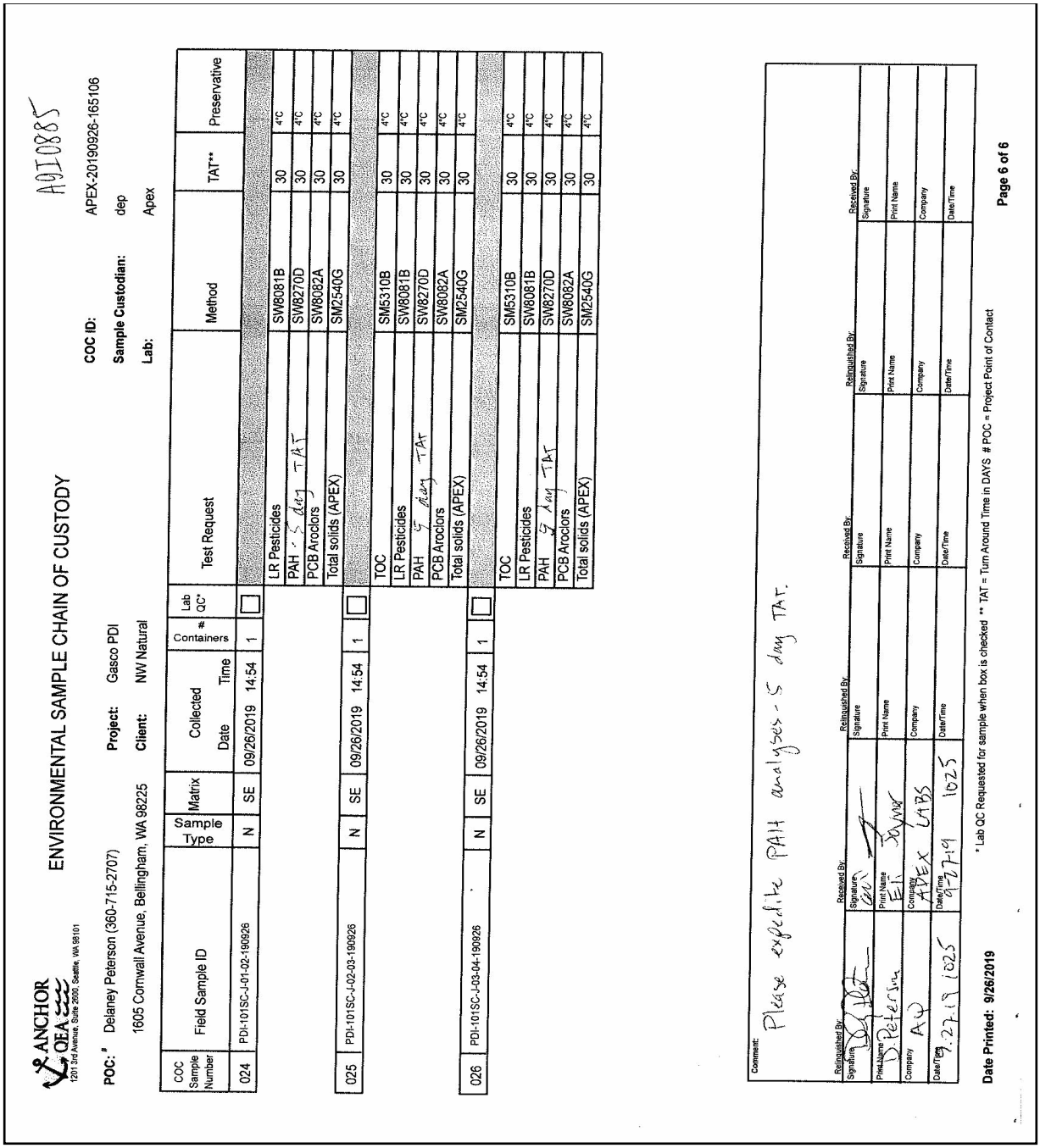
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

ANCHOR QEA, LLC — 1201 3rd Avenue, Suite 2600, Seattle, WA 98101

POC: * Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
024	PDI-101SC-J-01-02-190926	N	SE	09/26/2019	14:54	1	☐	LR Pesticides	SW8081B	30	4°C
								PAH 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
025	PDI-101SC-J-02-03-190926	N	SE	09/26/2019	14:54	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
026	PDI-101SC-J-03-04-190926	N	SE	09/26/2019	14:54	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C

Comment: Please expedite PAH analyses - 5 day TAT.

Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time
Relinquished By: Signature / Print Name / Company / Date/Time — Received By: Signature / Print Name / Company / Date/Time
Relinquished By: Signature / Print Name: D Peterson / Company: AP / Date/Time: 9.27.19 1625 — Received By: Signature / Print Name: Eli Joyner / Company: APEX LABS / Date/Time: 9-27-19 1625

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Date Printed: 9/26/2019

Page 6 of 6

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

1/2

APEX LABS COOLER RECEIPT FORM

Client: Anchor QEA Element WO#: A9 I0885

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 9-27-19 @ 1025 By: EJ

Delivered by: Apex X Client ___ ESS ___ FedEx ___ UPS ___ Swift ___ Senvoy ___ SDS ___ Other ___

Cooler Inspection Date/time inspected: 9-27-19 @ 1127 By: EJ

Chain of Custody included? Yes X No ___ Custody seals? Yes ___ No X

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.1	1.4	1.1	1.7			
Received on ice? (Y/N)	Y	Y	Y	Y			
Temp. blanks? (Y/N)	Y	Y	Y	Y			
Ice type: (Gel/Real/Other)	Real	Real	Real	Real			
Condition:	Good	Good	Good	Good			

Cooler out of temp? (Y/N) Possible reason why: ___

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 9/27/19 @ 1236 By: 8

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes ___ No X Comments: See form

COC/container discrepancies form initiated? Yes X No ___ NA ___

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ___

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments ___

Water samples: pH checked: Yes ___ No ___ NA X pH appropriate? Yes ___ No ___ NA X

Comments: ___

Additional information: ___

Labeled by: 8 Witness: JS Cooler Inspected by: 8 See Project Contact Form: Y

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0885 - 11 02 19 0439**

A9I0885 2/2

COC/Container Discrepancies

COC Reads	Container Reads/Comments
PDI-018SC-A-12-13.4-190926	PDI-018SC-A-12-13.2-190926
PDI-018SC-B-11.8-13.2-190926, T of 0858	MeOH voas read T of 0900
PDI-018SC-B-5.8-7.8-190926	No info on label 1/2 MeOH voas, lid reads PDI-018-5.8-7.8
PDI-018SC-B-9.8-11.8-190926	1/2 MeOH voas reads PDI-18SC-B, matched by T
PDI-101SC-B-02-04-190926, T of 1530	MeOH voas read T of 1531
PDI-101SC-B-04-06-190926, T of 1530	MeOH voas read T of 1532
PDI-101SC-B-06-08-190926, T of 1530	MeOH voas read T of 1533
PDI-101SC-B-08-10-190926, T of 1530	MeOH voas read T of 1534
PDI-101SC-B-10-12-190926, T of 1530	MeOH voas read T of 1535
PDI-101SC-B-12-14-190926, T of 1530	MeOH voas read T of 1536
PDI-101SC-B-14-15.6-190926, T of 1530	MeOH voas read T of 1537
PDI-1100SC-J-03-04-190926, no T on CoC	T of 1111

Apex Laboratories

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Darwin Thomas, Business Development Director

Sample Receipt Documentation
(Work orders, Chain of Custody & Cooler Receipt Forms)

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Report To:

Anchor QEA, LLC
Ryan Barth
6720 SW Macadam Ave. Suite 125
Portland, OR 97219
Phone: (503) 670-1108
Fax: na

Invoice To:

Anchor QEA, LLC Seattle
Accounts Payable
1201 3rd Avenue, Suite 2600
Seattle, WA 98101
Phone :(206) 287-9130
Fax: (206) 287-9131

Date Due:	10/11/19 17:00 (10 day TAT)		
Received By:	Eli S. Joyner	Date Received:	09/27/19 10:25
Logged In By:	Susan L. Treat	Date Logged In:	09/27/19 14:21

Cooler #1 received at 2.1°C

Custody Seals	No	Containers Intact	Yes	COC/Labels Agree	No	PH Confirmed	No	Received On Ice	Yes
Temperature OK	Yes								

Cooler #2 received at 1.4°C

Custody Seals	No	Containers Intact	Yes	COC/Labels Agree	No	PH Confirmed	No	Received On Ice	Yes
Temperature OK	Yes								

Cooler #3 received at 1.1°C

Custody Seals	No	Containers Intact	Yes	COC/Labels Agree	No	PH Confirmed	No	Received On Ice	Yes
Temperature OK	Yes								

Cooler #4 received at 1.7°C

Custody Seals	No	Containers Intact	Yes	COC/Labels Agree	No	PH Confirmed	No	Received On Ice	Yes
Temperature OK	Yes								

Analysis	Due	TAT	Expires	Comments
A9I0885-01 PDI-013SC-B-7.6-9.6-190925 [Sediment] Sampled 09/25/19 13:59 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/23/20 13:59	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/23/20 13:59	
Project Mgmt				
Data Package	11/22/19 17:00	10	01/02/20 13:59	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/26/19 13:59	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/09/19 13:59	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/27/19 13:59	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/23/20 13:59	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/23/19 13:59	

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0885-02 PDI-013SC-B-9.6-12-190925 [Sediment] Sampled 09/25/19 14:01 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/23/20 14:01	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/23/20 14:01	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/26/19 14:01	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/09/19 14:01	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/27/19 14:01	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/23/20 14:01	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/23/19 14:01	
A9I0885-03 PDI-TB-1909251448 [Water] Sampled 09/25/19 14:48 (GMT-08:00) Pacific Time (US & Canada) 1 Containers				
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	10/09/19 14:48	
A9I0885-04 PDI-018SC-B-11.8-13.2-190926 [Sediment] Sampled 09/26/19 08:58 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				**MeOH voas read T of 0900**
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 08:58	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/24/20 08:58	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 08:58	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/10/19 08:58	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/28/19 08:58	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 08:58	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/24/19 08:58	

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0885-05 PDI-018SC-B-5.8-7.8-190926 [Sediment] Sampled 09/26/19 08:56 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				**No info on 1/2 MeOH voas, lid reads PDI-018-5.8-7.8**
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 08:56	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/24/20 08:56	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 08:56	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/10/19 08:56	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/28/19 08:56	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 08:56	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/24/19 08:56	
A9I0885-06 PDI-018SC-B-7.8-9.8-190926 [Sediment] Sampled 09/26/19 08:57 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 08:57	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/24/20 08:57	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 08:57	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/10/19 08:57	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/28/19 08:57	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 08:57	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/24/19 08:57	

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments

Analysis	Due	TAT	Expires	Comments

A9I0885-07 PDI-018SC-B-9.8-11.8-190926 [Sediment] Sampled 09/26/19 08:58 (GMT-08:00) Pacific Time (US & Canada) 6 Containers

1/2 MeOH voas reads PDI-18SC-B, matched by T

Analysis	Due	TAT	Expires	Comments
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 08:58	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/10/19 17:00	10	03/24/20 08:58	
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 08:58	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/10/19 17:00	10	10/10/19 08:58	
Volatiles				
8260C BTEX+Halo6	10/10/19 17:00	10	09/28/19 08:58	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 08:58	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/10/19 17:00	10	10/24/19 08:58	

A9I0885-08 PDI-101SC-B-00-02-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

Analysis	Due	TAT	Expires	Comments
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885-09 PDI-101SC-B-02-04-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1531

Analysis	Due	TAT	Expires	Comments
Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments

Analysis	Due	TAT	Expires	Comments

A9I0885-10 PDI-101SC-B-04-06-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1532

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885-11 PDI-101SC-B-06-08-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1533

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885-12 PDI-101SC-B-08-10-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1534

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments

Analysis	Due	TAT	Expires	Comments

A9I0885-13 PDI-101SC-B-10-12-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1535

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885-14 PDI-101SC-B-12-14-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1536

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

A9I0885-15 PDI-101SC-B-14-15.6-190926 [Sediment] Sampled 09/26/19 15:30 (GMT-08:00) Pacific Time (US & Canada) 3 Containers

MeOH voas read T of 1537

Dry Weight				
Dry Weight	10/02/19 17:00	3	03/24/20 15:30	Use Results from TS. Make NR once completed.
Sample Control				
Archive Samples - Frozen	12/30/19 17:00	1	09/27/19 15:30	3 months
Volatiles				
~~8260C BTEX+Halo6~~	10/10/19 17:00	10	09/28/19 15:30	samples are reviewed, but cancelled, mislog, should have been o
Wet Chem				
Solids, Total (SM 2540 G,B)	10/10/19 17:00	10	03/24/20 15:30	Use Result for Dry Weight.

Reviewed By

Date

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-013SC-A-10-11-190925	N	SE	09/25/2019	13:51	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
002	PDI-013SC-A-11-12-190925	N	SE	09/25/2019	13:51	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
003	PDI-013SC-B-7.6-9.6-190925	N	SE	09/25/2019	13:59	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
004	PDI-013SC-B-9.6-12-190925	N	SE	09/25/2019	14:01	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name D. Peterson	Print Name E. Dyne	Print Name	Print Name	Print Name	Print Name
Company AQ	Company APEX LABS	Company	Company	Company	Company
Date/Time 9.27.19 1025	Date/Time 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
005	PDI-TB-1909251448	TB	SQ	09/25/2019	14:48	1	☐	VOCs (QAPP 3/4b)	SW8260C	30	MeOH
006	PDI-018SC-A-11-12-190926	N	SE	09/26/2019	8:54	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
007	PDI-018SC-A-12-13.4-190926	N	SE	09/26/2019	9:31	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
008	PDI-018SC-B-11.8-13.2-190926	N	SE	09/26/2019	8:58	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
009	PDI-018SC-B-5.8-7.8-190926	N	SE	09/26/2019	8:56	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Eli Joyner	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: APEX LABS	Company	Company	Company	Company
Date/Time: 9.27.19 1025	Date/Time: 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
009	PDI-018SC-B-5.8-7.8-190926	N	SE	09/26/2019	8:56	3	☐				
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
010	PDI-018SC-B-7.8-9.8-190926	N	SE	09/26/2019	8:57	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
011	PDI-018SC-B-9.8-11.8-190926	N	SE	09/26/2019	8:58	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
012	PDI-100SC-J-01-02-190926	N	SE	09/26/2019	11:11	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
013	PDI-100SC-J-02-03-190926	N	SE	09/26/2019	11:11	2	X				

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: [illegible] Joyner	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: APEX LABS	Company	Company	Company	Company
Date/Time: 9.27.19 1025	Date/Time: 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
013	PDI-100SC-J-02-03-190926	N	SE	09/26/2019	11:11	2	X				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
014	PDI-100SC-J-03-04-190926	N	SE	09/26/2019	11:11	1					
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
015	PDI-1100SC-J-03-04-190926	FD	SE	09/26/2019		1					
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
016	PDI-101SC-B-00-02-190926	N	SE	09/26/2019	15:30	3					
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) – hold	SW8260C	30	MeOH
017	PDI-101SC-B-02-04-190926	N	SE	09/26/2019	15:30	3					
								Total solids (APEX)	SM2540G	30	4°C

Comment: Please hold PDI-101 VOCs.

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Eli Joyner	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: APEX LABS	Company	Company	Company	Company
Date/Time: 9.27.19 1025	Date/Time: 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
017	PDI-101SC-B-02-04-190926	N	SE	09/26/2019	15:30	3	☐	VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
018	PDI-101SC-B-04-06-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
019	PDI-101SC-B-06-08-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
020	PDI-101SC-B-08-10-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
021	PDI-101SC-B-10-12-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
022	PDI-101SC-B-12-14-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
023	PDI-101SC-B-14-15.6-190926	N	SE	09/26/2019	15:30	3	☐	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b) - hold	SW8260C	30	MeOH
024	PDI-101SC-J-01-02-190926	N	SE	09/26/2019	14:54	1	☐	TOC	SM5310B	30	4°C

Comment: Please hold PDI-101 VOCs.

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Eli Joyner	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: APEX LABS	Company	Company	Company	Company
Date/Time: 9.27.19 1025	Date/Time: 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ANCHOR QEA
1201 3rd Avenue, Suite 2600, Seattle, WA 98101

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0885

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190926-165106
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
024	PDI-101SC-J-01-02-190926	N	SE	09/26/2019	14:54	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PAH - 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
025	PDI-101SC-J-02-03-190926	N	SE	09/26/2019	14:54	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
026	PDI-101SC-J-03-04-190926	N	SE	09/26/2019	14:54	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH 5 day TAT	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C

Comment: Please expedite PAH analyses - 5 day TAT.

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name D. Peterson	Print Name Eli Joyner	Print Name	Print Name	Print Name	Print Name
Company AQ	Company APEX LABS	Company	Company	Company	Company
Date/Time 9.27.19 1025	Date/Time 9-27-19 1025	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/26/2019

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

APEX LABS COOLER RECEIPT FORM

Client: Anchor QEA Element WO#: A9 I0885

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 9-27-19 @ 1025 By: EJ

Delivered by: Apex X Client ___ ESS ___ FedEx ___ UPS ___ Swift ___ Senvoy ___ SDS ___ Other ___

Cooler Inspection Date/time inspected: 9-27-19 @ 1127 By: EJ

Chain of Custody included? Yes X No ___ Custody seals? Yes ___ No X

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.1	1.4	1.1	1.7			
Received on ice? (Y/N)	Y	Y	Y	Y			
Temp. blanks? (Y/N)	Y	Y	Y	Y			
Ice type: (Gel/Real/Other)	Real	Real	Real	Real			
Condition:	Good	Good	Good	Good			

Cooler out of temp? (Y)(N) Possible reason why: ___

If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA

Out of temperature samples form initiated? Yes/No/NA

Samples Inspection: Date/time inspected: 9/27/19 @ 1236 By: ___

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes ___ No X Comments: See form

COC/container discrepancies form initiated? Yes X No ___ NA ___

Containers/volumes received appropriate for analysis? Yes X No ___ Comments: ___

Do VOA vials have visible headspace? Yes ___ No ___ NA X

Comments ___

Water samples: pH checked: Yes ___ No ___ NA X pH appropriate? Yes ___ No ___ NA X

Comments: ___

Additional information: ___

Labeled by: ___ Witness: ___ Cooler Inspected by: ___ See Project Contact Form: Y

AGI0885 2/2

COC/Container Discrepancies

COC Reads	Container Reads/Comments
PDI-018SC-A-12-13.4-190926	PDI-018SC-A-12-13.2-190926
PDI-018SC-B-11.8-13.2-190926, T of 0858	MeOH voas read T of 0900
PDI-018SC-B-5.8-7.8-190926	No info on label 1/2 MeOH voas, lid reads PDI-018-5.8-7.8
PDI-018SC-B-9.8-11.8-190926	1/2 MeOH voas reads PDI-18SC-B, matched by T
PDI-101SC-B-02-04-190926, T of 1530	MeOH voas read T of 1531
PDI-101SC-B-04-06-190926, T of 1530	MeOH voas read T of 1532
PDI-101SC-B-06-08-190926, T of 1530	MeOH voas read T of 1533
PDI-101SC-B-08-10-190926, T of 1530	MeOH voas read T of 1534
PDI-101SC-B-10-12-190926, T of 1530	MeOH voas read T of 1535
PDI-101SC-B-12-14-190926, T of 1530	MeOH voas read T of 1536
PDI-101SC-B-14-15.6-190926, T of 1530	MeOH voas read T of 1537
PDI-1100SC-J-03-04-190926, no T on CoC	T of 1111

CLP-Like Forms

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: 5035A/8260C

ANALYSES DATA PACKAGE COVER PAGE

5035A/8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
SDG: Gasco PreRD_DG 2019
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:43PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

5035A/8260C

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Soil

Analyte	MDL	MRL	Units
Benzene	5.00	10.0	ug/kg
Toluene	25.0	50.0	ug/kg
Ethylbenzene	12.5	25.0	ug/kg
m,p-Xylene	25.0	50.0	ug/kg
o-Xylene	12.5	25.0	ug/kg
Xylenes, total	37.5	75.0	ug/kg
Chlorobenzene	12.5	25.0	ug/kg
1,1-Dichloroethene	12.5	25.0	ug/kg
cis-1,2-Dichloroethene	12.5	25.0	ug/kg
Tetrachloroethene (PCE)	12.5	25.0	ug/kg
Trichloroethene (TCE)	12.5	25.0	ug/kg
Vinyl chloride	12.5	25.0	ug/kg

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-013SC-B-7.6-9.6-190925

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-01	File ID:	VF19093009.D
Sampled:	09/25/19 13:59	Prepared:	09/25/19 13:59	Analyzed:	09/30/19 13:28
Solids:	85.76	Preparation:	EPA 5035A	Initial/Final:	5.11 g / 5 mL
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706
Instrument:	VOA-GCMS6				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.53	U
108-88-3	Toluene	50	32.7	U
100-41-4	Ethylbenzene	50	16.3	U
179601-23-1	m,p-Xylene	50	32.7	U
95-47-6	o-Xylene	50	16.3	U
108-90-7	Chlorobenzene	50	16.3	U
75-35-4	1,1-Dichloroethene	50	16.3	U
156-59-2	cis-1,2-Dichloroethene	50	16.3	U
127-18-4	Tetrachloroethene (PCE)	50	16.3	U
79-01-6	Trichloroethene (TCE)	50	16.3	U
75-01-4	Vinyl chloride	50	16.3	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.5	109	80 - 120	
Toluene-d8 (Surr)	50.0	47.5	95	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.6	97	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	112729	6.09	104414	6.085	
Chlorobenzene-d5 (ISTD)	269736	9.8	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	128840	11.746	123924	11.747	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-013SC-B-9.6-12-190925

Laboratory: Apex Laboratories | SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC | Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co

Matrix: Sediment | Laboratory ID: A9I0885-02 | File ID: VF19093010.D

Sampled: 09/25/19 14:01 | Prepared: 09/25/19 14:01 | Analyzed: 09/30/19 13:55

Solids: 75.96 | Preparation: EPA 5035A | Initial/Final: 4.88 g / 5 mL

Batch: 9091433 | Sequence: 9I30036 | Calibration: A9H2706 | Instrument: VOA-GCMS6

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	8.33	U
108-88-3	Toluene	50	41.6	U
100-41-4	Ethylbenzene	50	20.8	U
179601-23-1	m,p-Xylene	50	41.6	U
95-47-6	o-Xylene	50	20.8	U
108-90-7	Chlorobenzene	50	20.8	U
75-35-4	1,1-Dichloroethene	50	20.8	U
156-59-2	cis-1,2-Dichloroethene	50	20.8	U
127-18-4	Tetrachloroethene (PCE)	50	20.8	U
79-01-6	Trichloroethene (TCE)	50	20.8	U
75-01-4	Vinyl chloride	50	20.8	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.6	109	80 - 120	
Toluene-d8 (Surr)	50.0	47.6	95	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.1	96	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	107211	6.088	104414	6.085	
Chlorobenzene-d5 (ISTD)	257788	9.797	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	124735	11.75	123924	11.747	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-018SC-B-11.8-13.2-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-04	File ID:	VF19093011.D
Sampled:	09/26/19 08:58	Prepared:	09/26/19 08:58	Analyzed:	09/30/19 14:22
Solids:	77.86	Preparation:	EPA 5035A	Initial/Final:	5.7 g / 5 mL
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706
Instrument:	VOA-GCMS6				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.05	U
108-88-3	Toluene	50	35.3	U
100-41-4	Ethylbenzene	50	17.6	U
179601-23-1	m,p-Xylene	50	35.3	U
95-47-6	o-Xylene	50	17.6	U
108-90-7	Chlorobenzene	50	17.6	U
75-35-4	1,1-Dichloroethene	50	17.6	U
156-59-2	cis-1,2-Dichloroethene	50	17.6	U
127-18-4	Tetrachloroethene (PCE)	50	17.6	U
79-01-6	Trichloroethene (TCE)	50	17.6	U
75-01-4	Vinyl chloride	50	17.6	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.7	109	80 - 120	
Toluene-d8 (Surr)	50.0	47.3	95	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.1	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	107919	6.093	104414	6.085	
Chlorobenzene-d5 (ISTD)	262346	9.803	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	124710	11.749	123924	11.747	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-018SC-B-5.8-7.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-05	File ID:	VF19093012.D
Sampled:	09/26/19 08:56	Prepared:	09/26/19 08:56	Analyzed:	09/30/19 14:49
Solids:	69.41	Preparation:	EPA 5035A	Initial/Final:	4.96 g / 5 mL
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706
Instrument:	VOA-GCMS6				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	12.0	J
108-88-3	Toluene	50	47.3	U
100-41-4	Ethylbenzene	50	192	
179601-23-1	m,p-Xylene	50	94.7	U
95-47-6	o-Xylene	50	52.2	
108-90-7	Chlorobenzene	50	23.7	U
75-35-4	1,1-Dichloroethene	50	23.7	U
156-59-2	cis-1,2-Dichloroethene	50	23.7	U
127-18-4	Tetrachloroethene (PCE)	50	23.7	U
79-01-6	Trichloroethene (TCE)	50	23.7	U
75-01-4	Vinyl chloride	50	23.7	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	55.1	110	80 - 120	
Toluene-d8 (Surr)	50.0	47.4	95	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.8	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	97078	6.088	104414	6.085	
Chlorobenzene-d5 (ISTD)	237703	9.798	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	108970	11.744	123924	11.747	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-018SC-B-7.8-9.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-06	File ID:	VF19093013.D
Sampled:	09/26/19 08:57	Prepared:	09/26/19 08:57	Analyzed:	09/30/19 15:16
Solids:	84.15	Preparation:	EPA 5035A	Initial/Final:	5.58 g / 5 mL
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706
Instrument:	VOA-GCMS6				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.27	U
108-88-3	Toluene	50	31.3	U
100-41-4	Ethylbenzene	50	15.7	U
179601-23-1	m,p-Xylene	50	31.3	U
95-47-6	o-Xylene	50	15.7	U
108-90-7	Chlorobenzene	50	15.7	U
75-35-4	1,1-Dichloroethene	50	15.7	U
156-59-2	cis-1,2-Dichloroethene	50	15.7	U
127-18-4	Tetrachloroethene (PCE)	50	15.7	U
79-01-6	Trichloroethene (TCE)	50	15.7	U
75-01-4	Vinyl chloride	50	15.7	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.2	108	80 - 120	
Toluene-d8 (Surr)	50.0	47.8	96	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.0	96	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	105002	6.085	104414	6.085	
Chlorobenzene-d5 (ISTD)	248177	9.801	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	119496	11.747	123924	11.747	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-018SC-B-9.8-11.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-07	File ID:	VF19093015.D
Sampled:	09/26/19 08:58	Prepared:	09/26/19 08:58	Analyzed:	09/30/19 16:10
Solids:	88.33	Preparation:	EPA 5035A	Initial/Final:	4.93 g / 5 mL
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706
Instrument:	VOA-GCMS6				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.40	U
108-88-3	Toluene	50	32.0	U
100-41-4	Ethylbenzene	50	16.0	U
179601-23-1	m,p-Xylene	50	32.0	U
95-47-6	o-Xylene	50	16.0	U
108-90-7	Chlorobenzene	50	16.0	U
75-35-4	1,1-Dichloroethene	50	16.0	U
156-59-2	cis-1,2-Dichloroethene	50	16.0	U
127-18-4	Tetrachloroethene (PCE)	50	16.0	U
79-01-6	Trichloroethene (TCE)	50	16.0	U
75-01-4	Vinyl chloride	50	16.0	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.3	109	80 - 120	
Toluene-d8 (Surr)	50.0	48.3	97	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.3	97	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	104198	6.091	104414	6.085	
Chlorobenzene-d5 (ISTD)	243386	9.8	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	115761	11.746	123924	11.747	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

5035A/8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9091433 Batch Matrix: Soil
Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9091433-BLK1	VF19093005.D	09/30/19 10:00	
LCS	9091433-BS1	VF19093003.D	09/30/19 10:00	
PDI-018SC-B-7.8-9.8-190926 (Dup)	9091433-DUP1	VF19093014.D	09/26/19 08:57	
PDI-101SC-B-04-06-190926 (MS)	9091433-MS1	VF19093019.D	09/26/19 15:30	
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	VF19093009.D	09/25/19 13:59	
PDI-013SC-B-9.6-12-190925	A9I0885-02	VF19093010.D	09/25/19 14:01	
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	VF19093011.D	09/26/19 08:58	
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	VF19093012.D	09/26/19 08:56	
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	VF19093013.D	09/26/19 08:57	
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	VF19093015.D	09/26/19 08:58	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

METHOD BLANK DATA SHEET

5035A/8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Soil	Laboratory ID:	9091433-BLK1	File ID:	VF19093005.D
Prepared:	09/30/19 10:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	09/30/19 11:40	Instrument:	VOA-GCMS6		
Batch:	9091433	Sequence:	9I30036	Calibration:	A9H2706

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
71-43-2	Benzene	3.33	U
108-88-3	Toluene	16.7	U
100-41-4	Ethylbenzene	8.33	U
179601-23-1	m,p-Xylene	16.7	U
95-47-6	o-Xylene	8.33	U
108-90-7	Chlorobenzene	8.33	U
75-35-4	1,1-Dichloroethene	8.33	U
156-59-2	cis-1,2-Dichloroethene	8.33	U
127-18-4	Tetrachloroethene (PCE)	8.33	U
79-01-6	Trichloroethene (TCE)	8.33	U
75-01-4	Vinyl chloride	8.33	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	55.0	110	80 - 120	
Toluene-d8 (Surr)	50.0	47.3	95	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.2	96	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	106492	6.087	104414	6.085	
Chlorobenzene-d5 (ISTD)	261002	9.802	255850	9.801	
1,4-Dichlorobenzene-d4 (ISTD)	125552	11.748	123924	11.747	

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Soil		
Batch:	9091433	Laboratory ID:	9091433-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Benzene	1000	975	98	80 - 120
Toluene	1000	858	86	80 - 120
Ethylbenzene	1000	855	85	80 - 120
m,p-Xylene	2000	1770	88	80 - 120
o-Xylene	1000	858	86	80 - 120
Chlorobenzene	1000	917	92	80 - 120
1,1-Dichloroethene	1000	914	91	80 - 120
cis-1,2-Dichloroethene	1000	1010	101	80 - 120
Tetrachloroethene (PCE)	1000	947	95	80 - 120
Trichloroethene (TCE)	1000	1020	102	80 - 120
Vinyl chloride	1000	1060	106	80 - 120

* = Values outside of QC limits

DUPLICATES

PDI-018SC-B-7.8-9.8-190926

5035A/8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP T
Matrix: Soil
Laboratory ID: 9091433-DUP1
Batch: 9091433
Lab Source ID: A9I0885-06
Preparation: EPA 5035A
Initial/Final: 5.35 g / 5 mL
Source Sample Name: PDI-018SC-B-7.8-9.8-190926
% Solids: 84.15

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/kg dry)	C	DUPLICATE CONCENTRATION (ug/kg dry)	C	RPD %	Q	METHOD
Benzene	30	0.00		ND				5035A/8260C
Toluene	30	0.00		ND				5035A/8260C
Ethylbenzene	30	10.7		ND				5035A/8260C
m,p-Xylene	30	11.7		ND				5035A/8260C
o-Xylene	30	13.1		ND				5035A/8260C
Chlorobenzene	30	0.00		ND				5035A/8260C
1,1-Dichloroethene	30	0.00		ND				5035A/8260C
cis-1,2-Dichloroethene	30	0.00		ND				5035A/8260C
Tetrachloroethene (PCE)	30	0.00		ND				5035A/8260C
Trichloroethene (TCE)	30	0.00		ND				5035A/8260C
Vinyl chloride	30	0.00		ND				5035A/8260C

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

5035A/8260C

PDI-101SC-B-04-06-190926

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Matrix:	Soil		
Batch:	9091433	Laboratory ID:	9091433-MS1
Preparation:	EPA 5035A	Initial/Final:	5.41 g / 5 mL

Source Sample Name: PDI-101SC-B-04-06-190926

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	MS CONCENTRATION (ug/kg dry)	MS % REC. (*=Out)	QC LIMITS REC.
Benzene	2520	ND	2570	102	77 - 121
Toluene	2520	ND	2240	89	77 - 121
Ethylbenzene	2520	ND	2230	88	76 - 122
m,p-Xylene	5040	ND	4640	92	77 - 124
o-Xylene	2520	ND	2250	89	77 - 123
Chlorobenzene	2520	ND	2360	93	79 - 120
1,1-Dichloroethene	2520	ND	2480	99	70 - 131
cis-1,2-Dichloroethene	2520	ND	2700	107	77 - 123
Tetrachloroethene (PCE)	2520	ND	2430	96	73 - 128
Trichloroethene (TCE)	2520	ND	2670	106	77 - 123
Vinyl chloride	2520	ND	2790	111	56 - 135

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9H23046	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9H23046-TUN1	VF19082327.D	08/23/19 20:19
Initial Cal Blank	9H23046-ICB1	VF19082328.D	08/23/19 20:46
Cal Standard	9H23046-CAL1	VF19082329.D	08/23/19 21:13
Cal Standard	9H23046-CAL2	VF19082330.D	08/23/19 21:40
Cal Standard	9H23046-CAL3	VF19082331.D	08/23/19 22:07
Cal Standard	9H23046-CAL4	VF19082332.D	08/23/19 22:34
Cal Standard	9H23046-CAL5	VF19082333.D	08/23/19 23:01
Cal Standard	9H23046-CAL6	VF19082334.D	08/23/19 23:28
Cal Standard	9H23046-CAL7	VF19082335.D	08/23/19 23:55
Cal Standard	9H23046-CAL8	VF19082336.D	08/24/19 00:22
Cal Standard	9H23046-CAL9	VF19082337.D	08/24/19 00:49
Cal Standard	9H23046-CALA	VF19082339.D	08/24/19 01:43
Cal Standard	9H23046-CALB	VF19082341.D	08/24/19 02:37
Initial Cal Check	9H23046-ICV1	VF19082344.D	08/24/19 03:58

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9I30036-TUN1	VF19093002.D	09/30/19 10:19
Calibration Check	9I30036-CCV1	VF19093003.D	09/30/19 10:46
Blank	9091433-BLK1	VF19093005.D	09/30/19 11:40
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	VF19093009.D	09/30/19 13:28
PDI-013SC-B-9.6-12-190925	A9I0885-02	VF19093010.D	09/30/19 13:55
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	VF19093011.D	09/30/19 14:22
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	VF19093012.D	09/30/19 14:49
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	VF19093013.D	09/30/19 15:16
PDI-018SC-B-7.8-9.8-190926 (Dup)	9091433-DUP1	VF19093014.D	09/30/19 15:43
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	VF19093015.D	09/30/19 16:10
PDI-101SC-B-04-06-190926 (MS)	9091433-MS1	VF19093019.D	09/30/19 17:58

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VF19082327.D	Injection Date:	08/23/19
Instrument ID:	VOA-GCMS6	Injection Time:	20:19
Sequence:	9H23046	Lab Sample ID:	9H23046-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	129.24	PASS
m/z 96	5 - 9% of m/z 95	6.96	PASS
m/z 173	Less than 2% of m/z 174	0.36	PASS
m/z 174	50 - 200% of m/z 95	77.38	PASS
m/z 175	5 - 9% of m/z 174	7.30	PASS
m/z 176	95 - 105% of m/z 174	96.69	PASS
m/z 177	5 - 10% of m/z 176	6.62	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VF19093002.D	Injection Date:	09/30/19
Instrument ID:	VOA-GCMS6	Injection Time:	10:19
Sequence:	9I30036	Lab Sample ID:	9I30036-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	122.82	PASS
m/z 96	5 - 9% of m/z 95	6.92	PASS
m/z 173	Less than 2% of m/z 174	0.00	PASS
m/z 174	50 - 200% of m/z 95	81.42	PASS
m/z 175	5 - 9% of m/z 174	7.15	PASS
m/z 176	95 - 105% of m/z 174	95.91	PASS
m/z 177	5 - 10% of m/z 176	6.62	PASS

INITIAL CALIBRATION DATA (Summary)

5035A/8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing
Calibration: A9H2706
Date: 08/27/19 16:29
Instrument: VOA-GCMS6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Benzene	4.152662	Ave	5.687399	6.000909	0.0861836			20	
Toluene	1.977629	Ave	10.42061	8.2217	2.504184E-02			20	
Ethylbenzene	2.089788	Ave	9.778404	9.844182	2.234207E-02			20	
m,p-Xylene	1.51859	Ave	2.497945	9.9782	1.622281E-02			20	
o-Xylene	1.574074	Ave	7.145012	10.3606	1.754976E-02			20	
Xylenes, total	1.537085	Ave	3.607722	10.3606	1.754976E-02			20	
Chlorobenzene	1.15591	Ave	6.433815	9.817182	2.475322E-02			20	
1,1-Dichloroethene	1.397401	Ave	1.961698	3.1219	0.1785334			20	
cis-1,2-Dichloroethene	1.354138	Ave	9.124124	4.664818	33.16635			20	
Tetrachloroethene (PCE)	0.4207069	Ave	5.887692	8.6699	3.782642E-02			20	
Trichloroethene (TCE)	0.9822737	Ave	4.715958	6.6224	0.0854905			20	
Vinyl chloride	1.012554	Ave	4.567624	1.9378	0.308276			20	
1,4-Difluorobenzene (Surr)	2.616805	Ave	1.720333	6.653636	3.746063E-02			20	
Toluene-d8 (Surr)	1.445414	Ave	1.031104	8.163636	2.904838E-02			20	
4-Bromofluorobenzene (Surr)	0.8328236	Ave	2.445804	10.86709	2.048947E-02			20	

Note: ** Quad COD may be incorrect if weighting (1/a) or (1/a2) used. Weighting not shown here. Please see instrument calibration printouts for validation.

INITIAL CALIBRATION DATA

5035A/8260C

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9H2706

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te

Instrument: VOA-GCMS6

Calibration Date: 08/27/19 16:29

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
Benzene	0.1	4.691393	0.2	4.515393	0.4	4.160077	1	3.989033	2	4.022666	5	3.963754
Toluene	0.1	~~3.339502~~	0.2	2.513319	0.4	2.115218	1	1.951161	2	1.972705	5	1.881748
Ethylbenzene	0.1	2.618186	0.2	2.332913	0.4	2.036056	1	1.95687	2	2.071664	5	1.992028
m,p-Xylene	0.2	~~1.656082~~	0.4	1.573659	0.8	1.523348	2	1.469873	4	1.496092	10	1.469054
o-Xylene	0.1	~~2.498318~~	0.2	1.883443	0.4	1.59433	1	1.566934	2	1.531934	5	1.502599
Xylenes, total	0.3	~~1.936827~~	0.6	1.676921	1.2	1.547008	3	1.502227	6	1.508039	15	1.480236
Chlorobenzene	0.1	1.326968	0.2	1.275216	0.4	1.095079	1	1.118634	2	1.129932	5	1.135698
1,1-Dichloroethene	0.1	~~0~~	0.2	1.414722	0.4	1.405834	1	1.341527	2	1.423748	5	1.417613
cis-1,2-Dichloroethene	0.1	1.020444	0.2	1.330099	0.4	1.266687	1	1.365523	2	1.428871	5	1.40735
Tetrachloroethene (PCE)	0.1	~~0~~	0.2	0.3577202	0.4	0.4032003	1	0.4328629	2	0.4179903	5	0.4246865
Trichloroethene (TCE)	0.1	~~0~~	0.2	0.9004748	0.4	0.9475302	1	0.9278268	2	1.029722	5	0.9773664
Vinyl chloride	0.1	~~0~~	0.2	0.8874558	0.4	1.02373	1	1.003813	2	1.052442	5	1.029044
1,4-Difluorobenzene (Surr)	50	2.5772	50	2.5829	50	2.576134	50	2.595995	50	2.611971	50	2.594955
Toluene-d8 (Surr)	50	1.455379	50	1.453408	50	1.450774	50	1.454918	50	1.454673	50	1.458133
4-Bromofluorobenzene (Surr)	50	0.8468497	50	0.842138	50	0.8415291	50	0.8394644	50	0.847973	50	0.8500313

INITIAL CALIBRATION DATA (Continued)

5035A/8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9H2706
Instrument: VOA-GCMS6
Matrix:
Calibration Date: 08/27/19 16:29

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
Benzene	10	3.970076	20	4.071564	50	4.158698	100	4.102996	200	4.033635		
Toluene	10	1.909946	20	1.878211	50	1.864081	100	1.888805	200	1.801094		
Ethylbenzene	10	2.009597	20	1.994383	50	2.00888	100	2.029231	200	1.937862		
m,p-Xylene	20	1.495924	40	1.512583	100	1.530102	200	1.578009	400	1.537258		
o-Xylene	10	1.526711	20	1.5354	50	1.534568	100	1.564155	200	1.500671		
Xylenes, total	30	1.506186	60	1.520189	150	1.531591	300	1.573391	600	1.525062		
Chlorobenzene	10	1.130634	20	1.131415	50	1.134619	100	1.142227	200	1.094589		
1,1-Dichloroethene	10	1.411545	20	1.394665	50	1.411121	100	1.397925	200	1.355311		
cis-1,2-Dichloroethene	10	1.41424	20	1.429365	50	1.460321	100	1.417247	200	1.355376		
Tetrachloroethene (PCE)	10	0.4361119	20	0.4301291	50	0.4302298	100	0.4449724	200	0.4291655		
Trichloroethene (TCE)	10	0.9711719	20	1.006145	50	1.038984	100	1.02799	200	0.9955264		
Vinyl chloride	10	1.025241	20	1.019141	50	1.02689	100	1.011657	200	1.046123		
1,4-Difluorobenzene (Surr)	50	2.568709	50	2.641404	50	2.691762	50	2.658689	50	2.685132		
Toluene-d8 (Surr)	50	1.458466	50	1.443118	50	1.423035	50	1.430258	50	1.417389		
4-Bromofluorobenzene (Surr)	50	0.8317924	50	0.8375095	50	0.8359061	50	0.8029482	50	0.7849178		

SECOND-SOURCE CALIBRATION VERIFICATION

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP T
Instrument ID:	VOA-GCMS6	Calibration:	A9H2706
Lab File ID:	VF19082344.D		
Sequence:	9H23046	Inject Date:	08/24/19
Lab Sample ID:	9H23046-ICV1	Inject Time:	03:58

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Benzene	20.0	19.4	-2.9	70 - 130
Toluene	20.0	19.0	-5.2	70 - 130
Ethylbenzene	20.0	19.2	-4.1	70 - 130
Xylenes, total	60.0	58.7	-2.2	70 - 130
Chlorobenzene	20.0	19.5	-2.4	70 - 130
1,1-Dichloroethene	20.0	20.3	1.5	70 - 130
cis-1,2-Dichloroethene	20.0	20.7	3.5	70 - 130
Tetrachloroethene (PCE)	20.0	20.7	3.3	70 - 130
Trichloroethene (TCE)	20.0	20.3	1.6	70 - 130
Vinyl chloride	20.0	22.1	10.3	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9H23046	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9H23046-ICV1)			Lab File ID: VF19082344.D		Analyzed: 08/24/19 03:58			
1,4-Difluorobenzene (Surr)	50.0	101	70 - 130	6.657	6.653636	0.0034	+/-1.0	
Toluene-d8 (Surr)	50.0	99	70 - 130	8.165	8.163636	0.0014	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	70 - 130	10.865	10.86709	-0.0021	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9091433-BS1)			Lab File ID: VF19093003.D		Analyzed: 09/30/19 10:46			
1,4-Difluorobenzene (Surr)	50.0	110	80 - 120	6.651	6.653636	-0.0026	+/-1.0	
Toluene-d8 (Surr)	50.0	94	80 - 120	8.159	8.163636	-0.0046	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.865	10.86709	-0.0021	+/-1.0	
Blank (9091433-BLK1)			Lab File ID: VF19093005.D		Analyzed: 09/30/19 11:40			
1,4-Difluorobenzene (Surr)	50.0	110	80 - 120	6.652	6.653636	-0.0016	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.16	8.163636	-0.0036	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.867	10.86709	-0.0001	+/-1.0	
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)			Lab File ID: VF19093009.D		Analyzed: 09/30/19 13:28			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.656	6.653636	0.0024	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.164	8.163636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.864	10.86709	-0.0031	+/-1.0	
PDI-013SC-B-9.6-12-190925 (A9I0885-02)			Lab File ID: VF19093010.D		Analyzed: 09/30/19 13:55			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.653	6.653636	-0.0006	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.162	8.163636	-0.0016	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.868	10.86709	0.0009	+/-1.0	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)			Lab File ID: VF19093011.D		Analyzed: 09/30/19 14:22			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.653	6.653636	-0.0006	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.161	8.163636	-0.0026	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.867	10.86709	-0.0001	+/-1.0	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)			Lab File ID: VF19093012.D		Analyzed: 09/30/19 14:49			
1,4-Difluorobenzene (Surr)	50.0	110	80 - 120	6.648	6.653636	-0.0056	+/-1.0	
Toluene-d8 (Surr)	50.0	95	80 - 120	8.162	8.163636	-0.0016	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.868	10.86709	0.0009	+/-1.0	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)			Lab File ID: VF19093013.D		Analyzed: 09/30/19 15:16			
1,4-Difluorobenzene (Surr)	50.0	108	80 - 120	6.651	6.653636	-0.0026	+/-1.0	
Toluene-d8 (Surr)	50.0	96	80 - 120	8.159	8.163636	-0.0046	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.865	10.86709	-0.0021	+/-1.0	
Duplicate (9091433-DUP1)			Lab File ID: VF19093014.D		Analyzed: 09/30/19 15:43			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.652	6.653636	-0.0016	+/-1.0	
Toluene-d8 (Surr)	50.0	96	80 - 120	8.16	8.163636	-0.0036	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.867	10.86709	-0.0001	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9I30036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)			Lab File ID: VF19093015.D		Analyzed: 09/30/19 16:10			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.656	6.653636	0.0024	+/-1.0	
Toluene-d8 (Surr)	50.0	97	80 - 120	8.164	8.163636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.865	10.86709	-0.0021	+/-1.0	
Matrix Spike (9091433-MS1)			Lab File ID: VF19093019.D		Analyzed: 09/30/19 17:58			
1,4-Difluorobenzene (Surr)	50.0	111	80 - 120	6.65	6.653636	-0.0036	+/-1.0	
Toluene-d8 (Surr)	50.0	94	80 - 120	8.164	8.163636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.864	10.86709	-0.0031	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9091433-BS1)			Lab File ID: VF19093003.D			Analyzed: 09/30/19 10:46			
Pentafluorobenzene (ISTD)	104414	6.085	104414	6.085	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	255850	9.801	255850	9.801	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	123924	11.747	123924	11.747	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9I30036-CCV1)			Lab File ID: VF19093003.D			Analyzed: 09/30/19 10:46			
Pentafluorobenzene (ISTD)	104414	6.085	112536	6.092	93	50 - 200	-0.0070	+/-0.50	
Chlorobenzene-d5 (ISTD)	255850	9.801	244508	9.802	105	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	123924	11.747	112942	11.748	110	50 - 200	-0.0010	+/-0.50	
Blank (9091433-BLK1)			Lab File ID: VF19093005.D			Analyzed: 09/30/19 11:40			
Pentafluorobenzene (ISTD)	106492	6.087	104414	6.085	102	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5 (ISTD)	261002	9.802	255850	9.801	102	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	125552	11.748	123924	11.747	101	50 - 200	0.0010	+/-0.50	
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01)			Lab File ID: VF19093009.D			Analyzed: 09/30/19 13:28			
Pentafluorobenzene (ISTD)	112729	6.09	104414	6.085	108	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5 (ISTD)	269736	9.8	255850	9.801	105	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	128840	11.746	123924	11.747	104	50 - 200	-0.0010	+/-0.50	
PDI-013SC-B-9.6-12-190925 (A9I0885-02)			Lab File ID: VF19093010.D			Analyzed: 09/30/19 13:55			
Pentafluorobenzene (ISTD)	107211	6.088	104414	6.085	103	50 - 200	0.0030	+/-0.50	
Chlorobenzene-d5 (ISTD)	257788	9.797	255850	9.801	101	50 - 200	-0.0040	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	124735	11.75	123924	11.747	101	50 - 200	0.0030	+/-0.50	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04)			Lab File ID: VF19093011.D			Analyzed: 09/30/19 14:22			
Pentafluorobenzene (ISTD)	107919	6.093	104414	6.085	103	50 - 200	0.0080	+/-0.50	
Chlorobenzene-d5 (ISTD)	262346	9.803	255850	9.801	103	50 - 200	0.0020	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	124710	11.749	123924	11.747	101	50 - 200	0.0020	+/-0.50	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05)			Lab File ID: VF19093012.D			Analyzed: 09/30/19 14:49			
Pentafluorobenzene (ISTD)	97078	6.088	104414	6.085	93	50 - 200	0.0030	+/-0.50	
Chlorobenzene-d5 (ISTD)	237703	9.798	255850	9.801	93	50 - 200	-0.0030	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	108970	11.744	123924	11.747	88	50 - 200	-0.0030	+/-0.50	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06)			Lab File ID: VF19093013.D			Analyzed: 09/30/19 15:16			
Pentafluorobenzene (ISTD)	105002	6.085	104414	6.085	101	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	248177	9.801	255850	9.801	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	119496	11.747	123924	11.747	96	50 - 200	0.0000	+/-0.50	
Duplicate (9091433-DUP1)			Lab File ID: VF19093014.D			Analyzed: 09/30/19 15:43			
Pentafluorobenzene (ISTD)	106395	6.087	104414	6.085	102	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5 (ISTD)	250824	9.802	255850	9.801	98	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	119248	11.748	123924	11.747	96	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9I30036	Instrument:	VOA-GCMS6
Matrix:	Soil	Calibration:	A9H2706

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07)			Lab File ID: VF19093015.D			Analyzed: 09/30/19 16:10			
Pentafluorobenzene (ISTD)	104198	6.091	104414	6.085	100	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	243386	9.8	255850	9.801	95	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	115761	11.746	123924	11.747	93	50 - 200	-0.0010	+/-0.50	
Matrix Spike (9091433-MS1)			Lab File ID: VF19093019.D			Analyzed: 09/30/19 17:58			
Pentafluorobenzene (ISTD)	100653	6.084	104414	6.085	96	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	248375	9.8	255850	9.801	97	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	117950	11.746	123924	11.747	95	50 - 200	-0.0010	+/-0.50	

HOLDING TIME SUMMARY

5035A/8260C

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-013SC-B-7.6-9.6-190925	09/25/19 13:59	09/27/19 10:25	09/25/19 13:59	0.00	2.00	09/30/19 13:28	4.98	14.00	
PDI-013SC-B-9.6-12-190925	09/25/19 14:01	09/27/19 10:25	09/25/19 14:01	0.00	2.00	09/30/19 13:55	5.00	14.00	
PDI-018SC-B-11.8-13.2-190926	09/26/19 08:58	09/27/19 10:25	09/26/19 08:58	0.00	2.00	09/30/19 14:22	4.23	14.00	
PDI-018SC-B-5.8-7.8-190926	09/26/19 08:56	09/27/19 10:25	09/26/19 08:56	0.00	2.00	09/30/19 14:49	4.25	14.00	
PDI-018SC-B-7.8-9.8-190926	09/26/19 08:57	09/27/19 10:25	09/26/19 08:57	0.00	2.00	09/30/19 15:16	4.26	14.00	
PDI-018SC-B-9.8-11.8-190926	09/26/19 08:58	09/27/19 10:25	09/26/19 08:58	0.00	2.00	09/30/19 16:10	4.30	14.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: EPA 8260C

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC

SDG: Gasco PreRD_DG 2019
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-TB-1909251448	A9I0885-03	WQ

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:45PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Water

Analyte	MDL	MRL	Units
Benzene	0.100	0.200	ug/L
Toluene	0.500	1.00	ug/L
Ethylbenzene	0.250	0.500	ug/L
m,p-Xylene	0.500	1.00	ug/L
o-Xylene	0.250	0.500	ug/L
Xylenes, total	0.750	1.50	ug/L
Chlorobenzene	0.250	0.500	ug/L
1,1-Dichloroethene	0.200	0.400	ug/L
cis-1,2-Dichloroethene	0.200	0.400	ug/L
Tetrachloroethene (PCE)	0.200	0.400	ug/L
Trichloroethene (TCE)	0.200	0.400	ug/L
Vinyl chloride	0.200	0.400	ug/L

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-TB-1909251448

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	WQ	Laboratory ID:	A9I0885-03	File ID:	VG19100418.D
Sampled:	09/25/19 14:48	Prepared:	10/04/19 14:17	Analyzed:	10/04/19 16:08
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9100594 Sequence: 9J04030 Calibration: A9I3003 Instrument: VOA-GCMS7

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
71-43-2	Benzene	1	0.100	U
108-88-3	Toluene	1	0.500	U
100-41-4	Ethylbenzene	1	0.250	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.250	U
108-90-7	Chlorobenzene	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
75-01-4	Vinyl chloride	1	0.200	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.1	102	80 - 120	
Toluene-d8 (Surr)	50.0	50.0	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	46.5	93	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	91299	6.867	88325	6.867	
Chlorobenzene-d5 (ISTD)	254467	10.452	245927	10.452	
1,4-Dichlorobenzene-d4 (ISTD)	118422	12.293	118022	12.293	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100594 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100594-BLK1	VG19100417.D	10/04/19 12:00	
LCS	9100594-BS1	VG19100413.D	10/04/19 12:00	
LCS Dup	9100594-BSD1	VG19100414.D	10/04/19 12:00	
PDI-TB-1909251448	A9I0885-03	VG19100418.D	10/04/19 14:17	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Water	Laboratory ID:	9100594-BLK1	File ID:	VG19100417.D
Prepared:	10/04/19 12:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	10/04/19 15:41	Instrument:	VOA-GCMS7		
Batch:	9100594	Sequence:	9J04030	Calibration:	A9I3003

CAS NO.	COMPOUND	CONC. (ug/L)	Q
71-43-2	Benzene	0.100	U
108-88-3	Toluene	0.500	U
100-41-4	Ethylbenzene	0.250	U
1330-20-7	Xylenes, total	0.750	U
108-90-7	Chlorobenzene	0.250	U
127-18-4	Tetrachloroethene (PCE)	0.200	U
75-35-4	1,1-Dichloroethene	0.200	U
79-01-6	Trichloroethene (TCE)	0.200	U
156-59-2	cis-1,2-Dichloroethene	0.200	U
75-01-4	Vinyl chloride	0.200	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	50.4	101	80 - 120	
Toluene-d8 (Surr)	50.0	50.4	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	46.8	94	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	90809	6.867	88325	6.867	
Chlorobenzene-d5 (ISTD)	248469	10.452	245927	10.452	
1,4-Dichlorobenzene-d4 (ISTD)	112436	12.293	118022	12.293	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Water		
Batch:	9100594	Laboratory ID:	9100594-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Benzene	20.0	19.7	99	80 - 120
Toluene	20.0	19.3	97	80 - 120
Ethylbenzene	20.0	20.5	103	80 - 120
Xylenes, total	60.0	63.4	106	80 - 120
Chlorobenzene	20.0	19.4	97	80 - 120
Tetrachloroethene (PCE)	20.0	18.4	92	80 - 120
1,1-Dichloroethene	20.0	20.2	101	80 - 120
Trichloroethene (TCE)	20.0	18.7	94	80 - 120
cis-1,2-Dichloroethene	20.0	20.5	103	80 - 120
Vinyl chloride	20.0	22.6	113	80 - 120

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Water		
Batch:	9100594	Laboratory ID:	9100594-BSD1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
Benzene	20.0	19.6	98	0.8	30	80 - 120
Toluene	20.0	18.9	94	2	30	80 - 120
Ethylbenzene	20.0	20.0	100	3	30	80 - 120
Xylenes, total	60.0	62.4	104	2	30	80 - 120
Chlorobenzene	20.0	19.1	96	1	30	80 - 120
Tetrachloroethene (PCE)	20.0	18.0	90	2	30	80 - 120
1,1-Dichloroethene	20.0	19.9	100	1	30	80 - 120
Trichloroethene (TCE)	20.0	19.0	95	1	30	80 - 120
cis-1,2-Dichloroethene	20.0	20.0	100	3	30	80 - 120
Vinyl chloride	20.0	22.1	111	2	30	80 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26050	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9I26050-TUN1	VG19092619.D	09/26/19 18:03
Initial Cal Blank	9I26050-ICB1	VG19092620.D	09/26/19 18:30
Cal Standard	9I26050-CAL1	VG19092621.D	09/26/19 18:57
Cal Standard	9I26050-CAL2	VG19092622.D	09/26/19 19:24
Cal Standard	9I26050-CAL3	VG19092623.D	09/26/19 19:52
Cal Standard	9I26050-CAL4	VG19092624.D	09/26/19 20:19
Cal Standard	9I26050-CAL5	VG19092625.D	09/26/19 20:46
Cal Standard	9I26050-CAL6	VG19092626.D	09/26/19 21:13
Cal Standard	9I26050-CAL7	VG19092627.D	09/26/19 21:40
Cal Standard	9I26050-CAL8	VG19092628.D	09/26/19 22:07
Cal Standard	9I26050-CAL9	VG19092629.D	09/26/19 22:34
Cal Standard	9I26050-CALA	VG19092631.D	09/26/19 23:28
Cal Standard	9I26050-CALB	VG19092633.D	09/27/19 00:22
Initial Cal Check	9I26050-ICV1	VG19092636.D	09/27/19 01:44

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J04030-TUN1	VG19100412.D	10/04/19 13:25
Calibration Check	9J04030-CCV1	VG19100413.D	10/04/19 13:52
LCS Dup	9100594-BSD1	VG19100414.D	10/04/19 14:19
Blank	9100594-BLK1	VG19100417.D	10/04/19 15:41
PDI-TB-1909251448	A9I0885-03	VG19100418.D	10/04/19 16:08

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VG19092619.D	Injection Date:	09/26/19
Instrument ID:	VOA-GCMS7	Injection Time:	18:03
Sequence:	9I26050	Lab Sample ID:	9I26050-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	113.47	PASS
m/z 96	5 - 9% of m/z 95	6.85	PASS
m/z 173	Less than 2% of m/z 174	0.57	PASS
m/z 174	50 - 200% of m/z 95	88.13	PASS
m/z 175	5 - 9% of m/z 174	7.21	PASS
m/z 176	95 - 105% of m/z 174	97.65	PASS
m/z 177	5 - 10% of m/z 176	6.55	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VG19100412.D	Injection Date:	10/04/19
Instrument ID:	VOA-GCMS7	Injection Time:	13:25
Sequence:	9J04030	Lab Sample ID:	9J04030-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	117.25	PASS
m/z 96	5 - 9% of m/z 95	6.84	PASS
m/z 173	Less than 2% of m/z 174	0.61	PASS
m/z 174	50 - 200% of m/z 95	85.28	PASS
m/z 175	5 - 9% of m/z 174	7.12	PASS
m/z 176	95 - 105% of m/z 174	97.13	PASS
m/z 177	5 - 10% of m/z 176	6.54	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing
Calibration: A9I3003
Date: 09/30/19 22:35
Instrument: VOA-GCMS7

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Benzene	4.293717	Ave	7.489692	6.145273	33.16627			20	
Toluene	1.599209	Ave	8.152368	8.227273	33.16625			20	
Ethylbenzene	1.566954	Ave	5.342768	9.540364	33.16625			20	
m,p-Xylene	1.104765	Ave	6.24997	9.651818	33.16625			20	
o-Xylene	1.12036	Ave	5.537532	9.973273	33.16625			20	
Xylenes, total	1.109963	Ave	5.454878	9.973273	33.16625			20	
Chlorobenzene	1.009885	Ave	6.890609	9.518636	33.16625			20	
Tetrachloroethene (PCE)	0.3990036	Ave	10.04859	9.4376	4.751509E-02			20	
1,1-Dichloroethene	1.313716	Ave	6.184313	3.266182	33.16643			20	
Trichloroethene (TCE)	1.124954	Ave	6.387814	6.740727	33.16629			20	
cis-1,2-Dichloroethene	1.403065	Ave	5.75767	5.300363	33.16631			20	
Vinyl chloride	0.9146431	Ave	7.376249	1.925909	33.16626			20	
1,4-Difluorobenzene (Surr)	3.263096	Ave	0.9786815	7.459	1.869319E-02			20	
Toluene-d8 (Surr)	1.377703	Ave	1.273452	8.995	2.215102E-02			20	
4-Bromofluorobenzene (Surr)	0.8951665	Ave	1.456292	11.44655	2.855127E-02			20	

Note: ** Quad COD may be incorrect if weighting (1/a) or (1/a2) used. Weighting not shown here. Please see instrument calibration printouts for validation.

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9I3003

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te

Instrument: VOA-GCMS7

Calibration Date: 09/30/19 22:35

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
Benzene	0.1	4.967786	0.2	4.738765	0.4	4.26182	1	4.209777	2	4.143794	5	3.992183
Toluene	0.1	1.856264	0.2	1.782563	0.4	1.568711	1	1.59862	2	1.569136	5	1.480641
Ethylbenzene	0.1	1.617243	0.2	1.655162	0.4	1.456068	1	1.640324	2	1.588484	5	1.475141
m,p-Xylene	0.2	1.235582	0.4	1.160298	0.8	1.029634	2	1.061739	4	1.066899	10	1.032004
o-Xylene	0.1	1.121854	0.2	1.101336	0.4	1.043532	1	1.076955	2	1.068872	5	1.050752
Xylenes, total	0.3	1.197672	0.6	1.140644	1.2	1.034267	3	1.066811	6	1.067557	15	1.038253
Chlorobenzene	0.1	1.131492	0.2	1.121341	0.4	1.009885	1	1.036755	2	0.9879174	5	0.9532392
Tetrachloroethene (PCE)	0.1	~~0.5975512~~	0.2	0.4948639	0.4	0.3837662	1	0.4042575	2	0.3783984	5	0.3597641
1,1-Dichloroethene	0.1	1.423757	0.2	1.272265	0.4	1.273885	1	1.274763	2	1.269526	5	1.202996
Trichloroethene (TCE)	0.1	1.270114	0.2	1.08731	0.4	1.073223	1	1.123376	2	1.065089	5	1.024476
cis-1,2-Dichloroethene	0.1	1.270114	0.2	1.496452	0.4	1.338615	1	1.453722	2	1.373425	5	1.357448
Vinyl chloride	0.1	0.9525858	0.2	0.9499949	0.4	0.8531407	1	0.8612047	2	0.8203331	5	0.8397896
1,4-Difluorobenzene (Surr)	50	3.280808	50	3.270157	50	3.261478	50	3.243112	50	3.20239	50	3.253906
Toluene-d8 (Surr)	50	1.383747	50	1.38676	50	1.381507	50	1.376249	50	1.369365	50	1.376777
4-Bromofluorobenzene (Surr)	50	0.9200992	50	0.9047539	50	0.8937754	50	0.8967701	50	0.8947751	50	0.9069917

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I3003
Instrument: VOA-GCMS7
Matrix:
Calibration Date: 09/30/19 22:35

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
Benzene	10	4.420848	20	4.386574	50	3.945122	100	3.971615	200	4.192599		
Toluene	10	1.632854	20	1.62502	50	1.426775	100	1.448079	200	1.602637		
Ethylbenzene	10	1.643447	20	1.645074	50	1.450559	100	1.480872	200	1.584123		
m,p-Xylene	20	1.167554	40	1.16995	100	1.040401	200	1.075519	400	1.112831		
o-Xylene	10	1.188959	20	1.208597	50	1.098275	100	1.149534	200	1.215295		
Xylenes, total	30	1.174689	60	1.182832	150	1.059692	300	1.100191	600	1.146986		
Chlorobenzene	10	1.024216	20	1.023206	50	0.9219988	100	0.9232434	200	0.9754423		
Tetrachloroethene (PCE)	10	0.4113617	20	0.4085	50	0.3600936	100	0.369441	200	0.4195893		
1,1-Dichloroethene	10	1.426966	20	1.442168	50	1.248825	100	1.282774	200	1.332955		
Trichloroethene (TCE)	10	1.150352	20	1.185368	50	1.091067	100	1.097838	200	1.206277		
cis-1,2-Dichloroethene	10	1.51523	20	1.501308	50	1.345305	100	1.350265	200	1.431826		
Vinyl chloride	10	1.006584	20	0.9925755	50	0.9700071	100	0.8627293	200	0.9521288		
1,4-Difluorobenzene (Surr)	50	3.257679	50	3.225937	50	3.309187	50	3.286582	50	3.30282		
Toluene-d8 (Surr)	50	1.373091	50	1.367439	50	1.360268	50	1.356975	50	1.42256		
4-Bromofluorobenzene (Surr)	50	0.8810397	50	0.8907336	50	0.8785211	50	0.8777501	50	0.9016217		

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP T
Instrument ID:	VOA-GCMS7	Calibration:	A9I3003
Lab File ID:	VG19092636.D		
Sequence:	9I26050	Inject Date:	09/27/19
Lab Sample ID:	9I26050-ICV1	Inject Time:	01:44

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Benzene	20.0	19.0	-5.2	70 - 130
Toluene	20.0	18.2	-8.8	70 - 130
Ethylbenzene	20.0	18.2	-8.8	70 - 130
Xylenes, total	60.0	56.2	-6.3	70 - 130
Chlorobenzene	20.0	18.3	-8.3	70 - 130
Tetrachloroethene (PCE)	20.0	17.2	-14.2	70 - 130
1,1-Dichloroethene	20.0	19.3	-3.4	70 - 130
Trichloroethene (TCE)	20.0	18.8	-6.0	70 - 130
cis-1,2-Dichloroethene	20.0	19.9	-0.4	70 - 130
Vinyl chloride	20.0	18.7	-6.4	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26050	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9I26050-ICV1)				Lab File ID: VG19092636.D		Analyzed: 09/27/19 01:44		
1,4-Difluorobenzene (Surr)	50.0	100	70 - 130	7.459	7.459	0.0000	+/-1.0	
Toluene-d8 (Surr)	50.0	99	70 - 130	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	70 - 130	11.446	11.44655	-0.0006	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9100594-BS1)			Lab File ID: VG19100413.D		Analyzed: 10/04/19 13:52			
1,4-Difluorobenzene (Surr)	50.0	99	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	92	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
LCS Dup (9100594-BSD1)			Lab File ID: VG19100414.D		Analyzed: 10/04/19 14:19			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	98	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	93	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
Blank (9100594-BLK1)			Lab File ID: VG19100417.D		Analyzed: 10/04/19 15:41			
1,4-Difluorobenzene (Surr)	50.0	101	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	94	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
PDI-TB-1909251448 (A9I0885-03)			Lab File ID: VG19100418.D		Analyzed: 10/04/19 16:08			
1,4-Difluorobenzene (Surr)	50.0	102	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	93	80 - 120	11.446	11.44655	-0.0006	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9100594-BS1)			Lab File ID: VG19100413.D			Analyzed: 10/04/19 13:52			
Pentafluorobenzene (ISTD)	88325	6.867	88325	6.867	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	245927	10.452	245927	10.452	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118022	12.293	118022	12.293	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9J04030-CCV1)			Lab File ID: VG19100413.D			Analyzed: 10/04/19 13:52			
Pentafluorobenzene (ISTD)	88325	6.867	94013	6.867	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	245927	10.452	253060	10.458	97	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118022	12.293	113658	12.293	104	50 - 200	0.0000	+/-0.50	
LCS Dup (9100594-BSD1)			Lab File ID: VG19100414.D			Analyzed: 10/04/19 14:19			
Pentafluorobenzene (ISTD)	94451	6.868	88325	6.867	107	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	266053	10.452	245927	10.452	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	128539	12.293	118022	12.293	109	50 - 200	0.0000	+/-0.50	
Blank (9100594-BLK1)			Lab File ID: VG19100417.D			Analyzed: 10/04/19 15:41			
Pentafluorobenzene (ISTD)	90809	6.867	88325	6.867	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	248469	10.452	245927	10.452	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	112436	12.293	118022	12.293	95	50 - 200	0.0000	+/-0.50	
PDI-TB-1909251448 (A9I0885-03)			Lab File ID: VG19100418.D			Analyzed: 10/04/19 16:08			
Pentafluorobenzene (ISTD)	91299	6.867	88325	6.867	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	254467	10.452	245927	10.452	103	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118422	12.293	118022	12.293	100	50 - 200	0.0000	+/-0.50	
Duplicate (9100594-DUP1)			Lab File ID: VG19100421.D			Analyzed: 10/04/19 17:30			
Pentafluorobenzene (ISTD)	90150	6.868	88325	6.867	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	251204	10.452	245927	10.452	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118772	12.293	118022	12.293	101	50 - 200	0.0000	+/-0.50	
Matrix Spike (9100594-MS1)			Lab File ID: VG19100424.D			Analyzed: 10/04/19 18:51			
Pentafluorobenzene (ISTD)	91356	6.868	88325	6.867	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	257027	10.458	245927	10.452	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	124598	12.293	118022	12.293	106	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-TB-1909251448	09/25/19 14:48	09/27/19 10:25	10/04/19 14:17	8.98	14.00	10/04/19 16:08	9.06	14.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: EPA 8270D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: Apex Laboratories
SDG: Gasco PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:47PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC **Project:** Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Acenaphthene	1.25	2.50	ug/kg
Acenaphthylene	1.25	2.50	ug/kg
Anthracene	1.25	2.50	ug/kg
Benz(a)anthracene	1.25	2.50	ug/kg
Benzo(a)pyrene	1.25	2.50	ug/kg
Benzo(b)fluoranthene	1.25	2.50	ug/kg
Benzo(k)fluoranthene	1.25	2.50	ug/kg
Benzo(g,h,i)perylene	1.25	2.50	ug/kg
Chrysene	1.25	2.50	ug/kg
Dibenz(a,h)anthracene	1.25	2.50	ug/kg
Fluoranthene	1.25	2.50	ug/kg
Fluorene	1.25	2.50	ug/kg
Indeno(1,2,3-cd)pyrene	1.25	2.50	ug/kg
2-Methylnaphthalene	1.25	2.50	ug/kg
Naphthalene	1.25	2.50	ug/kg
Phenanthrene	1.25	2.50	ug/kg
Pyrene	1.25	2.50	ug/kg

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-013SC-B-7.6-9.6-190925

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-01RE1	File ID:	N10031913.D
Sampled:	09/25/19 13:59	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 15:03
Solids:	85.76	Preparation:	EPA 3546	Initial/Final:	15.45 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	15.9	
208-96-8	Acenaphthylene	1	1.03	J
120-12-7	Anthracene	1	3.54	
56-55-3	Benz(a)anthracene	1	1.81	J
50-32-8	Benzo(a)pyrene	1	1.74	J
205-99-2	Benzo(b)fluoranthene	1	1.76	J
207-08-9	Benzo(k)fluoranthene	1	0.943	UX
191-24-2	Benzo(g,h,i)perylene	1	1.60	J
218-01-9	Chrysene	1	2.46	
53-70-3	Dibenz(a,h)anthracene	1	0.943	U
206-44-0	Fluoranthene	1	5.07	
86-73-7	Fluorene	1	4.01	
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.43	J
91-57-6	2-Methylnaphthalene	1	13.5	
91-20-3	Naphthalene	1	15.8	
85-01-8	Phenanthrene	1	15.7	
129-00-0	Pyrene	1	62.4	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.7	33.1	88	44 - 115	
p-Terphenyl-d14 (Surr)	37.7	34.3	91	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	204909	7.877	207501	7.877	
Acenaphthene-d10 (ISTD)	138373	9.638	135408	9.632	
Phenanthrene-d10 (ISTD)	265662	11.142	263900	11.141	
Chrysene-d12 (ISTD)	220434	14.901	227174	14.901	
Perylene-d12 (ISTD)	181949	18.375	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	132749	20.759	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-013SC-B-9.6-12-190925

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-02RE1	File ID:	N10031914.D
Sampled:	09/25/19 14:01	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 15:35
Solids:	75.96	Preparation:	EPA 3546	Initial/Final:	15.39 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	38.6	
208-96-8	Acenaphthylene	1	1.36	J
120-12-7	Anthracene	1	1.57	J
56-55-3	Benz(a)anthracene	1	1.07	U
50-32-8	Benzo(a)pyrene	1	1.12	J
205-99-2	Benzo(b)fluoranthene	1	1.07	U
207-08-9	Benzo(k)fluoranthene	1	1.07	UX
191-24-2	Benzo(g,h,i)perylene	1	1.07	U
218-01-9	Chrysene	1	1.23	J
53-70-3	Dibenz(a,h)anthracene	1	1.07	U
206-44-0	Fluoranthene	1	1.59	J
86-73-7	Fluorene	1	2.42	
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.07	U
91-57-6	2-Methylnaphthalene	1	1.07	U
91-20-3	Naphthalene	1	17.3	
85-01-8	Phenanthrene	1	3.33	
129-00-0	Pyrene	1	34.2	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	42.8	31.4	73	44 - 115	
p-Terphenyl-d14 (Surr)	42.8	27.2	63	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	217435	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	141643	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	272751	11.153	263900	11.141	
Chrysene-d12 (ISTD)	236949	14.918	227174	14.901	
Perylene-d12 (ISTD)	201706	18.386	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	154548	20.77	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-018SC-B-11.8-13.2-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-04RE1	File ID:	N10031915.D
Sampled:	09/26/19 08:58	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 16:07
Solids:	77.86	Preparation:	EPA 3546	Initial/Final:	15.46 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001 Instrument: SV-GCMS14

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	8.02	
208-96-8	Acenaphthylene	1	1.04	U
120-12-7	Anthracene	1	1.04	U
56-55-3	Benz(a)anthracene	1	1.10	J
50-32-8	Benzo(a)pyrene	1	1.30	J
205-99-2	Benzo(b)fluoranthene	1	1.31	J
207-08-9	Benzo(k)fluoranthene	1	1.04	UX
191-24-2	Benzo(g,h,i)perylene	1	1.16	J
218-01-9	Chrysene	1	1.49	J
53-70-3	Dibenz(a,h)anthracene	1	1.04	U
206-44-0	Fluoranthene	1	3.40	
86-73-7	Fluorene	1	1.37	J
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.04	U
91-57-6	2-Methylnaphthalene	1	1.04	U
91-20-3	Naphthalene	1	1.65	J
85-01-8	Phenanthrene	1	1.80	J
129-00-0	Pyrene	1	4.49	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	41.5	31.2	75	44 - 115	
p-Terphenyl-d14 (Surr)	41.5	29.9	72	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	204649	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	133488	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	255722	11.147	263900	11.141	
Chrysene-d12 (ISTD)	219010	14.913	227174	14.901	
Perylene-d12 (ISTD)	184224	18.386	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	140274	20.77	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-018SC-B-5.8-7.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-05RE1	File ID:	N10031912.D
Sampled:	09/26/19 08:56	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 14:30
Solids:	69.41	Preparation:	EPA 3546	Initial/Final:	15.7 g / 10 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1000	50500	D
208-96-8	Acenaphthylene	1000	6250	D
120-12-7	Anthracene	1000	38600	D
56-55-3	Benz(a)anthracene	1000	42600	D
50-32-8	Benzo(a)pyrene	1000	63400	D
205-99-2	Benzo(b)fluoranthene	1000	55000	D
207-08-9	Benzo(k)fluoranthene	1000	17100	DX
191-24-2	Benzo(g,h,i)perylene	1000	51400	D
218-01-9	Chrysene	1000	54500	D
53-70-3	Dibenz(a,h)anthracene	1000	4880	D
206-44-0	Fluoranthene	1000	159000	D
86-73-7	Fluorene	1000	31300	D
193-39-5	Indeno(1,2,3-cd)pyrene	1000	42500	D
91-57-6	2-Methylnaphthalene	1000	38200	D
91-20-3	Naphthalene	1000	19900	D
85-01-8	Phenanthrene	1000	185000	D
129-00-0	Pyrene	1000	169000	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	45.9	106	230	44 - 115	D
p-Terphenyl-d14 (Surr)	45.9	165	360	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	203645	7.877	207501	7.877	
Acenaphthene-d10 (ISTD)	133157	9.632	135408	9.632	
Phenanthrene-d10 (ISTD)	255349	11.141	263900	11.141	
Chrysene-d12 (ISTD)	222460	14.901	227174	14.901	
Perylene-d12 (ISTD)	193394	18.375	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	137795	20.759	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-018SC-B-7.8-9.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-06RE1	File ID:	N10031916.D
Sampled:	09/26/19 08:57	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 16:39
Solids:	84.15	Preparation:	EPA 3546	Initial/Final:	15.58 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	15.2	
208-96-8	Acenaphthylene	1	0.953	U
120-12-7	Anthracene	1	0.953	U
56-55-3	Benz(a)anthracene	1	0.953	U
50-32-8	Benzo(a)pyrene	1	0.953	U
205-99-2	Benzo(b)fluoranthene	1	0.953	U
207-08-9	Benzo(k)fluoranthene	1	0.953	UX
191-24-2	Benzo(g,h,i)perylene	1	0.953	U
218-01-9	Chrysene	1	0.953	U
53-70-3	Dibenz(a,h)anthracene	1	0.953	U
206-44-0	Fluoranthene	1	1.24	J
86-73-7	Fluorene	1	4.69	
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.953	U
91-57-6	2-Methylnaphthalene	1	0.953	U
91-20-3	Naphthalene	1	1.14	J
85-01-8	Phenanthrene	1	1.81	J
129-00-0	Pyrene	1	2.00	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	38.1	32.2	85	44 - 115	
p-Terphenyl-d14 (Surr)	38.1	33.1	87	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	229791	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	141820	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	269795	11.147	263900	11.141	
Chrysene-d12 (ISTD)	225071	14.913	227174	14.901	
Perylene-d12 (ISTD)	193221	18.381	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	150250	20.77	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-018SC-B-9.8-11.8-190926

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0885-07RE1	File ID:	N10031917.D
Sampled:	09/26/19 08:58	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 17:11
Solids:	88.33	Preparation:	EPA 3546	Initial/Final:	15.28 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	11.5	
208-96-8	Acenaphthylene	1	0.926	U
120-12-7	Anthracene	1	0.926	U
56-55-3	Benz(a)anthracene	1	1.92	
50-32-8	Benzo(a)pyrene	1	2.91	
205-99-2	Benzo(b)fluoranthene	1	2.80	
207-08-9	Benzo(k)fluoranthene	1	1.00	JX
191-24-2	Benzo(g,h,i)perylene	1	2.63	
218-01-9	Chrysene	1	2.28	
53-70-3	Dibenz(a,h)anthracene	1	0.926	U
206-44-0	Fluoranthene	1	5.62	
86-73-7	Fluorene	1	2.46	
193-39-5	Indeno(1,2,3-cd)pyrene	1	2.27	
91-57-6	2-Methylnaphthalene	1	0.926	U
91-20-3	Naphthalene	1	1.10	J
85-01-8	Phenanthrene	1	2.88	
129-00-0	Pyrene	1	7.68	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.0	32.3	87	44 - 115	
p-Terphenyl-d14 (Surr)	37.0	35.8	97	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	218204	7.883	207501	7.877	
Acenaphthene-d10 (ISTD)	135990	9.638	135408	9.632	
Phenanthrene-d10 (ISTD)	254893	11.147	263900	11.141	
Chrysene-d12 (ISTD)	200486	14.907	227174	14.901	
Perylene-d12 (ISTD)	160979	18.375	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	115857	20.764	126520	20.759	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100583 Batch Matrix: Sediment Preparation: EPA 3546

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100583-BLK1	N10031907.D	10/03/19 06:49	
LCS	9100583-BS1	N10031908.D	10/03/19 06:49	
PDI-013SC-B-7.6-9.6-190925	A9I0885-01RE1	N10031913.D	10/03/19 06:49	
PDI-013SC-B-9.6-12-190925	A9I0885-02RE1	N10031914.D	10/03/19 06:49	
PDI-018SC-B-11.8-13.2-190926	A9I0885-04RE1	N10031915.D	10/03/19 06:49	
PDI-018SC-B-5.8-7.8-190926	A9I0885-05RE1	N10031912.D	10/03/19 06:49	
PDI-018SC-B-7.8-9.8-190926	A9I0885-06RE1	N10031916.D	10/03/19 06:49	
PDI-018SC-B-9.8-11.8-190926	A9I0885-07RE1	N10031917.D	10/03/19 06:49	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100583-BLK1	File ID:	N10031907.D
Prepared:	10/03/19 06:49	Preparation:	EPA 3546	Initial/Final:	16 g / 5 mL
Analyzed:	10/03/19 11:49	Instrument:	SV-GCMS14		
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001

CAS NO.	COMPOUND	CONC. (ug/kg wet)	Q
83-32-9	Acenaphthene	0.781	U
208-96-8	Acenaphthylene	0.781	U
120-12-7	Anthracene	0.781	U
56-55-3	Benz(a)anthracene	0.781	U
50-32-8	Benzo(a)pyrene	0.781	U
205-99-2	Benzo(b)fluoranthene	0.781	U
207-08-9	Benzo(k)fluoranthene	0.781	U
191-24-2	Benzo(g,h,i)perylene	0.781	U
218-01-9	Chrysene	0.781	U
53-70-3	Dibenz(a,h)anthracene	0.781	U
206-44-0	Fluoranthene	0.781	U
86-73-7	Fluorene	0.781	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.781	U
91-57-6	2-Methylnaphthalene	0.781	U
91-20-3	Naphthalene	0.781	U
85-01-8	Phenanthrene	0.781	U
129-00-0	Pyrene	0.781	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	31.2	28.9	92	44 - 115	
p-Terphenyl-d14 (Surr)	31.2	33.8	108	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	194910	7.877	207501	7.877	
Acenaphthene-d10 (ISTD)	125114	9.632	135408	9.632	
Phenanthrene-d10 (ISTD)	238408	11.141	263900	11.141	
Chrysene-d12 (ISTD)	176778	14.901	227174	14.901	
Perylene-d12 (ISTD)	134282	18.369	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	96007	20.759	126520	20.759	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100583	Laboratory ID:	9100583-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	13.3	12.6	94	40 - 122
Acenaphthylene	13.3	12.0	90	32 - 132
Anthracene	13.3	12.8	96	47 - 123
Benz(a)anthracene	13.3	12.1	91	49 - 126
Benzo(a)pyrene	13.3	12.6	95	45 - 129
Benzo(b)fluoranthene	13.3	13.4	100	45 - 132
Benzo(k)fluoranthene	13.3	12.8	96	47 - 132
Benzo(g,h,i)perylene	13.3	12.7	95	43 - 134
Chrysene	13.3	13.2	99	50 - 124
Dibenz(a,h)anthracene	13.3	12.5	93	45 - 134
Fluoranthene	13.3	13.1	99	50 - 127
Fluorene	13.3	13.2	99	43 - 125
Indeno(1,2,3-cd)pyrene	13.3	12.7	95	45 - 133
2-Methylnaphthalene	13.3	11.4	85	38 - 122
Naphthalene	13.3	12.2	92	35 - 123
Phenanthrene	13.3	12.7	95	50 - 121
Pyrene	13.3	12.6	94	47 - 127

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I06028	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9I06028-TUN1	N09061911.D	09/06/19 15:51
Initial Cal Blank	9I06028-ICB1	N09061912.D	09/06/19 16:18
Cal Standard	9I06028-CAL1	N09061913.D	09/06/19 16:51
Cal Standard	9I06028-CAL2	N09061914.D	09/06/19 17:23
Cal Standard	9I06028-CAL3	N09061915.D	09/06/19 17:55
Cal Standard	9I06028-CAL4	N09061916.D	09/06/19 18:27
Cal Standard	9I06028-CAL5	N09061917.D	09/06/19 19:00
Cal Standard	9I06028-CAL6	N09061918.D	09/06/19 19:32
Cal Standard	9I06028-CAL7	N09061919.D	09/06/19 20:04
Cal Standard	9I06028-CAL8	N09061920.D	09/06/19 20:37
Cal Standard	9I06028-CAL9	N09061921.D	09/06/19 21:09
Cal Standard	9I06028-CALA	N09061922.D	09/06/19 21:41
Initial Cal Check	9I06028-ICV1	N09061924.D	09/06/19 22:45

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J03014-TUN2	N10031904.D	10/03/19 10:16
Calibration Check	9J03014-CCV2	N10031905.D	10/03/19 10:44
Calibration Blank	9J03014-CCB1	N10031906.D	10/03/19 11:16
Blank	9100583-BLK1	N10031907.D	10/03/19 11:49
LCS	9100583-BS1	N10031908.D	10/03/19 12:21
PDI-018SC-B-5.8-7.8-190926	A9I0885-05RE1	N10031912.D	10/03/19 14:30
PDI-013SC-B-7.6-9.6-190925	A9I0885-01RE1	N10031913.D	10/03/19 15:03
PDI-013SC-B-9.6-12-190925	A9I0885-02RE1	N10031914.D	10/03/19 15:35
PDI-018SC-B-11.8-13.2-190926	A9I0885-04RE1	N10031915.D	10/03/19 16:07
PDI-018SC-B-7.8-9.8-190926	A9I0885-06RE1	N10031916.D	10/03/19 16:39
PDI-018SC-B-9.8-11.8-190926	A9I0885-07RE1	N10031917.D	10/03/19 17:11

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N09061911.D	Injection Date:	09/06/19
Instrument ID:	SV-GCMS14	Injection Time:	15:51
Sequence:	9I06028	Lab Sample ID:	9I06028-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.53	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.47	PASS
m/z 197	Less than 2% of m/z 198	0.48	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.86	PASS
m/z 365	1 - 100% of m/z 198	3.62	PASS
m/z 441	Less than 150% of m/z 443	78.02	PASS
m/z 442	0.1 - 200% of m/z 198	93.14	PASS
m/z 443	15 - 24% of m/z 442	19.59	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10031904.D	Injection Date:	10/03/19
Instrument ID:	SV-GCMS14	Injection Time:	10:16
Sequence:	9J03014	Lab Sample ID:	9J03014-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.64	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.47	PASS
m/z 197	Less than 2% of m/z 198	0.49	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.87	PASS
m/z 365	1 - 100% of m/z 198	3.67	PASS
m/z 441	Less than 150% of m/z 443	76.53	PASS
m/z 442	0.1 - 200% of m/z 198	110.06	PASS
m/z 443	15 - 24% of m/z 442	19.62	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing

Calibration: A9I1001 Date: 09/10/19 10:37 Instrument: SV-GCMS14

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.421956	Ave	2.101464	9.6727	1.195025E-02			20	
Acenaphthylene	2.170985	Ave	2.552096	9.498	1.184114E-02			20	
Anthracene	1.088444	Ave	2.157422	11.223	6.057048E-03			20	
Benz(a)anthracene	1.161023	Ave	7.869327	14.886	2.183092E-02			20	
Benzo(a)pyrene	0.9876419	Ave	9.000056	18.2396	6.304434E-02			20	
Benzo(b)fluoranthene	1.153887	Ave	5.67895	17.4697	5.010002E-02			20	
Benzo(k)fluoranthene	1.136093	Ave	6.126	17.5355	5.121218E-02			20	
Benzo(g,h,i)perylene	1.308305	Ave	5.850826	21.3008	4.687611E-02			20	
Chrysene	1.098706	Ave	1.523471	14.9673	0.0413593			20	
Dibenz(a,h)anthracene	1.158853	Ave	3.005339	20.8333	3.856247E-02			20	
Fluoranthene	1.178979	Ave	4.301023	12.435	3.109609E-02			20	
Fluorene	1.455085	Ave	3.852542	10.1928	3.089686E-02			20	
Indeno(1,2,3-cd)pyrene	1.233305	Ave	3.076119	20.7652	4.855178E-02			20	
2-Methylnaphthalene	0.9346173	Ave	5.160882	8.5884	7.334806E-03			20	
Naphthalene	1.102926	Ave	2.419226	7.9059	1.784269E-02			20	
Phenanthrene	1.170171	Ave	3.845982	11.1707	1.240085E-02			20	
Pyrene	1.562337	Ave	6.478501	12.7234	2.554012E-02			20	
2-Fluorobiphenyl (Surr)	1.491847	Ave	2.25656	8.9523	3.166423E-02			20	
p-Terphenyl-d14 (Surr)	1.051726	Ave	4.2222	12.9315	1.002441E-02			20	

Note: ** Quad COD may be incorrect if weighting (1/a) or (1/a2) used. Weighting not shown here. Please see instrument calibration printouts for validation.

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Calibration: A9I1001

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Instrument: SV-GCMS14
Calibration Date: 09/10/19 10:37

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
Acenaphthene	1	1.438843	2.5	1.487282	5	1.404065	10	1.417353	25	1.419193	50	1.394003
Acenaphthylene	1	2.050122	2.5	2.174081	5	2.138587	10	2.170914	25	2.195113	50	2.171664
Anthracene	1	1.097223	2.5	1.089279	5	1.048542	10	1.062312	25	1.06872	50	1.076085
Benz(a)anthracene	1	1.393885	2.5	1.220902	5	1.088043	10	1.09326	25	1.113653	50	1.097579
Benzo(a)pyrene	1	0.9831077	2.5	0.860229	5	0.8587498	10	0.9020412	25	0.976879	50	1.004382
Benzo(b)fluoranthene	1	1.117055	2.5	1.085157	5	1.064599	10	1.091936	25	1.128411	50	1.163732
Benzo(k)fluoranthene	1	1.067445	2.5	1.081921	5	1.086293	10	1.035921	25	1.12827	50	1.118386
Benzo(b+k)fluoranthene(s)	2	1.112094	5	1.118006	10	1.116503	20	1.114938	50	1.172148	100	1.178575
Benzo(g,h,i)perylene	1	1.244973	2.5	1.184733	5	1.240673	10	1.251188	25	1.288531	50	1.327508
Chrysene	1	1.134167	2.5	1.107207	5	1.086845	10	1.086606	25	1.097682	50	1.081788
Dibenz(a,h)anthracene	1	1.172765	2.5	1.143563	5	1.121188	10	1.116162	25	1.120297	50	1.14373
Fluoranthene	1	1.194051	2.5	1.126776	5	1.104079	10	1.123912	25	1.161779	50	1.170777
Fluorene	1	1.368696	2.5	1.404786	5	1.408744	10	1.421664	25	1.460973	50	1.446685
Indeno(1,2,3-cd)pyrene	1	1.207624	2.5	1.279667	5	1.185249	10	1.191109	25	1.192038	50	1.22331
1-Methylnaphthalene	1	0.8213813	2.5	0.8752222	5	0.8374479	10	0.9164978	25	0.9229373	50	0.9636201
2-Methylnaphthalene	1	0.8933817	2.5	0.9068991	5	0.8805457	10	0.8856102	25	0.8950085	50	0.9411598
Naphthalene	1	1.158343	2.5	1.134973	5	1.097604	10	1.122705	25	1.090082	50	1.082918
Phenanthrene	1	1.287154	2.5	1.193603	5	1.137078	10	1.164716	25	1.154027	50	1.151784
Pyrene	1	1.63414	2.5	1.742266	5	1.585271	10	1.635519	25	1.580246	50	1.570799
Carbazole	1	0.8723786	2.5	0.8303246	5	0.809563	10	0.8178062	25	0.8662439	50	0.8707417
Dibenzofuran	1	1.760349	2.5	1.772666	5	1.736411	10	1.780314	25	1.790475	50	1.776721
2-Fluorobiphenyl (Surr)	1	1.423811	2.5	1.562065	5	1.481173	10	1.49926	25	1.499776	50	1.48226
p-Terphenyl-d14 (Surr)	1	1.150274	2.5	1.092469	5	1.036656	10	1.057709	25	1.06012	50	1.045507

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I1001
Instrument: SV-GCMS14
Matrix:
Calibration Date: 09/10/19 10:37

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
Acenaphthene	100	1.443403	200	1.431066	300	1.387896	400	1.396451				
Acenaphthylene	100	2.247844	200	2.243032	300	2.16069	400	2.157799				
Anthracene	100	1.109829	200	1.115327	300	1.102277	400	1.114841				
Benz(a)anthracene	100	1.142091	200	1.148716	300	1.139155	400	1.17295				
Benzo(a)pyrene	100	1.043258	200	1.084563	300	1.067927	400	1.095282				
Benzo(b)fluoranthene	100	1.194311	200	1.23063	300	1.216813	400	1.246224				
Benzo(k)fluoranthene	100	1.195543	200	1.221498	300	1.197767	400	1.227883				
Benzo(b+k)fluoranthene(s)	200	1.228745	400	1.259094	600	1.236491	800	1.266041				
Benzo(g,h,i)perylene	100	1.387838	200	1.395223	300	1.36793	400	1.394456				
Chrysene	100	1.095048	200	1.103107	300	1.080265	400	1.114348				
Dibenz(a,h)anthracene	100	1.178156	200	1.193501	300	1.181668	400	1.217496				
Fluoranthene	100	1.201514	200	1.227472	300	1.217957	400	1.261473				
Fluorene	100	1.525529	200	1.545124	300	1.492702	400	1.475951				
Indeno(1,2,3-cd)pyrene	100	1.260309	200	1.262162	300	1.248776	400	1.282806				
1-Methylnaphthalene	100	0.9858109	200	1.024788	300	1.01574	400	0.9810225				
2-Methylnaphthalene	100	0.9654102	200	1.001432	300	1.001474	400	0.9752517				
Naphthalene	100	1.082489	200	1.091885	300	1.077863	400	1.090395				
Phenanthrene	100	1.157739	200	1.178493	300	1.133633	400	1.143483				
Pyrene	100	1.559688	200	1.478103	300	1.415905	400	1.421434				
Carbazole	100	0.9049028	200	0.9454096	300	0.9401746	400	0.949796				
Dibenzofuran	100	1.831193	200	1.826652	300	1.770993	400	1.764878				
2-Fluorobiphenyl (Surr)	100	1.499049	200	1.496115	300	1.47728	400	1.49768				
p-Terphenyl-d14 (Surr)	100	1.048827	200	1.020622	300	0.9928344	400	1.012238				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP T
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N09061924.D		
Sequence:	9I06028	Inject Date:	09/06/19
Lab Sample ID:	9I06028-ICV1	Inject Time:	22:45

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acenaphthene	50.0	50.3	0.7	70 - 130
Acenaphthylene	50.0	51.9	3.9	70 - 130
Anthracene	50.0	51.8	3.6	70 - 130
Benz(a)anthracene	50.0	48.5	-3.0	70 - 130
Benzo(a)pyrene	50.0	51.2	2.4	70 - 130
Benzo(b)fluoranthene	50.0	50.6	1.2	70 - 130
Benzo(k)fluoranthene	50.0	50.0	-0.06	70 - 130
Benzo(g,h,i)perylene	50.0	53.6	7.2	70 - 130
Chrysene	50.0	52.4	4.8	70 - 130
Dibenz(a,h)anthracene	50.0	49.3	-1.3	70 - 130
Fluoranthene	50.0	50.6	1.1	70 - 130
Fluorene	50.0	50.9	1.7	70 - 130
Indeno(1,2,3-cd)pyrene	50.0	50.0	-0.05	70 - 130
2-Methylnaphthalene	50.0	46.8	-6.3	70 - 130
Naphthalene	50.0	49.9	-0.1	70 - 130
Phenanthrene	50.0	50.4	0.8	70 - 130
Pyrene	50.0	50.6	1.2	70 - 130
2-Fluorobiphenyl (Surr)	50.0	49.7	-0.7	70 - 130
p-Terphenyl-d14 (Surr)	50.0	48.7	-2.6	70 - 130

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10031905.D	Calibration Date:	09/10/19 10:37
Sequence:	9J03014	Injection Date:	10/03/19
Lab Sample ID:	9J03014-CCV2	Injection Time:	10:44

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	50.0	49.9		1.421956	1.418927	-0.2	20
Acenaphthylene	Ave	50.0	48.7		2.170985	2.115385	-2.6	20
Anthracene	Ave	50.0	49.8		1.088444	1.082956	-0.5	20
Benz(a)anthracene	Ave	50.0	47.6		1.161023	1.105338	-4.8	20
Benzo(a)pyrene	Ave	50.0	51.2		0.9876419	1.011509	2.4	20
Benzo(b)fluoranthene	Ave	50.0	50.8		1.153887	1.173412	1.7	20
Benzo(k)fluoranthene	Ave	50.0	50.7		1.136093	1.151203	1.3	20
Benzo(g,h,i)perylene	Ave	50.0	48.0		1.308305	1.256228	-4.0	20
Chrysene	Ave	50.0	48.0		1.098706	1.055517	-3.9	20
Dibenz(a,h)anthracene	Ave	50.0	49.2		1.158853	1.140594	-1.6	20
Fluoranthene	Ave	50.0	51.0		1.178979	1.201394	1.9	20
Fluorene	Ave	50.0	52.9		1.455085	1.539215	5.8	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	47.4		1.233305	1.16878	-5.2	20
2-Methylnaphthalene	Ave	50.0	44.9		0.9346173	0.8386658	-10.3	20
Naphthalene	Ave	50.0	49.0		1.102926	1.081007	-2.0	20
Phenanthrene	Ave	50.0	48.7		1.170171	1.140197	-2.6	20
Pyrene	Ave	50.0	46.3		1.562337	1.445597	-7.5	20

** Quadratic Curve fit may be weighted (1/a or 1/a2).

* = Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I06028	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9I06028-ICV1)			Lab File ID: N09061924.D		Analyzed: 09/06/19 22:45			
2-Fluorobiphenyl (Surr)	50.0	99	70 - 130	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	97	70 - 130	12.925	12.9315	-0.0065	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J03014-CCV2)			Lab File ID: N10031905.D		Analyzed: 10/03/19 10:44			
2-Fluorobiphenyl (Surr)	50.0	102	80 - 120	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	100	80 - 120	12.925	12.9315	-0.0065	+/-1.0	
Calibration Blank (9J03014-CCB1)			Lab File ID: N10031906.D		Analyzed: 10/03/19 11:16			
2-Fluorobiphenyl (Surr)			44 - 115	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			54 - 127	0	12.9315	-12.9315	+/-1.0	
Blank (9100583-BLK1)			Lab File ID: N10031907.D		Analyzed: 10/03/19 11:49			
2-Fluorobiphenyl (Surr)	31.2	92	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	31.2	108	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
LCS (9100583-BS1)			Lab File ID: N10031908.D		Analyzed: 10/03/19 12:21			
2-Fluorobiphenyl (Surr)	33.3	93	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	33.3	98	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05RE1)			Lab File ID: N10031912.D		Analyzed: 10/03/19 14:30			
2-Fluorobiphenyl (Surr)	45.9	230	44 - 115	8.944	8.9523	-0.0083	+/-1.0	*
p-Terphenyl-d14 (Surr)	45.9	360	54 - 127	12.925	12.9315	-0.0065	+/-1.0	*
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01RE1)			Lab File ID: N10031913.D		Analyzed: 10/03/19 15:03			
2-Fluorobiphenyl (Surr)	37.7	88	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	37.7	91	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-013SC-B-9.6-12-190925 (A9I0885-02RE1)			Lab File ID: N10031914.D		Analyzed: 10/03/19 15:35			
2-Fluorobiphenyl (Surr)	42.8	73	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	42.8	63	54 - 127	12.937	12.9315	0.0055	+/-1.0	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04RE1)			Lab File ID: N10031915.D		Analyzed: 10/03/19 16:07			
2-Fluorobiphenyl (Surr)	41.5	75	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	41.5	72	54 - 127	12.931	12.9315	-0.0005	+/-1.0	
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06RE1)			Lab File ID: N10031916.D		Analyzed: 10/03/19 16:39			
2-Fluorobiphenyl (Surr)	38.1	85	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	38.1	87	54 - 127	12.931	12.9315	-0.0005	+/-1.0	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07RE1)			Lab File ID: N10031917.D		Analyzed: 10/03/19 17:11			
2-Fluorobiphenyl (Surr)	37.0	87	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	37.0	97	54 - 127	12.931	12.9315	-0.0005	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J03014-CCV2)			Lab File ID: N10031905.D			Analyzed: 10/03/19 10:44			
Naphthalene-d8 (ISTD)	207501	7.877	148351	7.883	140	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	135408	9.632	117951	9.638	115	50 - 200	-0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	263900	11.141	219661	11.147	120	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	227174	14.901	169841	14.907	134	50 - 200	-0.0060	+/-0.50	
Perylene-d12 (ISTD)	185420	18.375	142416	18.375	130	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	126520	20.759	93265	20.765	136	50 - 200	-0.0060	+/-0.50	
Calibration Blank (9J03014-CCB1)			Lab File ID: N10031906.D			Analyzed: 10/03/19 11:16			
Naphthalene-d8 (ISTD)	203955	7.877	207501	7.877	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	126264	9.632	135408	9.632	93	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	237335	11.141	263900	11.141	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	163092	14.901	227174	14.901	72	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	121839	18.369	185420	18.375	66	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	86422	20.759	126520	20.759	68	50 - 200	0.0000	+/-0.50	
Blank (9100583-BLK1)			Lab File ID: N10031907.D			Analyzed: 10/03/19 11:49			
Naphthalene-d8 (ISTD)	194910	7.877	207501	7.877	94	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	125114	9.632	135408	9.632	92	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	238408	11.141	263900	11.141	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	176778	14.901	227174	14.901	78	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	134282	18.369	185420	18.375	72	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	96007	20.759	126520	20.759	76	50 - 200	0.0000	+/-0.50	
LCS (9100583-BS1)			Lab File ID: N10031908.D			Analyzed: 10/03/19 12:21			
Naphthalene-d8 (ISTD)	196581	7.877	207501	7.877	95	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	128611	9.632	135408	9.632	95	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	246492	11.141	263900	11.141	93	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	197429	14.901	227174	14.901	87	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	156299	18.369	185420	18.375	84	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	110329	20.759	126520	20.759	87	50 - 200	0.0000	+/-0.50	
Matrix Spike (9100583-MS1)			Lab File ID: N10031910.D			Analyzed: 10/03/19 13:26			
Naphthalene-d8 (ISTD)	208722	7.877	207501	7.877	101	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	136347	9.638	135408	9.632	101	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	265804	11.141	263900	11.141	101	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	234666	14.901	227174	14.901	103	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	200617	18.375	185420	18.375	108	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	152539	20.759	126520	20.759	121	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (9100583-MSD1)			Lab File ID: N10031911.D			Analyzed: 10/03/19 13:58			
Naphthalene-d8 (ISTD)	200676	7.877	207501	7.877	97	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	131834	9.632	135408	9.632	97	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	253777	11.141	263900	11.141	96	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	206223	14.901	227174	14.901	91	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	166706	18.369	185420	18.375	90	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	117294	20.759	126520	20.759	93	50 - 200	0.0000	+/-0.50	
PDI-018SC-B-5.8-7.8-190926 (A9I0885-05RE1)			Lab File ID: N10031912.D			Analyzed: 10/03/19 14:30			
Naphthalene-d8 (ISTD)	203645	7.877	207501	7.877	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	133157	9.632	135408	9.632	98	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	255349	11.141	263900	11.141	97	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	222460	14.901	227174	14.901	98	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	193394	18.375	185420	18.375	104	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	137795	20.759	126520	20.759	109	50 - 200	0.0000	+/-0.50	
PDI-013SC-B-7.6-9.6-190925 (A9I0885-01RE1)			Lab File ID: N10031913.D			Analyzed: 10/03/19 15:03			
Naphthalene-d8 (ISTD)	204909	7.877	207501	7.877	99	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	138373	9.638	135408	9.632	102	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	265662	11.142	263900	11.141	101	50 - 200	0.0010	+/-0.50	
Chrysene-d12 (ISTD)	220434	14.901	227174	14.901	97	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	181949	18.375	185420	18.375	98	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	132749	20.759	126520	20.759	105	50 - 200	0.0000	+/-0.50	
PDI-013SC-B-9.6-12-190925 (A9I0885-02RE1)			Lab File ID: N10031914.D			Analyzed: 10/03/19 15:35			
Naphthalene-d8 (ISTD)	217435	7.889	207501	7.877	105	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	141643	9.643	135408	9.632	105	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	272751	11.153	263900	11.141	103	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	236949	14.918	227174	14.901	104	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	201706	18.386	185420	18.375	109	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	154548	20.77	126520	20.759	122	50 - 200	0.0110	+/-0.50	
PDI-018SC-B-11.8-13.2-190926 (A9I0885-04RE1)			Lab File ID: N10031915.D			Analyzed: 10/03/19 16:07			
Naphthalene-d8 (ISTD)	204649	7.889	207501	7.877	99	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	133488	9.643	135408	9.632	99	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	255722	11.147	263900	11.141	97	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	219010	14.913	227174	14.901	96	50 - 200	0.0120	+/-0.50	
Perylene-d12 (ISTD)	184224	18.386	185420	18.375	99	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	140274	20.77	126520	20.759	111	50 - 200	0.0110	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-018SC-B-7.8-9.8-190926 (A9I0885-06RE1)			Lab File ID: N10031916.D			Analyzed: 10/03/19 16:39			
Naphthalene-d8 (ISTD)	229791	7.889	207501	7.877	111	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	141820	9.643	135408	9.632	105	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	269795	11.147	263900	11.141	102	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	225071	14.913	227174	14.901	99	50 - 200	0.0120	+/-0.50	
Perylene-d12 (ISTD)	193221	18.381	185420	18.375	104	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	150250	20.77	126520	20.759	119	50 - 200	0.0110	+/-0.50	
PDI-018SC-B-9.8-11.8-190926 (A9I0885-07RE1)			Lab File ID: N10031917.D			Analyzed: 10/03/19 17:11			
Naphthalene-d8 (ISTD)	218204	7.883	207501	7.877	105	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	135990	9.638	135408	9.632	100	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	254893	11.147	263900	11.141	97	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	200486	14.907	227174	14.901	88	50 - 200	0.0060	+/-0.50	
Perylene-d12 (ISTD)	160979	18.375	185420	18.375	87	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	115857	20.764	126520	20.759	92	50 - 200	0.0050	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-013SC-B-7.6-9.6-190925	09/25/19 13:59	09/27/19 10:25	10/03/19 06:49	7.70	14.00	10/03/19 15:03	0.34	40.00	
PDI-013SC-B-9.6-12-190925	09/25/19 14:01	09/27/19 10:25	10/03/19 06:49	7.70	14.00	10/03/19 15:35	0.37	40.00	
PDI-018SC-B-11.8-13.2-190926	09/26/19 08:58	09/27/19 10:25	10/03/19 06:49	6.91	14.00	10/03/19 16:07	0.39	40.00	
PDI-018SC-B-5.8-7.8-190926	09/26/19 08:56	09/27/19 10:25	10/03/19 06:49	6.91	14.00	10/03/19 14:30	0.32	40.00	
PDI-018SC-B-7.8-9.8-190926	09/26/19 08:57	09/27/19 10:25	10/03/19 06:49	6.91	14.00	10/03/19 16:39	0.41	40.00	
PDI-018SC-B-9.8-11.8-190926	09/26/19 08:58	09/27/19 10:25	10/03/19 06:49	6.91	14.00	10/03/19 17:11	0.43	40.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: METALS

METHOD: EPA 6020A

ANALYSES DATA PACKAGE COVER PAGE

EPA 6020A

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
SDG: Gasco PreRD_DG 2019
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:47PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Arsenic	0.250	0.500	mg/kg

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-013SC-B-7.6-9.6-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-01
File ID: 9J07068-028
Sampled: 09/25/19 13:59
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:11
Solids: 85.76
Preparation: EPA 3051A
Initial/Final: 0.48 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.21	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-013SC-B-9.6-12-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-02
File ID: 9J07068-029
Sampled: 09/25/19 14:01
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:15
Solids: 75.96
Preparation: EPA 3051A
Initial/Final: 0.518 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.40	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-018SC-B-11.8-13.2-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-04
File ID: 9J07068-030
Sampled: 09/26/19 08:58
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:20
Solids: 77.86
Preparation: EPA 3051A
Initial/Final: 0.482 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.71	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-018SC-B-5.8-7.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-05
File ID: 9J07068-035
Sampled: 09/26/19 08:56
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:43
Solids: 69.41
Preparation: EPA 3051A
Initial/Final: 0.515 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	4.09	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-018SC-B-7.8-9.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-06
File ID: 9J07068-036
Sampled: 09/26/19 08:57
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:47
Solids: 84.15
Preparation: EPA 3051A
Initial/Final: 0.502 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.59	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-018SC-B-9.8-11.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-07
File ID: 9J07068-037
Sampled: 09/26/19 08:58
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:52
Solids: 88.33
Preparation: EPA 3051A
Initial/Final: 0.51 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.77	5		EPA 6020A

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Batch: 9100531 Batch Matrix: Sediment Preparation: EPA 3051A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100531-BLK1	9J07068-026	10/02/19 08:34	
LCS	9100531-BS1	9J07068-027	10/02/19 08:34	
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	9J07068-028	10/02/19 08:34	
PDI-013SC-B-9.6-12-190925	A9I0885-02	9J07068-029	10/02/19 08:34	
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	9J07068-030	10/02/19 08:34	
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	9J07068-035	10/02/19 08:34	
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	9J07068-036	10/02/19 08:34	
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	9J07068-037	10/02/19 08:34	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

METHOD BLANK DATA SHEET

EPA 6020A

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100531-BLK1	File ID:	9J07068-026
Prepared:	10/02/19 08:34	Preparation:	EPA 3051A	Initial/Final:	0.52 g / 50 mL
Analyzed:	10/07/19 20:01	Instrument:	ICPMS5		
Batch:	9100531	Sequence:	9J07068	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
7440-38-2	Arsenic	0.240	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100531	Laboratory ID:	9100531-BS1
Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Arsenic	25.0	23.4	93	80 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07068	Instrument:	ICPMS5
Matrix:	Sediment	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	9J07068-ICV1	9J07068-013	10/07/19 19:01
Initial Cal Blank	9J07068-ICB1	9J07068-014	10/07/19 19:06
Instrument RL Check	9J07068-CRL1	9J07068-015	10/07/19 19:11
Instrument RL Check	9J07068-CRL2	9J07068-016	10/07/19 19:15
Instrument RL Check	9J07068-CRL3	9J07068-017	10/07/19 19:20
Instrument RL Check	9J07068-CRL4	9J07068-018	10/07/19 19:24
Blank	9100531-BLK1	9J07068-026	10/07/19 20:01
LCS	9100531-BS1	9J07068-027	10/07/19 20:06
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	9J07068-028	10/07/19 20:11
PDI-013SC-B-9.6-12-190925	A9I0885-02	9J07068-029	10/07/19 20:15
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	9J07068-030	10/07/19 20:20
Calibration Check	9J07068-CCV2	9J07068-032	10/07/19 20:29
Calibration Blank	9J07068-CCB1	9J07068-033	10/07/19 20:34
Calibration Blank	9J07068-CCB2	9J07068-034	10/07/19 20:38
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	9J07068-035	10/07/19 20:43
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	9J07068-036	10/07/19 20:47
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	9J07068-037	10/07/19 20:52
Calibration Check	9J07068-CCV3	9J07068-045	10/07/19 21:29
Calibration Blank	9J07068-CCB3	9J07068-046	10/07/19 21:33
Calibration Check	9J07068-CCV4	9J07068-057	10/07/19 22:24
Calibration Blank	9J07068-CCB4	9J07068-058	10/07/19 22:28
Calibration Check	9J07068-CCV5	9J07068-069	10/07/19 23:19
Calibration Blank	9J07068-CCB5	9J07068-070	10/07/19 23:24
Calibration Check	9J07068-CCV6	9J07068-081	10/08/19 00:14
Calibration Blank	9J07068-CCB6	9J07068-082	10/08/19 00:19
Calibration Check	9J07068-CCV7	9J07068-088	10/08/19 00:47
Calibration Blank	9J07068-CCB7	9J07068-089	10/08/19 00:51
Instrument RL Check	9J07068-CRL5	9J07068-090	10/08/19 00:56
Instrument RL Check	9J07068-CRL6	9J07068-091	10/08/19 01:01
Instrument RL Check	9J07068-CRL7	9J07068-092	10/08/19 01:05
Instrument RL Check	9J07068-CRL8	9J07068-093	10/08/19 01:10
Calibration Check	9J07068-CCV8	9J07068-102	10/08/19 01:52
Calibration Check	9J07068-CCV9	9J07068-103	10/08/19 01:57

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07068	Instrument:	ICPMS5
Matrix:	Sediment	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	9J07068-CCB8	9J07068-104	10/08/19 02:01
Instrument RL Check	9J07068-CRL9	9J07068-105	10/08/19 02:06
Instrument RL Check	9J07068-CRLA	9J07068-106	10/08/19 02:11
Instrument RL Check	9J07068-CRLB	9J07068-107	10/08/19 02:15
Instrument RL Check	9J07068-CRLC	9J07068-108	10/08/19 02:20

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9J07068

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9J07068-ICV1	Arsenic	100	98.0	98	ug/L	EPA 6020A
9J07068-CCV2	Arsenic	100	98.8	99	ug/L	EPA 6020A
9J07068-CCV3	Arsenic	100	98.7	99	ug/L	EPA 6020A
9J07068-CCV4	Arsenic	100	99.0	99	ug/L	EPA 6020A
9J07068-CCV5	Arsenic	100	99.7	100	ug/L	EPA 6020A
9J07068-CCV6	Arsenic	100	99.5	100	ug/L	EPA 6020A
9J07068-CCV7	Arsenic	100	99.8	100	ug/L	EPA 6020A
9J07068-CCV8	Arsenic	100	97.7	98	ug/L	EPA 6020A
9J07068-CCV9	Arsenic	100	98.0	98	ug/L	EPA 6020A

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Instrument ID: ICPMS5
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J07068
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9J07068-ICB1	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB1	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB2	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB3	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB4	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB5	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB6	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB7	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A
9J07068-CCB8	Arsenic	ND	0.500 (Inst)	ug/L		EPA 6020A

(Inst) indicates on-Instrument Result and Reporting Level. Used for non-digested Instrument Blanks.

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9J07068

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9J07068-CRL1	Arsenic	0.180	0.161	89	ug/L	70 - 130
9J07068-CRL2	Arsenic	0.900	0.912	101	ug/L	70 - 130
9J07068-CRL3	Arsenic	1.80	1.71	95	ug/L	70 - 130
9J07068-CRL4	Arsenic	3.60	3.70	103	ug/L	70 - 130
9J07068-CRL5	Arsenic	0.180	0.192	107	ug/L	70 - 130
9J07068-CRL6	Arsenic	0.900	0.904	100	ug/L	70 - 130
9J07068-CRL7	Arsenic	1.80	1.79	99	ug/L	70 - 130
9J07068-CRL8	Arsenic	3.60	3.61	100	ug/L	70 - 130
9J07068-CRL9	Arsenic	0.180	0.177	99	ug/L	70 - 130
9J07068-CRLA	Arsenic	0.900	0.881	98	ug/L	70 - 130
9J07068-CRLB	Arsenic	1.80	1.81	101	ug/L	70 - 130
9J07068-CRLC	Arsenic	3.60	3.53	98	ug/L	70 - 130

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 6020A

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-013SC-B-7.6-9.6-190925	09/25/19 13:59	09/27/19 10:25	10/02/19 08:34	6.77	180.00	10/07/19 20:11	12.26	180.00	
PDI-013SC-B-9.6-12-190925	09/25/19 14:01	09/27/19 10:25	10/02/19 08:34	6.77	180.00	10/07/19 20:15	12.26	180.00	
PDI-018SC-B-11.8-13.2-190926	09/26/19 08:58	09/27/19 10:25	10/02/19 08:34	5.98	180.00	10/07/19 20:20	11.47	180.00	
PDI-018SC-B-5.8-7.8-190926	09/26/19 08:56	09/27/19 10:25	10/02/19 08:34	5.98	180.00	10/07/19 20:43	11.49	180.00	
PDI-018SC-B-7.8-9.8-190926	09/26/19 08:57	09/27/19 10:25	10/02/19 08:34	5.98	180.00	10/07/19 20:47	11.49	180.00	
PDI-018SC-B-9.8-11.8-190926	09/26/19 08:58	09/27/19 10:25	10/02/19 08:34	5.98	180.00	10/07/19 20:52	11.50	180.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: WET

METHOD: SM 5310 B MOD

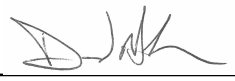
ANALYSES DATA PACKAGE COVER PAGE

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:47PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

SM 5310 B MOD

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Total Organic Carbon	0.020	0.020	% by Weight

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-013SC-B-7.6-9.6-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-01
Sampled: 09/25/19 13:59
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 10:20
Solids: 85.76
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.024	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-013SC-B-9.6-12-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-02
Sampled: 09/25/19 14:01
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 10:53
Solids: 75.96
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.032	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-018SC-B-11.8-13.2-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-04
Sampled: 09/26/19 08:58
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 11:16
Solids: 77.86
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.031	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-018SC-B-5.8-7.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-05
Sampled: 09/26/19 08:56
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 11:47
Solids: 69.41
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	4.4	1	E	SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-018SC-B-7.8-9.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-06
Sampled: 09/26/19 08:57
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 12:58
Solids: 84.15
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.022	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-018SC-B-9.8-11.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-07
Sampled: 09/26/19 08:58
Prepared: 09/30/19 15:31
Analyzed: 10/09/19 14:24
Solids: 88.33
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100515
Sequence: 9J09028
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.025	1		SM 5310 B MOD

PREPARATION BATCH SUMMARY

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100515 Batch Matrix: Sediment Preparation: PSEP-5310B TOC

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100515-BLK1		09/30/19 15:31	
LCS	9100515-BS1		09/30/19 15:31	
PDI-013SC-B-7.6-9.6-190925	A9I0885-01		09/30/19 15:31	
PDI-013SC-B-9.6-12-190925	A9I0885-02		09/30/19 15:31	
PDI-018SC-B-11.8-13.2-190926	A9I0885-04		09/30/19 15:31	
PDI-018SC-B-5.8-7.8-190926	A9I0885-05		09/30/19 15:31	
PDI-018SC-B-7.8-9.8-190926	A9I0885-06		09/30/19 15:31	
PDI-018SC-B-9.8-11.8-190926	A9I0885-07		09/30/19 15:31	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

METHOD BLANK DATA SHEET
SM 5310 B MOD

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100515-BLK1	File ID:	
Prepared:	09/30/19 15:31	Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A
Analyzed:	10/09/19 08:05	Instrument:	TOC		
Batch:	9100515	Sequence:	9J09028	Calibration:	A8B0203

CAS NO.	COMPOUND	CONC. (% by Weight)	Q
TOC	Total Organic Carbon	0.020	U

LCS / LCS DUPLICATE RECOVERY

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100515	Laboratory ID:	9100515-BS1
Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Total Organic Carbon	10000	10000	105	90 - 110

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	8B02022	Instrument:	TOC
Matrix:	Sediment	Calibration:	A8B0203

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	8B02022-CAL2		02/02/18 17:35
Cal Standard	8B02022-CAL3		02/02/18 17:35
Cal Standard	8B02022-CAL4		02/02/18 17:35
Cal Standard	8B02022-CAL5		02/02/18 17:35
Cal Standard	8B02022-CAL6		02/02/18 17:35
Cal Standard	8B02022-CAL7		02/02/18 17:35
Cal Standard	8B02022-CAL8		02/02/18 17:35
Cal Standard	8B02022-CAL9		02/02/18 17:35
Cal Standard	8B02022-CALA		02/02/18 17:35
Cal Standard	8B02022-CALB		02/02/18 17:35
Initial Cal Check	8B02022-ICV2		02/02/18 17:35
Initial Cal Blank	8B02022-ICB2		02/02/18 17:35

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

ANALYSIS BATCH (SEQUENCE) SUMMARY
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J09028	Instrument:	TOC
Matrix:	Sediment	Calibration:	A8B0203

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9J09028-CCV1		10/09/19 07:32
Calibration Blank	9J09028-CCB1		10/09/19 07:51
Blank	9100515-BLK1		10/09/19 08:05
LCS	9100515-BS1		10/09/19 08:37
PDI-013SC-B-7.6-9.6-190925	A9I0885-01		10/09/19 10:20
PDI-013SC-B-9.6-12-190925	A9I0885-02		10/09/19 10:53
PDI-018SC-B-11.8-13.2-190926	A9I0885-04		10/09/19 11:16
PDI-018SC-B-5.8-7.8-190926	A9I0885-05		10/09/19 11:47
PDI-018SC-B-7.8-9.8-190926	A9I0885-06		10/09/19 12:58
PDI-018SC-B-9.8-11.8-190926	A9I0885-07		10/09/19 14:24
Calibration Check	9J09028-CCV2		10/09/19 14:50
Calibration Blank	9J09028-CCB2		10/09/19 15:17

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

INITIAL CALIBRATION DATA (Summary)

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing
Calibration: A8B0203
Date: 02/02/18 15:56
Instrument: TOC

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon		Lin				0.00000			

Note: ** Quad COD may be incorrect if weighting (1/a) or (1/a2) used. Weighting not shown here. Please see instrument calibration printouts for validation.

INITIAL CALIBRATION DATA

SM 5310 B MOD

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A8B0203

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te

Instrument: TOC

Calibration Date: 02/02/18 15:56

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF
Total Organic Carbon	1000		2500		5000		10000		15000		20000	

INITIAL CALIBRATION DATA (Continued)

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration:	A8B0203	Instrument:	TOC
Matrix:		Calibration Date:	02/02/18 15:56

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF
Total Organic Carbon	25000		30000		35000		40000					

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC
Calibration: A8B0203
Control Limt: +/- 10.00%
Sequence: 8B02022

Lab Sample ID	Analyte	True	Found	%R	Units	Method
8B02022-ICV2	Total Organic Carbon	10000	10000	104	mg/kg	SM 5310 B MOD

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC
Calibration: A8B0203
Control Limt: +/- 10.00%
Sequence: 9J09028

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9J09028-CCV1	Total Organic Carbon	10000	10000	105	mg/kg	SM 5310 B MOD
9J09028-CCV2	Total Organic Carbon	10000	11000	108	mg/kg	SM 5310 B MOD

* Values outside of QC limits

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Instrument ID: TOC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 8B02022
Calibration: A8B0203

Lab Sample ID	Analyte	Found	RL	Units	C	Method
8B02022-ICB2	Total Organic Carbon	260	200 (Inst)	mg/kg	*	SM 5310 B MOD

(Inst) indicates on-Instrument Result and Reporting Level. Used for non-digested Instrument Blanks.

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Instrument ID: TOC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J09028
Calibration: A8B0203

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9J09028-CCB1	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J09028-CCB2	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD

(Inst) indicates on-Instrument Result and Reporting Level. Used for non-digested Instrument Blanks.

HOLDING TIME SUMMARY

SM 5310 B MOD

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-013SC-B-7.6-9.6-190925	09/25/19 13:59	09/27/19 10:25	09/30/19 15:31	5.06	28.00	10/09/19 10:20	13.85	28.00	
PDI-013SC-B-9.6-12-190925	09/25/19 14:01	09/27/19 10:25	09/30/19 15:31	5.06	28.00	10/09/19 10:53	13.87	28.00	
PDI-018SC-B-11.8-13.2-190926	09/26/19 08:58	09/27/19 10:25	09/30/19 15:31	4.27	28.00	10/09/19 11:16	13.10	28.00	
PDI-018SC-B-5.8-7.8-190926	09/26/19 08:56	09/27/19 10:25	09/30/19 15:31	4.27	28.00	10/09/19 11:47	13.12	28.00	
PDI-018SC-B-7.8-9.8-190926	09/26/19 08:57	09/27/19 10:25	09/30/19 15:31	4.27	28.00	10/09/19 12:58	13.17	28.00	
PDI-018SC-B-9.8-11.8-190926	09/26/19 08:58	09/27/19 10:25	09/30/19 15:31	4.27	28.00	10/09/19 14:24	13.23	28.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: WET

METHOD: SM 2540 G

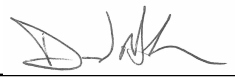
ANALYSES DATA PACKAGE COVER PAGE

SM 2540 G

Laboratory: Apex Laboratories
SDG: Gasco PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-013SC-B-7.6-9.6-190925	A9I0885-01	Sediment
PDI-013SC-B-9.6-12-190925	A9I0885-02	Sediment
PDI-018SC-B-11.8-13.2-190926	A9I0885-04	Sediment
PDI-018SC-B-5.8-7.8-190926	A9I0885-05	Sediment
PDI-018SC-B-7.8-9.8-190926	A9I0885-06	Sediment
PDI-018SC-B-9.8-11.8-190926	A9I0885-07	Sediment
PDI-101SC-B-00-02-190926	A9I0885-08	Sediment
PDI-101SC-B-02-04-190926	A9I0885-09	Sediment
PDI-101SC-B-04-06-190926	A9I0885-10	Sediment
PDI-101SC-B-06-08-190926	A9I0885-11	Sediment
PDI-101SC-B-08-10-190926	A9I0885-12	Sediment
PDI-101SC-B-10-12-190926	A9I0885-13	Sediment
PDI-101SC-B-12-14-190926	A9I0885-14	Sediment
PDI-101SC-B-14-15.6-190926	A9I0885-15	Sediment

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

Signature: 
Name: David G. Jack

Forms Created: 12/4/2019 1:47PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Total Solids	1.00	1.00	% by Weight

Note: MDLs are listed only if the corresponding analyte was evalutated to the MDL in this report .

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-013SC-B-7.6-9.6-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-01
Sampled: 09/25/19 13:59
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 85.76
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	85.8	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-013SC-B-9.6-12-190925

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-02
Sampled: 09/25/19 14:01
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 75.96
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	76.0	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-018SC-B-11.8-13.2-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-04
Sampled: 09/26/19 08:58
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 77.86
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	77.9	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-018SC-B-5.8-7.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-05
Sampled: 09/26/19 08:56
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 69.41
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	69.4	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-018SC-B-7.8-9.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-06
Sampled: 09/26/19 08:57
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 84.15
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	84.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-018SC-B-9.8-11.8-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-07
Sampled: 09/26/19 08:58
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 88.33
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	88.3	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-00-02-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-08
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 64.81
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	64.8	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-02-04-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-09
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 54.08
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	54.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-04-06-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-10
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 54.70
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	54.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-06-08-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-11
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 71.12
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	71.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-08-10-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-12
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 55.07
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	55.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-10-12-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-13
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 82.56
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	82.6	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-12-14-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-14
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 81.65
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	81.6	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-101SC-B-14-15.6-190926

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0885-15
Sampled: 09/26/19 15:30
Prepared: 09/27/19 17:11
Analyzed: 10/01/19 15:38
Solids: 80.85
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091411
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	80.8	1		SM 2540 G

PREPARATION BATCH SUMMARY

SM 2540 G

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9091411 Batch Matrix: Sediment Preparation: Total Solids (SM2540G/PSEP)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PDI-013SC-B-7.6-9.6-190925	A9I0885-01		09/27/19 17:11	
PDI-013SC-B-9.6-12-190925	A9I0885-02		09/27/19 17:11	
PDI-018SC-B-11.8-13.2-190926	A9I0885-04		09/27/19 17:11	
PDI-018SC-B-5.8-7.8-190926	A9I0885-05		09/27/19 17:11	
PDI-018SC-B-7.8-9.8-190926	A9I0885-06		09/27/19 17:11	
PDI-018SC-B-9.8-11.8-190926	A9I0885-07		09/27/19 17:11	
PDI-101SC-B-00-02-190926	A9I0885-08		09/27/19 17:11	
PDI-101SC-B-02-04-190926	A9I0885-09		09/27/19 17:11	
PDI-101SC-B-04-06-190926	A9I0885-10		09/27/19 17:11	
PDI-101SC-B-06-08-190926	A9I0885-11		09/27/19 17:11	
PDI-101SC-B-08-10-190926	A9I0885-12		09/27/19 17:11	
PDI-101SC-B-10-12-190926	A9I0885-13		09/27/19 17:11	
PDI-101SC-B-12-14-190926	A9I0885-14		09/27/19 17:11	
PDI-101SC-B-14-15.6-190926	A9I0885-15		09/27/19 17:11	

Note: Client samples are listed only if they are included in this report.
Duplicates and Matrix Spike/Duplicates QC Samples are only listed if sourced from a sample included in this report.

HOLDING TIME SUMMARY

SM 2540 G

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

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
PDI-013SC-B-7.6-9.6-190925	09/25/19 13:59	09/27/19 10:25	09/27/19 17:11	2.13	180.00	10/01/19 15:38	3.94		
PDI-013SC-B-9.6-12-190925	09/25/19 14:01	09/27/19 10:25	09/27/19 17:11	2.13	180.00	10/01/19 15:38	3.94		
PDI-018SC-B-11.8-13.2-190926	09/26/19 08:58	09/27/19 10:25	09/27/19 17:11	1.34	180.00	10/01/19 15:38	3.94		
PDI-018SC-B-5.8-7.8-190926	09/26/19 08:56	09/27/19 10:25	09/27/19 17:11	1.34	180.00	10/01/19 15:38	3.94		
PDI-018SC-B-7.8-9.8-190926	09/26/19 08:57	09/27/19 10:25	09/27/19 17:11	1.34	180.00	10/01/19 15:38	3.94		
PDI-018SC-B-9.8-11.8-190926	09/26/19 08:58	09/27/19 10:25	09/27/19 17:11	1.34	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-00-02-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-02-04-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-04-06-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-06-08-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-08-10-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-10-12-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-12-14-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		
PDI-101SC-B-14-15.6-190926	09/26/19 15:30	09/27/19 10:25	09/27/19 17:11	1.07	180.00	10/01/19 15:38	3.94		

Raw Data

Selected Volatile Organic Compounds by EPA 8260C
Benchsheet & Analysis Sequence Data (Soil)

Batch 9091433
Sequence 9I30036 (A9I0885-01,02,03,04,05,06,07)

PREPARATION BENCH SHEET

BATCH #: 9091433 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

SEP 0 2 2019

APEX LABORATORIES

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9091433-BLK1		QC	09/30/19 10:00	7.5	5							
9091433-BS1		QC	09/30/19 10:00	5	5	A19I354		250				
9091433-BS2		QC	09/30/19 10:00	5	5	A19I278		250				
A9I0711-01RE1	B	8260C BTEX+N	(Date Sampled)	3.91	5					NTE@66"BGS	FP 500X RR1	
A9I0793-01RE1	B	8260C BTEX+N	(Date Sampled)	4.7	5					19-28683 WF(OT)-102"	FP 200X RR1	
A9I0885-01	B	8260C BTEX+Halo6	(Date Sampled)	5.11	5					PDI-013SC-B-7.6-9.6-190925	FP	
A9I0885-02	B	8260C BTEX+Halo6	(Date Sampled)	4.88	5					PDI-013SC-B-9.6-12-190925	FP	
A9I0885-04	B	8260C BTEX+Halo6	(Date Sampled)	5.7	5					PDI-018SC-B-11.8-13.2-190926	FP	
A9I0885-05	B	8260C BTEX+Halo6	(Date Sampled)	4.96	5					PDI-018SC-B-5.8-7.8-190926	FP	
A9I0885-06	B	8260C BTEX+N	(Date Sampled)	5.58	5					PDI-018SC-B-7.8-9.8-190926	FP, Added for BatchQC in: 909143	
A9I0885-06	B	8260C BTEX+Halo6	(Date Sampled)	5.58	5					PDI-018SC-B-7.8-9.8-190926	FP	
9091433-DUP1		QC	09/26/19 08:57	5.35	5		A9I0885-06					
A9I0885-07	B	8260C BTEX+Halo6	(Date Sampled)	4.93	5					PDI-018SC-B-9.8-11.8-190926	FP	
A9I0885-08	B	8260C BTEX+Halo6	(Date Sampled)	6.52	5					PDI-101SC-B-00-02-190926	FP	
A9I0885-09	B	8260C BTEX+Halo6	(Date Sampled)	4.81	5					PDI-101SC-B-02-04-190926	FP	
A9I0885-10	B	8260C BTEX+N	(Date Sampled)	5.41	5					PDI-101SC-B-04-06-190926	FP, Added for BatchQC in: 909143	
A9I0885-10	B	8260C BTEX+Halo6	(Date Sampled)	5.41	5			873		PDI-101SC-B-04-06-190926	FP	
9091433-MS1		QC	09/26/19 15:30	5.41	5	A19I354	A9I0885-10	250		DW= 54.7%	~~PENDING DW~~ @ 5X	
A9I0885-11	B	8260C BTEX+Halo6	(Date Sampled)	5.23	5					PDI-101SC-B-06-08-190926	FP	
A9I0885-12	B	8260C BTEX+Halo6	(Date Sampled)	5.19	5			10/1/19		PDI-101SC-B-08-10-190926	FP	
A9I0885-13	B	8260C BTEX+Halo6	(Date Sampled)	5.71	5					PDI-101SC-B-10-12-190926	FP	
A9I0885-14	B	8260C BTEX+Halo6	(Date Sampled)	5.83	5					PDI-101SC-B-12-14-190926	FP	

Prepared By: 10/1/19 Date

Reviewed By: 10/1/19 Date

PREPARATION BENCH SHEET

BATCH #: 9091433 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
A9I0885-15	B	8260C BTEX+Halo6	(Date Sampled)	5.52	5					PDI-101SC-B-14-15.6-190926	FP	

*pH <2 verified_____

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18J327	11/30/23	Balance s/n 593312
~~A19F143~~	~~12/09/19~~	~~Methanol - Fisher (P/T) #185042~~ A9I219
A19I220	09/16/20	Methanol - B&J (P/T) #DX075-US

Analyte Spike(s)

Std ID	Exp. Date	Description
A19I278	02/17/20	Prim NWTPH-Gx Spike (500 ug/mL)
A19I354	02/24/20	8260 Cal. Std. B VOC+OXY Spike (20-40ug/ml

Surrogate(s)

Std ID	Exp. Date	Description

SOIL MS6

Prepared By: Date

Reviewed By: Date

5035 Field Prep Worksheet (Validated 7/11/16)

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)	Formula Check
A9I0885-01	B	38.65	33.54	5.11	
2	B	38.48	33.6	4.88	
4	B	39	33.3	5.7	
5	B	38.43	33.47	4.96	
6	B	38.93	33.35	5.58	
6	C DUP	38.77	33.42	5.35	
7	B	38.57	33.64	4.93	
8	B	40.23	33.71	6.52	
9	B	38.45	33.64	4.81	
10	B	38.97	33.56	5.41	
11	B	38.61	33.38	5.23	
12	B	38.66	33.47	5.19	
13	B	39.51	33.8	5.71	
14	B	39.15	33.32	5.83	
15	B	38.83	33.31	5.52	

10/1/19

Volatile Soils Matrix Spike Volume Calculation (Validated 5/3/2013)

Enter the Spike Amount value into the Bench Sheet to ensure correct MS/MSD recoveries.

Batch: 9091433

Matrix Spike

Sample Weight	Final Volume	Dilution	Dry Weight
g	mL		%
5.410	5	50	54.7

Final Spike Level	**Spike Amount**
ug/kg	**ul**
2517.76	**373**

Assumptions:
Spiking Solution = 20ug/mL
Spike Amount into 50mL = 50ul
Dilution = 1mL of MeOH to 50mL of water
Initial Spike Concentration = 20ug/L

A9I0885-10

VM
12/4/19

A9I0885

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0885-01 | **PDI-013SC-B-7.6-9.6-190925** | Sampled: **09/25/19 13:59**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.65	33.54	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.37	33.56	(5) 10 15 Other	

BTEX Halo 6 | Due: | TAT: Due 10/10

A9I0885-02 | **PDI-013SC-B-9.6-12-190925** | Sampled: **09/25/19 14:01**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.48	33.60	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.66	33.74	(5) 10 15 Other	

Due: | TAT:

A9I0885-04 | **PDI-018SC-B-11.8-13.2-190926** | Sampled: **09/26/19 08:58**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.00	33.30	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.95	33.93	(5) 10 15 Other	

Due: | TAT:

A9I0885-05 | **PDI-018SC-B-5.8-7.8-190926** | Sampled: **09/26/19 08:56**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.43	33.47	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.56	33.52	(5) 10 15 Other	

Due: | TAT:

A9I0885-06 | **PDI-018SC-B-7.8-9.8-190926** | Sampled: **09/26/19 08:57**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.93	33.35	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.77	33.42	(5) 10 15 Other	

Due: | TAT:

Weighed by: [illegible] @ 9/27/19 1537

Methanol Reagent ID: A19I219 | Balance ID: A18J327

A9I0885

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0885-07 | **PDI-018SC-B-9.8-11.8-190926** | Sampled: **09/26/19 08:58**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.57	33.64	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.73	33.87	(5) 10 15 Other	

BTEX Halo6 | Due: | TAT:

A9I0885-08 | **PDI-101SC-B-00-02-190926** | Sampled: **09/26/19 15:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	40.23	33.71	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.53	33.34	(5) 10 15 Other	

Due: | TAT:

A9I0885-09 | **PDI-101SC-B-02-04-190926** | Sampled: **09/26/19 15:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.45	33.64	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	37.82	33.20	(5) 10 15 Other	

Due: | TAT:

A9I0885-10 | **PDI-101SC-B-04-06-190926** | Sampled: **09/26/19 15:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.97	33.56	(5) 10 15 Other	
MS C Sediment	40 mL VOA - 5035 (MeOH)	38.27	33.38	(5) 10 15 Other	

Due: | TAT:

A9I0885-11 | **PDI-101SC-B-06-08-190926** | Sampled: **09/26/19 15:30**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.61	33.38	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.91	33.96	(5) 10 15 Other	

Due: | TAT:

Weighed by: [signature] @ 9/27/19 1537

Methanol Reagent ID: A191219 | Balance ID: A183327

A9I0885

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0885-12 — **PDI-101SC-B-08-10-190926** — Sampled: **09/26/19 15:30**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)		38.66	33.47	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)		38.71	33.37	(5) 10 15 Other	

BTEX Halo 6 — Due: — TAT:

A9I0885-13 — **PDI-101SC-B-10-12-190926** — Sampled: **09/26/19 15:30**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)		39.51	33.80	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)		39.55	33.67	(5) 10 15 Other	

Due: — TAT:

A9I0885-14 — **PDI-101SC-B-12-14-190926** — Sampled: **09/26/19 15:30**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)		39.15	33.32	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)		38.91	33.38	(5) 10 15 Other	

Due: — TAT:

A9I0885-15 — **PDI-101SC-B-14-15.6-190926** — Sampled: **09/26/19 15:30**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)		38.83	33.31	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)		38.67	33.31	(5) 10 15 Other	

Due: — TAT:

A9I0885-16 — **PDI-101SC-J-01-02-190926** — Sampled: **09/26/19 14:54**

			Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)				5 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)				5 10 15 Other	

(8) 9/27/19

Due: — TAT:

Weighed by: (8) @ 9/27/19 1537

Methanol Reagent ID: A19I219~ Balance ID: A18J327~

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9I30036	Instrument:	VOA-GCMS6
Date:	09/30/19 09:22	Calibration:	A9H2706

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I30036-IBL1	Soil	QC	QC			A19H381	
2	9I30036-TUN1	Soil	QC	QC			A19H381	
3	9I30036-CCV1	Soil	QC	QC			A19H381	
4	9091433-BS1	Soil	QC	QC		9091433	A19H381	
5	9I30036-CCV2	Soil	QC	QC			A19H381	
6	9091433-BS2	Soil	QC	QC		9091433	A19H381	
7	9091433-BLK1	Soil	QC	QC		9091433	A19H381	
8	A9I0711-01RE1	Soil	8260C BTEX+N		09/30/19	9091433	A19H381	
9	A9I0793-01RE1	Soil	8260C BTEX+N		09/30/19	9091433	A19H381	
10	9I30036-IBL2	Soil	QC	QC			A19H381	
11	A9I0885-01	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
12	A9I0885-02	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
13	A9I0885-04	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
14	A9I0885-05	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
15	A9I0885-06	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
"	"	Soil	8260C BTEX+N	(QC Source)		9091433	A19H381	
16	9091433-DUP1	Soil	QC	QC		9091433	A19H381	
17	A9I0885-07	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
18	A9I0885-08	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
19	A9I0885-12	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
20	A9I0885-10	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
"	"	Soil	8260C BTEX+N	(QC Source)		9091433	A19H381	
21	9091433-MS1	Soil	QC	QC		9091433	A19H381	
22	9I30036-IBL4	Soil	QC	QC			A19H381	
23	A9I0885-13	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
24	A9I0885-14	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
25	A9I0885-15	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
26	A9I0885-09	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
27	A9I0885-11	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9091433	A19H381	
28	9I30036-IBL5	Soil	QC	QC			A19H381	
29	9I30036-IBL6	Soil	QC	QC			A19H381	

BTEXN Halo6 only

Comments: CH_2F_2C ~~Estimated~~ 10/1/19

Data Entered By: 10/1/19

Data Reviewed By: 10/1/19

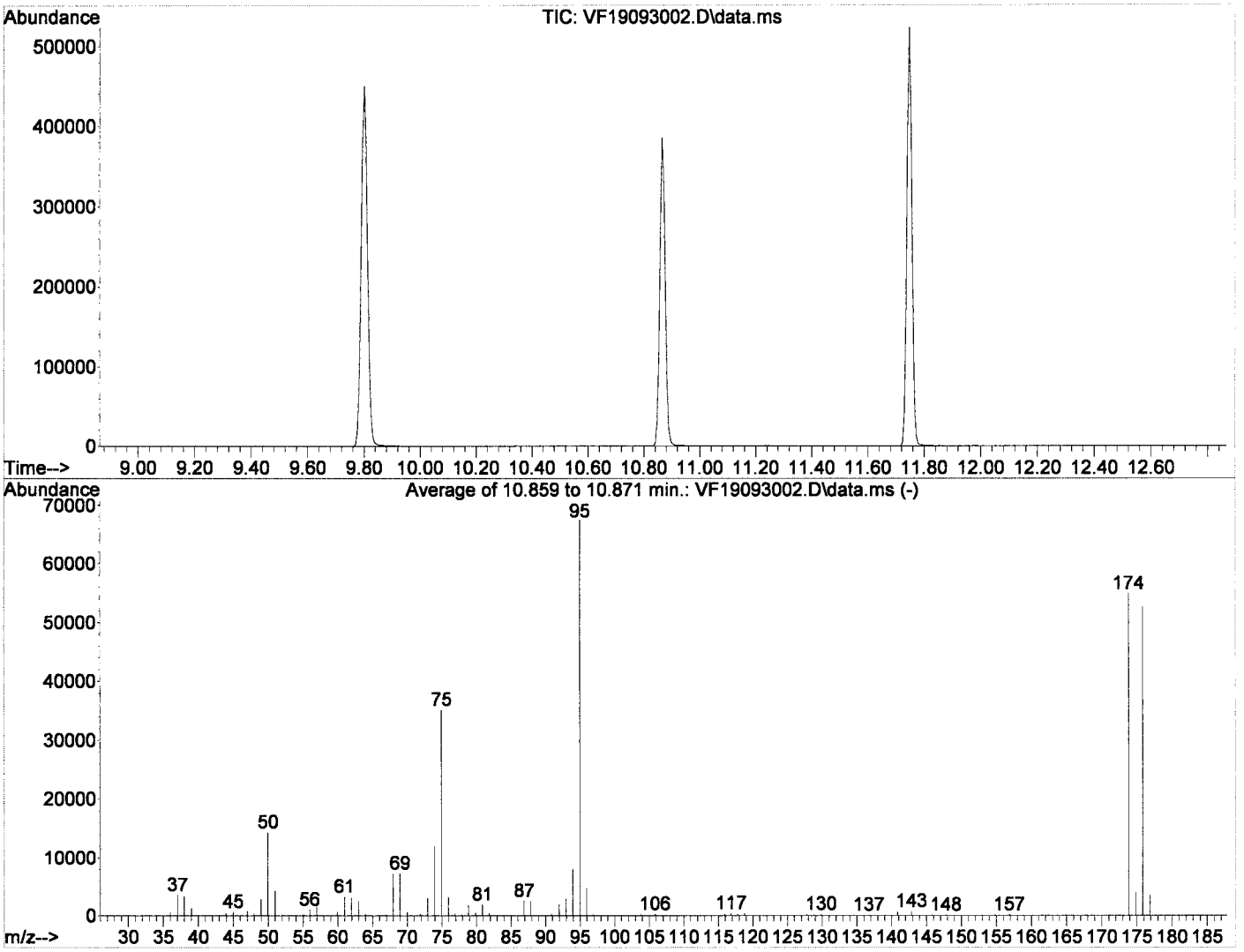
BFB

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093002.D
Acq On : 30 Sep 2019 10:19 am
Operator : tb/IMA
Sample : 9I30036-TUN1
Misc : A19H381 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190823S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Aug 27 13:36:40 2019

10/1/19



AutoFind: Scans 1541, 1542, 1543; Background Corrected with Scan 1534

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	122.8	67482	PASS
96	95	5	9	6.9	4667	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	81.4	54944	PASS
175	174	5	9	7.2	3931	PASS
176	174	95	105	95.9	52698	PASS
177	176	5	10	6.6	3489	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093002.D
Acq On : 30 Sep 2019 10:19 am
Operator : tb/IMA
Sample : 9I30036-TUN1
Misc : A19H381 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:29:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

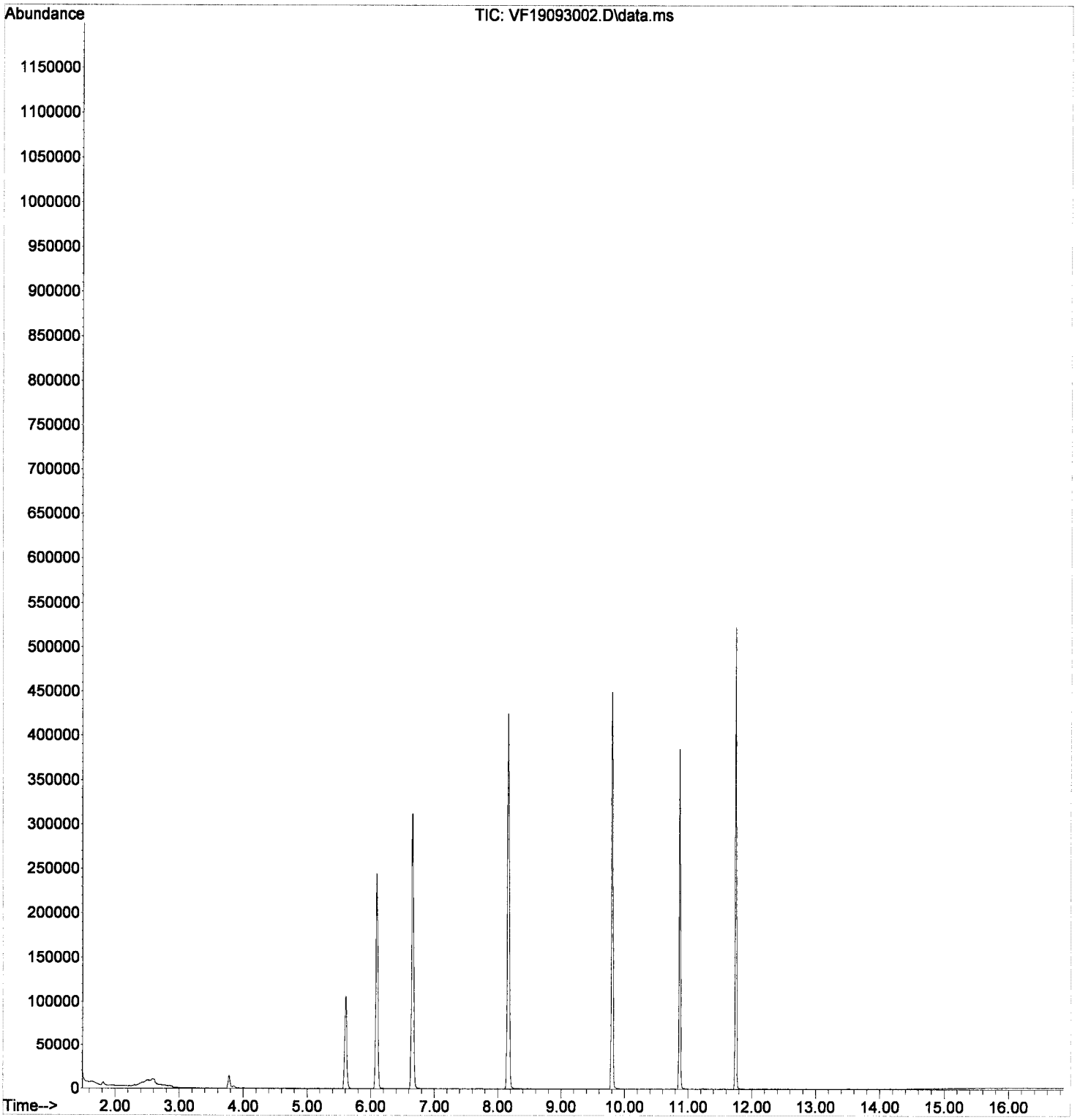
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.091	99	101600	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	231995	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	109896	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.604	111	73605	50.44 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.657	114	284773	53.56 ug/L		0.00
45) Toluene-d8 (S)	8.165	98	328932	49.05 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	89141	48.70 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.840	50	185	0.09 ug/L	#	48
5) Bromomethane	2.302	96	744	0.70 ug/L		83
8) Ethanol	3.257	45	137	Below Cal	#	29
13) Methylene Chloride	3.780	84	6728	Below Cal		90
14) Acetone	3.859	43	3010	3.16 ug/L		95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093002.D
Acq On : 30 Sep 2019 10:19 am
Operator : tb/IMA
Sample : 9I30036-TUN1
Misc : A19H381 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:29:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093003.D
Acq On : 30 Sep 2019 10:46 am
Operator : tb/IMA
Sample : 9091433-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 11:24:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	93	0.00	
2		Dichlorodifluoromethane	20.000	24.054	-20.3#	110	0.00	-Q56 EO5
3	P	Chloromethane	20.000	20.197	-1.0	98	-0.01	
4	C	Vinyl Chloride	20.000	21.292	-6.5	98	-0.01	
5		Bromomethane	20.000	23.822	-19.1	104	0.00	
6		Chloroethane	20.000	46.920	-134.6#	230	0.01	-Q56
7		Trichlorofluoromethane	20.000	39.332	-96.7#	184	0.02	-Q56
8		Ethanol	1250.000	909.154	27.3#	74	0.08	
9	C	1,1-Dichloroethene	20.000	18.279	8.6	85	0.01	
10		Carbon Disulfide	20.000	14.409	28.0#	70	0.00	-Q55
11		Freon 113	20.000	21.523	-7.6	97	0.00	
12		Iodomethane	20.000	19.235	3.8	88	0.00	
13		Methylene Chloride	20.000	15.588	22.1#	76	0.00	-Q55
14		Acetone	40.000	32.729	18.2	76	0.00	
15		t-1,2-Dichloroethene	20.000	19.904	0.5	88	0.00	
16		n-Hexane	20.000	20.403	-2.0	98	0.00	
17		Methyl-tert-butyl-ether	20.000	20.019	-0.1	92	-0.01	
18		tert-Butanol (TBA)	1250.000	997.209	20.2#	79	0.04	
19		Diisopropyl ether (DIPE)	5.000	4.379	12.4	88	0.00	
20	P	1,1-Dichloroethane	20.000	18.401	8.0	85	0.00	
21		Acrylonitrile	20.000	16.773	16.1	81	0.00	
22		Ethyl-tert-butyl ether (ETB	5.000	4.315	13.7	84	0.00	
23		c-1,2-Dichloroethene	20.000	20.264	-1.3	89	0.00	
24		2,2-Dichloropropane	20.000	21.475	-7.4	103	0.00	
25		Bromochloromethane	20.000	18.699	6.5	86	0.00	
26	C	Chloroform	20.000	19.388	3.1	94	0.00	
27		Carbon Tetrachloride	20.000	20.040	-0.2	90	0.00	
28		Tetrahydrofuran	20.000	18.550	7.2	86	0.00	
29		1,1,1-Trichloroethane	20.000	18.606	7.0	90	0.00	
30	S	Dibromofluoromethane (S)	50.000	55.994	-12.0	101	0.00	
31		1,1-Dichloropropene	20.000	19.543	2.3	89	0.00	
32		2-Butanone (MEK)	40.000	36.615	8.5	85	0.00	
33		Benzene	20.000	19.505	2.5	92	0.00	
34		tert-Amyl methyl ether (TAM	5.000	4.253	14.9	86	0.00	
35		1,2-Dichloroethane (EDC)	20.000	20.884	-4.4	94	0.00	
36		iso-Butyl Alcohol	500.000	396.515	20.7#	73	0.03	-NM
37	S	1,4-Difluorobenzene (S)	50.000	55.098	-10.2	101	0.00	
38		Trichloroethene (TCE)	20.000	20.408	-2.0	92	0.00	
39		tert-Amyl ethyl ether (TAEE	5.000	4.233	15.3	83	0.00	
40		Dibromomethane	20.000	20.903	-4.5	94	0.00	
41	C	1,2-Dichloropropane	20.000	19.923	0.4	91	0.00	
42		Bromodichloromethane	20.000	20.751	-3.8	99	0.00	
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	105	0.00	
44		c-1,3-Dichloropropene	20.000	18.268	8.7	91	0.00	
45	S	Toluene-d8 (S)	50.000	47.224	5.6	99	0.00	
46	C	Toluene	20.000	17.152	14.2	94	0.00	
47		Tetrachloroethene (PCE)	20.000	18.945	5.3	97	0.00	
48		4-Methyl-2-Pentanone (MIBK)	40.000	33.294	16.8	87	0.00	
49		t-1,3-Dichloropropene	20.000	18.543	7.3	94	0.00	
50		1,1,2-Trichloroethane	20.000	18.904	5.5	100	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093003.D
Acq On : 30 Sep 2019 10:46 am
Operator : tb/IMA
Sample : 9091433-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 11:24:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
51		Dibromochloromethane	20.000	21.531	-7.7	111	0.00	
52		1,3-Dichloropropane	20.000	19.193	4.0	97	0.00	
53		1,2-Dibromoethane (EDB)	20.000	18.932	5.3	96	0.00	
54		2-Hexanone	40.000	31.307	21.7#	83	0.00	-QSS
55	P	Chlorobenzene	20.000	18.333	8.3	98	0.00	
56	C	Ethylbenzene	20.000	17.092	14.5	94	0.00	
57		1,1,1,2-Tetrachloroethane	20.000	20.402	-2.0	105	0.00	
58		m,p-Xylenes (2)	40.000	35.311	11.7	93	0.00	
59		o-Xylene	20.000	17.159	14.2	92	0.00	
60		Styrene	20.000	17.614	11.9	87	0.00	
61	P	Bromoform	20.000	21.783	-8.9	117	0.00	
62		Isopropylbenzene	20.000	17.514	12.4	92	0.00	
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	110	0.00	
64	S	4-Bromofluorobenzene (S)	50.000	48.108	3.8	105	0.00	
65		Bromobenzene	20.000	18.490	7.6	99	0.00	
66		n-Propylbenzene	20.000	17.373	13.1	94	0.00	
67	P	1,1,2,2-Tetrachloroethane	20.000	16.534	17.3	95	0.00	
68		2-Chlorotoluene	20.000	18.160	9.2	97	0.00	
69		1,3,5-Trimethylbenzene	20.000	16.863	15.7	97	0.00	
70		1,2,3-Trichloropropane	20.000	17.831	10.8	96	0.00	
71		t-1,4-Dichloro-2-butene	20.000	16.994	15.0	91	0.00	
72		4-Chlorotoluene	20.000	17.578	12.1	97	0.00	
73		tert-Butylbenzene	20.000	16.487	17.6	93	0.00	
74		1,2,4-Trimethylbenzene	20.000	17.483	12.6	100	0.00	
75		sec-Butylbenzene	20.000	16.848	15.8	96	0.00	
76		4-Isopropyltoluene	20.000	17.737	11.3	97	0.00	
77		1,3-Dichlorobenzene	20.000	18.978	5.1	101	0.00	
78		1,4-Dichlorobenzene	20.000	18.516	7.4	102	0.00	
79		n-Butylbenzene	20.000	18.409	8.0	100	0.00	
80		1,2-Dichlorobenzene	20.000	19.029	4.9	100	0.00	
81		1,2-Dibromo-3-Chloropropane	20.000	15.386	23.1#	86	0.00	-QSS
82		Hexachlorobutadiene	20.000	18.799	6.0	99	0.00	
83		1,2,4-Trichlorobenzene	20.000	17.252	13.7	91	0.00	
84		Naphthalene	20.000	15.988	20.1#	84	0.00	
85		1,2,3-Trichlorobenzene	20.000	16.332	18.3	88	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093003.D
Acq On : 30 Sep 2019 10:46 am
Operator : tb/IMA
Sample : 9091433-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 11:24:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	104414	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	255850	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	123924	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	83969	55.99	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	301089	55.10	ug/L		0.00
45) Toluene-d8 (S)	8.159	98	349278	47.22	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	99302	48.11	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.622	85	31820	24.05	ug/L		97
3) Chloromethane	1.828	50	44668	20.20	ug/L		96
4) Vinyl Chloride	1.926	62	45022	21.29	ug/L		99
5) Bromomethane	2.291	96	26208	23.82	ug/L		96
6) Chloroethane	2.436	64	9500	46.92	ug/L		80
7) Trichlorofluoromethane	2.570	101	11999	39.33	ug/L		98
8) Ethanol	3.336	45	42949	909.15	ug/L		89
9) 1,1-Dichloroethene	3.130	61	53342	18.28	ug/L		79
10) Carbon Disulfide	3.142	76	66953	14.41	ug/L		99
11) Freon 113	3.178	101	34859	21.52	ug/L		83
12) Iodomethane	3.282	142	13728	19.23	ug/L	#	90
13) Methylene Chloride	3.768	84	35523	15.59	ug/L		87
14) Acetone	3.859	43	32058	32.73	ug/L		96
15) t-1,2-Dichloroethene	3.932	61	54966	19.90	ug/L		98
16) n-Hexane	4.011	86	8853	20.40	ug/L	#	88
17) Methyl-tert-butyl-ether	4.066	73	141172	20.02	ug/L		97
18) tert-Butanol (TBA)	4.285	59	414620	997.21	ug/L	#	93
19) Diisopropyl ether (DIPE)	4.462	45	37119	4.38	ug/L		95
20) 1,1-Dichloroethane	4.571	63	66088	18.40	ug/L		97
21) Acrylonitrile	4.644	53	19188	16.77	ug/L		95
22) Ethyl-tert-butyl ether...	4.832	59	33905	4.32	ug/L		94
23) c-1,2-Dichloroethene	5.124	61	57303	20.26	ug/L		90
24) 2,2-Dichloropropane	5.228	77	59949	21.48	ug/L		95
25) Bromochloromethane	5.331	49	32970	18.70	ug/L		88
26) Chloroform	5.410	83	70896	19.39	ug/L		97
27) Carbon Tetrachloride	5.538	117	38176	20.04	ug/L		94
28) Tetrahydrofuran	5.587	42	21113	18.55	ug/L		91
29) 1,1,1-Trichloroethane	5.611	97	57516	18.61	ug/L		97
31) 1,1-Dichloropropene	5.739	75	55664	19.54	ug/L		99
32) 2-Butanone (MEK)	5.739	43	55563	36.61	ug/L		97
33) Benzene	5.994	78	169145	19.50	ug/L		97
34) tert-Amyl methyl ether...	6.128	73	31187	4.25	ug/L		96
35) 1,2-Dichloroethane (EDC)	6.213	62	62210	20.88	ug/L		97
36) iso-Butyl Alcohol	6.310	43	60811	396.51	ug/L		94
38) Trichloroethene (TCE)	6.614	130	41863	20.41	ug/L		94
39) tert-Amyl ethyl ether ...	6.870	59	25143	4.23	ug/L		90
40) Dibromomethane	7.070	93	24483	20.90	ug/L		90
41) 1,2-Dichloropropane	7.174	63	43433	19.92	ug/L		98
42) Bromodichloromethane	7.253	83	39848	20.75	ug/L		98
44) c-1,3-Dichloropropene	7.952	75	57271	18.27	ug/L		88
46) Toluene	8.220	91	173568	17.15	ug/L		100
47) Tetrachloroethene (PCE)	8.670	166	40783	18.94	ug/L		95
48) 4-Methyl-2-Pentanone (...	8.664	43	111430	33.29	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093003.D
Acq On : 30 Sep 2019 10:46 am
Operator : tb/IMA
Sample : 9091433-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 11:24:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

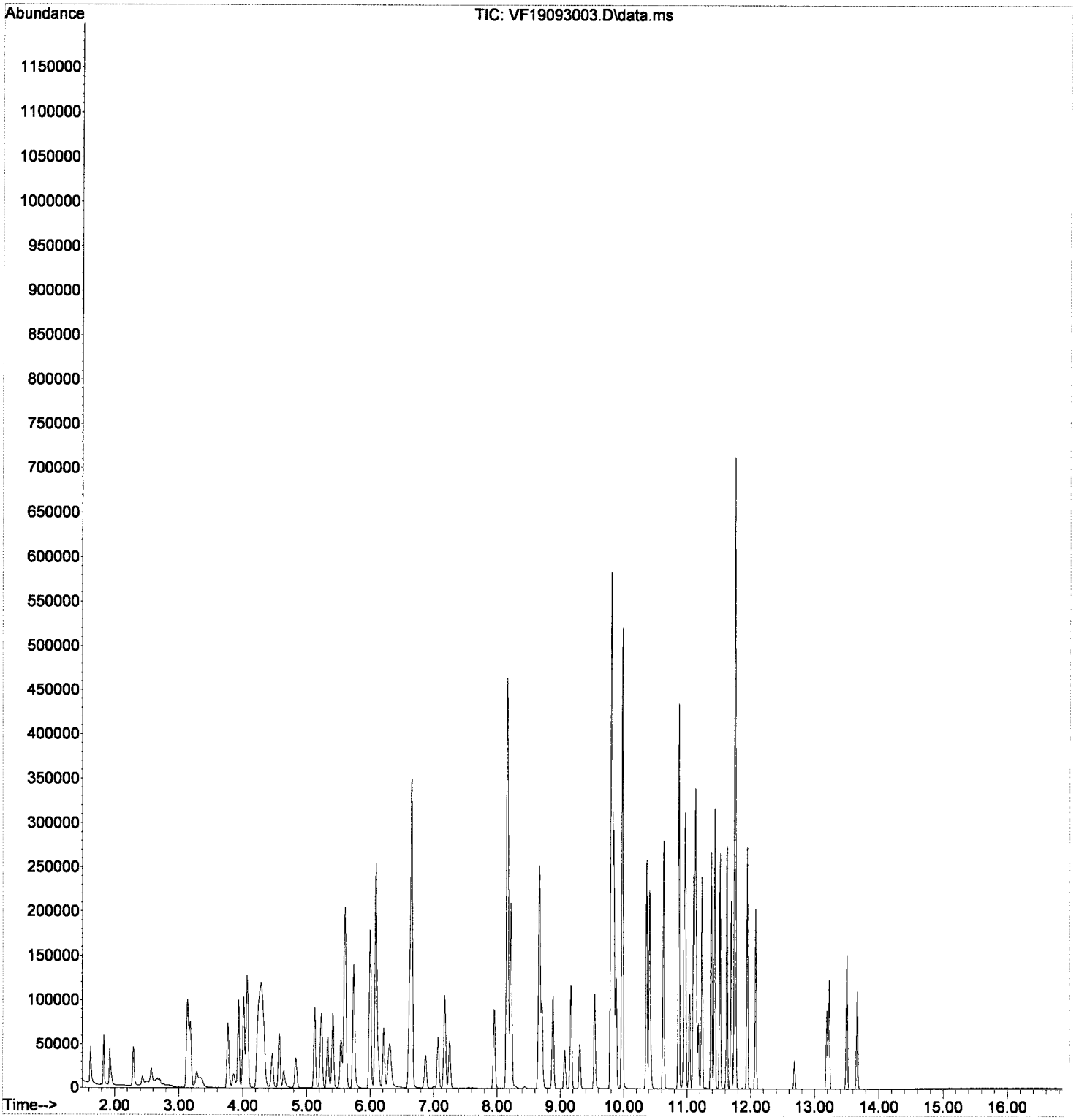
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.706	75	55168	18.54	ug/L		95
50) 1,1,2-Trichloroethane	8.883	97	36884	18.90	ug/L		97
51) Dibromochloromethane	9.071	129	24098	21.53	ug/L		95
52) 1,3-Dichloropropane	9.168	76	68938	19.19	ug/L		90
53) 1,2-Dibromoethane (EDB)	9.308	107	36085	18.93	ug/L		99
54) 2-Hexanone	9.539	43	72948	31.31	ug/L		93
55) Chlorobenzene	9.813	112	108434	18.33	ug/L		96
56) Ethylbenzene	9.837	91	182769	17.09	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.880	131	31064	20.40	ug/L		99
58) m,p-Xylenes (2)	9.977	91	274391	35.31	ug/L		97
59) o-Xylene	10.360	91	138205	17.16	ug/L		98
60) Styrene	10.403	104	99579	17.61	ug/L		93
61) Bromoform	10.433	173	13425	21.78	ug/L		98
62) Isopropylbenzene	10.628	105	161183	17.51	ug/L		98
65) Bromobenzene	10.950	156	42291	18.49	ug/L		89
66) n-Propylbenzene	10.969	91	184609	17.37	ug/L		97
67) 1,1,2,2-Tetrachloroethane	11.035	83	41871	16.53	ug/L		98
68) 2-Chlorotoluene	11.096	126	38095	18.16	ug/L	#	82
69) 1,3,5-Trimethylbenzene	11.127	105	136271	16.86	ug/L		97
70) 1,2,3-Trichloropropane	11.145	110	16236	17.83	ug/L	#	81
71) t-1,4-Dichloro-2-butene	11.175	88	5617	16.99	ug/L		95
72) 4-Chlorotoluene	11.230	91	115739	17.58	ug/L		97
73) tert-Butylbenzene	11.376	91	72113	16.49	ug/L		88
74) 1,2,4-Trimethylbenzene	11.431	105	139188	17.48	ug/L		99
75) sec-Butylbenzene	11.516	105	150938	16.85	ug/L		97
76) 4-Isopropyltoluene	11.625	119	130771	17.74	ug/L		97
77) 1,3-Dichlorobenzene	11.692	146	71688	18.98	ug/L		99
78) 1,4-Dichlorobenzene	11.759	146	73525	18.52	ug/L		99
79) n-Butylbenzene	11.942	91	116370	18.41	ug/L		96
80) 1,2-Dichlorobenzene	12.075	146	66482	19.03	ug/L		99
81) 1,2-Dibromo-3-Chloropr...	12.683	157	6242	15.39	ug/L	#	71
82) Hexachlorobutadiene	13.188	223	10029	18.80	ug/L		97
83) 1,2,4-Trichlorobenzene	13.225	180	34687	17.25	ug/L		97
84) Naphthalene	13.498	128	107479	15.99	ug/L		99
85) 1,2,3-Trichlorobenzene	13.663	180	31968	16.33	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093003.D
Acq On : 30 Sep 2019 10:46 am
Operator : tb/IMA
Sample : 9091433-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 11:24:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093004.D
Acq On : 30 Sep 2019 11:13 am
Operator : tb/IMA
Sample : 9091433-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 12:03:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

10/1/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	101	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	47.777	4.4	101	-0.01
3	S	4-Bromofluorobenzene (Sur)	50.000	50.853	-1.7	104	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	103	0.00
5	H	TPHg (C5-C9)	500.000	495.978	0.8	99	0.00
6	H	TPHg (C6-C10)	500.000	466.100	6.8	94	0.00
7	H	CA-LUFT (C5-C12)	500.000	495.065	1.0	99	0.00
8	H	NWTPH-Gx	500.000	453.800	9.2	94	0.00
9		Benzene (NR)	-1.000	0.000	0.0	97	-0.01
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	102	-0.01
11	C	Toluene (NR)	-1.000	0.000	0.0	97	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	107	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	0	-13.50#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093004.D
Acq On : 30 Sep 2019 11:13 am
Operator : tb/IMA
Sample : 9091433-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 12:03:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

10/1/19

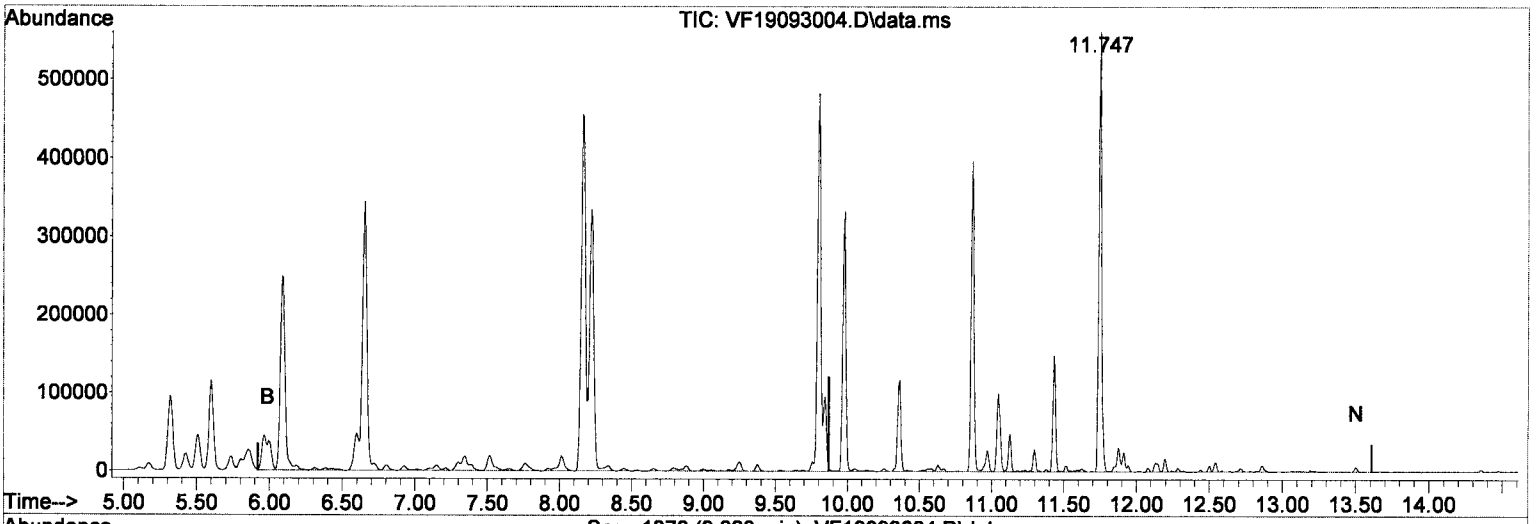
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.091	168	195115	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	726328	47.78	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	544938	50.85	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	754580	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.159	TIC	932697	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	735276	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	4559280m	495.98	ug/L	
6) TPHg (C6-C10)	9.860	TIC	3471126m	466.10	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	5321145m	495.07	ug/L	
8) NWTPH-Gx	9.870	TIC	2817324m	453.80	ug/L	

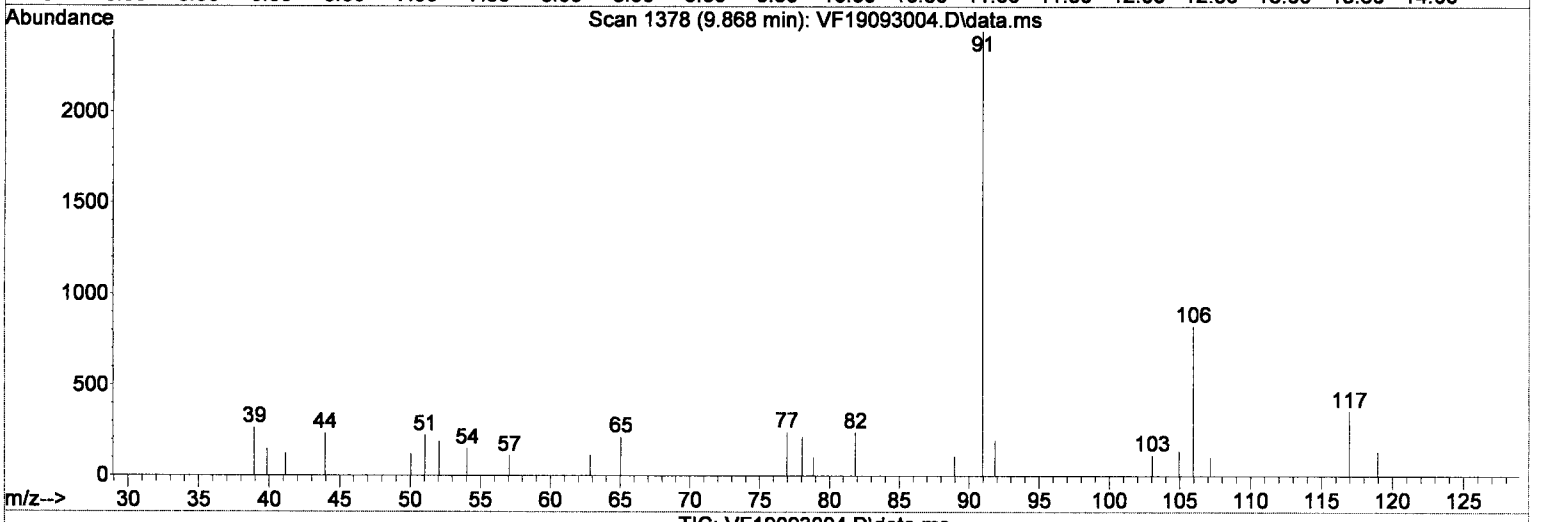
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093004.D
Acq On : 30 Sep 2019 11:13 am
Operator : tb/IMA
Sample : 9091433-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Sep 30 12:03:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration





TIC: VF19093004.D\data.ms

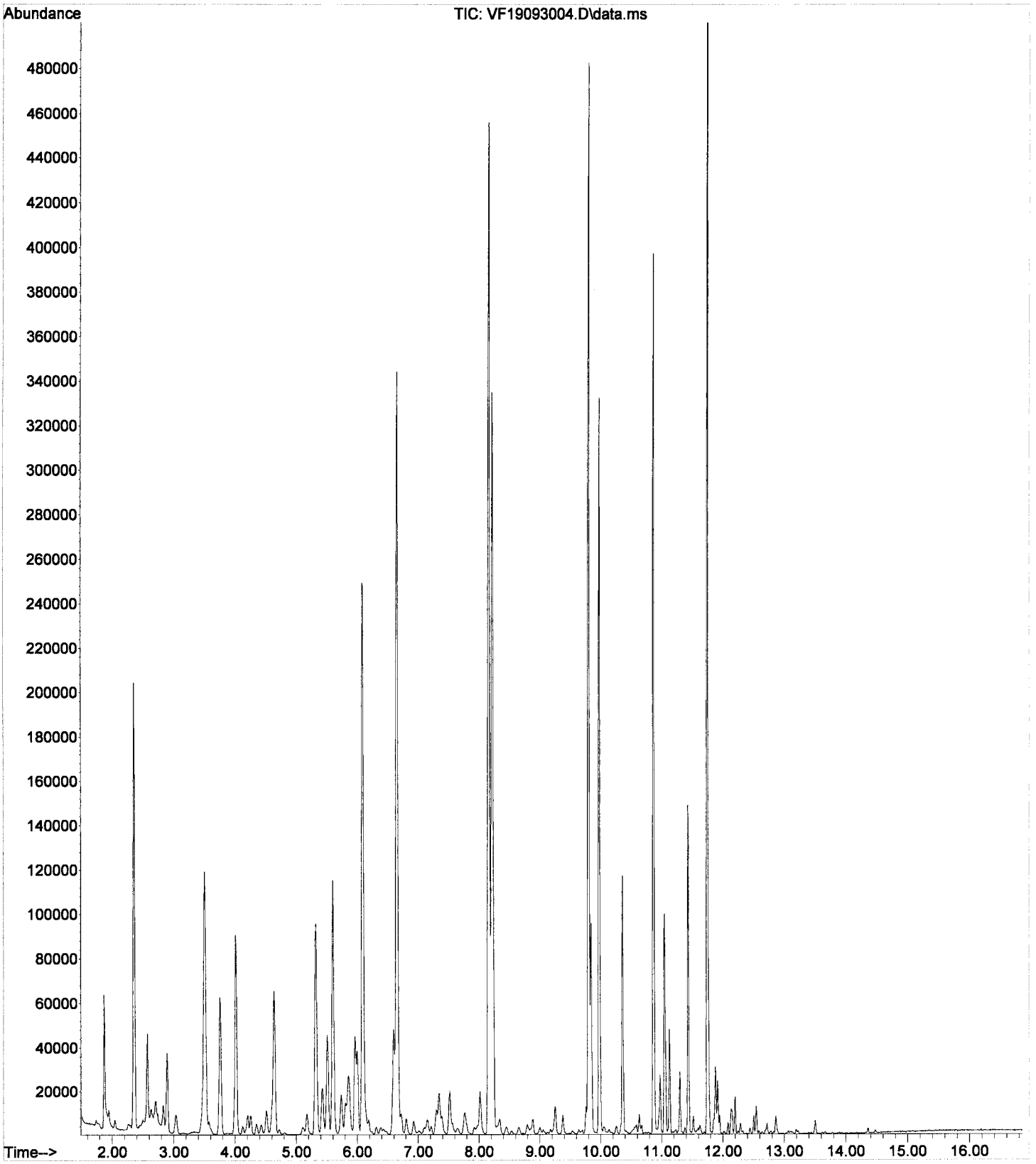
(8) NWTPH-Gx (H)

9.870min (0.000) 453.80 ug/L m

response 2817324

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

File :C:\msdchem\1\DATA\2019-09\9I30036\VF19093004.D
Operator : tb/IMA
Acquired : 30 Sep 2019 11:13 am using AcqMethod VF1906RUN.M
Instrument : VOA-GCMS6
Sample Name: 9091433-BS2
Misc Info : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093005.D
Acq On : 30 Sep 2019 11:40 am
Operator : tb/IMA
Sample : 9091433-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

10/1/19

Quant Time: Oct 01 09:29:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.087	168	195635	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.652	TIC	716260	46.99	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	594608	55.34	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	796841	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.160	TIC	966092	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	757345	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	258333m	5.80	ug/L	CWDC
6) TPHg (C6-C10)	9.860	TIC	258333m	15.99	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	262590m	9.54	ug/L	
8) NWTPH-Gx	9.870	TIC	5061m	15.84	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093005.D
Acq On : 30 Sep 2019 11:40 am
Operator : tb/IMA
Sample : 9091433-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:06 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.087	99	106492	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	261002	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	125552	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	80135	52.39	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	306292	54.96	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	356897	47.30	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	100877	48.24	ug/L		0.00
Target Compounds						Qvalue	
3) Chloromethane	1.842	50	282	0.13	ug/L	# 48	
5) Bromomethane	2.304	96	592	0.53	ug/L	80	
8) Ethanol	3.314	45	1273	2.15	ug/L	# 74	
13) Methylene Chloride	3.770	84	828	Below Cal		# 82	
14) Acetone	3.861	43	764	0.76	ug/L	# 42	
32) 2-Butanone (MEK)	5.758	43	450	0.29	ug/L	54	
36) iso-Butyl Alcohol	6.318	43	411	2.63	ug/L	74	

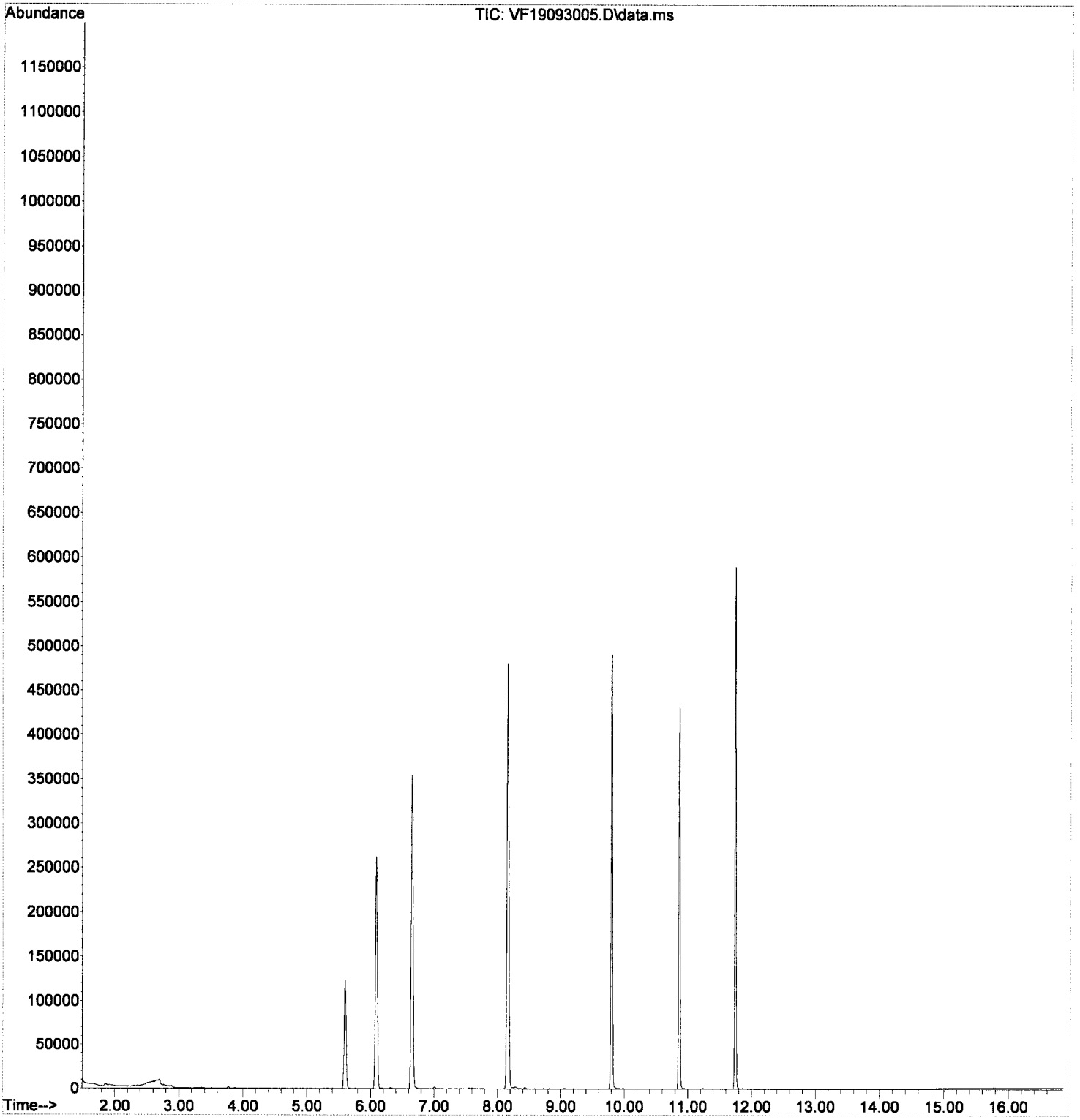
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093005.D
Acq On : 30 Sep 2019 11:40 am
Operator : tb/IMA
Sample : 9091433-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:06 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093009.D
Acq On : 30 Sep 2019 1:28 pm
Operator : tb/IMA
Sample : A9I0885-01
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

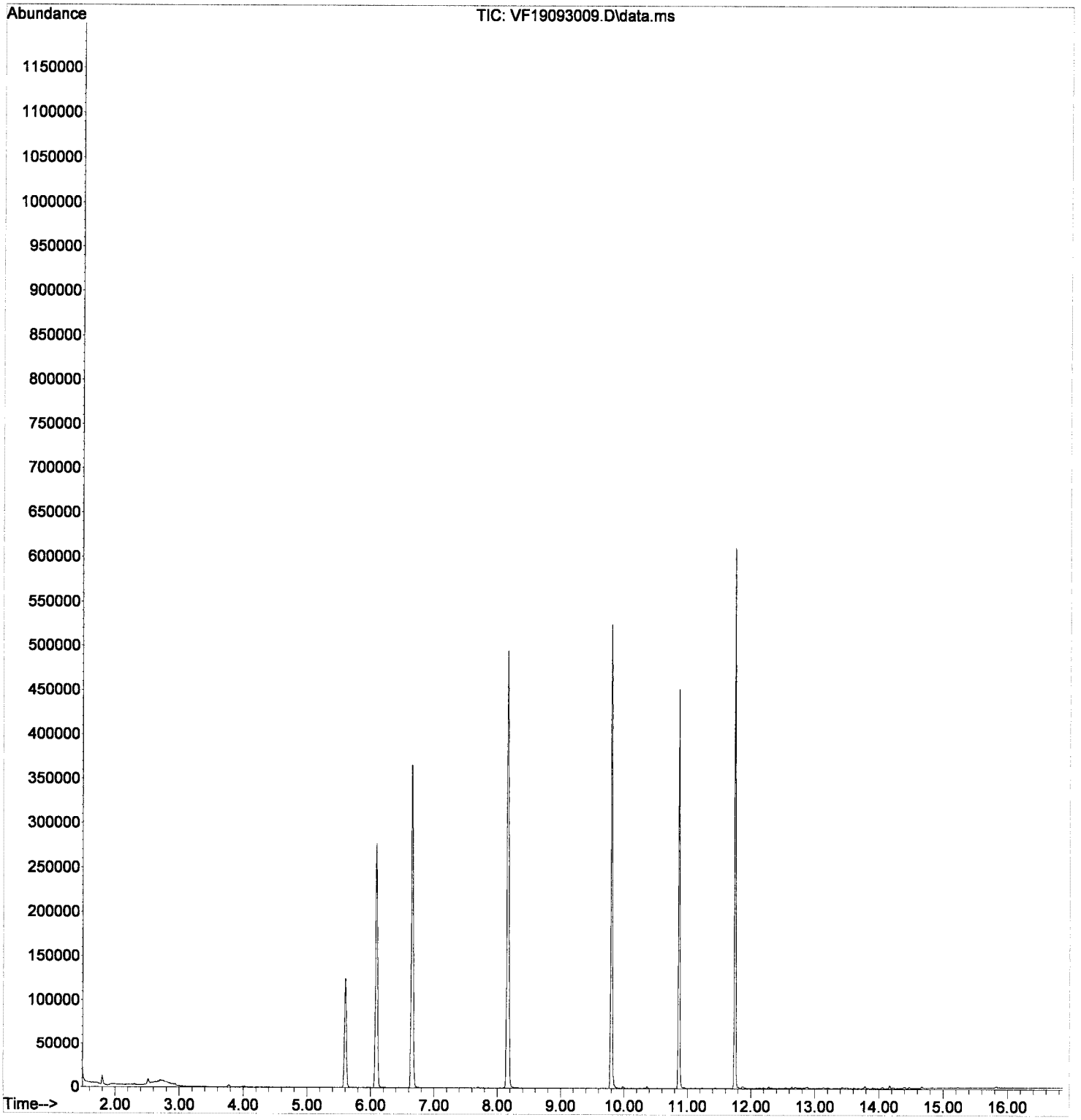
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.090	99	112729	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	269736	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	128840	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.604	111	81482	50.33	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.656	114	321462	54.49	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	370602	47.53	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.864	174	104260	48.58	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.296	96	409	0.34	ug/L		88
13) Methylene Chloride	3.780	84	1319	Below Cal			94
14) Acetone	3.877	43	799	0.76	ug/L	#	42
56) Ethylbenzene	9.849	91	1691	0.15	ug/L		94
58) m,p-Xylenes (2)	9.983	91	1644	0.20	ug/L		90
59) o-Xylene	10.360	91	1794	0.21	ug/L		87
84) Naphthalene	13.504	128	1095	0.16	ug/L		78

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093009.D
Acq On : 30 Sep 2019 1:28 pm
Operator : tb/IMA
Sample : A9I0885-01
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:15 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093010.D
Acq On : 30 Sep 2019 1:55 pm
Operator : tb/IMA
Sample : A9I0885-02
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	107211	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.797	117	257788	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	124735	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	77353	50.24	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	306455	54.62	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	354355	47.55	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	100035	48.15	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.299	96	482	0.43	ug/L		85
13) Methylene Chloride	3.777	84	1224	Below Cal			87
14) Acetone	3.868	43	643	0.64	ug/L	#	42
56) Ethylbenzene	9.846	91	1748	0.16	ug/L		94
58) m,p-Xylenes (2)	9.980	91	1560	0.20	ug/L		86
59) o-Xylene	10.363	91	1682	0.21	ug/L		98
84) Naphthalene	13.501	128	712	0.11	ug/L		78

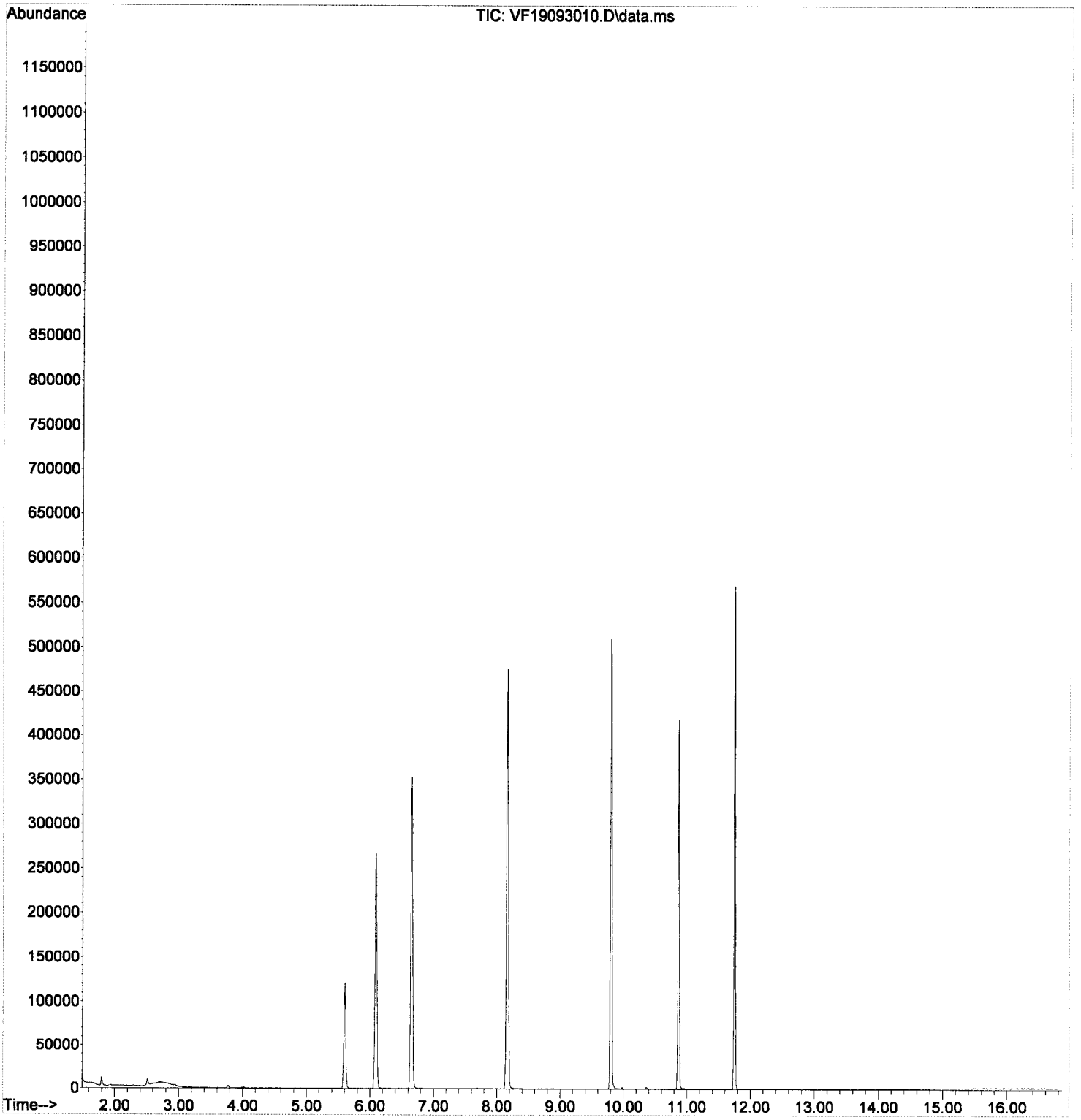
2 MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093010.D
Acq On : 30 Sep 2019 1:55 pm
Operator : tb/IMA
Sample : A9I0885-02
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093011.D
Acq On : 30 Sep 2019 2:22 pm
Operator : tb/IMA
Sample : A9I0885-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	107919	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	262346	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	124710	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	79564	51.33	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	309200	54.74	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	358464	47.27	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	101943	49.08	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.298	96	361	0.32	ug/L		84
13) Methylene Chloride	3.776	84	1385	Below Cal			96
14) Acetone	3.867	43	680	0.67	ug/L	#	42
56) Ethylbenzene	9.851	91	1689	0.15	ug/L		92
58) m,p-Xylenes (2)	9.979	91	1365	0.17	ug/L		96
59) o-Xylene	10.362	91	1582	0.19	ug/L		94

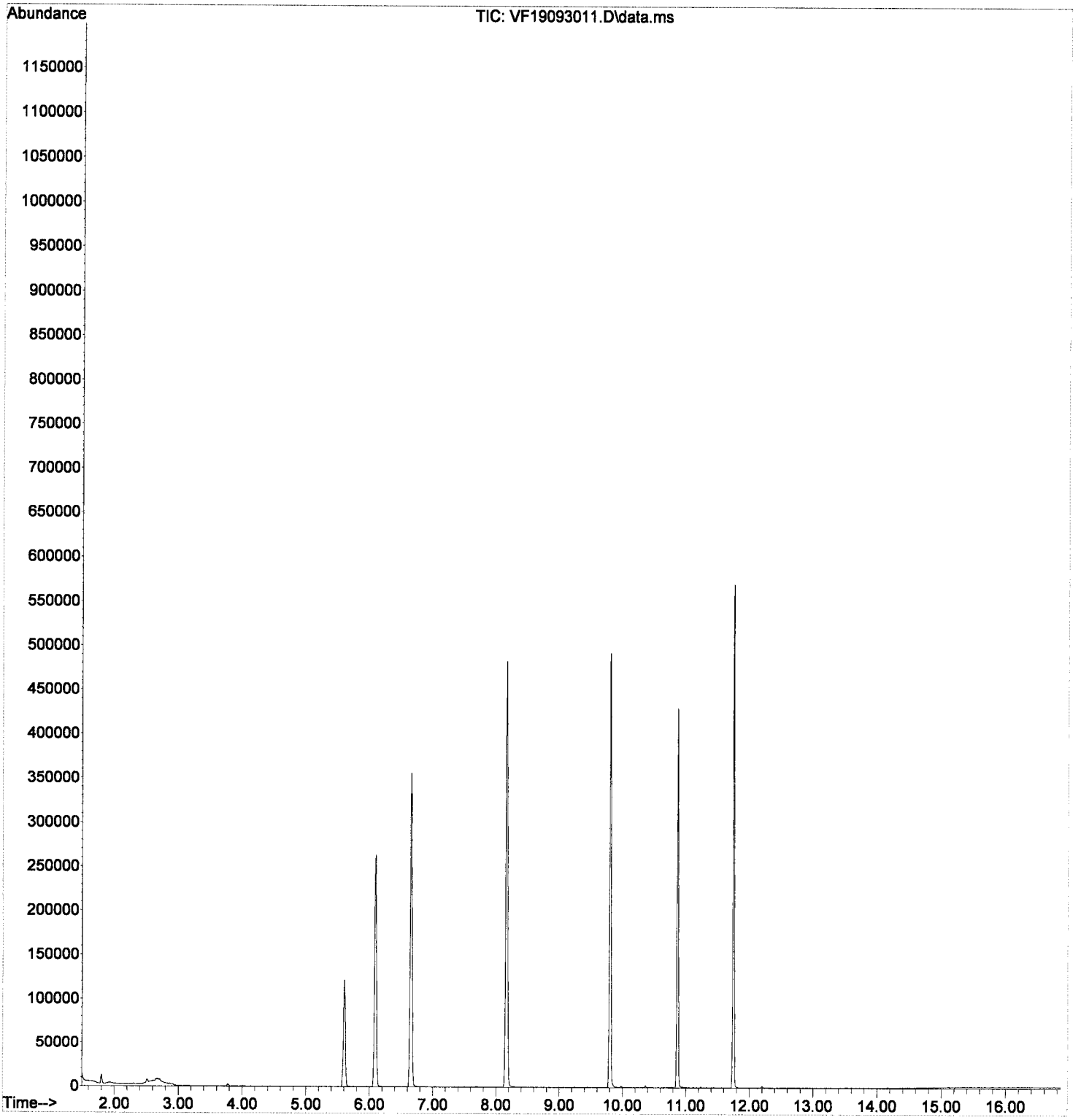
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093011.D
Acq On : 30 Sep 2019 2:22 pm
Operator : tb/IMA
Sample : A9I0885-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:19 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

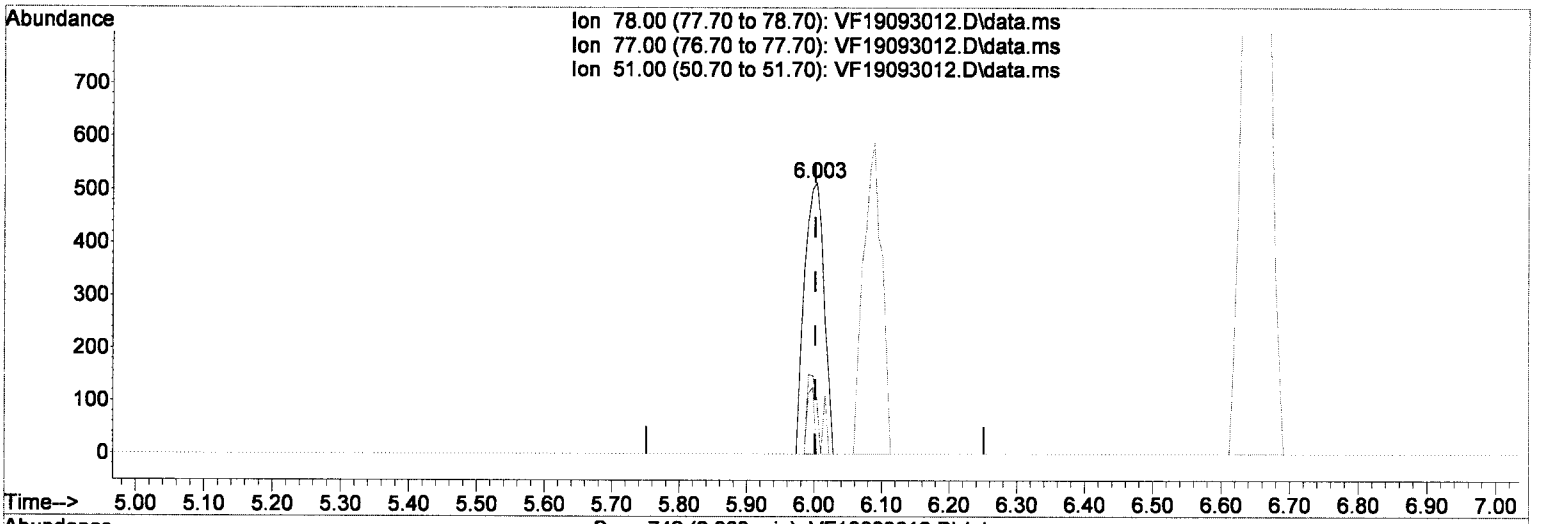
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.088	99	97078	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.798	117	237703	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.744	152	108970	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.596	111	72968	52.33 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.648	114	279794	55.07 ug/L		0.00
45) Toluene-d8 (S)	8.162	98	325399	47.35 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	90412	49.81 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.795	50	473	0.23 ug/L	#	NR 48
5) Bromomethane	2.294	96	585	0.57 ug/L		86
13) Methylene Chloride	3.765	84	1231	Below Cal		92
14) Acetone	3.851	43	2192	2.41 ug/L		89
32) 2-Butanone (MEK)	5.748	43	517	0.37 ug/L		54
33) Benzene	6.003	78	1024	0.13 ug/L		82
46) Toluene	8.223	91	2386	0.25 ug/L		90 <MDL
48) 4-Methyl-2-Pentanone (...	8.643	43	1522	0.49 ug/L	#	NR 53
56) Ethylbenzene	9.841	91	20144	2.03 ug/L		96
58) m,p-Xylenes (2)	9.981	91	2668	0.37 ug/L		94 <MDL
59) o-Xylene	10.358	91	4127	0.55 ug/L		93
62) Isopropylbenzene	10.625	105	11103	1.30 ug/L		NR 96
66) n-Propylbenzene	10.972	91	11151	1.19 ug/L		92
67) 1,1,2,2-Tetrachloroethane	11.014	83	3071	1.38 ug/L	#	36
68) 2-Chlorotoluene	11.087	126	178	0.10 ug/L	#	8
69) 1,3,5-Trimethylbenzene	11.124	105	1102	0.16 ug/L	#	69
70) 1,2,3-Trichloropropane	11.142	110	699	0.87 ug/L	#	1
73) tert-Butylbenzene	11.385	91	615	0.16 ug/L	#	22
74) 1,2,4-Trimethylbenzene	11.434	105	61508	8.79 ug/L		98
75) sec-Butylbenzene	11.519	105	7211	0.92 ug/L		89
76) 4-Isopropyltoluene	11.623	119	12103	1.87 ug/L		91
79) n-Butylbenzene	11.945	91	2766	0.50 ug/L		91
84) Naphthalene	13.496	128	47914	8.11 ug/L		99
85) 1,2,3-Trichlorobenzene	13.666	180	329	0.19 ug/L	#	1

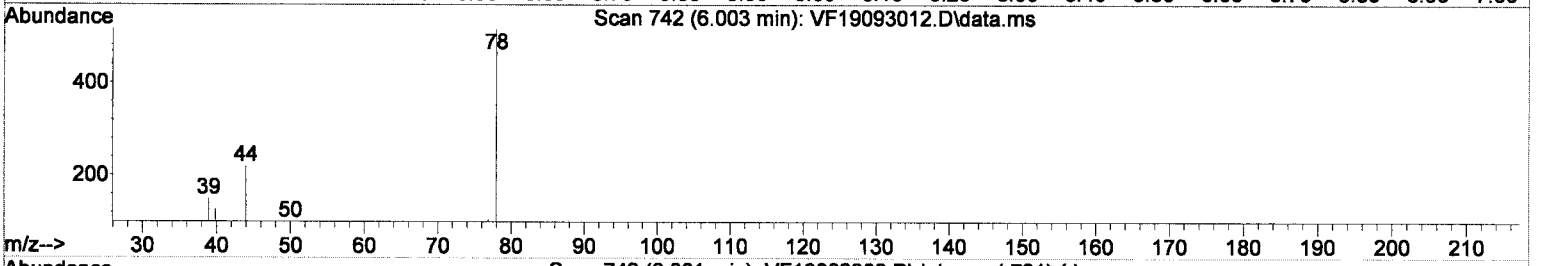
(#) = qualifier out of range (m) = manual integration (+) = signals summed

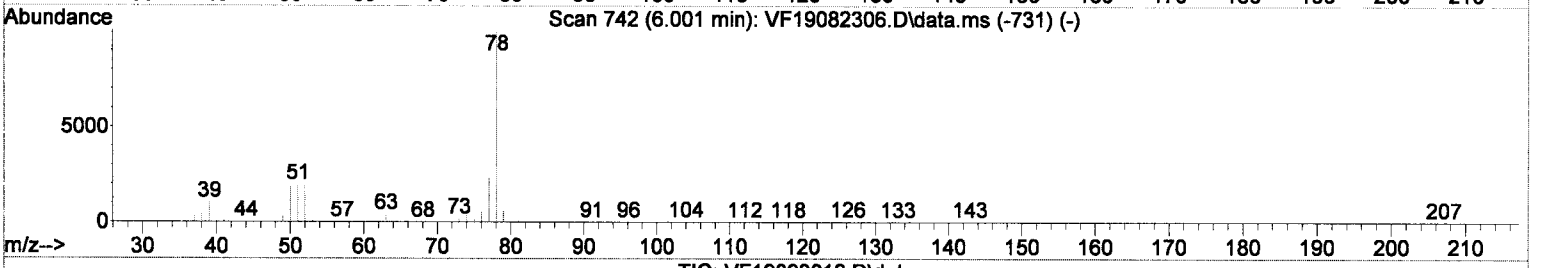
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093012.D\data.ms

(33) Benzene

6.003min (+0.002) 0.13 ug/L

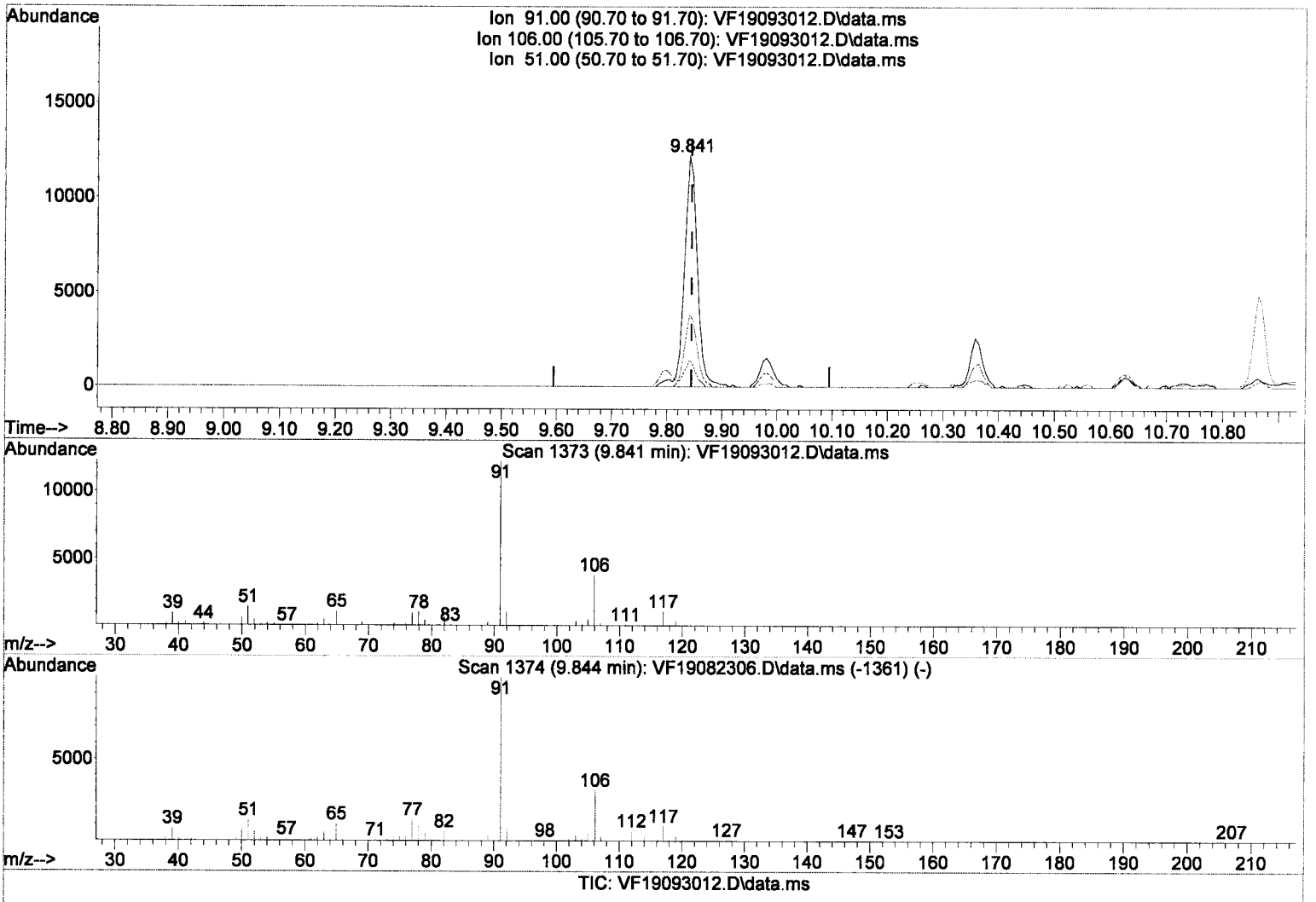
response 1024

Ion	Exp%	Act%
78.00	100	100
77.00	23.20	20.23
51.00	15.50	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



TIC: VF19093012.D\data.ms

(56) Ethylbenzene (C)

9.841min (-0.004) 2.03 ug/L

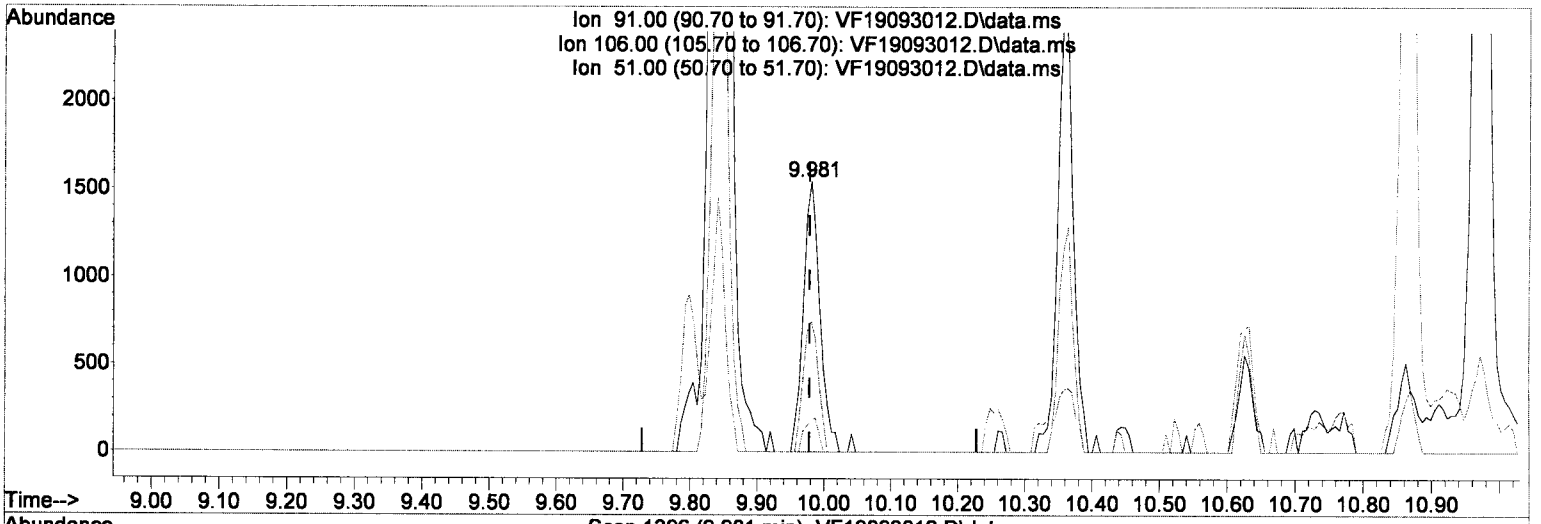
response 20144

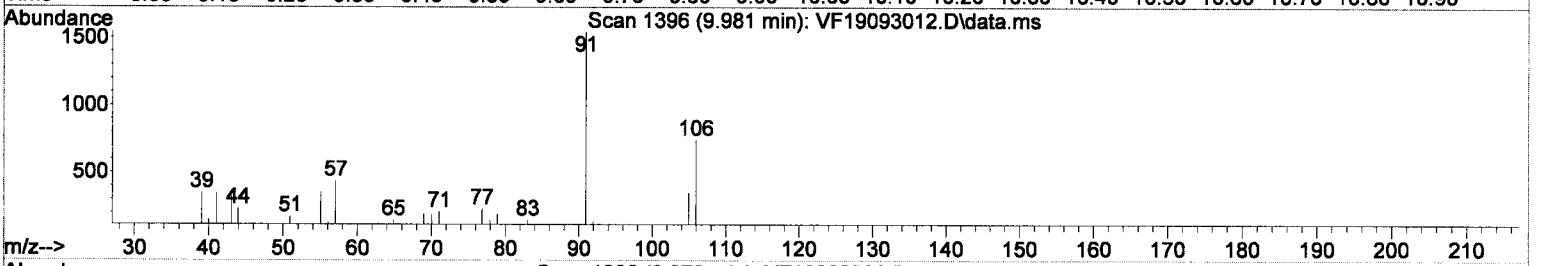
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	31.44
51.00	9.50	11.88
0.00	0.00	0.00

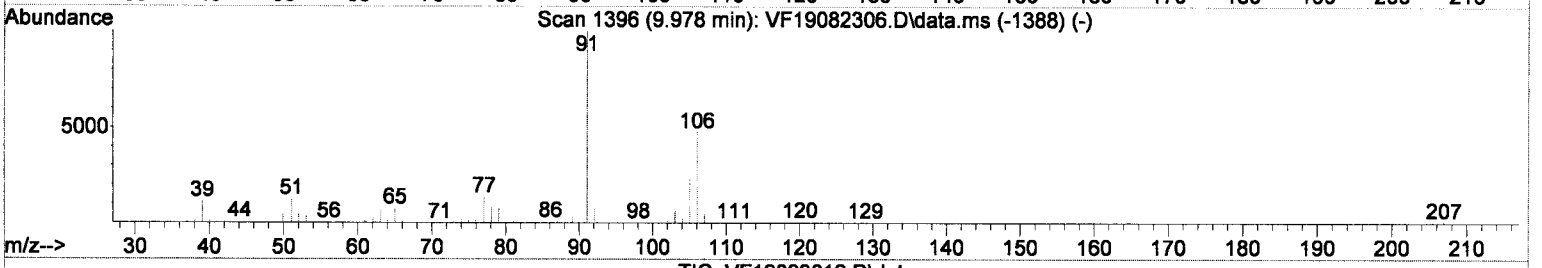
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093012.D\data.ms

(58) m,p-Xylenes (2)

9.981min (+0.003) 0.37 ug/L

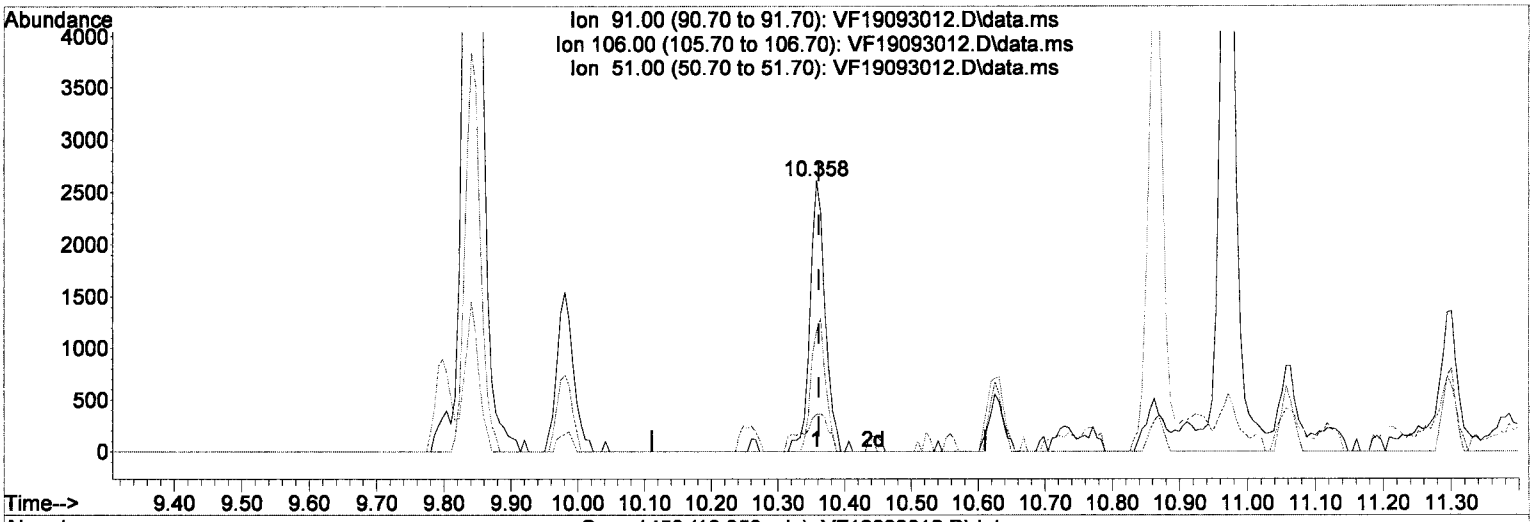
response 2668

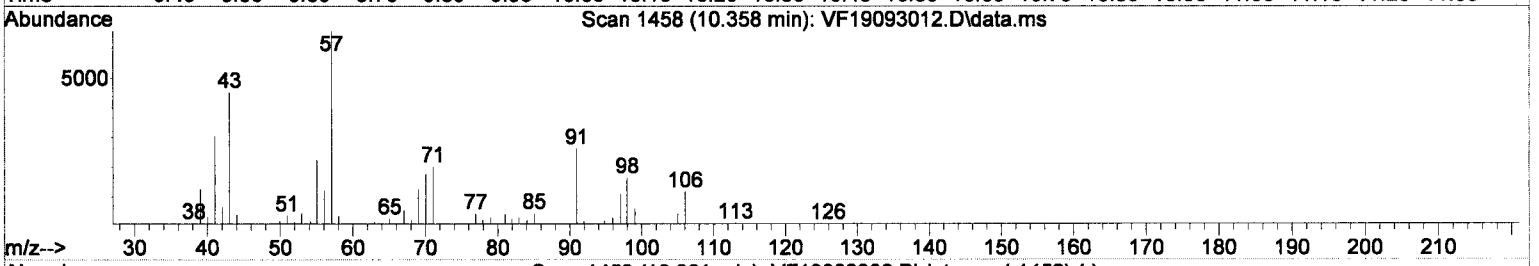
Ion	Exp%	Act%
91.00	100	100
106.00	52.70	48.19
51.00	10.10	10.95
0.00	0.00	0.00

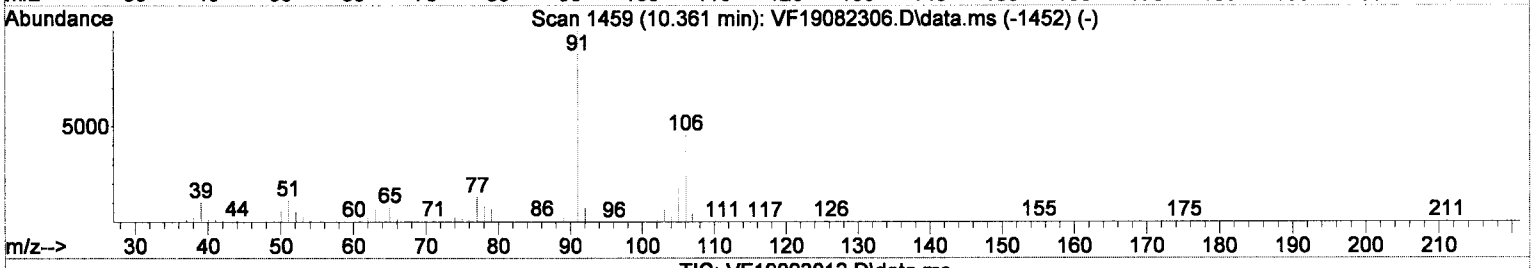
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093012.D\data.ms

(59) o-Xylene

10.358min (-0.003) 0.55 ug/L

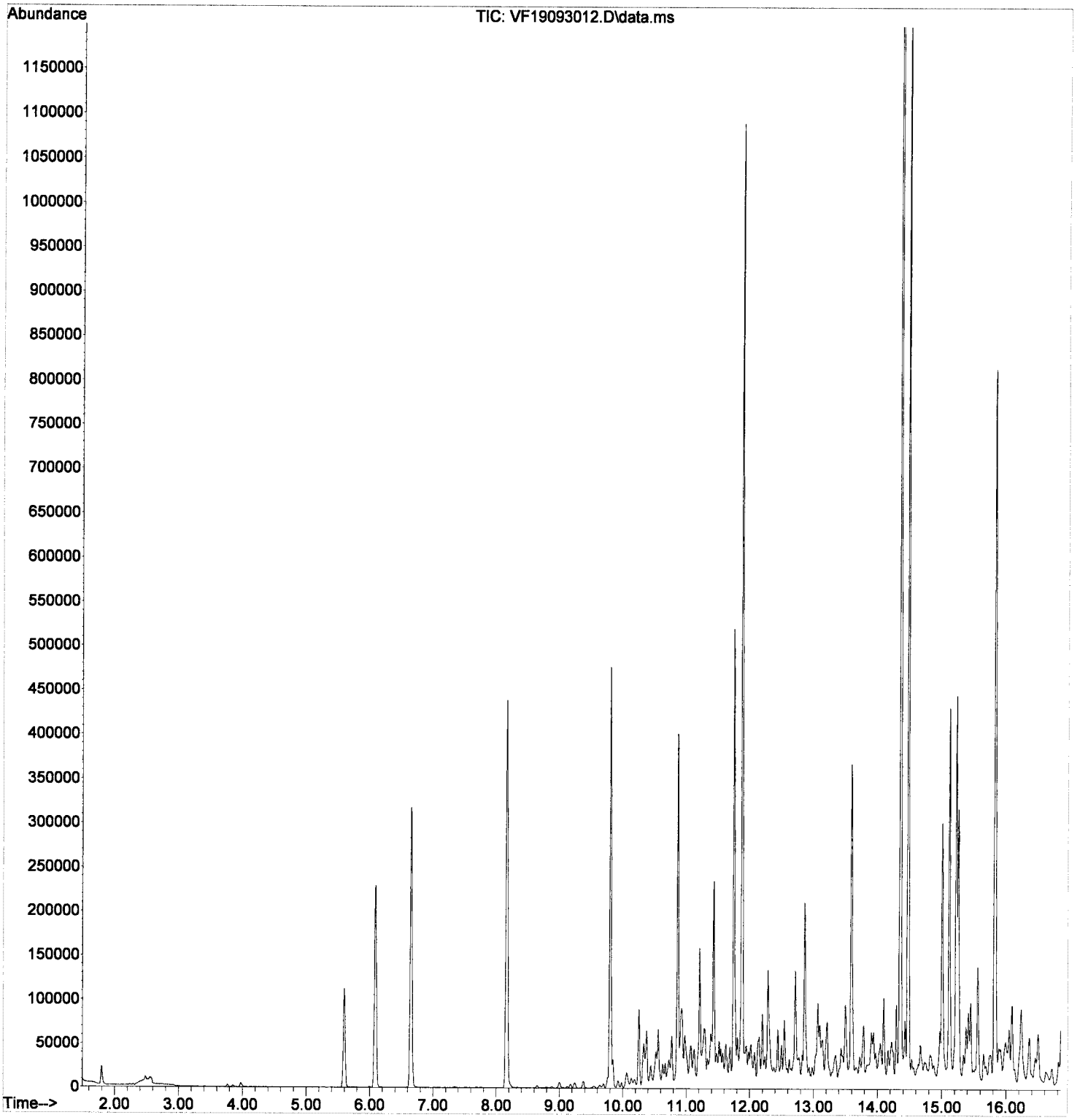
response 4127

Ion	Exp%	Act%
91.00	100	100
106.00	49.40	44.80
51.00	10.00	13.85
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093012.D
Acq On : 30 Sep 2019 2:49 pm
Operator : tb/IMA
Sample : A9I0885-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:21 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093013.D
Acq On : 30 Sep 2019 3:16 pm
Operator : tb/IMA
Sample : A9I0885-06
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6/QC
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:31:06 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.085	168	194096	50.00	ug/L	-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	697990	46.15	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	562209	52.74	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	760806	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.159	TIC	928795	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	725740	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	261345m	6.38	ug/L	
6) TPHg (C6-C10)	9.860	TIC	245365m	14.44	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	291567m	12.54	ug/L	
8) NWTPH-Gx	9.870	TIC	31630m	20.03	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093013.D
Acq On : 30 Sep 2019 3:16 pm
Operator : tb/IMA
Sample : A9I0885-06
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6/QC
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:23 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	105002	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	248177	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	119496	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	76650	50.83	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	297687	54.17	ug/L		0.00
45) Toluene-d8 (S)	8.159	98	342672	47.76	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	95497	47.98	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.290	96	414	0.37	ug/L		86
13) Methylene Chloride	3.774	84	1487	Below Cal			95
14) Acetone	3.859	43	816	0.83	ug/L	#	42
56) Ethylbenzene	9.843	91	1773	0.17	ug/L		92
58) m,p-Xylenes (2)	9.977	91	1406	0.19	ug/L		85
59) o-Xylene	10.360	91	1634	0.21	ug/L		93
74) 1,2,4-Trimethylbenzene	11.437	105	622	0.08	ug/L		87
79) n-Butylbenzene	11.875	91	561	0.09	ug/L	#	30
84) Naphthalene	13.498	128	614	0.09	ug/L		78
85) 1,2,3-Trichlorobenzene	13.656	180	399	0.21	ug/L	#	11

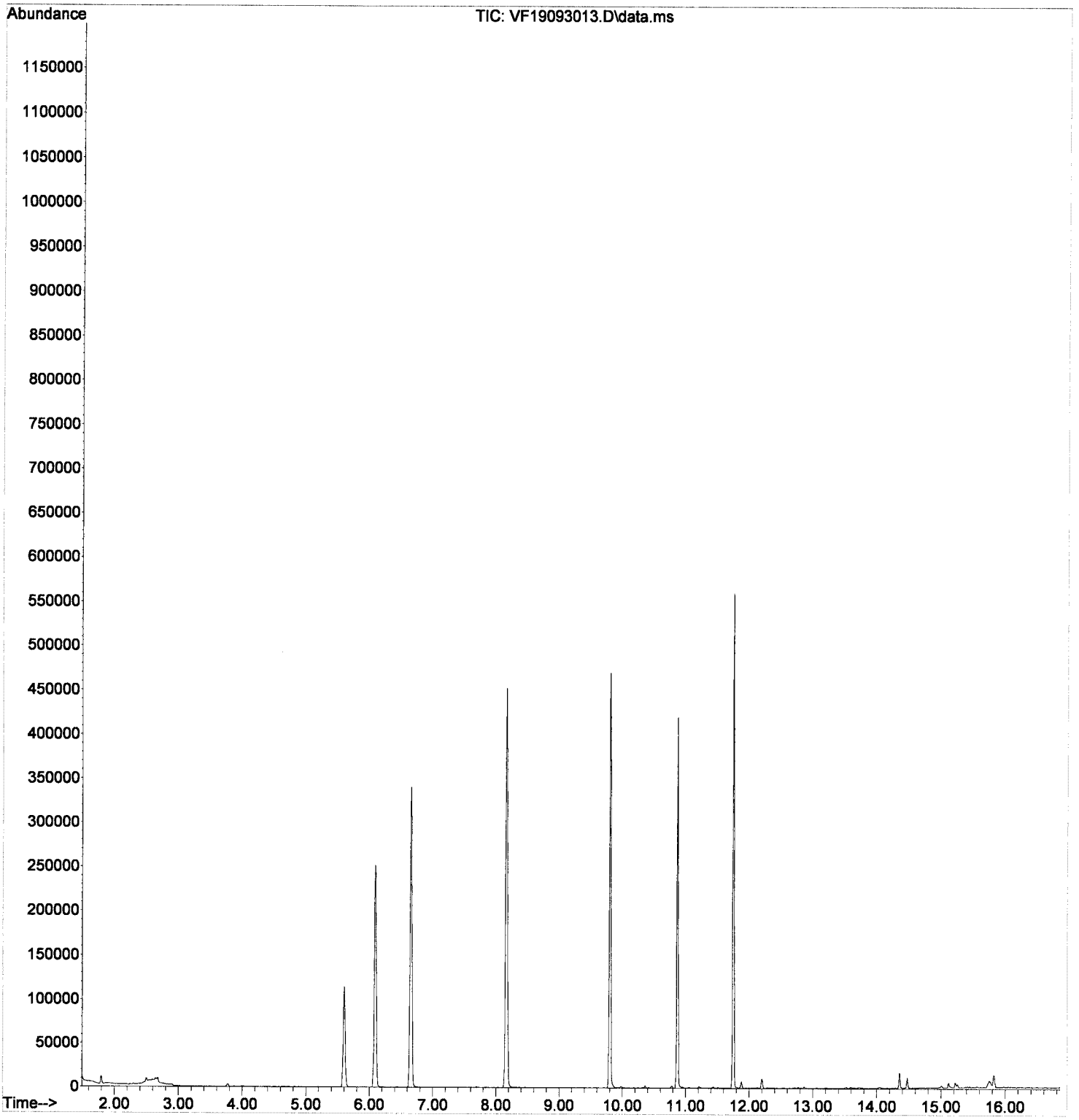
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093013.D
Acq On : 30 Sep 2019 3:16 pm
Operator : tb/IMA
Sample : A9I0885-06
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6/QC
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:23 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093014.D
Acq On : 30 Sep 2019 3:43 pm
Operator : tb/IMA
Sample : 9091433-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-06)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:31:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.093	168	196672	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.652	TIC	708413	46.23	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	566107	52.41	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	774516	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.160	TIC	947280	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	723141	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	275155m	7.55	ug/L	CMW
6) TPHg (C6-C10)	9.860	TIC	261881m	16.30	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	280342m	11.10	ug/L	
8) NWTPH-Gx	9.870	TIC	16620m	17.63	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093014.D
Acq On : 30 Sep 2019 3:43 pm
Operator : tb/IMA
Sample : 9091433-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-06)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.087	99	106395	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	250824	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	119248	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	78013	51.05	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	302947	54.41	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	348434	48.05	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	96113	48.39	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.304	96	533	0.48	ug/L		80
13) Methylene Chloride	3.776	84	1342	Below Cal			87
14) Acetone	3.861	43	302	0.30	ug/L	#	42
56) Ethylbenzene	9.845	91	1815	0.17	ug/L		94
58) m,p-Xylenes (2)	9.979	91	1510	0.20	ug/L		92
59) o-Xylene	10.362	91	1589	0.20	ug/L		96

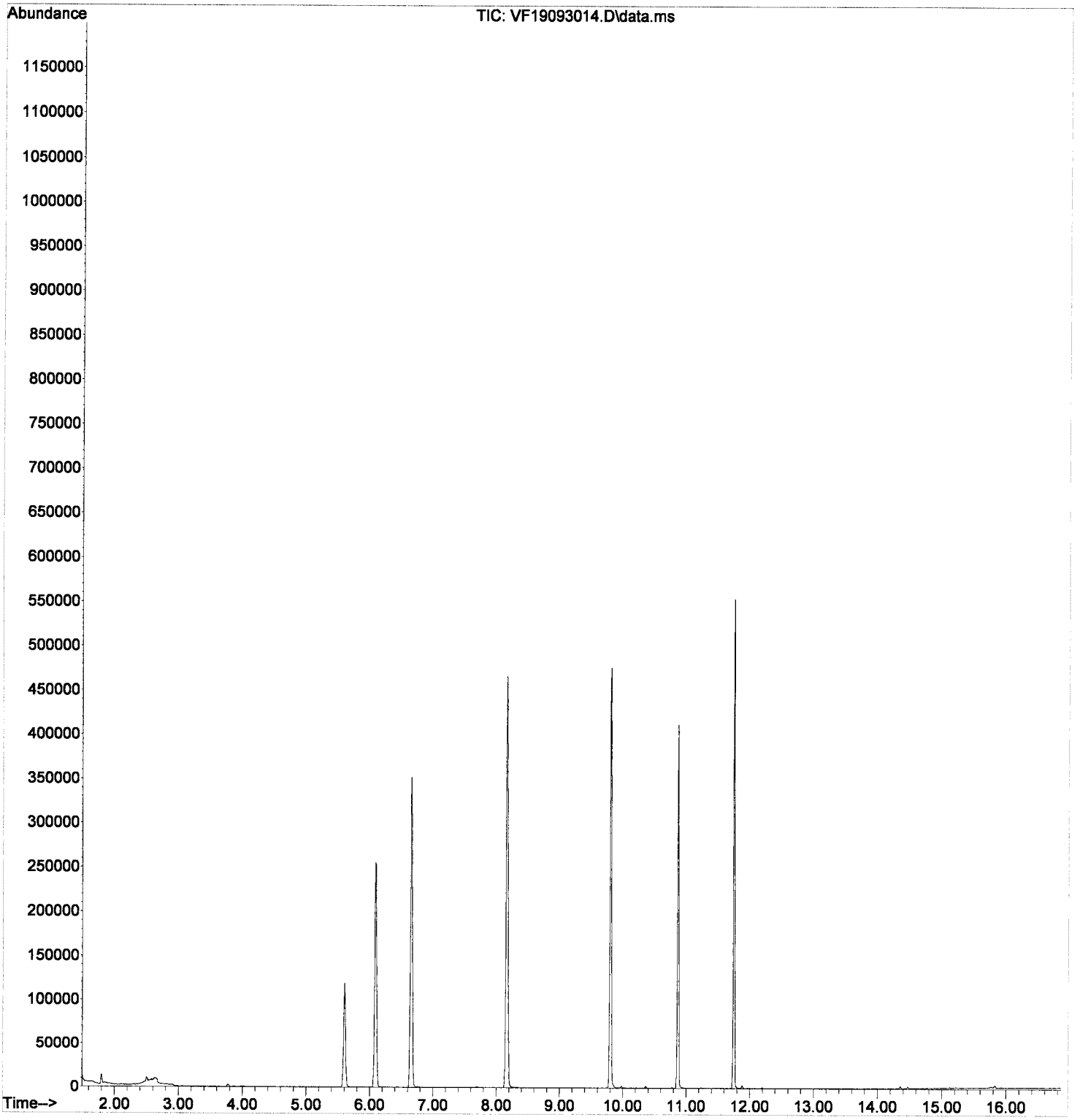
LMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093014.D
Acq On : 30 Sep 2019 3:43 pm
Operator : tb/IMA
Sample : 9091433-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-06)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093015.D
Acq On : 30 Sep 2019 4:10 pm
Operator : tb/IMA
Sample : A9I0885-07
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:27 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	104198	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	243386	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	115761	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.604	111	75421	50.40	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.656	114	296382	54.35	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	339541	48.26	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	93058	48.26	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.308	96	434	0.40	ug/L		72
13) Methylene Chloride	3.780	84	1370	Below Cal			100
14) Acetone	3.865	43	461	0.47	ug/L	#	42
56) Ethylbenzene	9.849	91	1750	0.17	ug/L		91
58) m,p-Xylenes (2)	9.977	91	1540	0.21	ug/L		94
59) o-Xylene	10.360	91	1844	0.24	ug/L		88

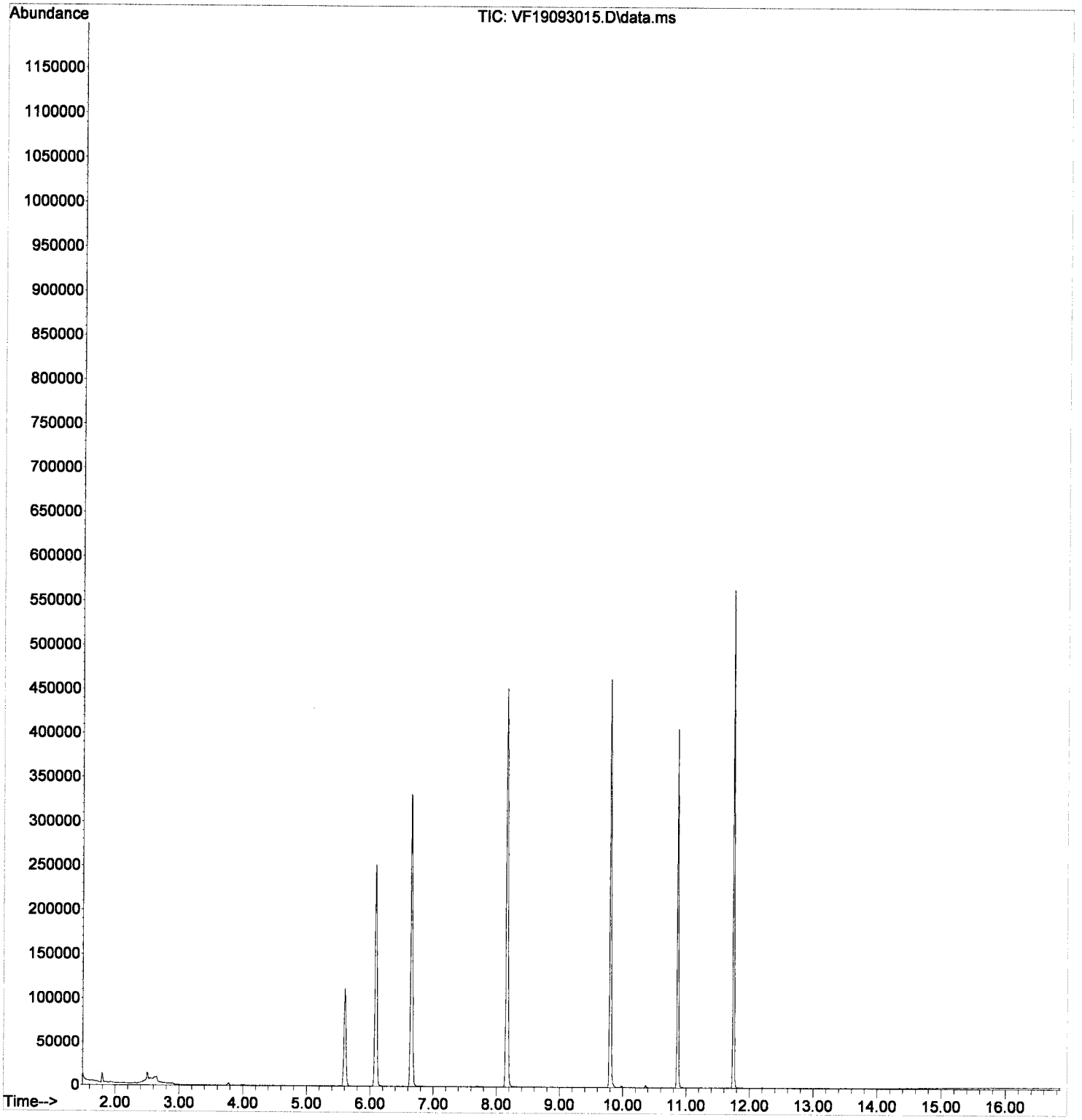
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093015.D
Acq On : 30 Sep 2019 4:10 pm
Operator : tb/IMA
Sample : A9I0885-07
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:27 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093016.D
Acq On : 30 Sep 2019 4:37 pm
Operator : tb/IMA
Sample : A9I0885-08
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

TB 10/1/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.091	99	105523	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.801	117	258458	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	124564	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.598	111	77549	51.17 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.650	114	304799	55.19 ug/L	0.00
45) Toluene-d8 (S)	8.165	98	352606	47.19 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.865	174	99781	48.09 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.296	96	399	0.36 ug/L	NR 83
13) Methylene Chloride	3.780	84	1283	Below Cal	88
14) Acetone	3.871	43	867	0.88 ug/L #	42
56) Ethylbenzene	9.843	91	1565	0.14 ug/L	96
58) m,p-Xylenes (2)	9.983	91	1653	0.21 ug/L	97
59) o-Xylene	10.360	91	1819	0.22 ug/L	98
74) 1,2,4-Trimethylbenzene	11.436	105	1130	0.14 ug/L	NR 87
84) Naphthalene	13.498	128	16921	2.50 ug/L	98

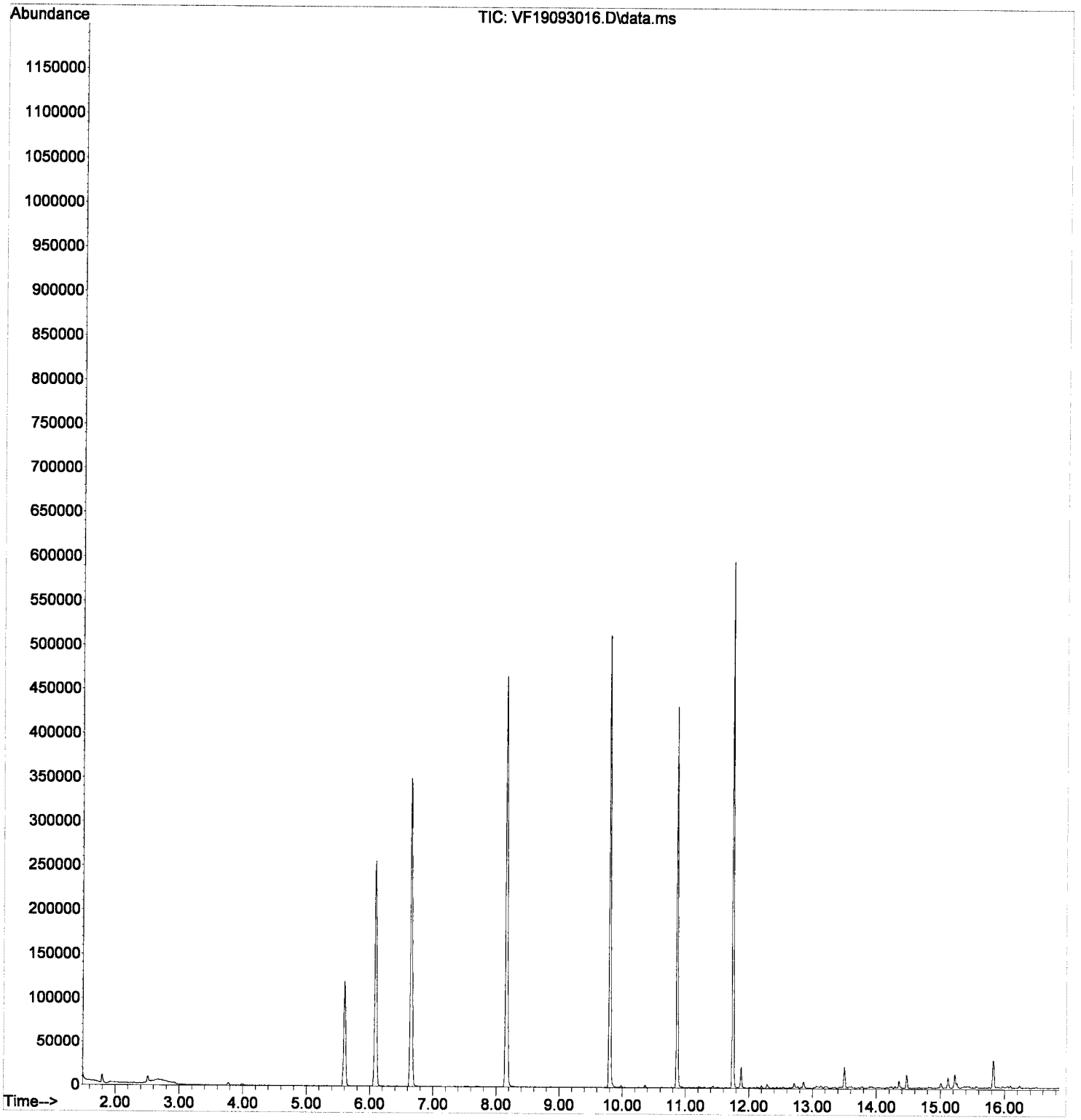
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093016.D
Acq On : 30 Sep 2019 4:37 pm
Operator : tb/IMA
Sample : A9I0885-08
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:29 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



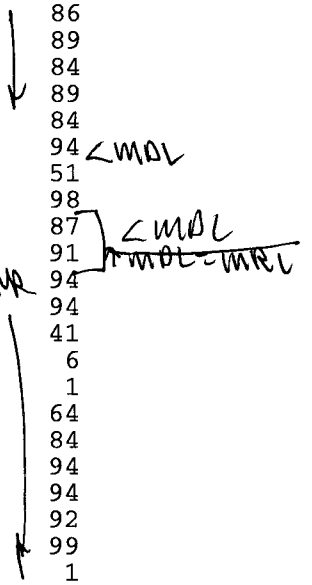
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093017.D
Acq On : 30 Sep 2019 5:04 pm
Operator : tb/IMA
Sample : A9I0885-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	103677	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.798	117	258377	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.744	152	121018	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	79290	53.25	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.654	114	299495	55.20	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	350583	46.94	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	101545	50.38	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.825	50	330	0.15	ug/L	#	48
5) Bromomethane	2.305	96	435	0.40	ug/L		86
10) Carbon Disulfide	3.157	76	2013	0.44	ug/L		89
13) Methylene Chloride	3.783	84	1373	Below Cal			84
14) Acetone	3.856	43	1201	1.23	ug/L		89
33) Benzene	6.009	78	2447	0.28	ug/L		84
46) Toluene	8.223	91	1353	0.13	ug/L		94
48) 4-Methyl-2-Pentanone (...	8.642	43	974	0.29	ug/L	#	51
56) Ethylbenzene	9.846	91	6965	0.64	ug/L		98
58) m,p-Xylenes (2)	9.980	91	1959	0.25	ug/L		87
59) o-Xylene	10.357	91	2430	0.30	ug/L		91
62) Isopropylbenzene	10.625	105	6761	0.73	ug/L		94
66) n-Propylbenzene	10.971	91	4556	0.44	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.014	83	3443	1.39	ug/L	#	41
68) 2-Chlorotoluene	11.032	126	240	0.12	ug/L	#	6
70) 1,2,3-Trichloropropane	11.154	110	160	0.18	ug/L	#	1
73) tert-Butylbenzene	11.385	91	915	0.21	ug/L	#	64
74) 1,2,4-Trimethylbenzene	11.433	105	2329	0.30	ug/L		84
75) sec-Butylbenzene	11.512	105	11824	1.35	ug/L		94
76) 4-Isopropyltoluene	11.622	119	7635	1.06	ug/L		94
79) n-Butylbenzene	11.944	91	1824	0.30	ug/L		92
84) Naphthalene	13.495	128	77818	11.85	ug/L		99
85) 1,2,3-Trichlorobenzene	13.671	180	443	0.23	ug/L	#	1

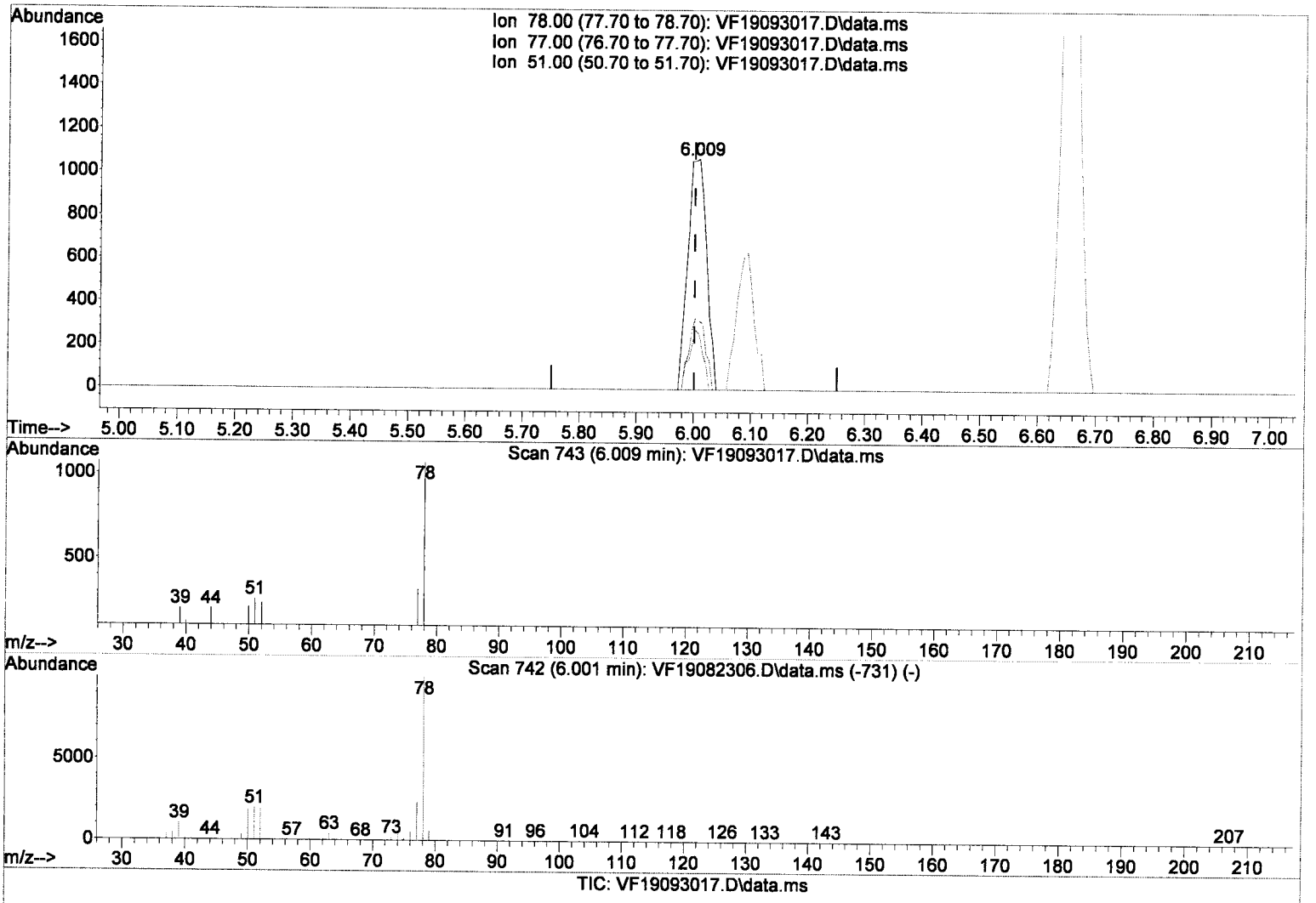


(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093017.D
Acq On : 30 Sep 2019 5:04 pm
Operator : tb/IMA
Sample : A9I0885-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



TIC: VF19093017.D\data.ms

(33) Benzene

6.009min (+0.008) 0.28 ug/L

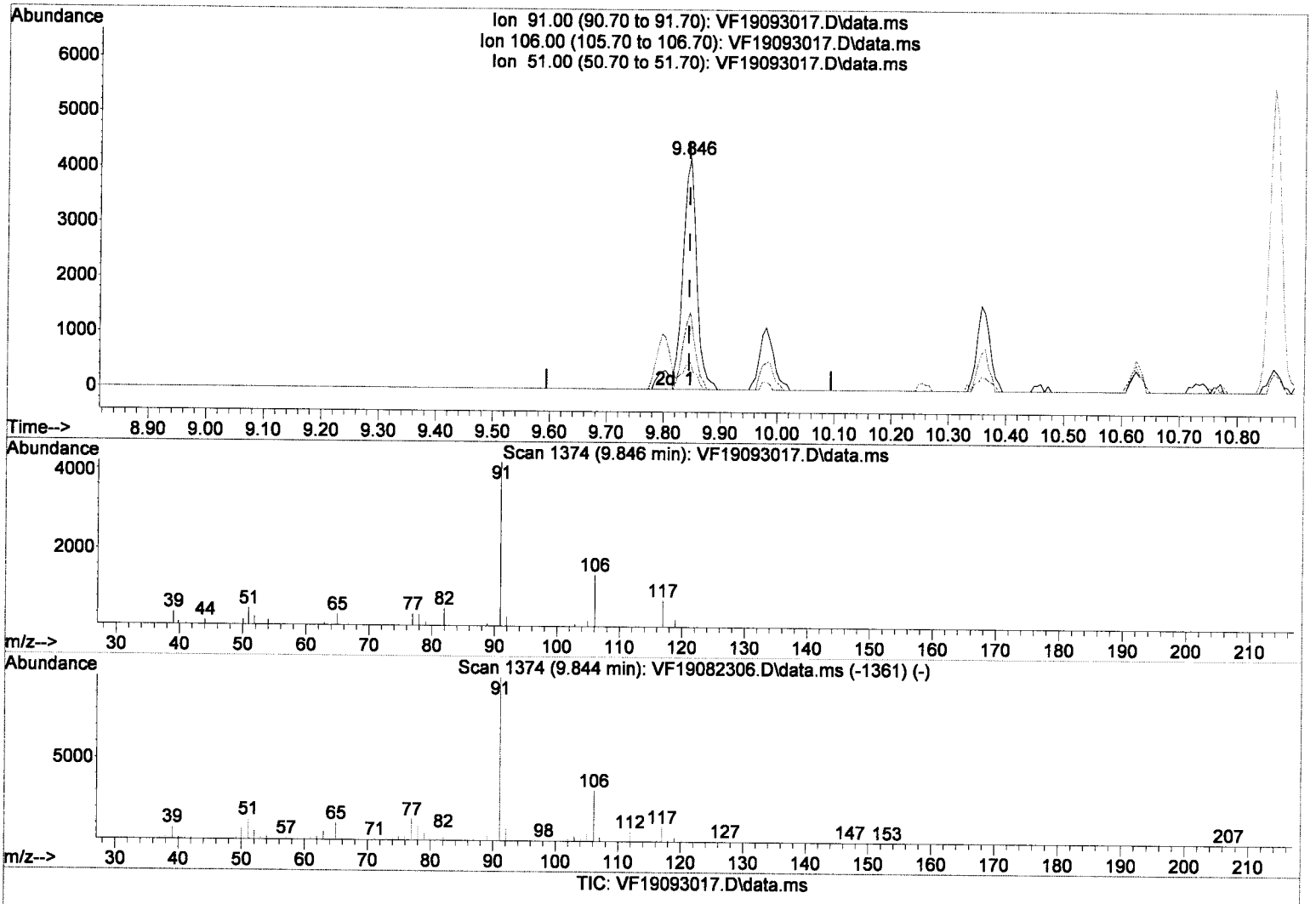
response 2447

Ion	Exp%	Act%
78.00	100	100
77.00	23.20	29.68
51.00	15.50	24.16
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093017.D
Acq On : 30 Sep 2019 5:04 pm
Operator : tb/IMA
Sample : A9I0885-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



TIC: VF19093017.D\data.ms

(56) Ethylbenzene (C)

9.846min (+0.002) 0.64 ug/L

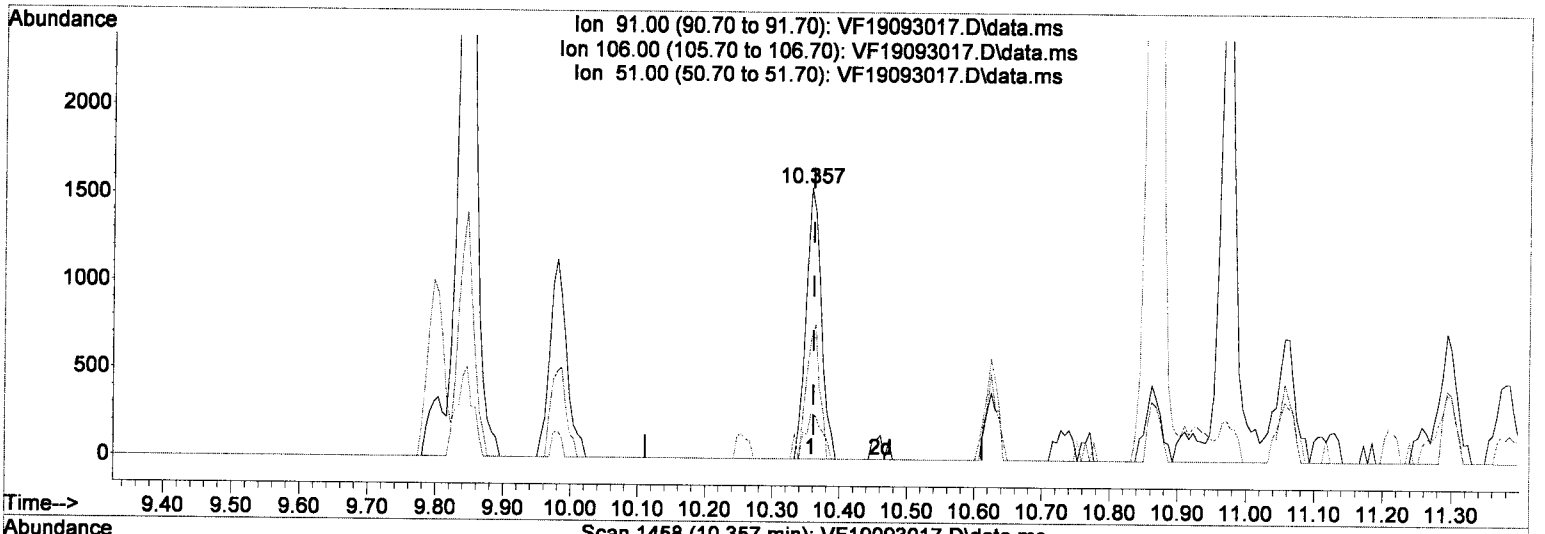
response 6965

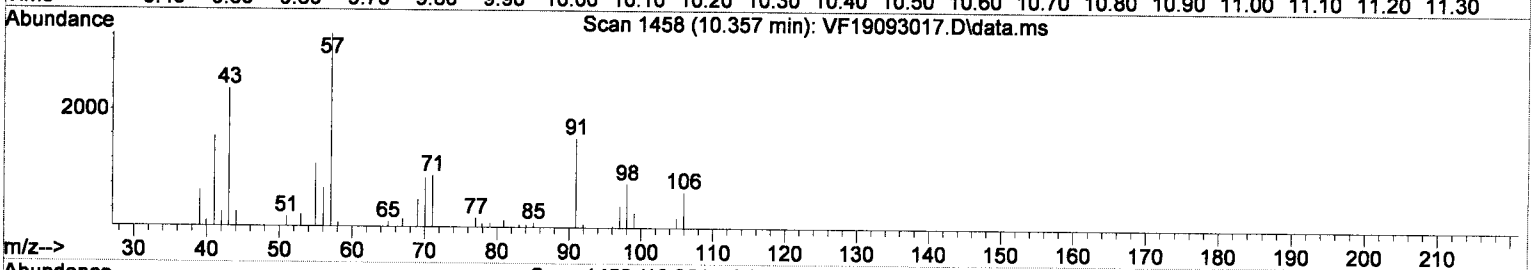
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	33.25
51.00	9.50	12.15
0.00	0.00	0.00

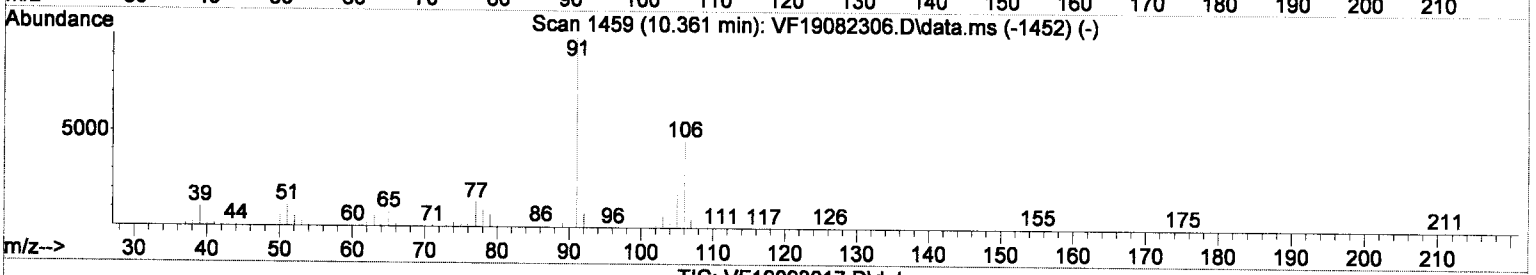
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093017.D
Acq On : 30 Sep 2019 5:04 pm
Operator : tb/IMA
Sample : A9I0885-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093017.D\data.ms

(59) o-Xylene

10.357min (-0.004) 0.30 ug/L

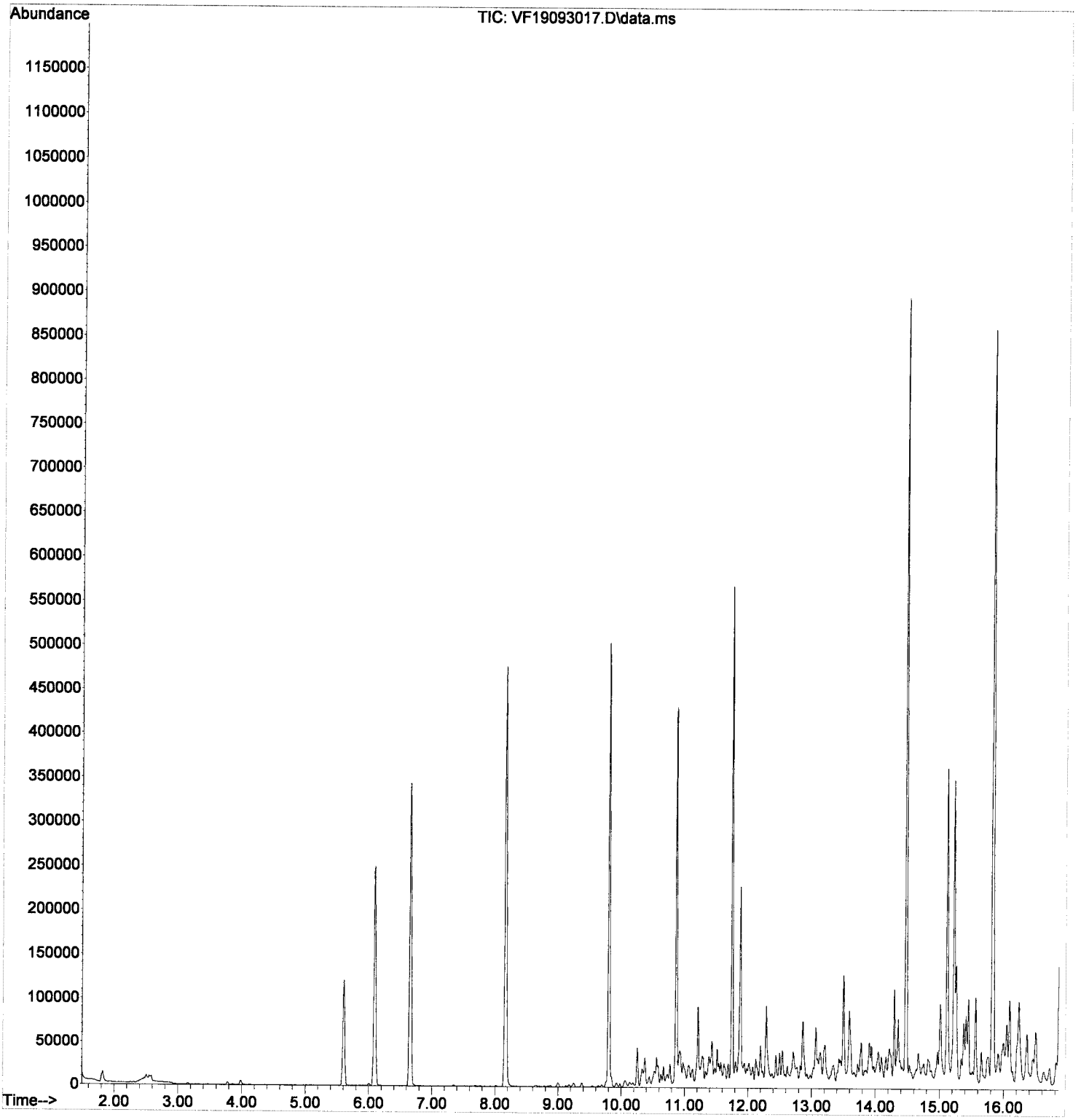
response 2430

Ion	Exp%	Act%
91.00	100	100
106.00	49.40	44.21
51.00	10.00	16.87
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093017.D
Acq On : 30 Sep 2019 5:04 pm
Operator : tb/IMA
Sample : A9I0885-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093018.D
Acq On : 30 Sep 2019 5:31 pm
Operator : tb/IMA
Sample : A9I0885-10
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6/QC
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

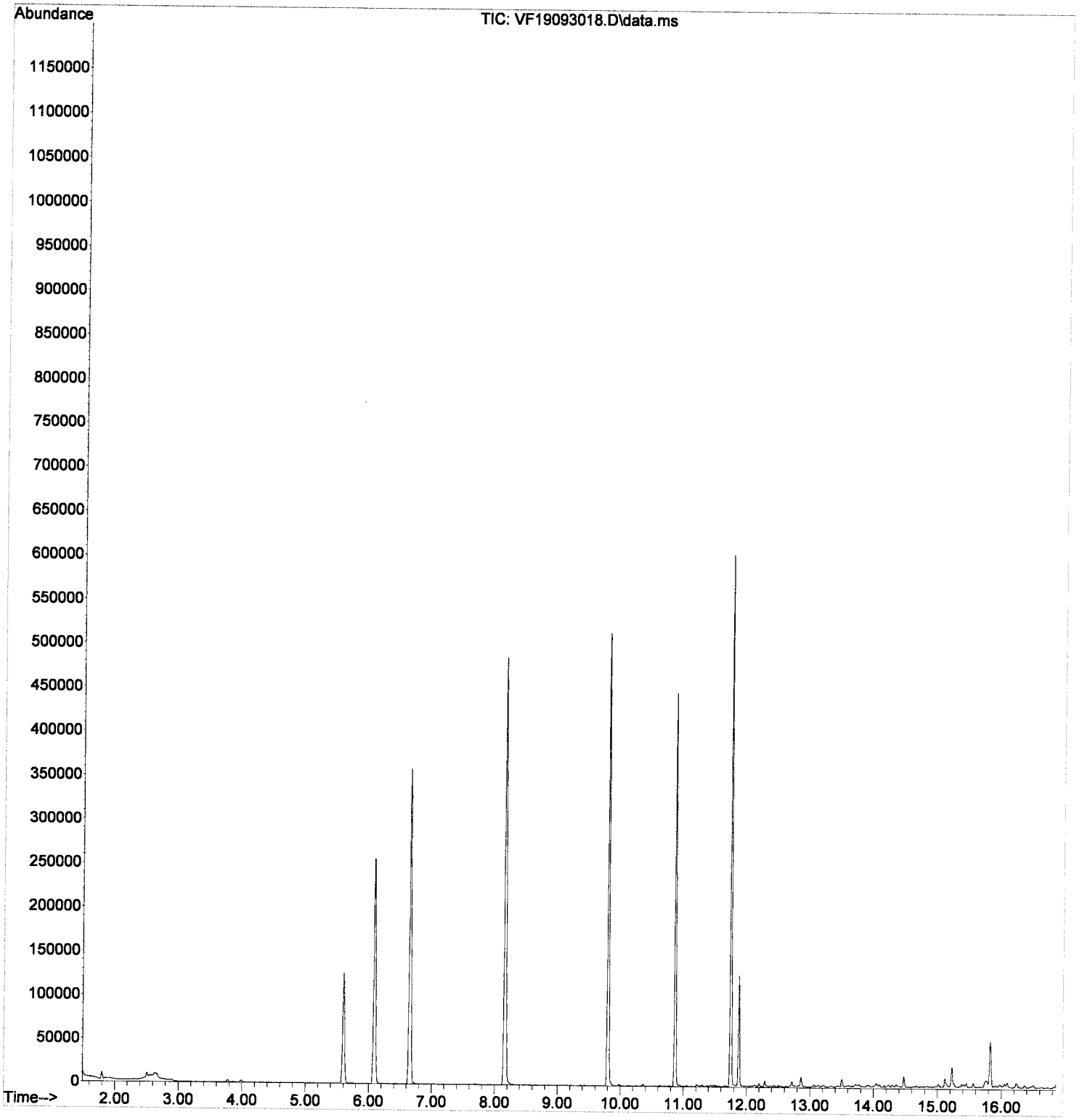
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.086	99	107167	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	265767	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	128258	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	80907	52.57	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	311603	55.56	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	362812	47.22	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	104158	48.76	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.303	96	388	0.34	ug/L		89
13) Methylene Chloride	3.775	84	1391	Below Cal			94
14) Acetone	3.866	43	1160	1.15	ug/L		96
46) Toluene	8.233	91	1732	0.16	ug/L		86
56) Ethylbenzene	9.844	91	1779	0.16	ug/L		94
58) m,p-Xylenes (2)	9.984	91	1385	0.17	ug/L		87
59) o-Xylene	10.361	91	1509	0.18	ug/L		97
84) Naphthalene	13.499	128	6612	0.95	ug/L		98
85) 1,2,3-Trichlorobenzene	13.657	180	881	0.43	ug/L	#	11

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093018.D
Acq On : 30 Sep 2019 5:31 pm
Operator : tb/IMA
Sample : A9I0885-10
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6/QC
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:33 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093019.D
Acq On : 30 Sep 2019 5:58 pm
Operator : tb/IMA
Sample : 9091433-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-10)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

10/1/19

Quant Time: Oct 01 09:30:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.084	99	100653	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	248375	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	117950	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.598	111	81781	56.57	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.650	114	291517	55.34	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	338027	47.08	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.864	174	95773	48.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.627	85	33271	26.09	ug/L		96
3) Chloromethane	1.833	50	45907	21.53	ug/L		97
4) Vinyl Chloride	1.931	62	45186	22.17	ug/L		96
5) Bromomethane	2.296	96	26218	24.72	ug/L		99
6) Chloroethane	2.417	64	6408	32.83	ug/L	#	62
7) Trichlorofluoromethane	2.545	101	9171	31.19	ug/L		94
8) Ethanol	3.208	45	47971	1051.89	ug/L		89
9) 1,1-Dichloroethene	3.129	61	55529	19.74	ug/L		79
10) Carbon Disulfide	3.141	76	70378	15.71	ug/L		99
11) Freon 113	3.177	101	34346	22.00	ug/L		83
12) Iodomethane	3.281	142	14370	20.71	ug/L		91
13) Methylene Chloride	3.767	84	37643	17.59	ug/L		87
14) Acetone	3.846	43	45710	48.41	ug/L		93
15) t-1,2-Dichloroethene	3.931	61	54824	20.59	ug/L		96
16) n-Hexane	4.011	86	8186	19.50	ug/L	#	83
17) Methyl-tert-butyl-ether	4.071	73	141377	20.80	ug/L		98
18) tert-Butanol (TBA)	4.217	59	522131	1302.71	ug/L	#	91
19) Diisopropyl ether (DIPE)	4.467	45	36166	4.43	ug/L		94
20) 1,1-Dichloroethane	4.570	63	72365	20.90	ug/L		98
21) Acrylonitrile	4.637	53	24620	22.33	ug/L		99
22) Ethyl-tert-butyl ether...	4.832	59	33715	4.45	ug/L		94
23) c-1,2-Dichloroethene	5.130	61	58474	21.45	ug/L		94
24) 2,2-Dichloropropane	5.233	77	51643	19.19	ug/L		98
25) Bromochloromethane	5.330	49	34639	20.38	ug/L		89
26) Chloroform	5.409	83	70818	20.09	ug/L		97
27) Carbon Tetrachloride	5.543	117	38119	20.73	ug/L		96
28) Tetrahydrofuran	5.580	42	27321	24.90	ug/L		93
29) 1,1,1-Trichloroethane	5.610	97	57562	19.32	ug/L		96
31) 1,1-Dichloropropene	5.744	75	55515	20.22	ug/L		98
32) 2-Butanone (MEK)	5.732	43	72669	49.68	ug/L		99
33) Benzene	5.999	78	170595	20.41	ug/L		97
34) tert-Amyl methyl ether...	6.127	73	31784	4.50	ug/L		95
35) 1,2-Dichloroethane (EDC)	6.212	62	61866	21.54	ug/L		98
36) iso-Butyl Alcohol	6.267	43	71324	482.44	ug/L		95
38) Trichloroethene (TCE)	6.619	130	41918	21.20	ug/L		92
39) tert-Amyl ethyl ether ...	6.875	59	25011	4.37	ug/L		89
40) Dibromomethane	7.069	93	25308	22.42	ug/L		88
41) 1,2-Dichloropropane	7.173	63	44067	20.97	ug/L		97
42) Bromodichloromethane	7.252	83	38545	20.82	ug/L		97
44) c-1,3-Dichloropropene	7.957	75	56375	18.52	ug/L		88
46) Toluene	8.219	91	174549	17.77	ug/L		100
47) Tetrachloroethene (PCE)	8.669	166	40359	19.31	ug/L		94
48) 4-Methyl-2-Pentanone (...	8.663	43	129430	39.84	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093019.D
Acq On : 30 Sep 2019 5:58 pm
Operator : tb/IMA
Sample : 9091433-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-10)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

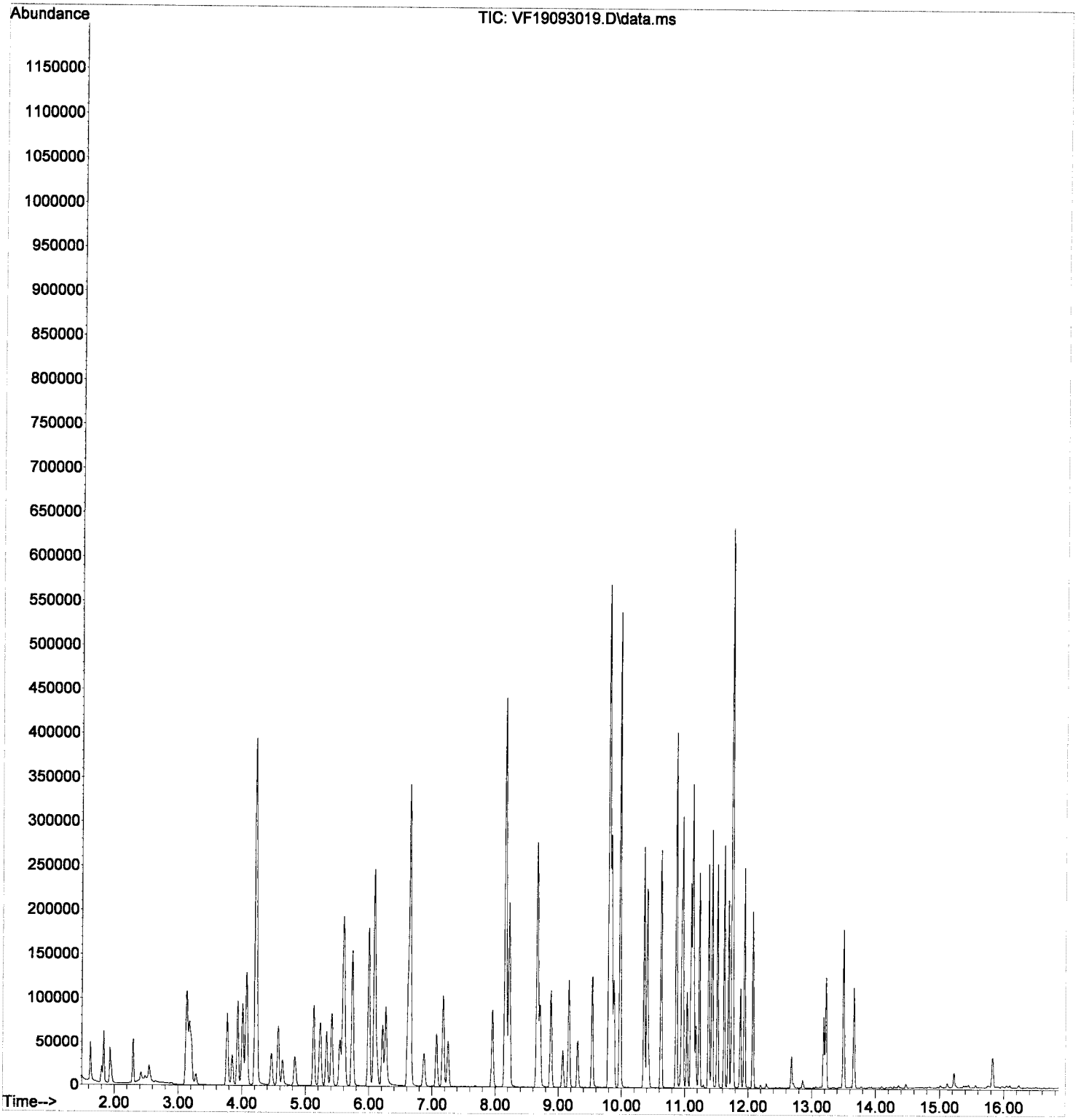
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	54023	18.70 ug/L	97
50) 1,1,2-Trichloroethane	8.882	97	37357	19.72 ug/L	92
51) Dibromochloromethane	9.070	129	23538	21.65 ug/L	94
52) 1,3-Dichloropropane	9.168	76	69994	20.07 ug/L	90
53) 1,2-Dibromoethane (EDB)	9.307	107	38172	20.63 ug/L	97
54) 2-Hexanone	9.538	43	85484	37.79 ug/L	94
55) Chlorobenzene	9.818	112	107432	18.71 ug/L	96
56) Ethylbenzene	9.843	91	183591	17.69 ug/L	97
57) 1,1,1,2-Tetrachloroethane	9.879	131	29966	20.27 ug/L	96
58) m,p-Xylenes (2)	9.976	91	278189	36.88 ug/L	97
59) o-Xylene	10.359	91	140066	17.91 ug/L	98
60) Styrene	10.408	104	100663	18.34 ug/L	95
61) Bromoform	10.432	173	13002	21.74 ug/L	96
62) Isopropylbenzene	10.627	105	159789	17.88 ug/L	98
65) Bromobenzene	10.949	156	42429	19.49 ug/L	89
66) n-Propylbenzene	10.968	91	182412	18.04 ug/L	96
67) 1,1,2,2-Tetrachloroethane	11.034	83	42158	17.49 ug/L	98
68) 2-Chlorotoluene	11.101	126	37382	18.72 ug/L	89
69) 1,3,5-Trimethylbenzene	11.126	105	133123	17.31 ug/L	96
70) 1,2,3-Trichloropropane	11.144	110	17035	19.66 ug/L	88
71) t-1,4-Dichloro-2-butene	11.174	88	5140	16.34 ug/L	99
72) 4-Chlorotoluene	11.229	91	113371	18.09 ug/L	96
73) tert-Butylbenzene	11.375	91	70419	16.92 ug/L	88
74) 1,2,4-Trimethylbenzene	11.430	105	136578	18.02 ug/L	99
75) sec-Butylbenzene	11.515	105	145390	17.05 ug/L	98
76) 4-Isopropyltoluene	11.624	119	126237	17.99 ug/L	96
77) 1,3-Dichlorobenzene	11.691	146	69584	19.35 ug/L	98
78) 1,4-Dichlorobenzene	11.758	146	71567	18.94 ug/L	97
79) n-Butylbenzene	11.941	91	111402	18.52 ug/L	96
80) 1,2-Dichlorobenzene	12.074	146	63410	19.07 ug/L	99
81) 1,2-Dibromo-3-Chloropr...	12.683	157	6575	16.93 ug/L #	66
82) Hexachlorobutadiene	13.187	223	8655	17.05 ug/L	97
83) 1,2,4-Trichlorobenzene	13.224	180	35276	18.43 ug/L	98
84) Naphthalene	13.497	128	127826	19.98 ug/L	99
85) 1,2,3-Trichlorobenzene	13.662	180	33056	17.74 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093019.D
Acq On : 30 Sep 2019 5:58 pm
Operator : tb/IMA
Sample : 9091433-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0885-10)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:35 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093021.D
Acq On : 30 Sep 2019 6:52 pm
Operator : tb/IMA
Sample : A9I0885-13
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

TB 10/1/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.088	99	98366	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.804	117	244131	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	111897	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.602	111	74343	52.62	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.654	114	284879	55.34	ug/L	0.00
45) Toluene-d8 (S)	8.162	98	329388	46.67	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.868	174	92776	49.78	ug/L	0.00
Target Compounds						Qvalue
5) Bromomethane	2.305	96	611	0.59	ug/L	85
13) Methylene Chloride	3.777	84	1128	Below Cal		80
14) Acetone	3.856	43	893	0.97	ug/L	84
56) Ethylbenzene	9.846	91	1549	0.15	ug/L	92
58) m,p-Xylenes (2)	9.980	91	1323	0.18	ug/L	89
59) o-Xylene	10.363	91	1489	0.19	ug/L	91

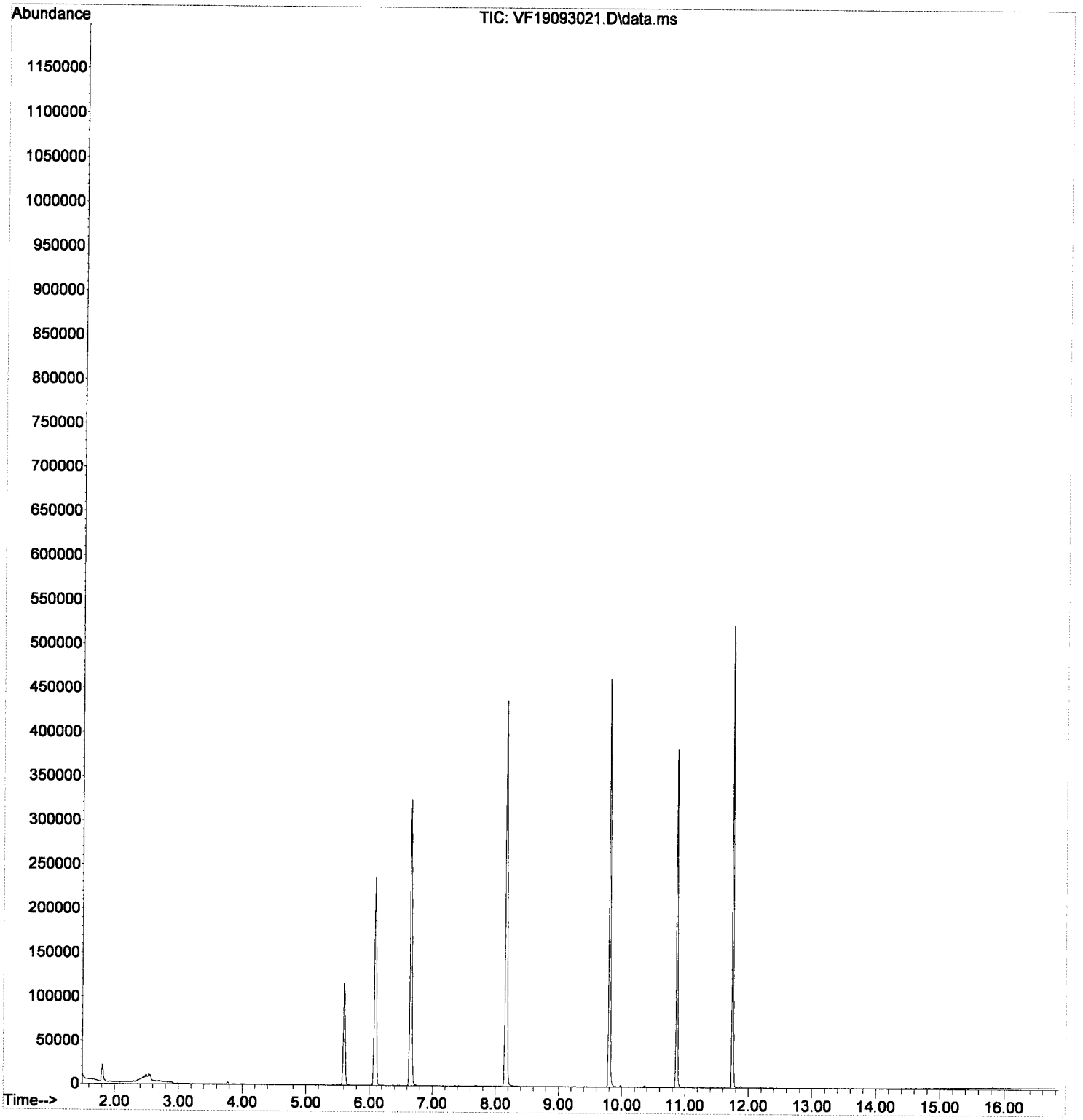
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093021.D
Acq On : 30 Sep 2019 6:52 pm
Operator : tb/IMA
Sample : A9I0885-13
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:39 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093022.D
Acq On : 30 Sep 2019 7:19 pm
Operator : tb/IMA
Sample : A9I0885-14
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:41 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19 10/1/19
10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.087	99	103019	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.797	117	256104	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	124569	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.595	111	77796	52.58	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	301780	55.97	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	352089	47.56	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	99504	47.96	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.293	96	491	0.45	ug/L		79
13) Methylene Chloride	3.770	84	1252	Below Cal			97
14) Acetone	3.862	43	616	0.64	ug/L	#	42
56) Ethylbenzene	9.846	91	1725	0.16	ug/L		94
58) m,p-Xylenes (2)	9.979	91	1502	0.19	ug/L		90
59) o-Xylene	10.363	91	1559	0.19	ug/L		97

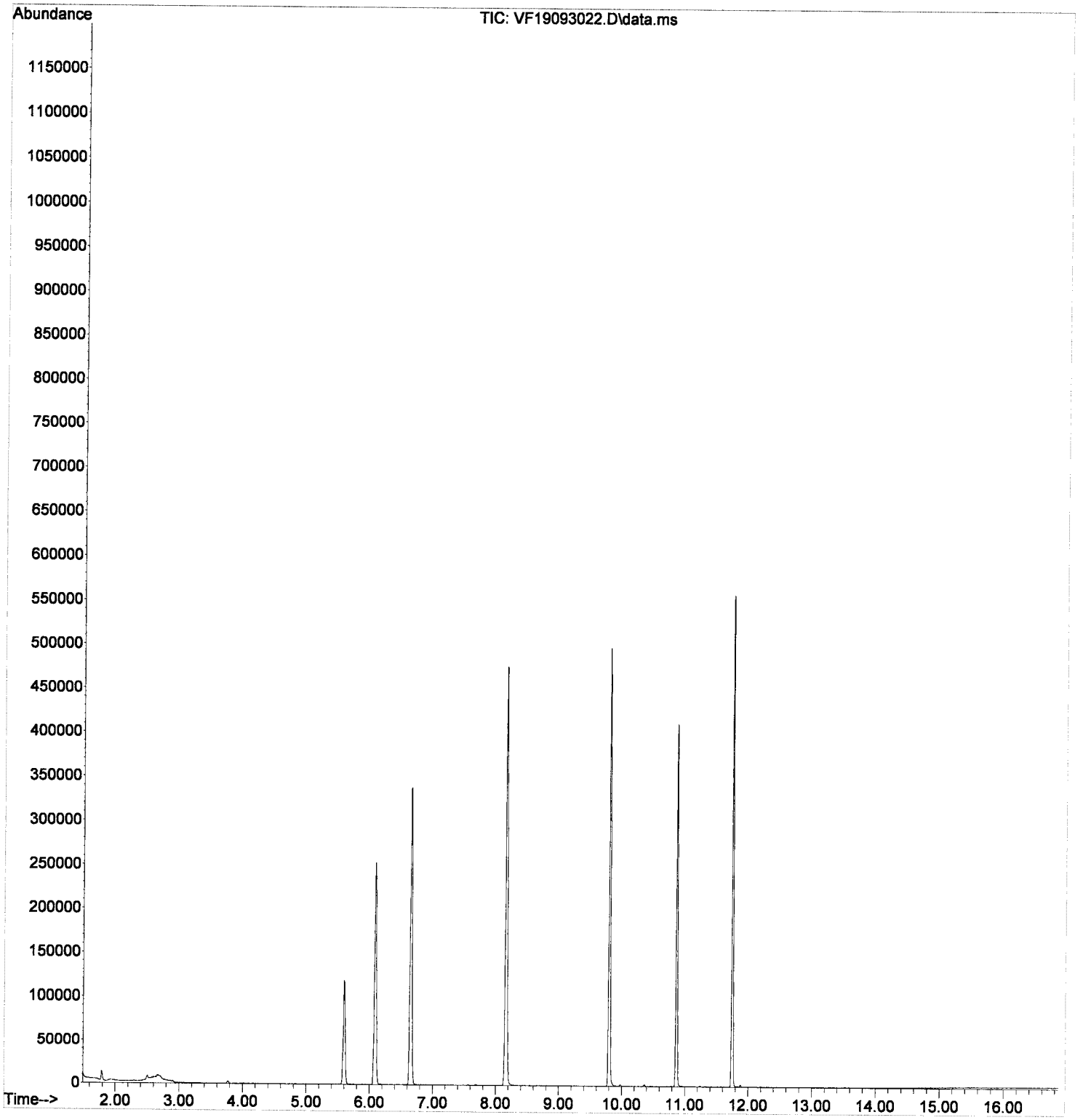
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093022.D
Acq On : 30 Sep 2019 7:19 pm
Operator : tb/IMA
Sample : A9I0885-14
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:41 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093023.D
Acq On : 30 Sep 2019 7:46 pm
Operator : tb/IMA
Sample : A9I0885-15
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.086	99	117739	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	281701	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	125561	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	85798	50.74	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	334859	54.34	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	389686	47.85	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	106859	51.09	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.297	96	495	0.40	ug/L		89
13) Methylene Chloride	3.769	84	1439	Below Cal			88
14) Acetone	3.872	43	287	0.26	ug/L	#	42
56) Ethylbenzene	9.844	91	1862	0.16	ug/L		96
58) m,p-Xylenes (2)	9.984	91	1537	0.18	ug/L		98
59) o-Xylene	10.361	91	1681	0.19	ug/L		88
79) n-Butylbenzene	11.881	91	557	0.09	ug/L	#	30

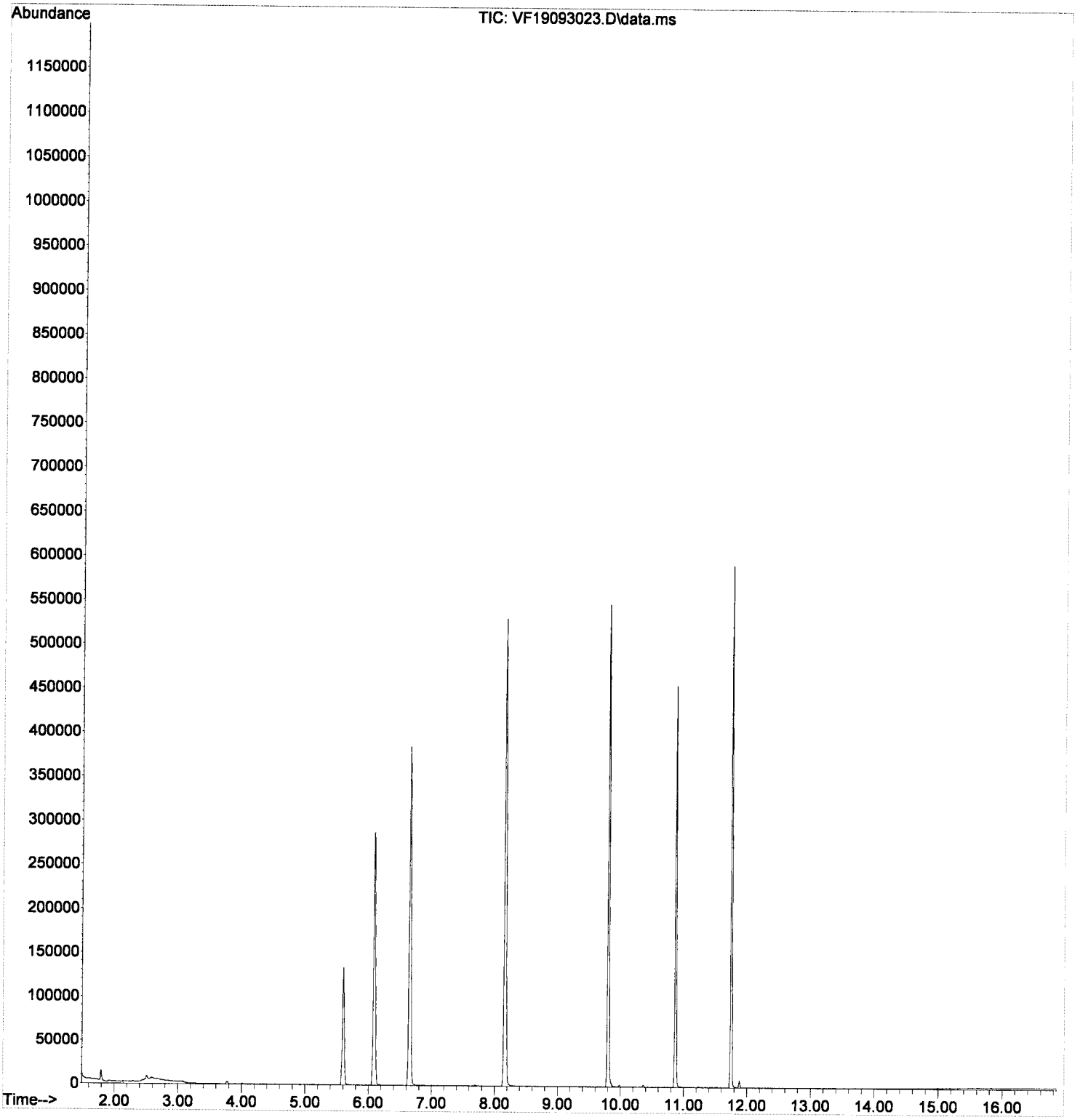
<MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093023.D
Acq On : 30 Sep 2019 7:46 pm
Operator : tb/IMA
Sample : A9I0885-15
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093024.D
Acq On : 30 Sep 2019 8:13 pm
Operator : tb/IMA
Sample : A9I0885-09
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.086	99	103601	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.802	117	255204	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	122464	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.600	111	77716	52.23	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.652	114	303077	55.90	ug/L	0.00
45) Toluene-d8 (S)	8.160	98	348616	47.25	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.866	174	98142	48.11	ug/L	0.00
Target Compounds						Qvalue
5) Bromomethane	2.291	96	293	0.27	ug/L	92
13) Methylene Chloride	3.775	84	1174	Below Cal		86
14) Acetone	3.867	43	1141	1.17	ug/L	94
46) Toluene	8.227	91	903	0.09	ug/L	90
56) Ethylbenzene	9.845	91	1436	0.13	ug/L	91
58) m,p-Xylenes (2)	9.978	91	1268	0.16	ug/L	96
59) o-Xylene	10.361	91	1414	0.18	ug/L	90
84) Naphthalene	13.505	128	2491	0.37	ug/L	88

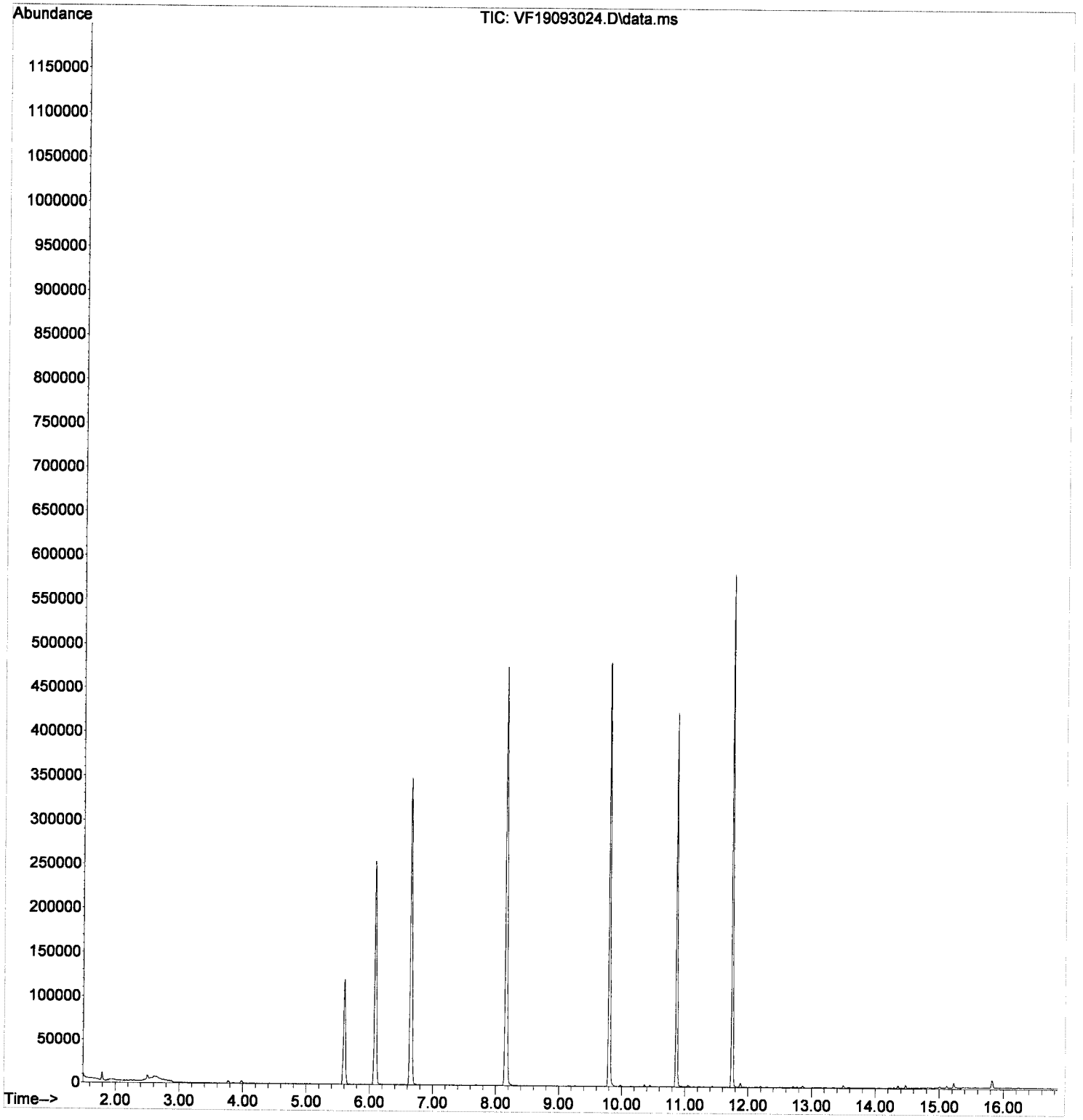
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093024.D
Acq On : 30 Sep 2019 8:13 pm
Operator : tb/IMA
Sample : A9I0885-09
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

10/1/19

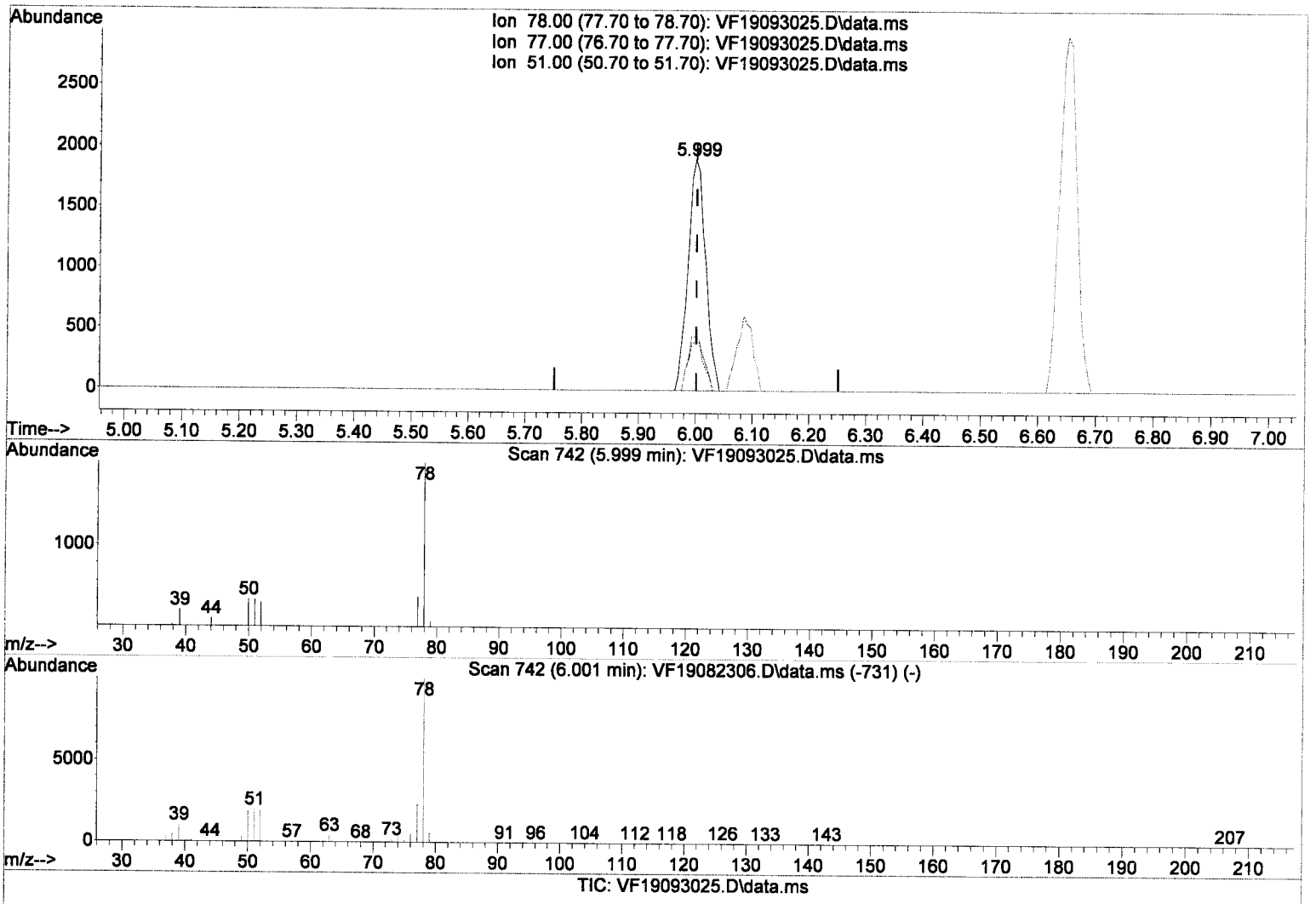
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.091	99	102920	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.800	117	257421	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	118919	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.598	111	78242	52.93 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.650	114	298017	55.33 ug/L	0.00
45) Toluene-d8 (S)	8.164	98	347323	46.67 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.864	174	99732	50.35 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.840	50	292	0.13 ug/L # NR	48
5) Bromomethane	2.302	96	497	0.46 ug/L	81
10) Carbon Disulfide	3.153	76	382	0.08 ug/L	77
13) Methylene Chloride	3.774	84	1343	Below Cal	84
14) Acetone	3.853	43	2003	2.07 ug/L	94
32) 2-Butanone (MEK)	5.744	43	231	0.15 ug/L	54
33) Benzene	5.999	78	4076	0.48 ug/L	94
46) Toluene	8.225	91	1114	0.11 ug/L	90 <MDL
48) 4-Methyl-2-Pentanone (...	8.645	43	761	0.23 ug/L #	41
56) Ethylbenzene	9.843	91	3790	0.35 ug/L	96
58) m,p-Xylenes (2)	9.983	91	2712	0.35 ug/L	92 <MRL
59) o-Xylene	10.360	91	7160	0.88 ug/L	94
62) Isopropylbenzene	10.627	105	56302	6.08 ug/L	97
66) n-Propylbenzene	10.968	91	27457	2.69 ug/L NR	95
67) 1,1,2,2-Tetrachloroethane	11.016	83	2908	1.20 ug/L #	34
69) 1,3,5-Trimethylbenzene	11.126	105	3703	0.48 ug/L	93
70) 1,2,3-Trichloropropane	11.126	110	242	0.28 ug/L #	1
73) tert-Butylbenzene	11.375	91	5614	1.34 ug/L	84
74) 1,2,4-Trimethylbenzene	11.436	105	10266	1.34 ug/L	96
75) sec-Butylbenzene	11.515	105	99894	11.62 ug/L	97
76) 4-Isopropyltoluene	11.594	119	6765	0.96 ug/L	90
79) n-Butylbenzene	11.941	91	5959	0.98 ug/L	90
83) 1,2,4-Trichlorobenzene	13.242	180	260	0.13 ug/L #	1
84) Naphthalene	13.498	128	152633	23.66 ug/L	99
85) 1,2,3-Trichlorobenzene	13.668	180	204	0.11 ug/L #	1

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



TIC: VF19093025.D\data.ms

(33) Benzene

5.999min (-0.002) 0.48 ug/L

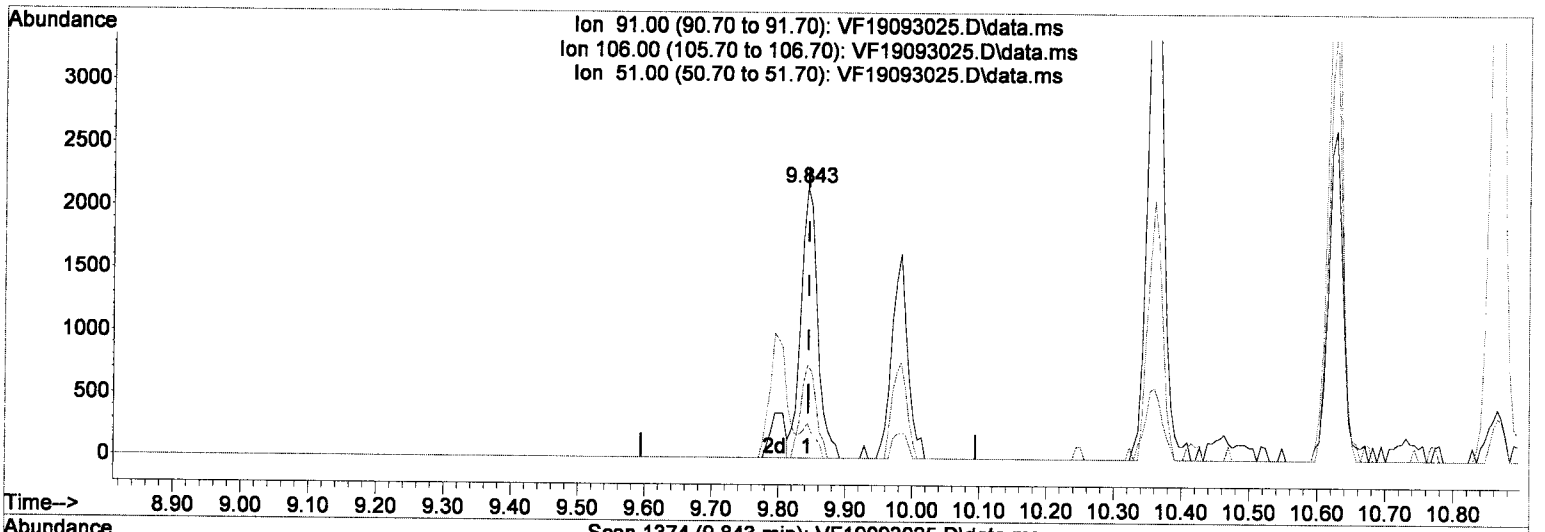
response 4076

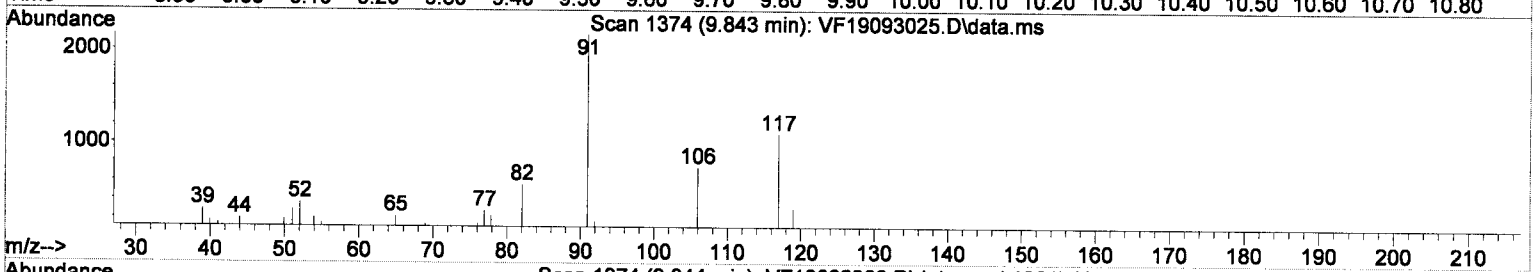
Ion	Exp%	Act%
78.00	100	100
77.00	23.20	22.82
51.00	15.50	20.88
0.00	0.00	0.00

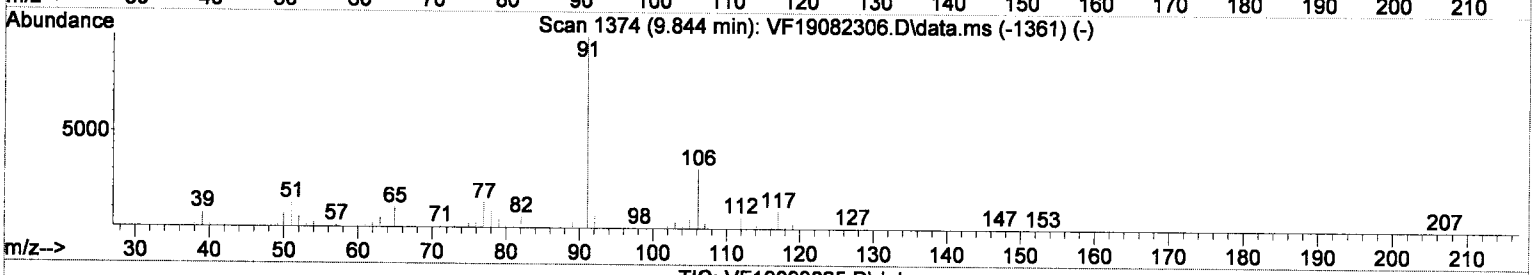
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093025.D\data.ms

(56) Ethylbenzene (C)

9.843min (-0.002) 0.35 ug/L

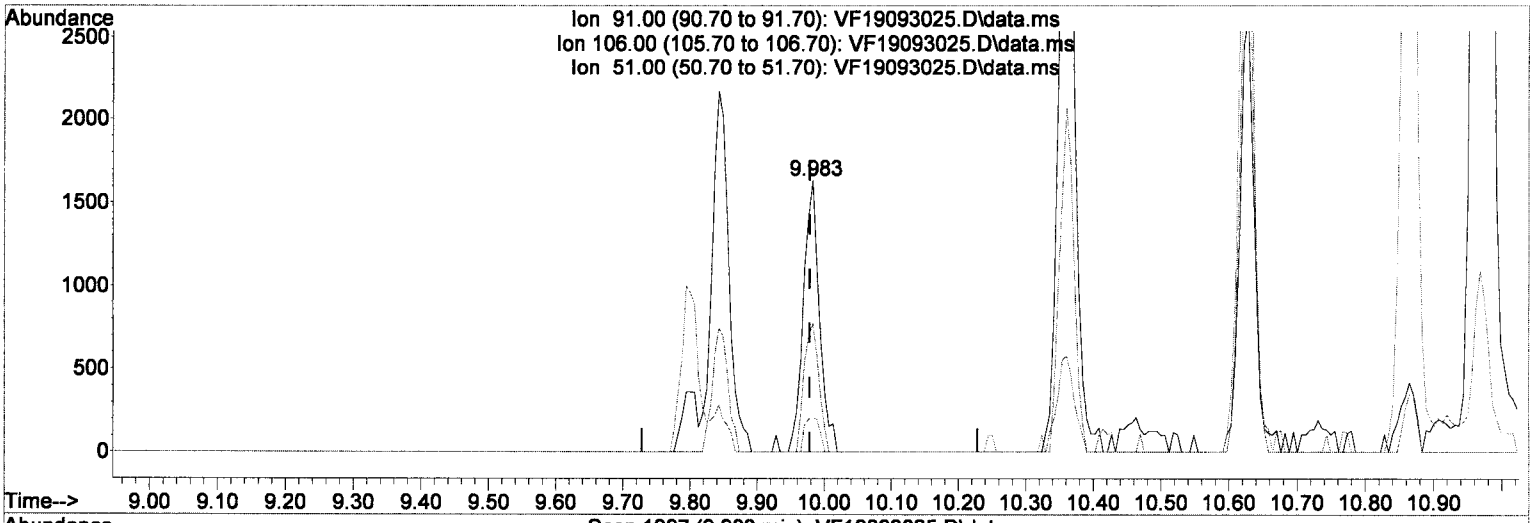
response 3790

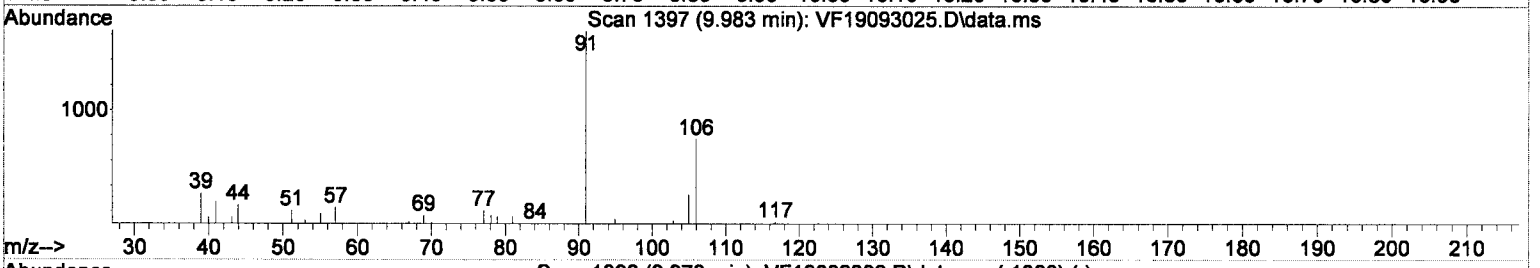
Ion	Exp%	Act%
91.00	100	100
106.00	33.20	34.38
51.00	9.50	13.12
0.00	0.00	0.00

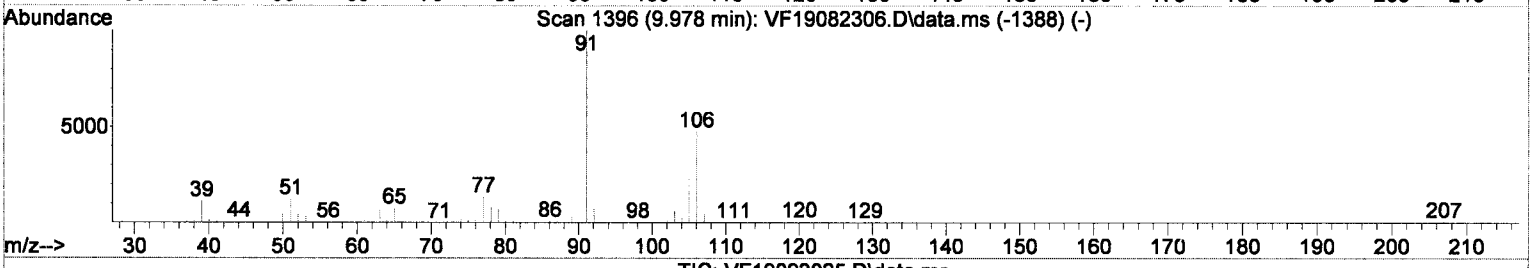
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093025.D\data.ms

(58) m,p-Xylenes (2)

9.983min (+0.005) 0.35 ug/L

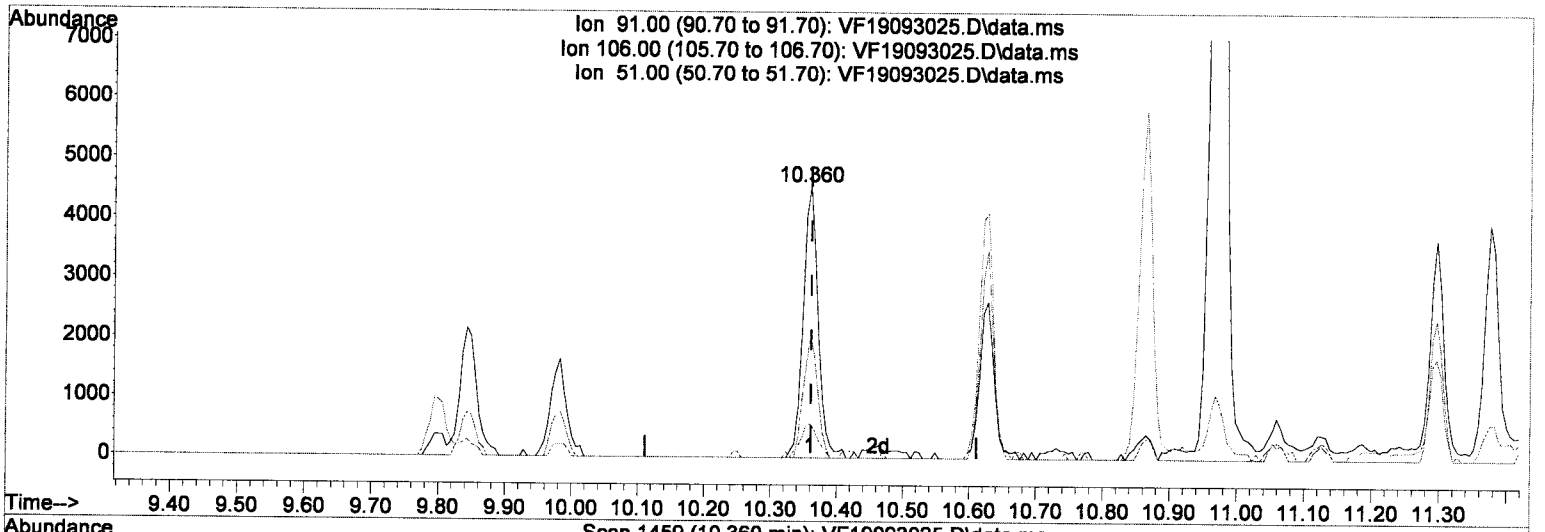
response 2712

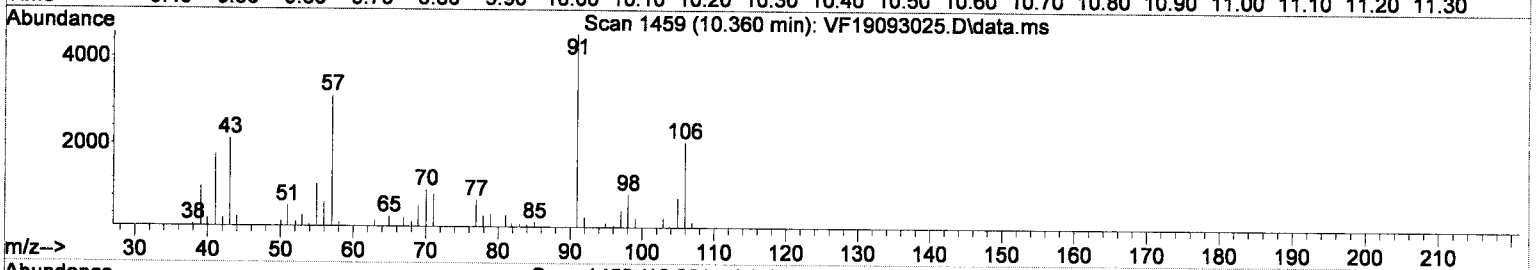
Ion	Exp%	Act%
91.00	100	100
106.00	52.70	47.18
51.00	10.10	12.55
0.00	0.00	0.00

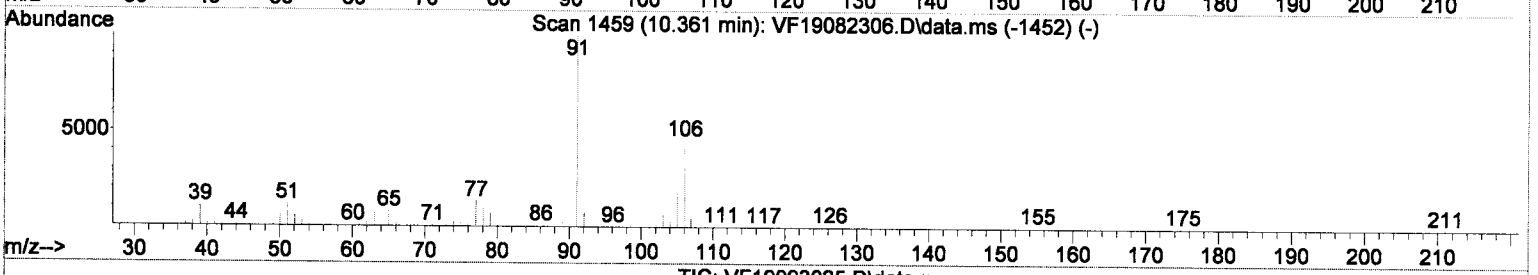
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







TIC: VF19093025.D\data.ms

(59) o-Xylene

10.360min (-0.001) 0.88 ug/L

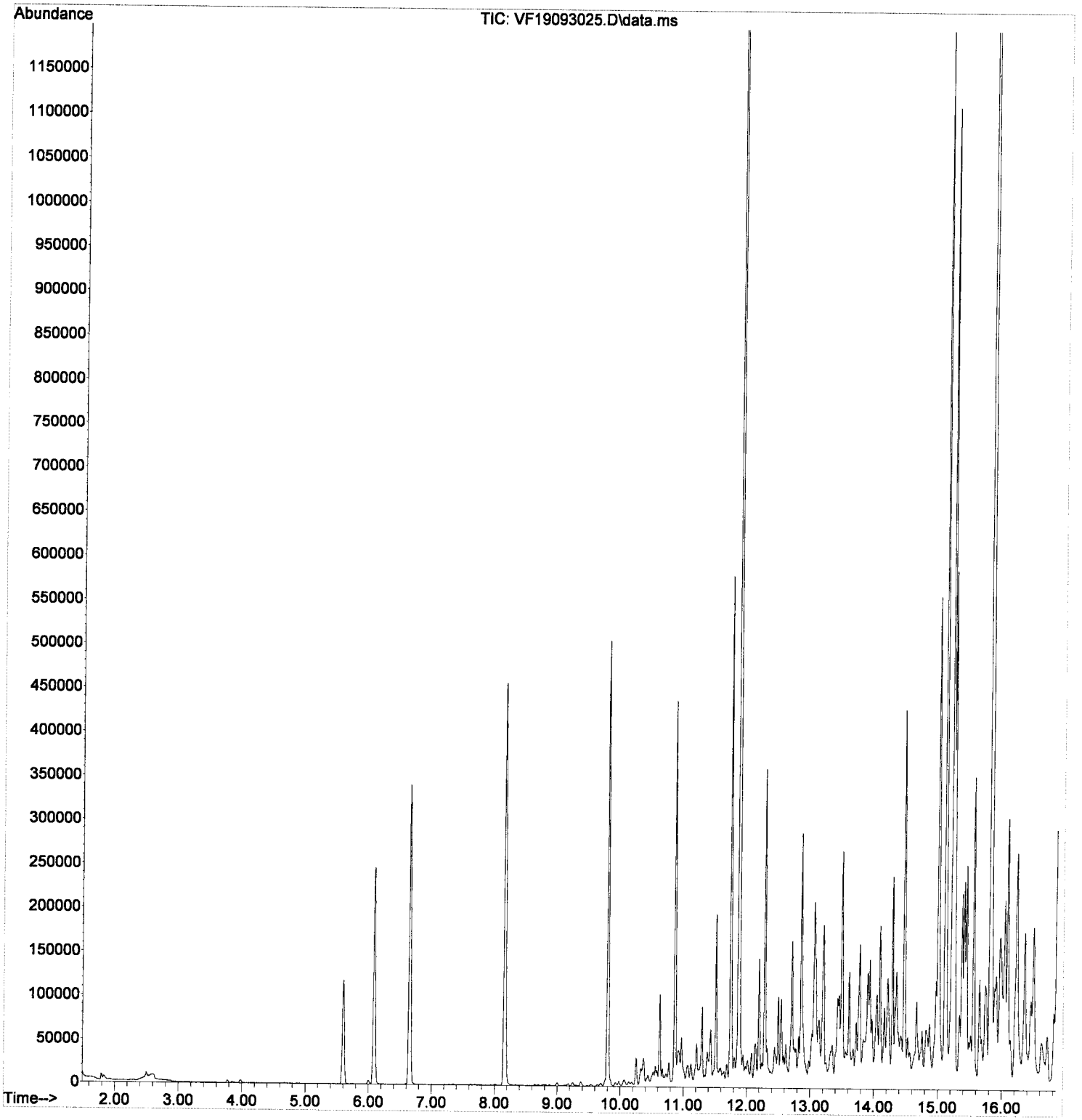
response 7160

Ion	Exp%	Act%
91.00	100	100
106.00	49.40	45.32
51.00	10.00	12.65
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-09\9I30036\
Data File : VF19093025.D
Acq On : 30 Sep 2019 8:40 pm
Operator : tb/IMA
Sample : A9I0885-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Oct 01 09:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Selected Volatile Organic Compounds by EPA 8260C
Benchsheet & Analysis Sequence Data (Water)

Batch 9100594
Sequence 9J04030 (A9I0885-03)

PREPARATION BENCH SHEET

Apex Laboratories

BATCH #: 9100594 (Water)

Prep Method: EPA 5030B

Lab Number	Cont.	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9100594-BLK1		QC	10/04/19 12:00	5	5							
9100594-BSD1		QC	10/04/19 12:00	5	5	A19J063		5				
9100594-BS1		QC	10/04/19 12:00	5	5	A19J063		5				
9100594-BS2		QC	10/04/19 12:00	5	5	A19J046		5				
A9I0885-03	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909251448		<2
A9I0922-06	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909271100		<2
A9I0936-09	A	8260C BTEX	10/04/19 14:17	5	5					PDI-FB-1909291637	Added for BatchQC in: 9100594	<2
A9I0936-09	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-FB-1909291637		<2
A9I0936-09	A	NWTPH-Gx	10/04/19 14:17	5	5					PDI-FB-1909291637	Added for BatchQC in: 9100594	<2
9100594-DUP1		QC	10/04/19 14:17	5	5		A9I0936-09					<2
A9I0936-10	A	8260C BTEX	10/04/19 14:17	5	5					PDI-RB-1909291555	Added for BatchQC in: 9100594	<2
A9I0936-10	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-RB-1909291555		<2
A9I0936-10	A	NWTPH-Gx	10/04/19 14:17	5	5					PDI-RB-1909291555	Added for BatchQC in: 9100594	<2
9100594-MS1		QC	10/04/19 14:17	5	5	A19J063	A9I0936-10	5				<2
A9J0063-01	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909301011		<2
A9J0149-01	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-19010021525		<2
A9J0149-04	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-FB-1910031324		<2
A9J0149-05	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-RB-1910031323		<2

*pH <2 verified 10/6/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19J046	02/17/20	Prim NWTPH-Gx Spike (500 ug/mL)
A19J063	11/09/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

Prepared By: 10/6/19 Date

Reviewed By: 10/7/19 Date

PREPARATION BENCH SHEET

BATCH #: 9100594 (Water)

Apex Laboratories

Prep Method: EPA 5030B

Lab Number	Cont.	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
GCMS7												

Prepared By: Date

Reviewed By: 10/7/19 Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9J04030** Instrument: **VOA-GCMS7**

Date: **10/04/19 12:15** Calibration: **A9I3003**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J04030-IBL1	Water	QC	QC			A19F381	
2	9J04030-IBL2	Water	QC	QC			A19F381	
3	9J04030-TUN1	Water	QC	QC			A19F381	
4	9J04030-CCV1	Water	QC	QC			A19F381	
5	9100594-BS1	Water	QC	QC		9100594	A19F381	
6	9100594-BSD1	Water	QC	QC		9100594	A19F381	
7	9J04030-IBL3	Water	QC	QC			A19F381	
8	9J04030-CCV2	Water	QC	QC			A19F381	
9	9100594-BS2	Water	QC	QC		9100594	A19F381	
10	9100594-BLK1	Water	QC	QC		9100594	A19F381	
11	A9I0885-03	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9100594	A19F381	
12	A9I0922-06	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
13	A9I0936-09	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
"	"	Water	8260C BTEX	(QC Source)		9100594	A19F381	
"	"	~~Water~~	~~NWTPH-Gx~~	(QC Source)		9100594	A19F381	
14	9100594-DUP1	Water	QC	QC		9100594	A19F381	
15	A9J0063-01	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/15/19	9100594	A19F381	
16	A9I0936-10	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
"	"	Water	8260C BTEX	(QC Source)		9100594	A19F381	
"	"	~~Water~~	~~NWTPH-Gx~~	(QC Source)		9100594	A19F381	
17	9100594-MS1	Water	QC	QC		9100594	A19F381	
18	9J04030-IBL4	Water	QC	QC			A19F381	
19	A9J0149-01	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	
20	A9J0149-04	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	
21	A9J0149-05	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	

Data Entered By: 10/4/19

Data Reviewed By: 10/7/19

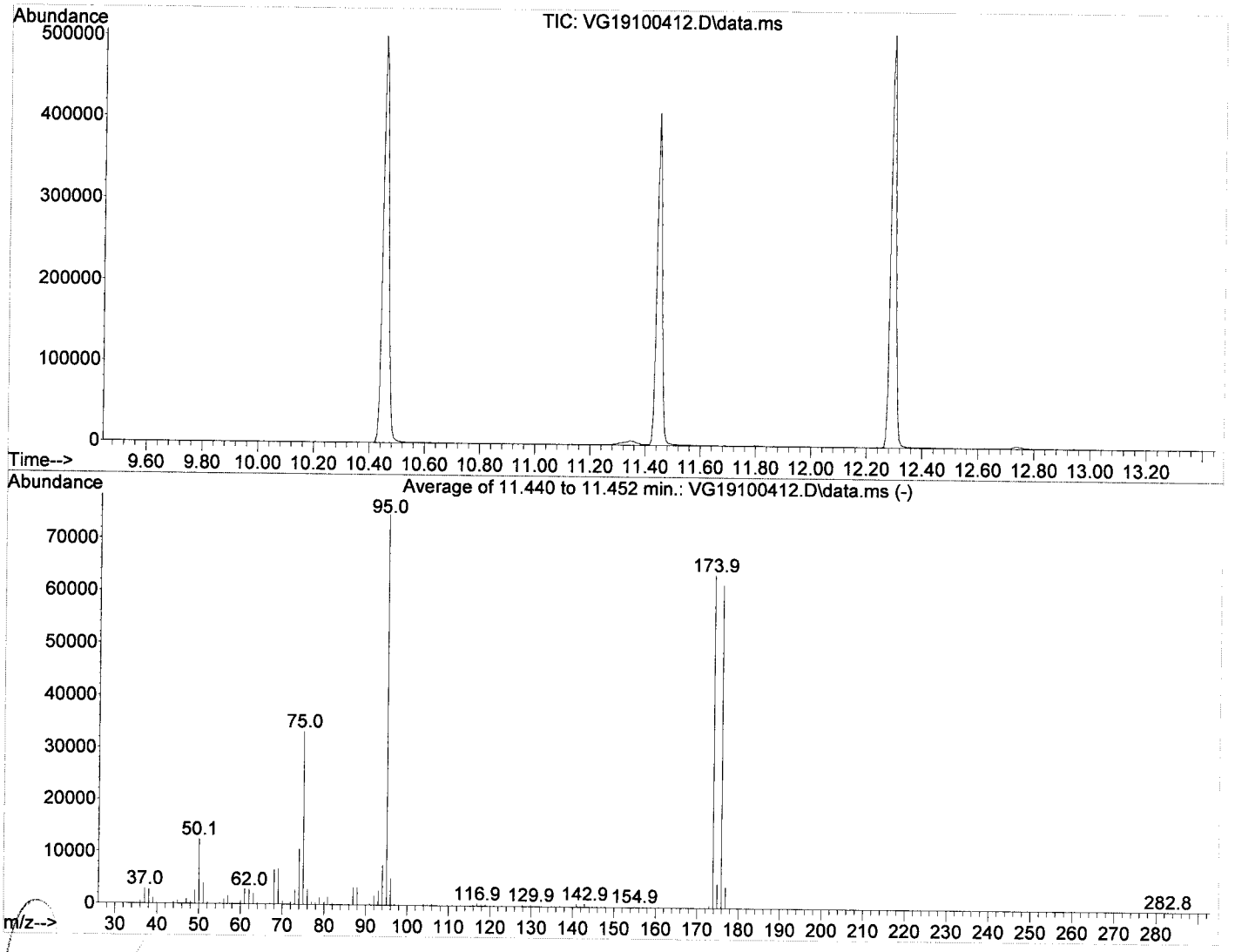
Comments:

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019

10/4/19



AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	117.3	74677	PASS
96	95	5	9	6.8	5107	PASS
173	174	0.00	2	0.6	389	PASS
174	95	50	200	85.3	63688	PASS
175	174	5	9	7.1	4536	PASS
176	174	95	105	97.1	61859	PASS
177	176	5	10	6.5	4044	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VN 10/4/19

Quant Time: Oct 04 16:33:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

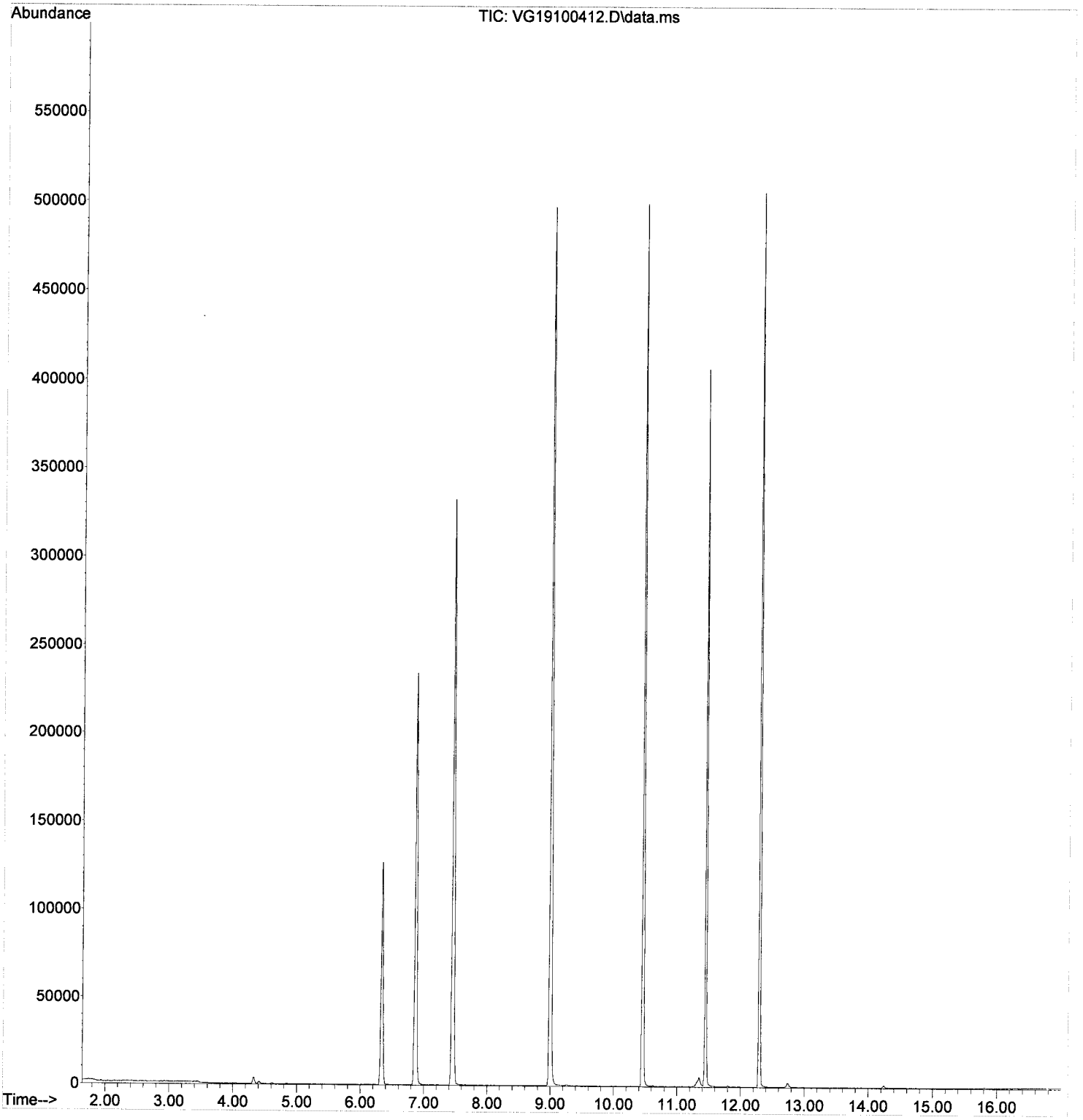
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	93759	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.452	117	259272	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	119394	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	86754	46.78	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.453	114	310125	50.68	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	357898	50.10	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99418	46.51	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.996	50	239	0.14	ug/L	#	50
6) Chloroethane	2.716	64	19	Below Cal		#	47
14) Methylene Chloride	4.325	84	1649	0.87	ug/L		95
15) Acetone	4.411	43	1679	1.55	ug/L		87
19) tert-Butanol (TBA)	4.843	59	96	0.28	ug/L	#	7

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:33:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

√ BTEX + Halo 6
√ 10/4/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	94	0.00
2		Dichlorodifluoromethane	20.000	22.848	-14.2	101	0.00
3	P	Chloromethane	20.000	22.460	-12.3	106	0.00
4	C	Vinyl Chloride	20.000	22.551	-12.8	98	0.00
5		Bromomethane	20.000	24.729	-23.6#	115	0.00
6		Chloroethane	20.000	22.281	-11.4	102	0.00
7		Trichlorofluoromethane	20.000	21.334	-6.7	88	-0.02
8		Ethanol	1250.000	1194.209	4.5	89	0.01
9	C	1,1-Dichloroethene	20.000	20.222	-1.1	87	-0.01
10		Carbon Disulfide	20.000	17.563	12.2	73	0.00
11		Freon 113	20.000	19.940	0.3	88	0.00
12		Iodomethane	20.000	10.438	47.8#	50	-0.01
13		Acrolein	20.000	31.043	-55.2#	145	0.00
14		Methylene Chloride	20.000	19.325	3.4	89	0.00
15		Acetone	40.000	38.559	3.6	89	0.00
16		t-1,2-Dichloroethene	20.000	19.872	0.6	88	0.00
17		n-Hexane	20.000	23.362	-16.8	102	0.00
18		Methyl-tert-butyl-ether	20.000	18.944	5.3	84	0.00
19		tert-Butanol (TBA)	1250.000	1164.191	6.9	78	0.00
20		Diisopropyl ether (DIPE)	5.000	5.064	-1.3	89	0.00
21	P	1,1-Dichloroethane	20.000	20.501	-2.5	88	0.00
22		Acrylonitrile	20.000	20.929	-4.6	94	0.00
23		Vinyl Acetate	20.000	27.801	-39.0#	157	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	4.719	5.6	84	0.00
25		c-1,2-Dichloroethene	20.000	20.517	-2.6	90	0.00
26		2,2-Dichloropropane	20.000	15.056	24.7#	64	0.00
27		Bromochloromethane	20.000	20.308	-1.5	90	0.00
28	C	Chloroform	20.000	19.898	0.5	87	0.00
29		Carbon Tetrachloride	20.000	12.268	38.7#	52	-0.01
30		Tetrahydrofuran	20.000	21.789	-8.9	96	-0.02
31		1,1,1-Trichloroethane	20.000	16.249	18.8	67	0.00
32	S	Dibromofluoromethane (S)	50.000	49.175	1.7	90	0.00
33		1,1-Dichloropropene	20.000	20.555	-2.8	90	0.00
34		2-Butanone (MEK)	40.000	42.620	-6.5	96	-0.02
35		Benzene	20.000	19.731	1.3	91	-0.01
36		tert-Amyl methyl ether (TAM	5.000	4.413	11.7	82	0.03
37		1,2-Dichloroethane (EDC)	20.000	20.774	-3.9	91	0.00
38		iso-Butyl Alcohol	500.000	414.564	17.1	68	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.628	0.7	94	0.00
40		Trichloroethene (TCE)	20.000	18.739	6.3	84	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	4.357	12.9	75	-0.02
42		Dibromomethane	20.000	20.385	-1.9	90	0.00
43	C	1,2-Dichloropropane	20.000	21.074	-5.4	91	0.00
44		Bromodichloromethane	20.000	17.372	13.1	72	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	97	0.00
46		2-Chloroethyl Vinyl Ether	20.000	19.274	3.6	86	-0.01
47		c-1,3-Dichloropropene	20.000	15.578	22.1#	71	0.00
48	S	Toluene-d8 (S)	50.000	49.704	0.6	97	0.00
49	C	Toluene	20.000	19.328	3.4	92	0.00
50		Tetrachloroethene (PCE)	20.000	18.428	7.9	87	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	45.828	-14.6	97	-0.01
52		t-1,3-Dichloropropene	20.000	14.304	28.5#	66	-0.01
53		1,1,2-Trichloroethane	20.000	19.994	0.0	92	0.00
54		Dibromochloromethane	20.000	13.317	33.4#	63	-0.01
55		1,3-Dichloropropane	20.000	20.516	-2.6	94	-0.01
56		1,2-Dibromoethane (EDB)	20.000	19.034	4.8	83	0.00
57		2-Hexanone	40.000	45.746	-14.4	98	0.00
58	P	Chlorobenzene	20.000	19.346	3.3	93	0.00
59		Ethylbenzene	20.000	20.512	-2.6	95	0.00
60		1,1,1,2-Tetrachloroethane	20.000	13.618	31.9#	62	0.00
61		m,p-Xylenes (2)	40.000	42.340	-5.9	97	-0.01
62		o-Xylene	20.000	21.101	-5.5	95	0.00
63		Styrene	20.000	22.616	-13.1	96	-0.01
64	P	Bromoform	20.000	11.337	43.3#	60	0.00
65		Isopropylbenzene	20.000	21.485	-7.4	93	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	104	0.00
67	S	4-Bromofluorobenzene (S)	50.000	46.054	7.9	96	0.00
68		Bromobenzene	20.000	18.218	8.9	92	0.00
69		n-Propylbenzene	20.000	20.532	-2.7	99	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.669	-3.3	100	0.00
71		2-Chlorotoluene	20.000	19.669	1.7	96	0.00
72		1,3,5-Trimethylbenzene	20.000	21.033	-5.2	102	0.00
73		1,2,3-Trichloropropane	20.000	20.515	-2.6	95	-0.01
74		t-1,4-Dichloro-2-butene	20.000	11.195	44.0#	55	0.00
75		4-Chlorotoluene	20.000	19.818	0.9	100	0.00
76		tert-Butylbenzene	20.000	20.104	-0.5	96	0.00
77		1,2,4-Trimethylbenzene	20.000	21.170	-5.9	103	0.00
78		sec-Butylbenzene	20.000	21.139	-5.7	98	0.00
79		4-Isopropyltoluene	20.000	21.129	-5.6	100	0.00
80		1,3-Dichlorobenzene	20.000	19.495	2.5	99	0.00
81		1,4-Dichlorobenzene	20.000	19.215	3.9	101	0.00
82		n-Butylbenzene	20.000	21.928	-9.6	109	0.00
83		1,2-Dichlorobenzene	20.000	20.481	-2.4	101	-0.01
84		1,2-Dibromo-3-Chloropropane	20.000	13.340	33.3#	70	0.00
85		Hexachlorobutadiene	20.000	21.276	-6.4	97	0.00
86		1,2,4-Trichlorobenzene	20.000	21.489	-7.4	106	0.00
87		Naphthalene	20.000	24.379	-21.9#	110	0.00
88		1,2,3-Trichlorobenzene	20.000	24.057	-20.3#	111	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	88325	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	245927	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	118022	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	85904	49.18 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	286068	49.63 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	336812	49.70 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	97311	46.05 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	25785	22.85 ug/L	97
3) Chloromethane	1.990	50	35826	22.46 ug/L	99
4) Vinyl Chloride	2.118	62	36436	22.55 ug/L	96
5) Bromomethane	2.557	96	16412	24.73 ug/L	99
6) Chloroethane	2.728	64	5999	22.28 ug/L	91
7) Trichlorofluoromethane	2.917	101	34196	21.33 ug/L	99
8) Ethanol	3.649	45	57794	1194.21 ug/L	85
9) 1,1-Dichloroethene	3.588	61	46928	20.22 ug/L	98
10) Carbon Disulfide	3.588	76	49910	17.56 ug/L	99
11) Freon 113	3.661	101	30881	19.94 ug/L	96
12) Iodomethane	3.752	142	10993	10.44 ug/L	93
13) Acrolein	4.039	56	11986	31.04 ug/L	96
14) Methylene Chloride	4.325	84	34544	19.32 ug/L	96
15) Acetone	4.405	43	39443	38.56 ug/L	97
16) t-1,2-Dichloroethene	4.508	61	46566	19.87 ug/L	96
17) n-Hexane	4.612	86	5763	23.36 ug/L #	47
18) Methyl-tert-butyl-ether	4.667	73	86884	18.94 ug/L	98
19) tert-Butanol (TBA)	4.831	59	381445	1164.19 ug/L #	52
20) Diisopropyl ether (DIPE)	5.118	45	26413	5.06 ug/L	97
21) 1,1-Dichloroethane	5.221	63	60546	20.50 ug/L	98
22) Acrylonitrile	5.295	53	24139	20.93 ug/L	95
23) Vinyl Acetate	5.532	43	61174	27.80 ug/L	95
24) Ethyl-tert-butyl ether...	5.520	59	19937	4.72 ug/L	94
25) c-1,2-Dichloroethene	5.825	61	50851	20.52 ug/L	99
26) 2,2-Dichloropropane	5.935	77	21988	15.06 ug/L #	33
27) Bromochloromethane	6.038	49	30277	20.31 ug/L	91
28) Chloroform	6.136	83	59646	19.90 ug/L	96
29) Carbon Tetrachloride	6.270	117	18867	12.27 ug/L	98
30) Tetrahydrofuran	6.307	42	23871	21.79 ug/L	99
31) 1,1,1-Trichloroethane	6.349	97	33896	16.25 ug/L	94
33) 1,1-Dichloropropene	6.483	75	47521	20.56 ug/L	97
34) 2-Butanone (MEK)	6.483	43	68683	42.62 ug/L	98
35) Benzene	6.758	78	149658	19.73 ug/L	100
36) tert-Amyl methyl ether...	6.904	73	16651	4.41 ug/L #	68
37) 1,2-Dichloroethane (EDC)	6.989	62	48433	20.77 ug/L	99
38) iso-Butyl Alcohol	7.050	43	66253	414.56 ug/L	93
40) Trichloroethene (TCE)	7.410	130	37238	18.74 ug/L	98
41) tert-Amyl ethyl ether ...	7.690	59	11586	4.36 ug/L	84
42) Dibromomethane	7.886	93	23858	20.38 ug/L	93
43) 1,2-Dichloropropane	8.001	63	39652	21.07 ug/L	92
44) Bromodichloromethane	8.081	83	29887	17.37 ug/L	97
46) 2-Chloroethyl Vinyl Ether	8.739	63	26975	19.27 ug/L #	1
47) c-1,3-Dichloropropene	8.800	75	37717	15.58 ug/L	97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

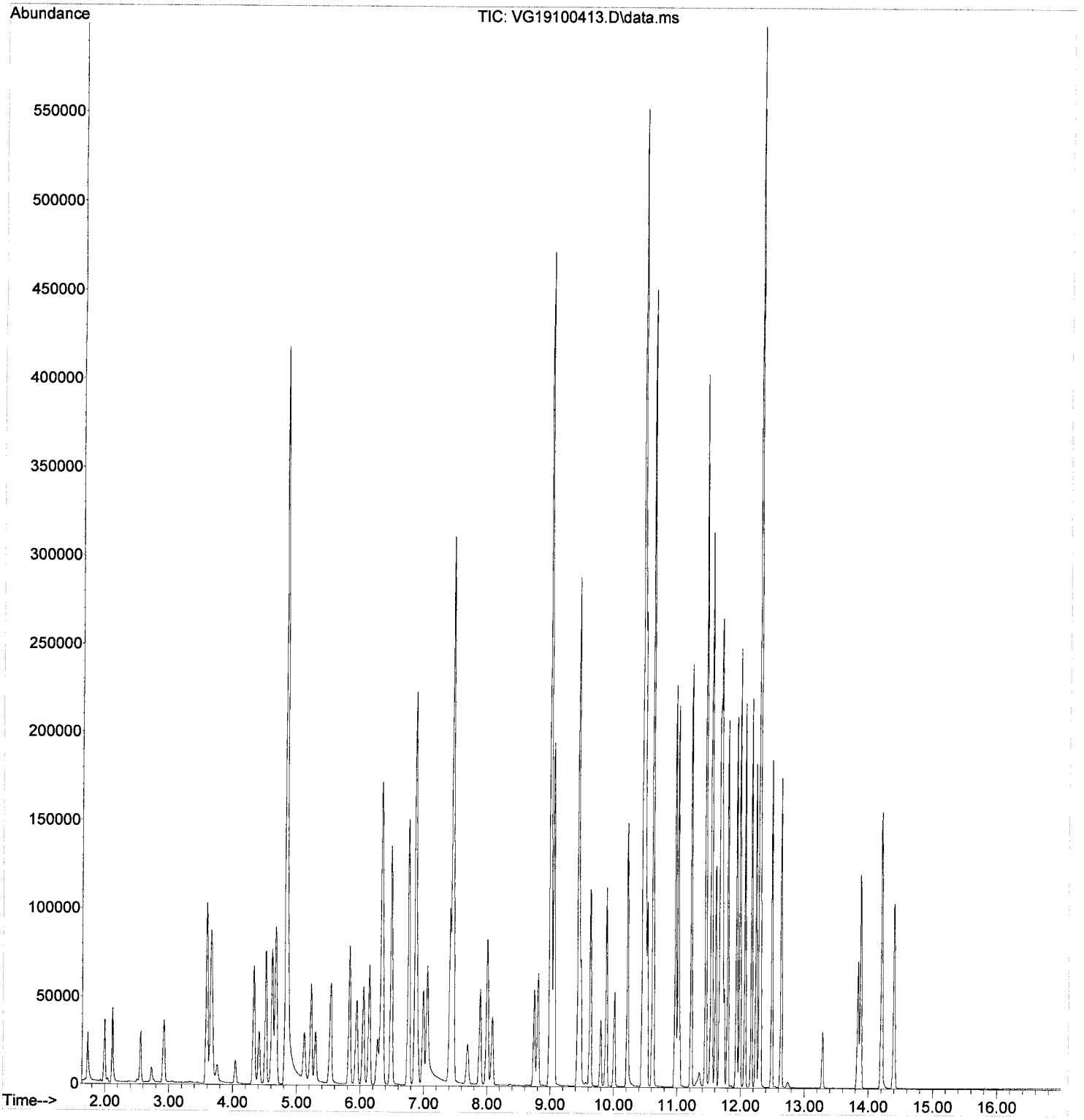
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	152028	19.33 ug/L	100
50) Tetrachloroethene (PCE)	9.434	166	36166	18.43 ug/L	95
51) 4-Methyl-2-Pentanone (...	9.440	43	122720	45.83 ug/L	99
52) t-1,3-Dichloropropene	9.477	75	30953	14.30 ug/L	97
53) 1,1,2-Trichloroethane	9.623	97	36548	19.99 ug/L	97
54) Dibromochloromethane	9.794	129	19688	13.32 ug/L	97
55) 1,3-Dichloropropane	9.879	76	62790	20.52 ug/L	99
56) 1,2-Dibromoethane (EDB)	10.007	107	35221	19.03 ug/L	99
57) 2-Hexanone	10.214	43	90579	45.75 ug/L	99
58) Chlorobenzene	10.470	112	96096	19.35 ug/L	98
59) Ethylbenzene	10.489	91	158087	20.51 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	19743	13.62 ug/L	96
61) m,p-Xylenes (2)	10.611	91	230069	42.34 ug/L	97
62) o-Xylene	10.970	91	116279	21.10 ug/L	97
63) Styrene	11.013	104	91986	22.62 ug/L	98
64) Bromoform	11.037	173	11766	11.34 ug/L	97
65) Isopropylbenzene	11.220	105	138925	21.48 ug/L	99
68) Bromobenzene	11.531	156	39308	18.22 ug/L	92
69) n-Propylbenzene	11.543	91	157839	20.53 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	54861	20.67 ug/L	98
71) 2-Chlorotoluene	11.665	126	33774	19.67 ug/L	93
72) 1,3,5-Trimethylbenzene	11.690	105	110353	21.03 ug/L	95
73) 1,2,3-Trichloropropane	11.708	110	16619	20.51 ug/L	86
74) t-1,4-Dichloro-2-butene	11.738	88	2938	11.19 ug/L #	46
75) 4-Chlorotoluene	11.793	91	99016	19.82 ug/L	97
76) tert-Butylbenzene	11.934	91	58330	20.10 ug/L	96
77) 1,2,4-Trimethylbenzene	11.982	105	113039	21.17 ug/L	97
78) sec-Butylbenzene	12.062	105	126808	21.14 ug/L	96
79) 4-Isopropyltoluene	12.165	119	103892	21.13 ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	66197	19.50 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	67644	19.22 ug/L	97
82) n-Butylbenzene	12.482	91	93149	21.93 ug/L	96
83) 1,2-Dichlorobenzene	12.629	146	65098	20.48 ug/L	98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	6921	13.34 ug/L #	65
85) Hexachlorobutadiene	13.830	223	9474	21.28 ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	40851	21.49 ug/L	96
87) Naphthalene	14.201	128	133365	24.38 ug/L	99
88) 1,2,3-Trichlorobenzene	14.396	180	39578	24.06 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VBkr+Ital06

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

√ 10/4/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	100	0.00
2		Dichlorodifluoromethane	20.000	22.688	-13.4	107	0.00
3	P	Chloromethane	20.000	21.851	-9.3	110	0.00
4	C	Vinyl Chloride	20.000	22.127	-10.6	102	0.00
5		Bromomethane	20.000	24.199	-21.0#	120	0.00
6		Chloroethane	20.000	22.695	-13.5	111	0.00
7		Trichlorofluoromethane	20.000	21.256	-6.3	94	-0.01
8		Ethanol	1250.000	1227.552	1.8	98	0.01
9	C	1,1-Dichloroethene	20.000	19.939	0.3	91	-0.01
10		Carbon Disulfide	20.000	18.003	10.0	80	0.00
11		Freon 113	20.000	19.841	0.8	94	0.00
12		Iodomethane	20.000	11.706	41.5#	61	-0.01
13		Acrolein	20.000	30.981	-54.9#	155	0.00
14		Methylene Chloride	20.000	19.298	3.5	95	0.00
15		Acetone	40.000	37.658	5.9	93	0.00
16		t-1,2-Dichloroethene	20.000	19.529	2.4	93	0.00
17		n-Hexane	20.000	22.597	-13.0	105	0.00
18		Methyl-tert-butyl-ether	20.000	19.087	4.6	90	0.00
19		tert-Butanol (TBA)	1250.000	1202.493	3.8	86	0.00
20		Diisopropyl ether (DIPE)	5.000	4.929	1.4	93	0.00
21	P	1,1-Dichloroethane	20.000	20.053	-0.3	93	0.00
22		Acrylonitrile	20.000	20.694	-3.5	99	0.00
23		Vinyl Acetate	20.000	29.444	-47.2#	177	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	4.682	6.4	89	0.00
25		c-1,2-Dichloroethene	20.000	19.971	0.1	94	0.00
26		2,2-Dichloropropane	20.000	16.157	19.2	73	0.00
27		Bromochloromethane	20.000	20.103	-0.5	95	0.00
28	C	Chloroform	20.000	19.706	1.5	92	0.00
29		Carbon Tetrachloride	20.000	13.286	33.6#	61	-0.01
30		Tetrahydrofuran	20.000	21.211	-6.1	100	-0.01
31		1,1,1-Trichloroethane	20.000	16.963	15.2	75	0.00
32	S	Dibromofluoromethane (S)	50.000	50.240	-0.5	99	0.00
33		1,1-Dichloropropene	20.000	20.126	-0.6	94	0.00
34		2-Butanone (MEK)	40.000	41.575	-3.9	100	-0.02
35		Benzene	20.000	19.579	2.1	96	-0.01
36		tert-Amyl methyl ether (TAM	5.000	4.439	11.2	88	0.03
37		1,2-Dichloroethane (EDC)	20.000	20.307	-1.5	96	0.00
38		iso-Butyl Alcohol	500.000	462.668	7.5	82	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.882	0.2	101	0.00
40		Trichloroethene (TCE)	20.000	18.952	5.2	90	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	4.443	11.1	82	-0.02
42		Dibromomethane	20.000	20.083	-0.4	95	0.00
43	C	1,2-Dichloropropane	20.000	20.523	-2.6	95	0.00
44		Bromodichloromethane	20.000	17.850	10.7	80	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	105	0.00
46		2-Chloroethyl Vinyl Ether	20.000	18.500	7.5	90	-0.01
47		c-1,3-Dichloropropene	20.000	15.801	21.0#	77	0.00
48	S	Toluene-d8 (S)	50.000	49.222	1.6	104	0.00
49	C	Toluene	20.000	18.881	5.6	98	0.00
50		Tetrachloroethene (PCE)	20.000	18.029	9.9	93	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	44.320	-10.8	102	-0.01
52		t-1,3-Dichloropropene	20.000	14.699	26.5#	74	-0.01
53		1,1,2-Trichloroethane	20.000	19.557	2.2	98	0.00
54		Dibromochloromethane	20.000	14.022	29.9#	72	-0.01
55		1,3-Dichloropropane	20.000	19.816	0.9	98	-0.01
56		1,2-Dibromoethane (EDB)	20.000	19.232	3.8	91	0.00
57		2-Hexanone	40.000	44.273	-10.7	102	0.00
58	P	Chlorobenzene	20.000	19.098	4.5	99	0.00
59	C	Ethylbenzene	20.000	20.003	-0.0	100	0.00
60		1,1,1,2-Tetrachloroethane	20.000	14.200	29.0#	70	0.00
61		m,p-Xylenes (2)	40.000	41.480	-3.7	103	0.00
62		o-Xylene	20.000	20.892	-4.5	102	0.00
63		Styrene	20.000	22.417	-12.1	103	-0.01
64	P	Bromoform	20.000	11.955	40.2#	68	0.00
65		Isopropylbenzene	20.000	21.004	-5.0	99	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	113	0.00
67	S	4-Bromofluorobenzene (S)	50.000	46.407	7.2	105	0.00
68		Bromobenzene	20.000	18.102	9.5	100	0.00
69		n-Propylbenzene	20.000	20.061	-0.3	106	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.383	-1.9	107	0.00
71		2-Chlorotoluene	20.000	19.339	3.3	103	0.00
72		1,3,5-Trimethylbenzene	20.000	20.622	-3.1	109	0.00
73		1,2,3-Trichloropropane	20.000	20.042	-0.2	101	-0.01
74		t-1,4-Dichloro-2-butene	20.000	11.176	44.1#	60	0.00
75		4-Chlorotoluene	20.000	19.332	3.3	106	0.00
76		tert-Butylbenzene	20.000	19.556	2.2	102	0.00
77		1,2,4-Trimethylbenzene	20.000	20.611	-3.1	110	0.00
78		sec-Butylbenzene	20.000	20.632	-3.2	104	0.00
79		4-Isopropyltoluene	20.000	20.802	-4.0	107	0.00
80		1,3-Dichlorobenzene	20.000	19.152	4.2	106	0.00
81		1,4-Dichlorobenzene	20.000	18.806	6.0	107	0.00
82		n-Butylbenzene	20.000	21.261	-6.3	115	0.00
83		1,2-Dichlorobenzene	20.000	20.268	-1.3	109	-0.01
84		1,2-Dibromo-3-Chloropropane	20.000	14.333	28.3#	83	0.00
85		Hexachlorobutadiene	20.000	20.838	-4.2	103	0.00
86		1,2,4-Trichlorobenzene	20.000	21.336	-6.7	114	0.00
87		Naphthalene	20.000	24.017	-20.1#	118	0.00
88		1,2,3-Trichlorobenzene	20.000	23.940	-19.7	120	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	94451	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.452	117	266053	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	128539	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	93851	50.24 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.453	114	307478	49.88 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	360842	49.22 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	106796	46.41 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.728	85	27377	22.69 ug/L		98
3) Chloromethane	1.997	50	37272	21.85 ug/L		99
4) Vinyl Chloride	2.119	62	38230	22.13 ug/L		95
5) Bromomethane	2.557	96	17174	24.20 ug/L		97
6) Chloroethane	2.728	64	6523	22.70 ug/L		91
7) Trichlorofluoromethane	2.923	101	36435	21.26 ug/L		99
8) Ethanol	3.649	45	63528	1227.55 ug/L		82
9) 1,1-Dichloroethene	3.588	61	49482	19.94 ug/L		97
10) Carbon Disulfide	3.594	76	54708	18.00 ug/L		98
11) Freon 113	3.667	101	32859	19.84 ug/L		96
12) Iodomethane	3.752	142	13198	11.71 ug/L		95
13) Acrolein	4.039	56	12792	30.98 ug/L		97
14) Methylene Chloride	4.325	84	36888	19.30 ug/L		99
15) Acetone	4.411	43	41193	37.66 ug/L		96
16) t-1,2-Dichloroethene	4.514	61	48937	19.53 ug/L		99
17) n-Hexane	4.618	86	5961	22.60 ug/L	#	37
18) Methyl-tert-butyl-ether	4.673	73	93612	19.09 ug/L		97
19) tert-Butanol (TBA)	4.837	59	421321	1202.49 ug/L	#	59
20) Diisopropyl ether (DIPE)	5.118	45	27495	4.93 ug/L		96
21) 1,1-Dichloroethane	5.222	63	63331	20.05 ug/L		100
22) Acrylonitrile	5.295	53	25523	20.69 ug/L		96
23) Vinyl Acetate	5.532	43	69322	29.44 ug/L		95
24) Ethyl-tert-butyl ether...	5.520	59	21155	4.68 ug/L		95
25) c-1,2-Dichloroethene	5.831	61	52932	19.97 ug/L		99
26) 2,2-Dichloropropane	5.941	77	25232	16.16 ug/L	#	46
27) Bromochloromethane	6.045	49	32049	20.10 ug/L		97
28) Chloroform	6.136	83	63167	19.71 ug/L		95
29) Carbon Tetrachloride	6.270	117	21914	13.29 ug/L		96
30) Tetrahydrofuran	6.313	42	24849	21.21 ug/L		98
31) 1,1,1-Trichloroethane	6.349	97	37840	16.96 ug/L		96
33) 1,1-Dichloropropene	6.484	75	49755	20.13 ug/L		97
34) 2-Butanone (MEK)	6.484	43	71645	41.57 ug/L		99
35) Benzene	6.758	78	158803	19.58 ug/L		98
36) tert-Amyl methyl ether...	6.904	73	17911	4.44 ug/L		72
37) 1,2-Dichloroethane (EDC)	6.989	62	50629	20.31 ug/L		99
38) iso-Butyl Alcohol	7.050	43	79069	462.67 ug/L		92
40) Trichloroethene (TCE)	7.410	130	40275	18.95 ug/L		98
41) tert-Amyl ethyl ether ...	7.691	59	12633	4.44 ug/L		87
42) Dibromomethane	7.886	93	25135	20.08 ug/L		92
43) 1,2-Dichloropropane	8.002	63	41295	20.52 ug/L		93
44) Bromodichloromethane	8.081	83	32840	17.85 ug/L		97
46) 2-Chloroethyl Vinyl Ether	8.739	63	28011	18.50 ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	41405	15.80 ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

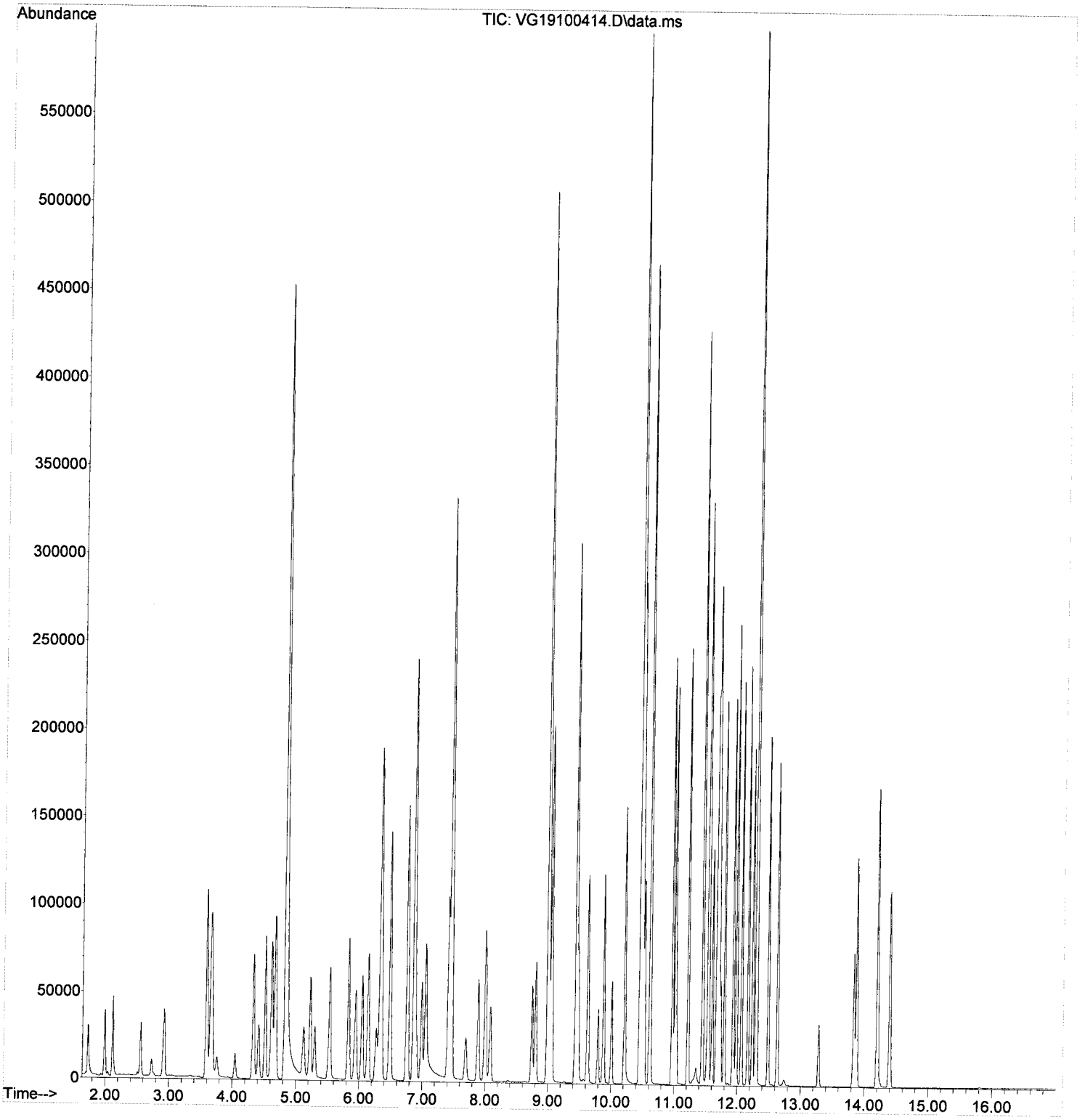
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	160671	18.88 ug/L	100
50) Tetrachloroethene (PCE)	9.434	166	38277	18.03 ug/L	93
51) 4-Methyl-2-Pentanone (...	9.440	43	128393	44.32 ug/L	98
52) t-1,3-Dichloropropene	9.477	75	34444	14.70 ug/L	99
53) 1,1,2-Trichloroethane	9.629	97	38676	19.56 ug/L	95
54) Dibromochloromethane	9.794	129	22512	14.02 ug/L	97
55) 1,3-Dichloropropane	9.879	76	65610	19.82 ug/L	100
56) 1,2-Dibromoethane (EDB)	10.007	107	38499	19.23 ug/L	98
57) 2-Hexanone	10.214	43	94836	44.27 ug/L	99
58) Chlorobenzene	10.471	112	102625	19.10 ug/L	99
59) Ethylbenzene	10.489	91	166779	20.00 ug/L	99
60) 1,1,1,2-Tetrachloroethane	10.525	131	22296	14.20 ug/L	97
61) m,p-Xylenes (2)	10.617	91	243839	41.48 ug/L	98
62) o-Xylene	10.970	91	124546	20.89 ug/L	98
63) Styrene	11.013	104	98639	22.42 ug/L	98
64) Bromoform	11.037	173	13468	11.96 ug/L	97
65) Isopropylbenzene	11.220	105	146933	21.00 ug/L	98
68) Bromobenzene	11.531	156	42538	18.10 ug/L	94
69) n-Propylbenzene	11.543	91	167961	20.06 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	58923	20.38 ug/L	96
71) 2-Chlorotoluene	11.665	126	36166	19.34 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	117838	20.62 ug/L	95
73) 1,2,3-Trichloropropane	11.708	110	17683	20.04 ug/L	86
74) t-1,4-Dichloro-2-butene	11.732	88	3194	11.18 ug/L #	48
75) 4-Chlorotoluene	11.793	91	105191	19.33 ug/L	96
76) tert-Butylbenzene	11.934	91	61797	19.56 ug/L	97
77) 1,2,4-Trimethylbenzene	11.982	105	119862	20.61 ug/L	98
78) sec-Butylbenzene	12.062	105	134791	20.63 ug/L	96
79) 4-Isopropyltoluene	12.165	119	111398	20.80 ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	70827	19.15 ug/L	98
81) 1,4-Dichlorobenzene	12.306	146	72105	18.81 ug/L	97
82) n-Butylbenzene	12.482	91	98364	21.26 ug/L	95
83) 1,2-Dichlorobenzene	12.629	146	70160	20.27 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	8147	14.33 ug/L	73
85) Hexachlorobutadiene	13.830	223	10106	20.84 ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	44175	21.34 ug/L	97
87) Naphthalene	14.201	128	143092	24.02 ug/L	100
88) 1,2,3-Trichlorobenzene	14.397	180	42895	23.94 ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	86	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	51.776	-3.6	90	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	52.141	-4.3	90	0.00
4	H	NWTPH-Gx (TPH)	500.000	577.827	-15.6	97	0.00
5	H	TPHg (C5-C9)	500.000	589.602	-17.9	97	0.00
6	H	TPHg (C6-C10)	500.000	593.320	-18.7	97	0.00
7	H	CA-LUFT (C5-C12)	500.000	586.304	-17.3	96	0.00
8		Benzene (NR)	-1.000	0.000	0.0	90	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	93	0.00
10		Toluene (NR)	-1.000	0.000	0.0	91	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	93	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	97	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VM 10/4/19

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

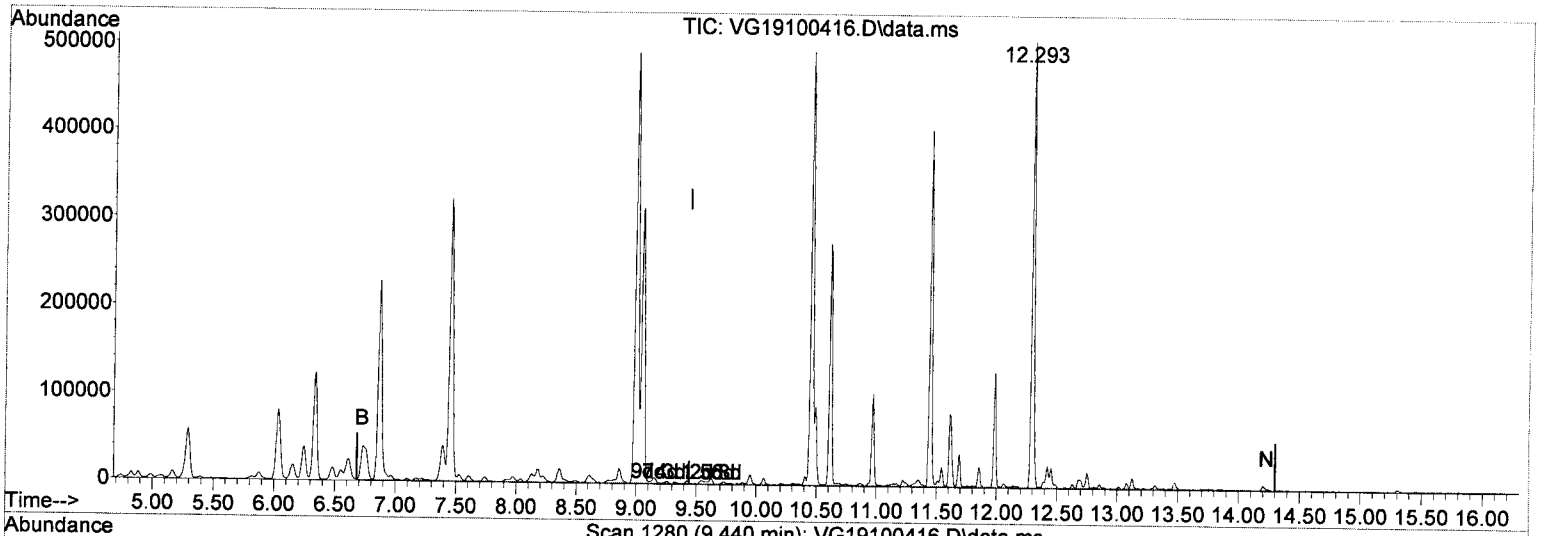
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	181224	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.453	114	294788	51.78 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	96555	52.14 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	346907	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.452	117	252315	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	184359	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	2718899m	577.83 ug/L	
5) TPHg (C5-C9)	9.940	TIC	3682092m	~~589.60~~ ug/L	
6) TPHg (C6-C10)	9.940	TIC	3124118m	593.32 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4396929m	586.30 ug/L	

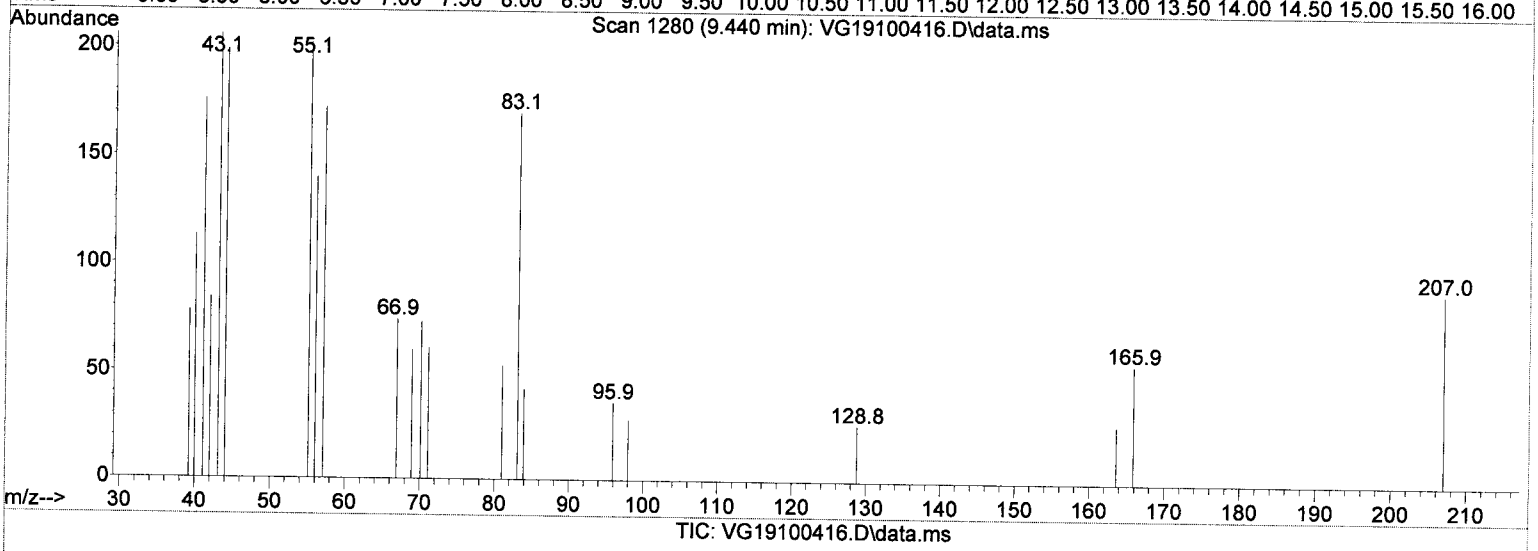
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration





TIC: VG19100416.D\data.ms

(4) NWTPH-Gx (TPH) (H)

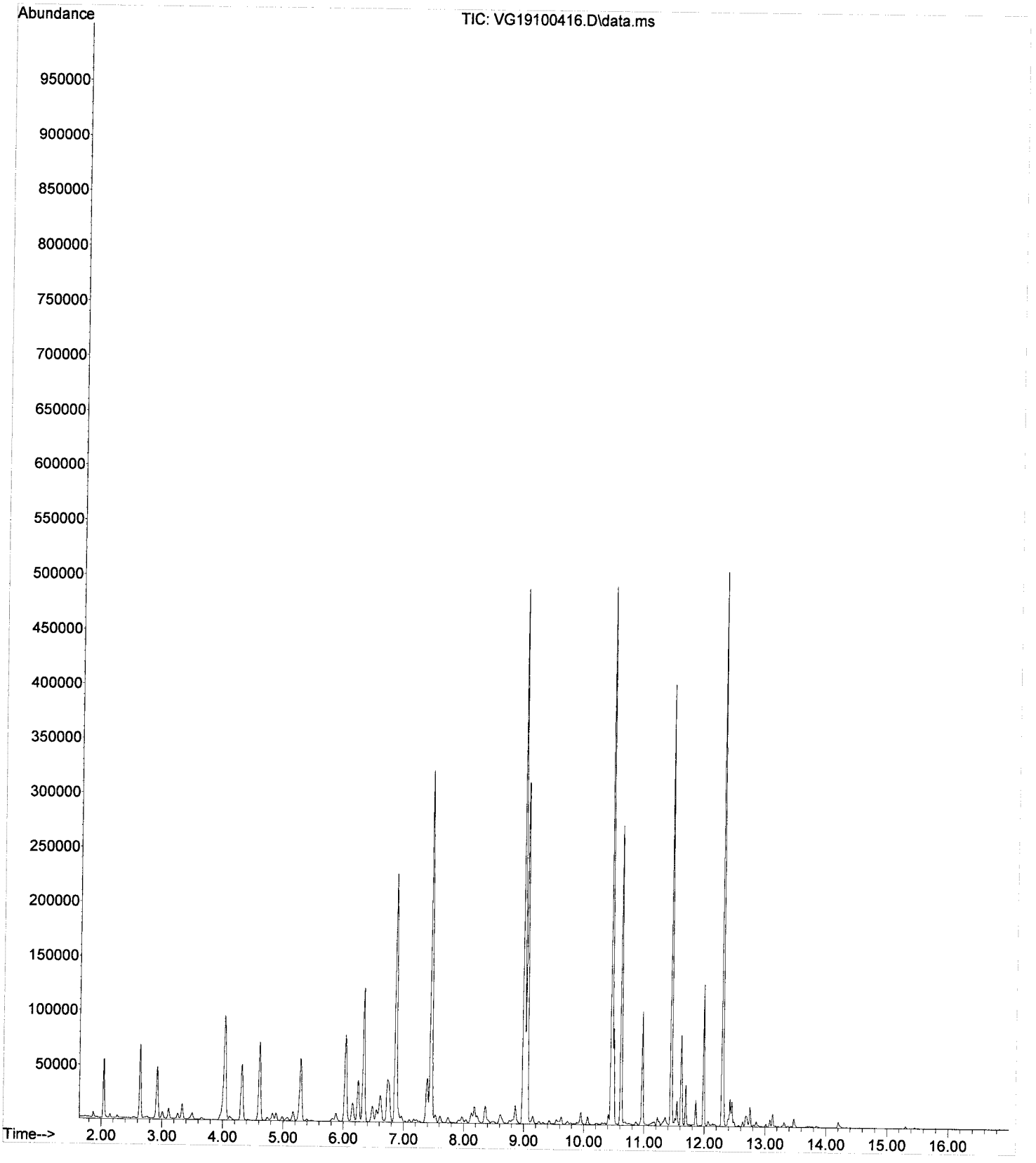
9.440min (0.000) 577.83 ug/L m

response 2718899

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.01#
0.00	0.00	0.01#
0.00	0.00	0.00

JM 10/4/19

File :C:\msdchem\1\data\2019-10\9J04030\VG19100416.D
Operator : TNL
Acquired : 4 Oct 2019 3:14 pm using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9100594-BS2
Misc Info : 1X 5mL 500PPB GX A19J046
Vial Number: 7



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VM 10/4/19

Quant Time: Oct 04 16:35:03 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	181474	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.453	114	299064	52.46 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	94309	50.86 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	345146	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.452	117	248685	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	176878	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	55888m	6.81 ug/L	
5) TPHg (C5-C9)	9.940	TIC	297564m	Below Cal	
6) TPHg (C6-C10)	9.940	TIC	288346m	1.73 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	327847m	4.24 ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VM 10/4/19

Quant Time: Oct 04 16:35:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

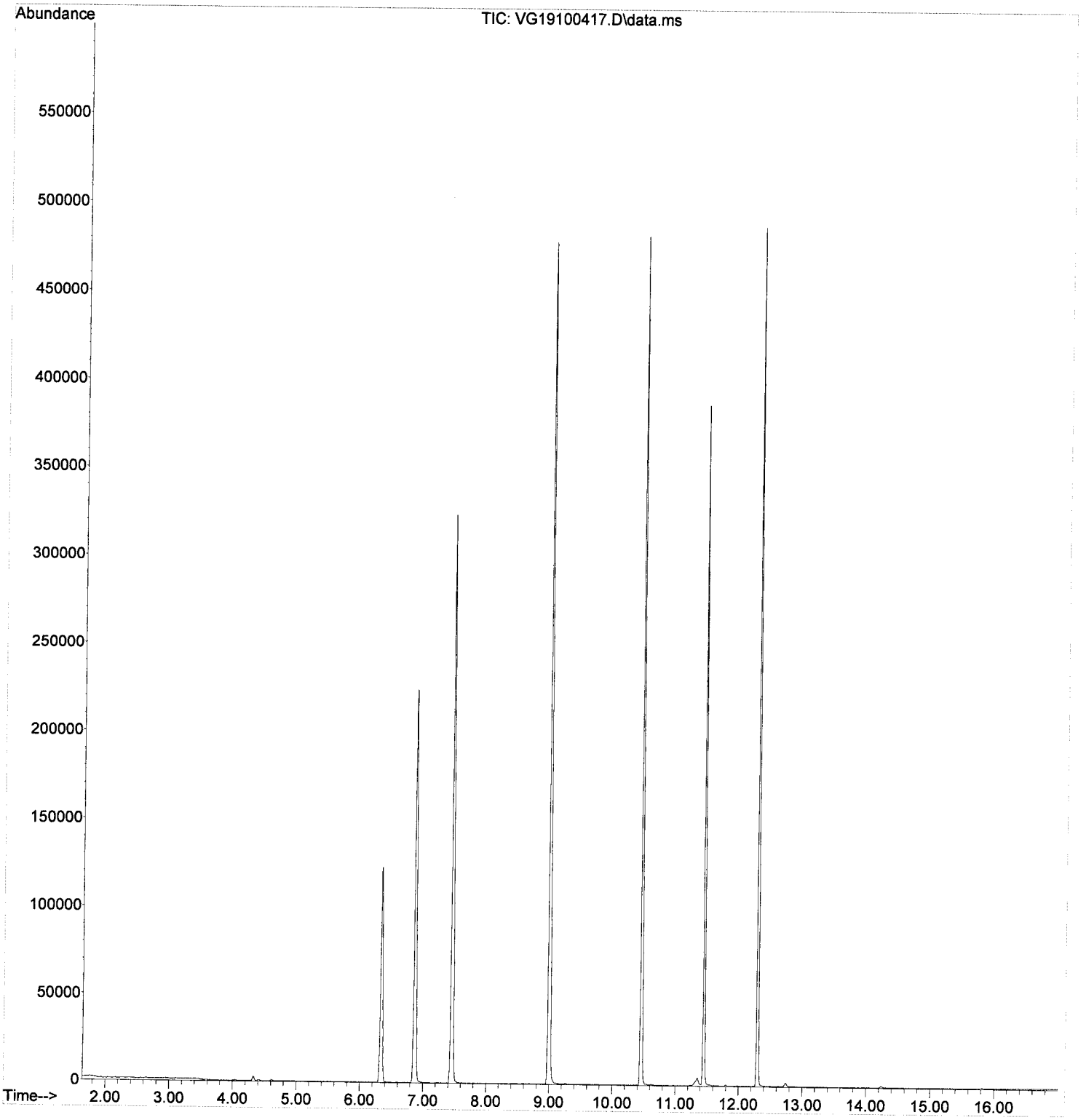
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	90809	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	248469	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	112436	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	84856	47.25 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	298549	50.38 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	344841	50.37 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	94309	46.85 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.990	50	234	0.14 ug/L	82
6) Chloroethane	2.728	64	93	Below Cal #	47
10) Carbon Disulfide	3.588	76	279	0.10 ug/L	78
12) Iodomethane	3.764	142	10	Below Cal #	47
14) Methylene Chloride	4.325	84	1153	0.63 ug/L	94
15) Acetone	4.411	43	907	0.86 ug/L	79
61) m,p-Xylenes (2)	10.623	91	448	0.08 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100418.D
Acq On : 4 Oct 2019 4:08 pm
Operator : TNL
Sample : A9I0885-03
Misc : 1X 5mL BTEX+HALO6
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

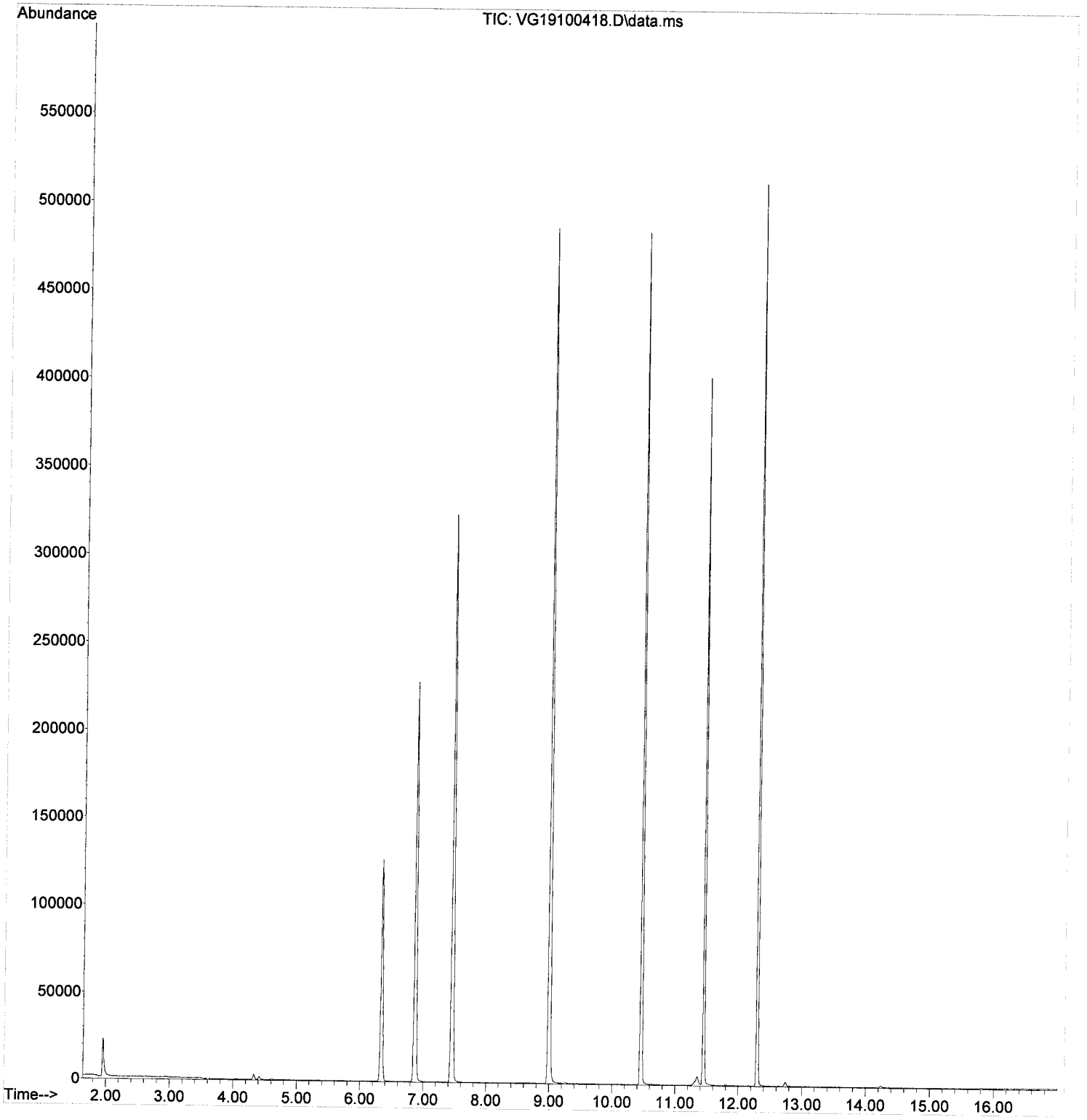
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	91299	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	254467	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	118422	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	85224	47.20 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	304523	51.11 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	350255	49.95 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	98568	46.49 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	11	0.10 ug/L #	51
3) Chloromethane	1.996	50	304	0.18 ug/L	88
6) Chloroethane	2.722	64	41	Below Cal #	47
8) Ethanol	3.514	45	10	0.20 ug/L #	29
14) Methylene Chloride	4.325	84	1483	0.80 ug/L	97
15) Acetone	4.411	43	2636	2.49 ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100418.D
Acq On : 4 Oct 2019 4:08 pm
Operator : TNL
Sample : A9I0885-03
Misc : 1X 5mL BTEX+HALO6
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Selected Volatile Organic Compounds by EPA 8260C
Calibration Data

Sequence 9H23046 (Cal ID A9H2706) VOA-GCMS6 (Soil)

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9H23046	Instrument:	VOA-GCMS6
Date:	08/23/19 15:27	Calibration:	A9H2706

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9H23046-IBL1	Water	QC	QC			A19H381	
2	9H23046-IBL2	Water	QC	QC			A19H381	
3	9H23046-IBL3	Water	QC	QC			A19H381	
4	9H23046-IBL4	Water	QC	QC			A19H381	
5	9H23046-IBL5	Water	QC	QC			A19H381	
6	9H23046-IBL6	Water	QC	QC			A19H381	
7	9H23046-IBL7	Water	QC	QC			A19H381	
8	9H23046-IBL8	Water	QC	QC			A19H381	
9	9H23046-IBL9	Water	QC	QC			A19H381	
10	9H23046-IBLA	Water	QC	QC			A19H381	
11	9H23046-TUN1	Water	QC	QC			A19H381	
12	9H23046-ICB1	Water	QC	QC			A19H381	
13	9H23046-CAL1	Water	QC	QC			A19H381	A19H354
14	9H23046-CAL2	Water	QC	QC			A19H381	A19H355
15	9H23046-CAL3	Water	QC	QC			A19H381	A19H356
16	9H23046-CAL4	Water	QC	QC			A19H381	A19H357
17	9H23046-CAL5	Water	QC	QC			A19H381	A19H358
18	9H23046-CAL6	Water	QC	QC			A19H381	A19H359
19	9H23046-CAL7	Water	QC	QC			A19H381	A19H360
20	9H23046-CAL8	Water	QC	QC			A19H381	A19H361
21	9H23046-CAL9	Water	QC	QC			A19H381	A19H362
22	9H23046-IBLB	Water	QC	QC			A19H381	
23	9H23046-CALA	Water	QC	QC			A19H381	A19H363
24	9H23046-IBLC	Water	QC	QC			A19H381	
25	9H23046-CALB	Water	QC	QC			A19H381	A19H364
26	9H23046-IBLD	Water	QC	QC			A19H381	
27	9H23046-IBLE	Water	QC	QC			A19H381	
28	9H23046-ICV1	Water	QC	QC			A19H381	A19H365
29	9H23046-IBLF	Water	QC	QC			A19H381	
30	9H23046-TUN2	Water	QC	QC			A19H381	
31	9H23046-IBLG	Water	QC	QC			A19H381	
32	9H23046-ICB2	Water	QC	QC			A19H381	
33	9H23046-CALC	Water	QC	QC			A19H381	A19H366
34	9H23046-CALD	Water	QC	QC			A19H381	A19H367
35	9H23046-CALE	Water	QC	QC			A19H381	A19H368
36	9H23046-CALF	Water	QC	QC			A19H381	A19H369
37	9H23046-CALG	Water	QC	QC			A19H381	A19H370
38	9H23046-CALH	Water	QC	QC			A19H381	A19H371
39	9H23046-CALI	Water	QC	QC			A19H381	A19H372
40	9H23046-CALJ	Water	QC	QC			A19H381	A19H373
41	9H23046-IBLH	Water	QC	QC			A19H381	
42	9H23046-IBLI	Water	QC	QC			A19H381	
43	9H23046-ICV2	Water	QC	QC			A19H381	A19G350
44	9H23046-IBLJ	Water	QC	QC			A19H381	

Data Entered By: 8/27/19

Data Reviewed By: 8/29/19

Comments: Dichlorodifluoromethane EOS

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Aug 27 13:36:40 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082329.D
2	2	0	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082330.D
3	3	0	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082331.D
4	4	1	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082332.D
5	5	2	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082333.D
6	6	5	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082334.D
7	7	10	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082335.D
8	8	20	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082336.D
9	9	50	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082337.D
10	10	100	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082339.D
11	11	200	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082341.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 27 13:21 2019	Aug 27 12:39 2019	23 Aug 2019 9:13 pm
2	2	Aug 27 13:21 2019	Aug 27 12:58 2019	23 Aug 2019 9:40 pm
3	3	Aug 27 13:21 2019	Aug 27 12:59 2019	23 Aug 2019 10:07 pm
4	4	Aug 27 13:21 2019	Aug 27 13:01 2019	23 Aug 2019 10:34 pm
5	5	Aug 27 13:21 2019	Aug 27 13:02 2019	23 Aug 2019 11:01 pm
6	6	Aug 27 13:21 2019	Aug 27 12:30 2019	23 Aug 2019 11:28 pm
7	7	Aug 27 13:21 2019	Aug 27 12:30 2019	23 Aug 2019 11:55 pm
8	8	Aug 27 13:21 2019	Aug 27 12:30 2019	24 Aug 2019 12:22 am
9	9	Aug 27 13:21 2019	Aug 27 12:30 2019	24 Aug 2019 12:49 am
10	10	Aug 27 13:21 2019	Aug 27 12:31 2019	24 Aug 2019 1:43 am
11	11	Aug 27 13:21 2019	Aug 27 13:09 2019	24 Aug 2019 2:37 am

VF190823S.M Tue Aug 27 14:03:41 2019

Cl_2F_2C -E05

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Aug 27 13:36:40 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19082329.D 2 =VF19082330.D 3 =VF19082331.D 4 =VF19082332.D 5 =VF19082333.D 6 =VF19082334.D
7 =VF19082335.D 8 =VF19082336.D 9 =VF19082337.D 10 =VF19082339.D 11 =VF19082341.D

		Compound	1	2	3	4	5	6	7	8	9	10	11	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD												
2)		Dichlorodifluo...		0.558	0.571	0.692	0.647	0.637	0.641	0.642	0.630	0.683	0.633		7.04
3)	P	Chloromethane		1.300	1.051	1.078	1.038	1.012	1.012	1.019	0.996	1.026	1.059		8.83
4)	C	Vinyl Chloride	0.887	1.024	1.004	1.052	1.029	1.025	1.019	1.027	1.012	1.046	1.013		4.57
5)		Bromomethane						0.604	0.558	0.514	0.476	0.483	0.527		10.22
6)		Chloroethane					0.090	0.115	0.092	0.095	0.095	0.095	0.097		9.62
7)		Trichlorofluor...			0.148	0.140	0.149	0.149	0.145	0.146	0.146	0.145	0.146		2.04
8)		Ethanol			0.032	0.027	0.022	0.021	0.021	0.026	0.025		0.025		15.36
9)	C	1,1-Dichloroet...		1.415	1.406	1.342	1.424	1.418	1.412	1.395	1.411	1.398	1.355	1.397	1.96
10)		Carbon Disulfide	2.642	2.443	2.299	2.059	2.098	2.076	2.120	2.132	2.198	2.199	2.208	2.225	7.96
11)		Freon 113		0.662	0.763	0.722	0.798	0.780	0.801	0.797	0.814	0.820	0.800	0.776	6.32
12)		Iodomethane				0.228	0.243	0.256	0.293	0.346	0.465	0.515	0.614	0.370	38.96
13)		Methylene Chlo...					2.777	1.611	1.215	1.032	0.923	0.878	0.849	1.326	52.21
14)		Acetone						0.499	0.458	0.467	0.477	0.460	0.453	0.469	3.59
15)		t-1,2-Dichloro...	0.981	1.217	1.319	1.354	1.382	1.358	1.377	1.392	1.414	1.393	1.359	1.322	9.45
16)		n-Hexane				0.518	0.372	0.259	0.232	0.200	0.200	0.194	0.192	0.271	43.01
17)		Methyl-tert-bu...		3.352	3.294	3.459	3.418	3.242	3.405	3.461	3.405	3.357	3.377		2.17
18)		tert-Butanol (...				0.183	0.184	0.185	0.182	0.186	0.238	0.237		0.199	13.05
19)		Diisopropyl et...				3.958	4.000	3.726	3.625	3.737	4.764	4.607		4.060	11.08
20)	P	1,1-Dichloroet...		1.786	1.649	1.749	1.759	1.728	1.724	1.729	1.743	1.708	1.624	1.720	2.87
21)		Acrylonitrile				0.601	0.576	0.544	0.526	0.529	0.545	0.534	0.527	0.548	4.93
22)		Ethyl-tert-but...				3.347	3.582	3.582	3.435	3.575	4.480	4.336		3.763	12.00
23)		c-1,2-Dichloro...	1.020	1.330	1.267	1.366	1.429	1.407	1.414	1.429	1.460	1.417	1.355	1.354	9.12
24)		2,2-Dichloropr...		1.606	1.392	1.401	1.293	1.279	1.292	1.302	1.260	1.207	1.337		8.80
25)		Bromochloromet...		0.883	0.808	0.831	0.860	0.860	0.842	0.853	0.869	0.836	0.801	0.844	3.09
26)	C	Chloroform		2.189	1.814	1.775	1.661	1.631	1.671	1.711	1.676	1.632	1.751		10.03
27)		Carbon Tetrach...		0.422	0.662	0.766	0.803	0.863	0.944	1.043	1.094	1.120	0.857		26.27
28)		Tetrahydrofuran					0.575	0.564	0.509	0.546	0.554	0.539	0.528	0.545	4.07
29)		1,1,1-Trichlor...	1.657	1.708	1.465	1.458	1.432	1.380	1.394	1.420	1.465	1.468	1.436	1.480	7.06
30)	S	Dibromofluorom...	0.693	0.700	0.686	0.694	0.706	0.707	0.697	0.736	0.760	0.761	0.759	0.718	4.18
31)		1,1-Dichloropr...		1.304	1.298	1.271	1.408	1.357	1.355	1.395	1.440	1.425	1.387	1.364	4.21
32)		2-Butanone (MEK)				0.702	0.743	0.719	0.694	0.724	0.757	0.743	0.731	0.727	2.97
33)		Benzene	4.691	4.515	4.160	3.989	4.023	3.964	3.970	4.072	4.159	4.103	4.034	4.153	5.69
34)		tert-Amyl meth...				3.503	3.562	3.264	3.110	3.208	4.037	3.895		3.511	10.00
35)		1,2-Dichloroet...		1.343	1.340	1.420	1.450	1.468	1.393	1.473	1.500	1.456	1.422	1.426	3.80
36)		iso-Butyl Alcohol						0.065	0.071	0.074	0.078	0.078	0.075	0.073	6.71
37)	S	1,4-Difluorobe...	2.577	2.583	2.576	2.596	2.612	2.595	2.569	2.641	2.692	2.659	2.685	2.617	1.72
38)		Trichloroethen...		0.900	0.948	0.928	1.030	0.977	0.971	1.006	1.039	1.028	0.996	0.982	4.72
39)		tert-Amyl ethy...				2.545	2.732	2.657	2.609	2.704	3.418	3.243		2.844	12.01
40)		Dibromomethane			0.486	0.535	0.548	0.561	0.548	0.578	0.606	0.597	0.590	0.561	6.63
41)	C	1,2-Dichloropr...			1.047	1.006	1.039	1.054	1.010	1.061	1.086	1.056	1.039	1.044	2.40

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823S.M
Title : EPA 8260: Volatile Organic Compounds

42)		Bromodichlorom...				0.827	0.837	0.824	0.820	0.897	1.015	1.045	1.093	0.920	12.31
43)		Chlorobenzene-d5 (I)	----------ISTD----------												
44)		c-1,3-Dichloro...		0.486	0.548	0.560	0.601	0.606	0.620	0.647	0.676	0.699	0.684	0.613	11.02
45)	S	Toluene-d8 (S)	1.455	1.453	1.451	1.455	1.455	1.458	1.458	1.443	1.423	1.430	1.417	1.445	1.03
46)	C	Toluene		2.513	2.115	1.951	1.973	1.882	1.910	1.878	1.864	1.889	1.801	1.978	10.42
47)		Tetrachloroeth...		0.358	0.403	0.433	0.418	0.425	0.436	0.430	0.430	0.445	0.429	0.421	5.89
48)		4-Methyl-2-Pen...			0.640	0.670	0.650	0.657	0.655	0.653	0.656	0.671	0.635	0.654	1.82
49)		t-1,3-Dichloro...			0.481	0.528	0.547	0.560	0.577	0.599	0.634	0.655	0.651	0.581	10.15
50)		1,1,2-Trichlor...		0.409	0.376	0.395	0.381	0.376	0.370	0.375	0.379	0.382	0.368	0.381	3.20
51)		Dibromochlorom...			0.137	0.154	0.181	0.195	0.198	0.222	0.264	0.301	0.326	0.220	29.51
52)		1,3-Dichloropr...		0.598	0.663	0.688	0.719	0.723	0.708	0.729	0.736	0.741	0.713	0.702	6.18
53)		1,2-Dibromoeth...			0.337	0.334	0.363	0.374	0.361	0.384	0.399	0.404	0.396	0.372	6.91
54)		2-Hexanone			0.453	0.477	0.441	0.447	0.457	0.452	0.454	0.473	0.444	0.455	2.68
55)	P	Chlorobenzene	1.327	1.275	1.095	1.119	1.130	1.136	1.131	1.131	1.135	1.142	1.095	1.156	6.43
56)	C	Ethylbenzene	2.618	2.333	2.036	1.957	2.072	1.992	2.010	1.994	2.009	2.029	1.938	2.090	9.78
57)		1,1,1,2-Tetrac...			0.272	0.240	0.269	0.270	0.284	0.302	0.330	0.352	0.358	0.298	13.79
58)		m,p-Xylenes (2)		1.574	1.523	1.470	1.496	1.469	1.496	1.513	1.530	1.578	1.537	1.519	2.50
59)		o-Xylene		1.883	1.594	1.567	1.532	1.503	1.527	1.535	1.535	1.564	1.501	1.574	7.15
60)		Styrene	1.001	0.999	0.993	1.066	1.109	1.105	1.127	1.168	1.187	1.213	1.185	1.105	7.32
61)	P	Bromoform				0.075	0.095	0.098	0.103	0.118	0.145	0.178	0.204	0.127	35.27
62)		Isopropylbenzene		2.016	1.825	1.758	1.793	1.753	1.783	1.786	1.773	1.791	1.707	1.799	4.59
63)	I	1,4-Dichlorobenzen...	----------ISTD----------												
64)	S	4-Bromofluorob...	0.847	0.842	0.842	0.839	0.848	0.850	0.832	0.838	0.836	0.803	0.785	0.833	2.45
65)		Bromobenzene		0.867	0.875	0.956	0.940	0.944	0.926	0.946	0.959	0.926	0.890	0.923	3.64
66)		n-Propylbenzene	4.167	4.612	4.275	4.202	4.355	4.335	4.325	4.324	4.346	4.226	3.993	4.287	3.54
67)	P	1,1,2,2-Tetrac...		1.352	1.068	0.969	0.960	0.959	0.979	0.975	0.995	1.005	0.957	1.022	11.81
68)		2-Chlorotoluene		0.769	0.854	0.836	0.882	0.869	0.849	0.869	0.875	0.851	0.811	0.846	4.05
69)		1,3,5-Trimethy...	4.214	3.734	3.383	3.173	3.093	3.102	3.090	3.111	3.113	3.007	2.847	3.261	11.95
70)		1,2,3-Trichlor...			0.335	0.370	0.377	0.376	0.375	0.375	0.374	0.373	0.351	0.367	3.91
71)		t-1,4-Dichloro...					0.113	0.115	0.126	0.137	0.145	0.151	0.146	0.133	11.60
72)		4-Chlorotoluene		3.116	2.667	2.630	2.661	2.592	2.596	2.641	2.645	2.570	2.448	2.657	6.53
73)		tert-Butylbenzene		2.059	1.882	1.786	1.802	1.756	1.735	1.723	1.704	1.646	1.555	1.765	7.71
74)		1,2,4-Trimethy...		4.006	3.588	3.113	3.138	3.102	3.113	3.078	3.139	3.010	2.836	3.212	10.45
75)		sec-Butylbenzene		4.438	3.903	3.647	3.643	3.533	3.503	3.495	3.502	3.348	3.136	3.615	9.72
76)		4-Isopropyltol...	3.142	3.155	2.895	2.929	3.017	3.012	2.969	2.992	3.010	2.900	2.701	2.975	4.17
77)		1,3-Dichlorobe...	1.504	1.528	1.492	1.467	1.508	1.549	1.547	1.568	1.580	1.551	1.470	1.524	2.53
78)		1,4-Dichlorobe...	1.633	1.727	1.584	1.606	1.611	1.594	1.581	1.600	1.606	1.578	1.503	1.602	3.30
79)		n-Butylbenzene		2.587	2.858	2.438	2.577	2.609	2.595	2.585	2.562	2.446	2.247	2.550	6.12
80)		1,2-Dichlorobe...	1.186	1.453	1.327	1.382	1.452	1.461	1.470	1.471	1.472	1.455	1.377	1.410	6.27
81)		1,2-Dibromo-3-...					0.136	0.143	0.147	0.160	0.193	0.214	0.218	0.173	20.06
82)		Hexachlorobuta...				0.218	0.223	0.215	0.217	0.225	0.218	0.212	0.194	0.215	4.38
83)		1,2,4-Trichlor...			0.730	0.714	0.779	0.797	0.843	0.840	0.871	0.889	0.838	0.811	7.47
84)		Naphthalene		2.384	2.402	2.318	2.478	2.654	2.840	2.844	3.069	3.151	2.984	2.712	11.29
85)		1,2,3-Trichlor...				0.707	0.723	0.762	0.814	0.806	0.847	0.856	0.803	0.790	6.92

(#) = Out of Range

Compound List Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Aug 27 13:36:40 2019
Response Via : Initial Calibration

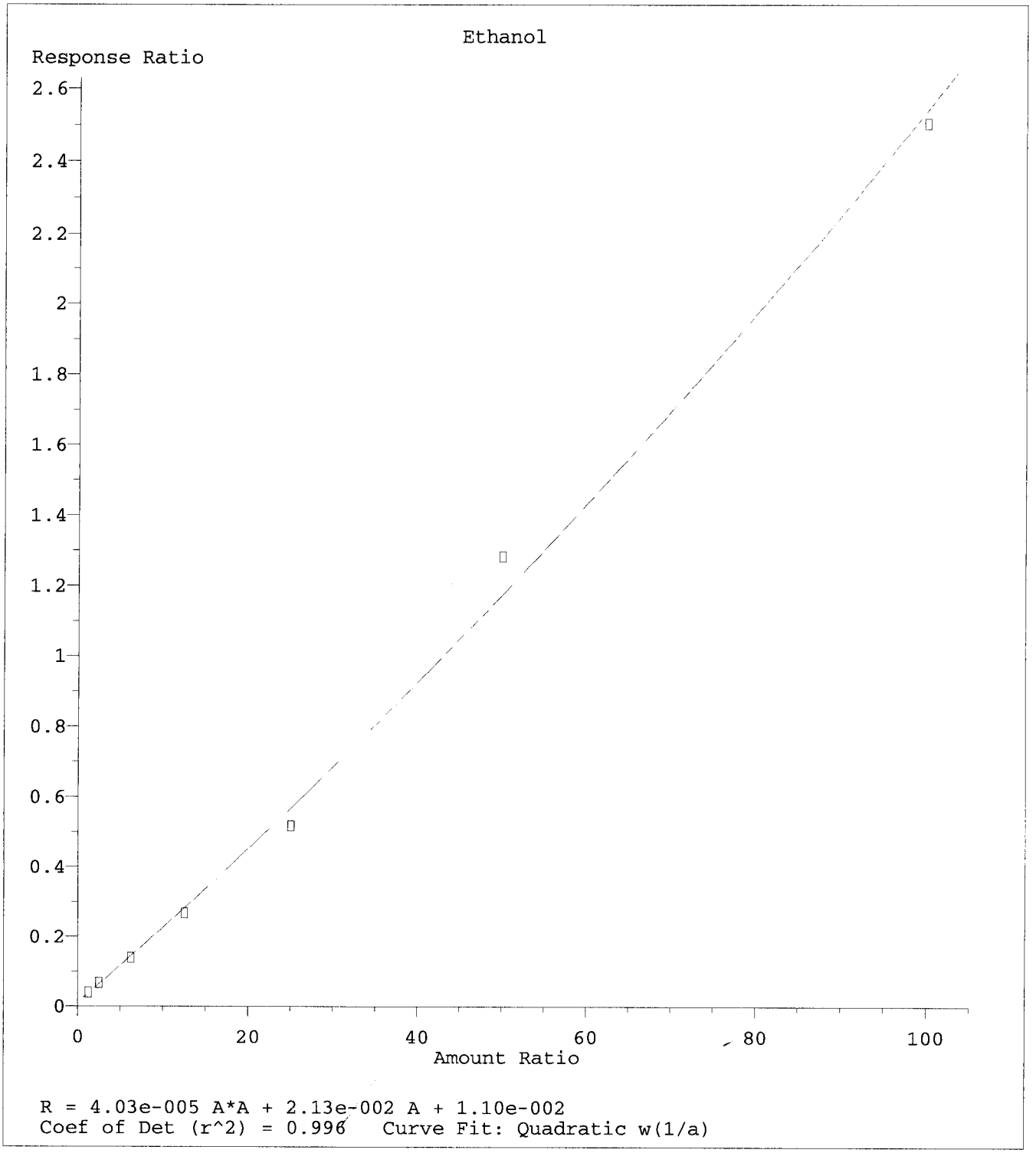
Total Cpnds : 85

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	99	6.092	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.628	0.267	A	2	A	R
3	P	Chloromethane	50	1.842	0.302	A	2	A	R
4	C	Vinyl Chloride	62	1.939	0.318	A	2	A	R
5		Bromomethane	96	2.298	0.377	A	2	A	R
6		Chloroethane	64	2.425	0.398	A	2	A	R
7		Trichlorofluoromethane	101	2.553	0.419	A	2	A	R
8		Ethanol	45	3.252	0.534	Q	1	A	R
9	C	1,1-Dichloroethene	61	3.118	0.512	A	2	A	R
10		Carbon Disulfide	76	3.137	0.515	A	2	A	R
11		Freon 113	101	3.173	0.521	A	2	A	R
12		Iodomethane	142	3.276	0.538	Q	2	A	R
13		Methylene Chloride	84	3.769	0.619	Q	2	A	R
14		Acetone	43	3.860	0.634	A	1	A	R
15		t-1,2-Dichloroethene	61	3.933	0.646	A	2	A	R
16		n-Hexane	86	4.012	0.659	Q	3	A	R
17		Methyl-tert-butyl-ether	73	4.079	0.670	A	3	A	R
18		tert-Butanol (TBA)	59	4.244	0.697	A	1	A	B
19		Diisopropyl ether (DIPE)	45	4.469	0.733	A	2	A	R
20	P	1,1-Dichloroethane	63	4.572	0.750	A	2	A	R
21		Acrylonitrile	53	4.645	0.762	A	2	A	R
22		Ethyl-tert-butyl ether (ETBE)	59	4.840	0.794	A	2	A	R
23		c-1,2-Dichloroethene	61	5.132	0.842	A	2	A	R
24		2,2-Dichloropropane	77	5.229	0.858	A	2	A	R
25		Bromochloromethane	49	5.332	0.875	A	2	A	R
26	C	Chloroform	83	5.417	0.889	A	2	A	R
27		Carbon Tetrachloride	117	5.545	0.910	Q	2	A	R
28		Tetrahydrofuran	42	5.587	0.917	A	2	A	R
29		1,1,1-Trichloroethane	97	5.612	0.921	A	2	A	R
30	S	Dibromofluoromethane (S)	111	5.600	0.919	A	2	A	R
31		1,1-Dichloropropene	75	5.740	0.942	A	2	A	R
32		2-Butanone (MEK)	43	5.740	0.942	A	2	A	R
33		Benzene	78	6.001	0.985	A	2	A	R
34		tert-Amyl methyl ether (TAME)	73	6.129	1.006	A	2	A	R
35		1,2-Dichloroethane (EDC)	62	6.214	1.020	A	2	A	R
36		iso-Butyl Alcohol	43	6.281	1.031	A	2	A	R
37	S	1,4-Difluorobenzene (S)	114	6.652	1.092	A	2	A	R
38		Trichloroethene (TCE)	130	6.621	1.087	A	2	A	R
39		tert-Amyl ethyl ether (TAEE)	59	6.877	1.129	A	2	A	R
40		Dibromomethane	93	7.071	1.161	A	2	A	R
41	C	1,2-Dichloropropane	63	7.175	1.178	A	2	A	R
42		Bromodichloromethane	83	7.254	1.191	A	2	A	R
43	I	Chlorobenzene-d5 (I)	117	9.802	1.000	A	2	A	R
44		c-1,3-Dichloropropene	75	7.959	0.812	A	2	A	R
45	S	Toluene-d8 (S)	98	8.166	0.833	A	2	A	R
46	C	Toluene	91	8.221	0.839	A	2	A	R
47		Tetrachloroethene (PCE)	166	8.671	0.885	A	2	A	R
48		4-Methyl-2-Pentanone (MIBK)	43	8.671	0.885	A	2	A	R
49		t-1,3-Dichloropropene	75	8.707	0.888	A	2	A	R
50		1,1,2-Trichloroethane	97	8.884	0.906	A	2	A	R
51		Dibromochloromethane	129	9.072	0.926	Q	2	A	R
52		1,3-Dichloropropane	76	9.170	0.935	A	2	A	R
53		1,2-Dibromoethane (EDB)	107	9.309	0.950	A	2	A	R
54		2-Hexanone	43	9.540	0.973	A	2	A	R
55	P	Chlorobenzene	112	9.814	1.001	A	2	A	R

56	C	Ethylbenzene	91	9.845	1.004	A	2	A	R
57		1,1,1,2-Tetrachloroethane	131	9.881	1.008	A	2	A	R
58		m,p-Xylenes (2)	91	9.978	1.018	A	2	A	R
59		o-Xylene	91	10.361	1.057	A	2	A	R
60		Styrene	104	10.404	1.061	A	2	A	R
61	P	Bromoform	173	10.434	1.064	Q 1/a2	2	A	R
62		Isopropylbenzene	105	10.629	1.084	A	2	A	R
63	I	1,4-Dichlorobenzene-d4 (I)	152	11.748	1.000	A	2	A	R
64	S	4-Bromofluorobenzene (S)	174	10.866	0.925	A	2	A	R
65		Bromobenzene	156	10.951	0.932	A	2	A	R
66		n-Propylbenzene	91	10.970	0.934	A	2	A	R
67	P	1,1,2,2-Tetrachloroethane	83	11.037	0.939	A	2	A	R
68		2-Chlorotoluene	126	11.097	0.945	A	2	A	R
69		1,3,5-Trimethylbenzene	105	11.128	0.947	A	2	A	R
70		1,2,3-Trichloropropane	110	11.146	0.949	A	2	A	R
71		t-1,4-Dichloro-2-butene	88	11.176	0.951	A	3	A	R
72		4-Chlorotoluene	91	11.231	0.956	A	2	A	R
73		tert-Butylbenzene	91	11.377	0.968	A	2	A	R
74		1,2,4-Trimethylbenzene	105	11.432	0.973	A	2	A	R
75		sec-Butylbenzene	105	11.517	0.980	A	2	A	R
76		4-Isopropyltoluene	119	11.626	0.990	A	2	A	R
77		1,3-Dichlorobenzene	146	11.693	0.995	A	2	A	R
78		1,4-Dichlorobenzene	146	11.760	1.001	A	2	A	R
79		n-Butylbenzene	91	11.943	1.017	A	2	A	R
80		1,2-Dichlorobenzene	146	12.076	1.028	A	2	A	R
81		1,2-Dibromo-3-Chloropropane	157	12.684	1.080	Q 1/a2	2	A	R
82		Hexachlorobutadiene	223	13.189	1.123	A	3	A	R
83		1,2,4-Trichlorobenzene	180	13.220	1.125	A	2	A	R
84		Naphthalene	128	13.499	1.149	A	2	A	R
85		1,2,3-Trichlorobenzene	180	13.663	1.163	A	2	A	R

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VF190823S.M Tue Aug 27 14:03:35 2019



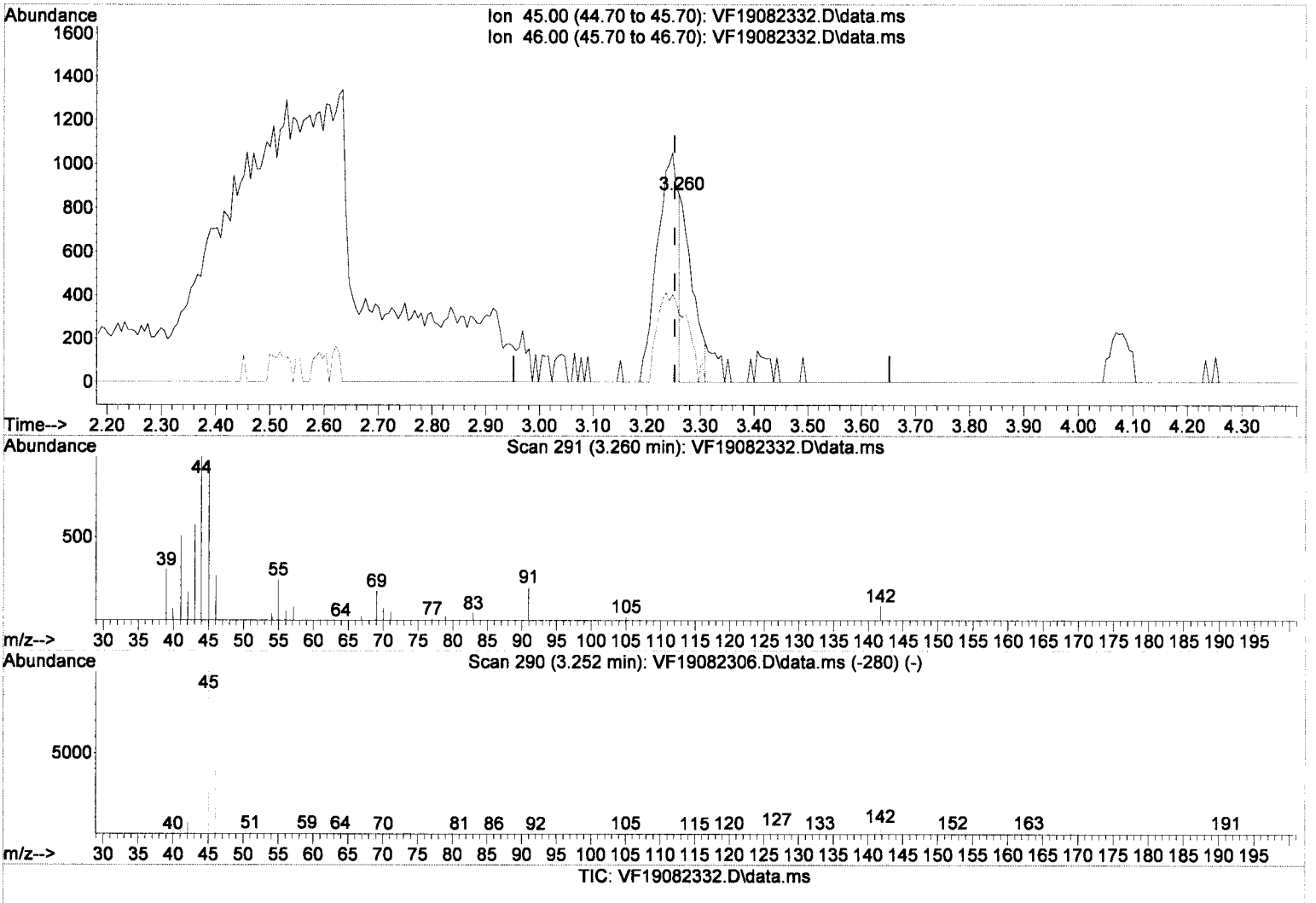
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

INT=(~)

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



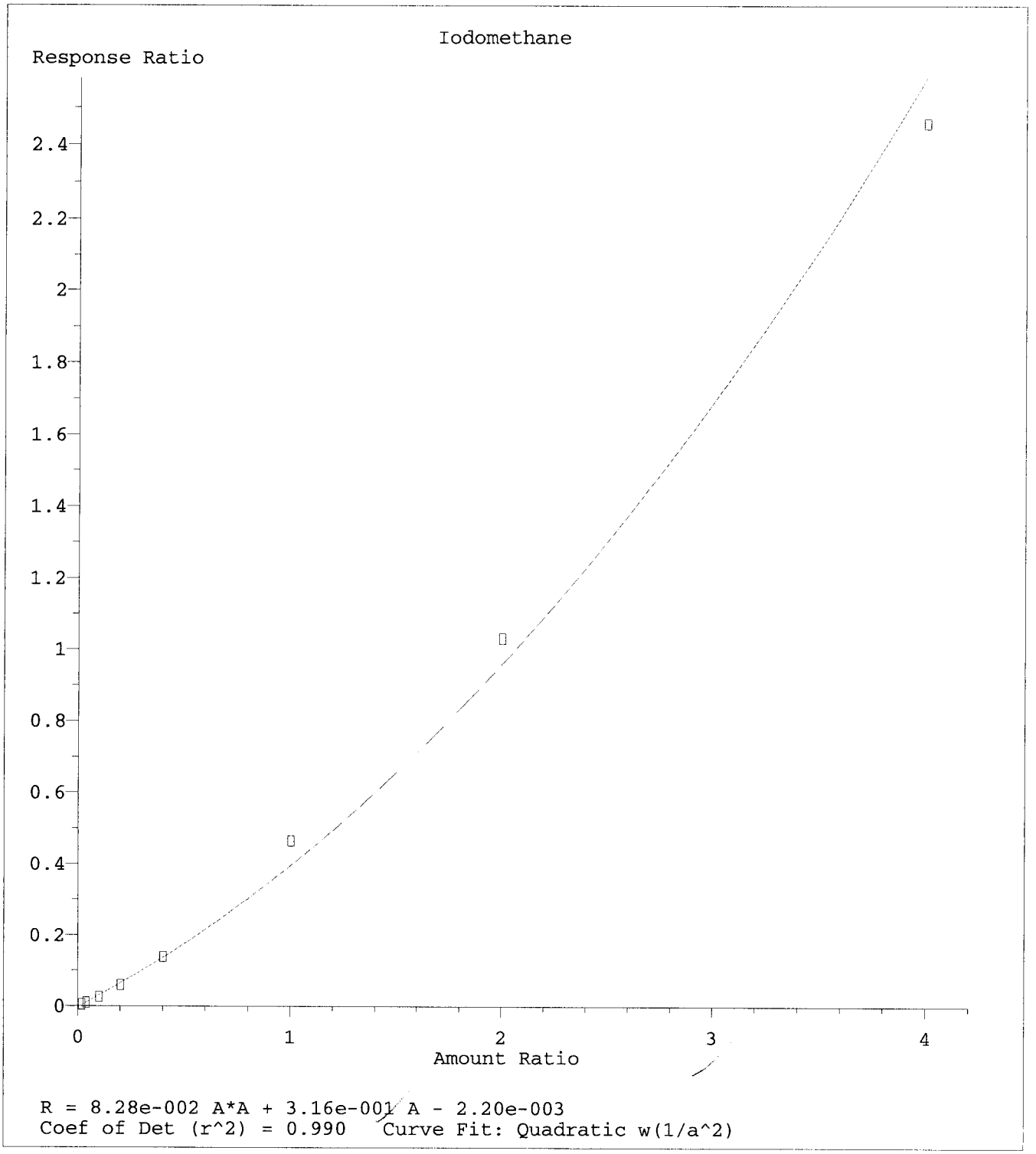
TIC: VF19082332.D\data.ms

(8) Ethanol

3.260min (+0.008) 1.53 ug/L m

response 1315

Ion	Exp%	Act%
45.00	100	100
46.00	47.50	36.38
0.00	0.00	0.00
0.00	0.00	0.00



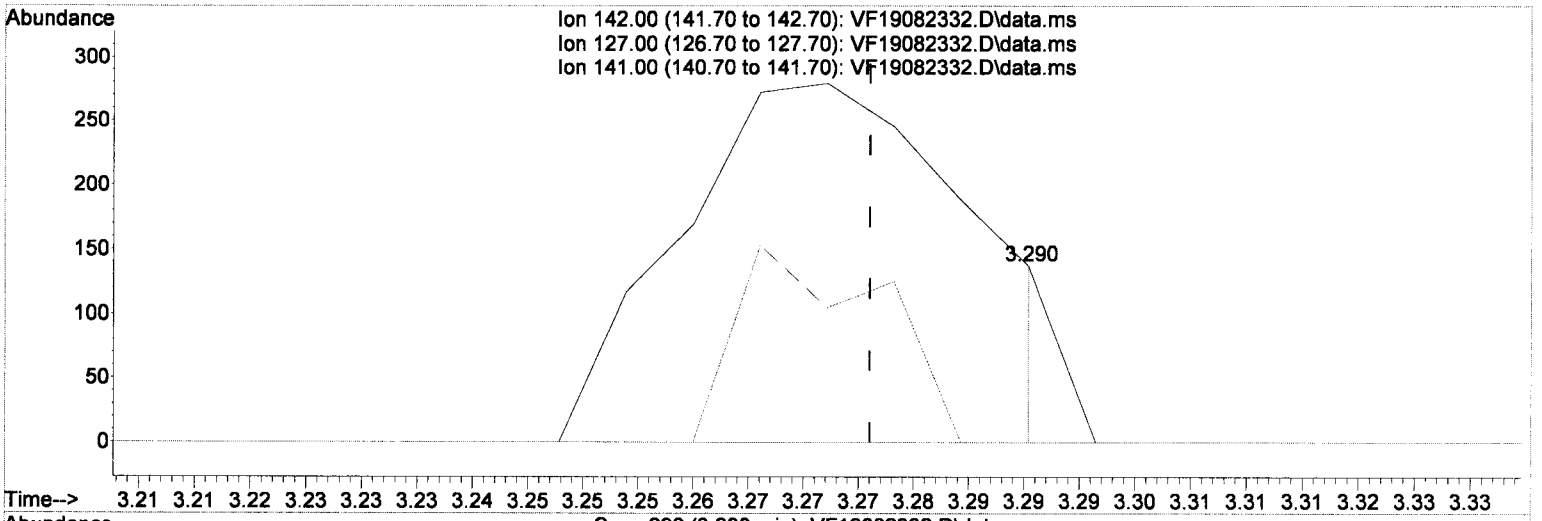
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

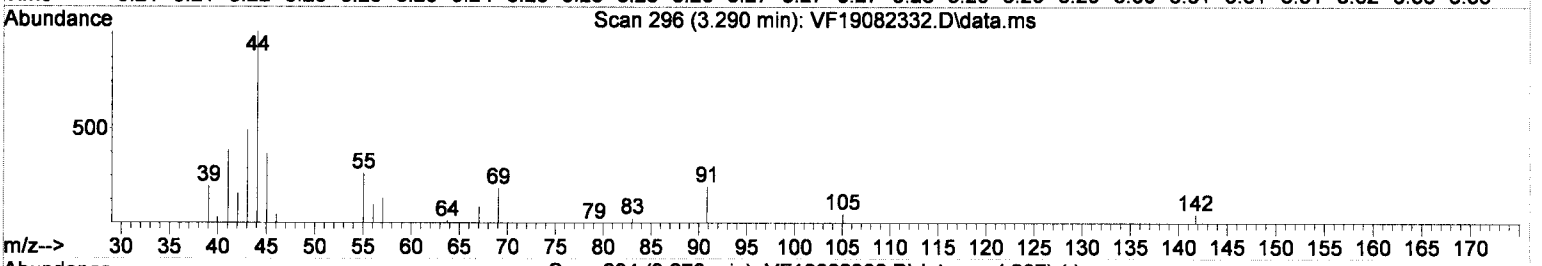
Int = 0.35

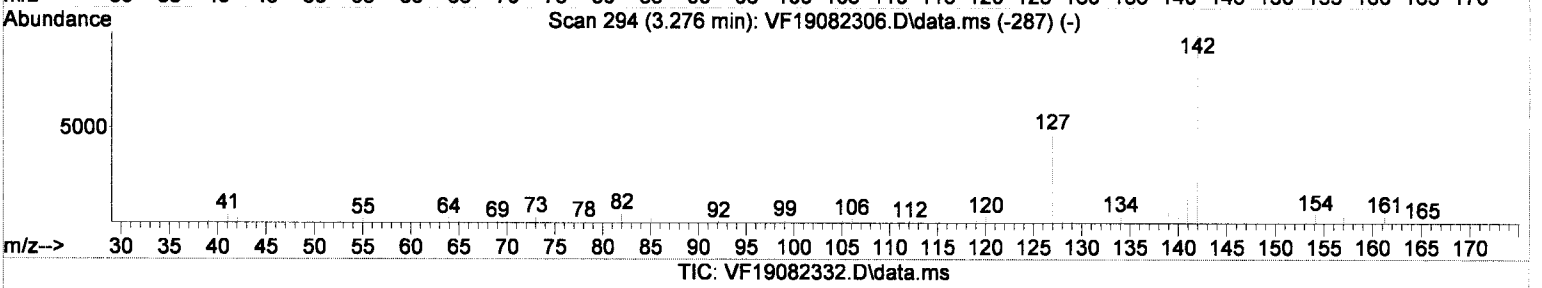
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







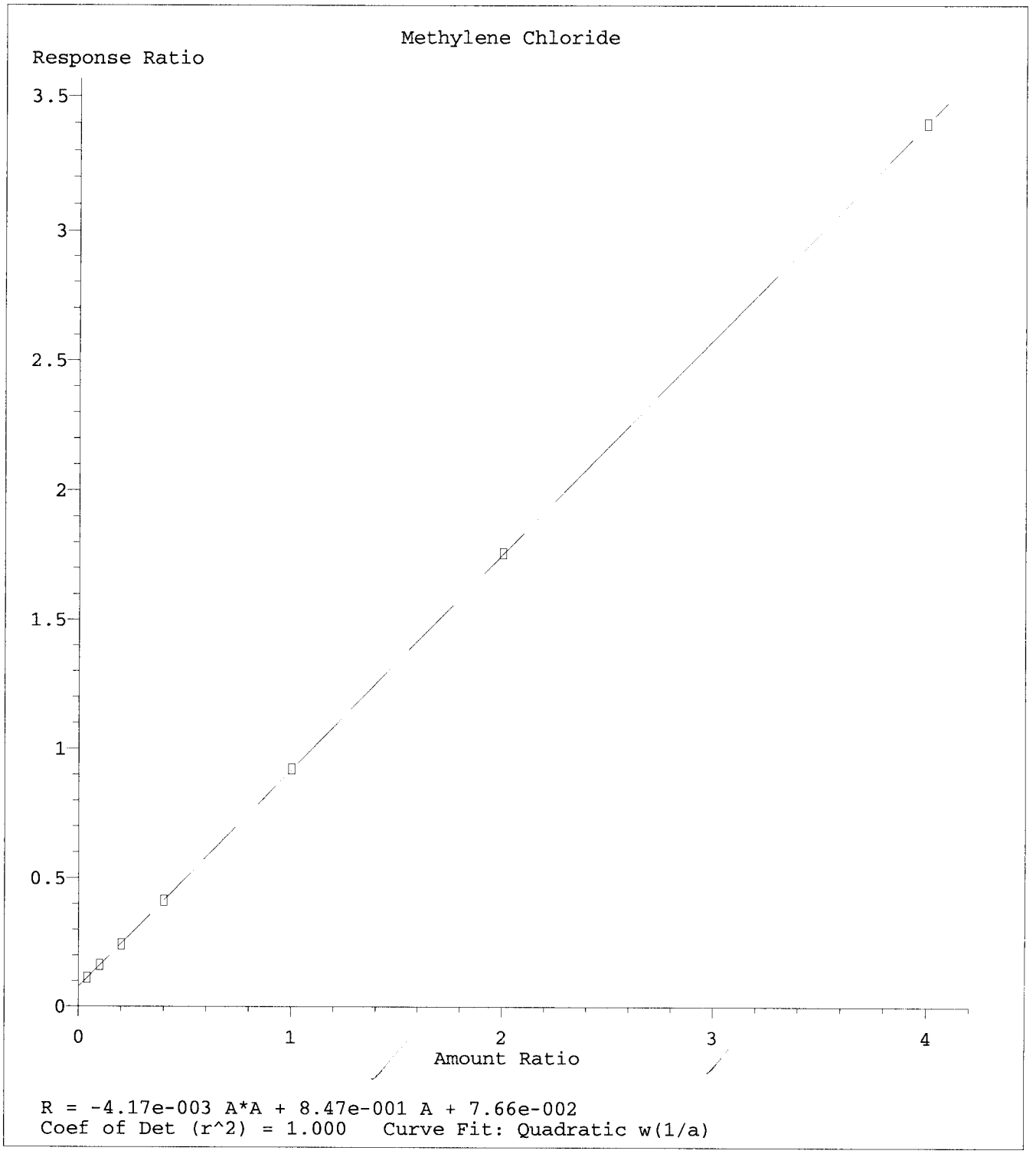
TIC: VF19082332.D\data.ms

(12) Iodomethane

3.290min (+0.014) 0.35 ug/L m

response 0

Ion	Exp%	Act%
142.00	100	0.00
127.00	35.00	0.00#
141.00	15.00	0.00#
0.00	0.00	0.00



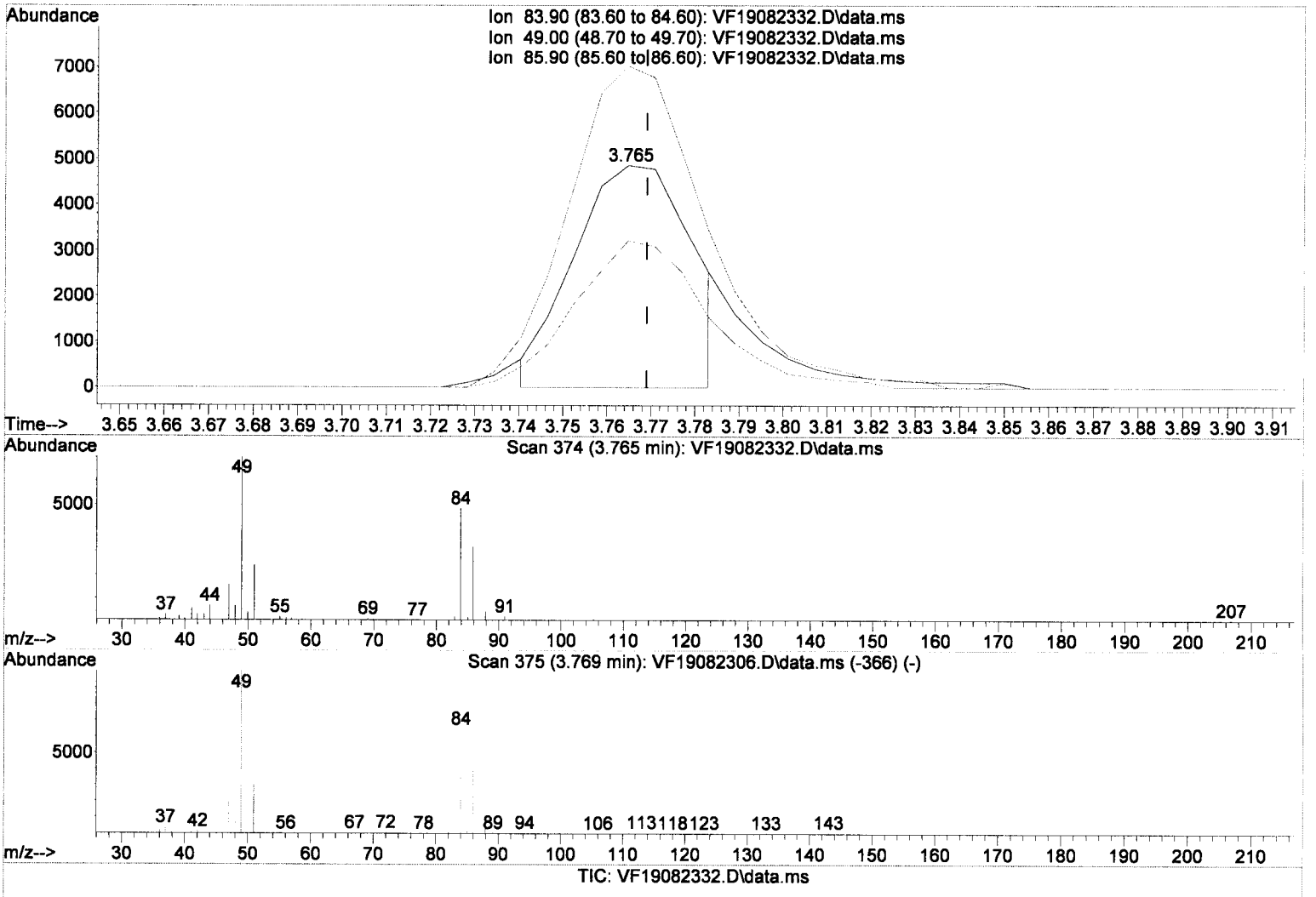
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

Int = (-)

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



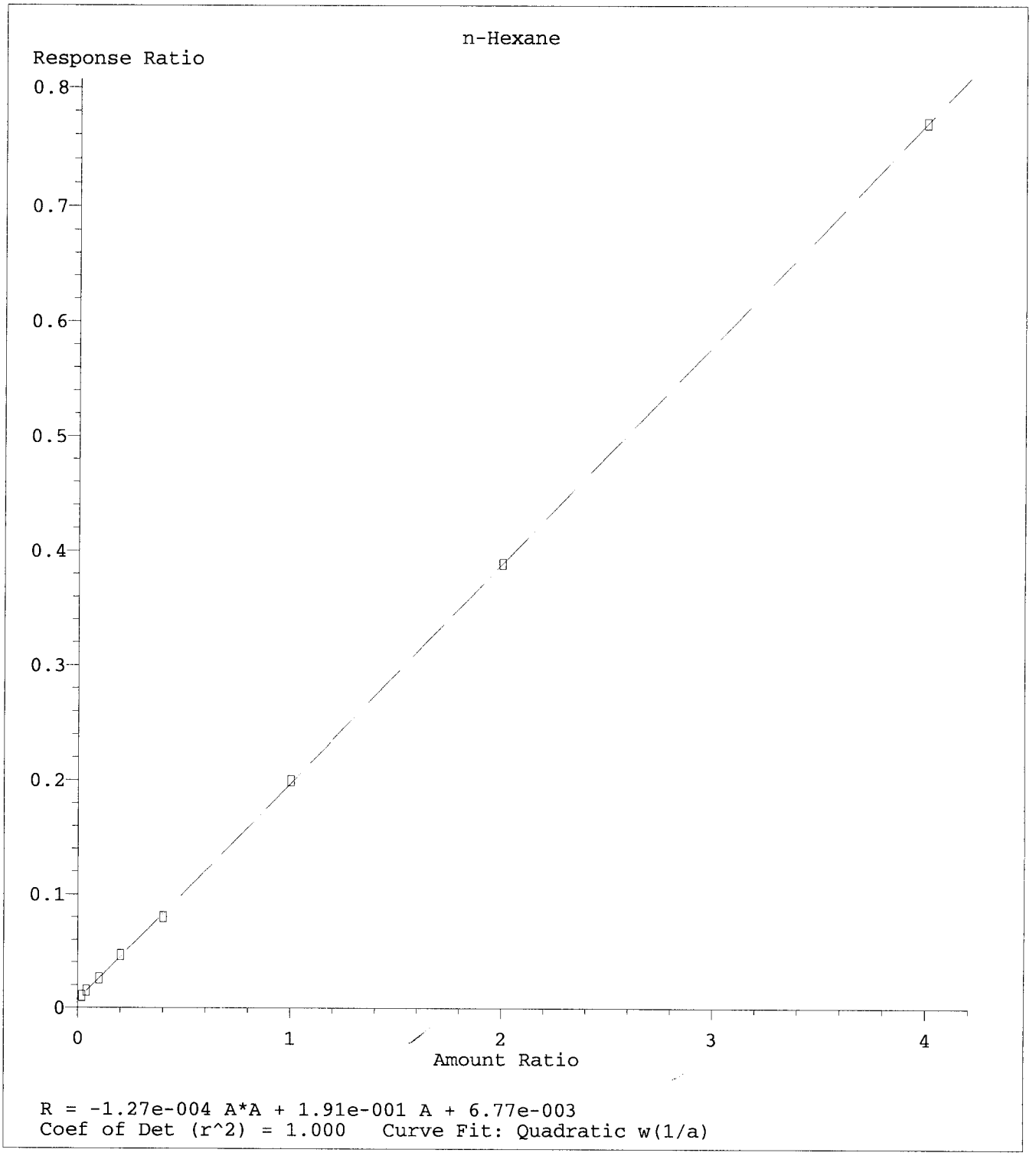
TIC: VF19082332.D\data.ms

(13) Methylene Chloride

3.765min (-0.004) 0.20 ug/L m

response 8996

Ion	Exp%	Act%
83.90	100	100
49.00	121.90	144.67
85.90	60.10	66.25
0.00	0.00	0.00



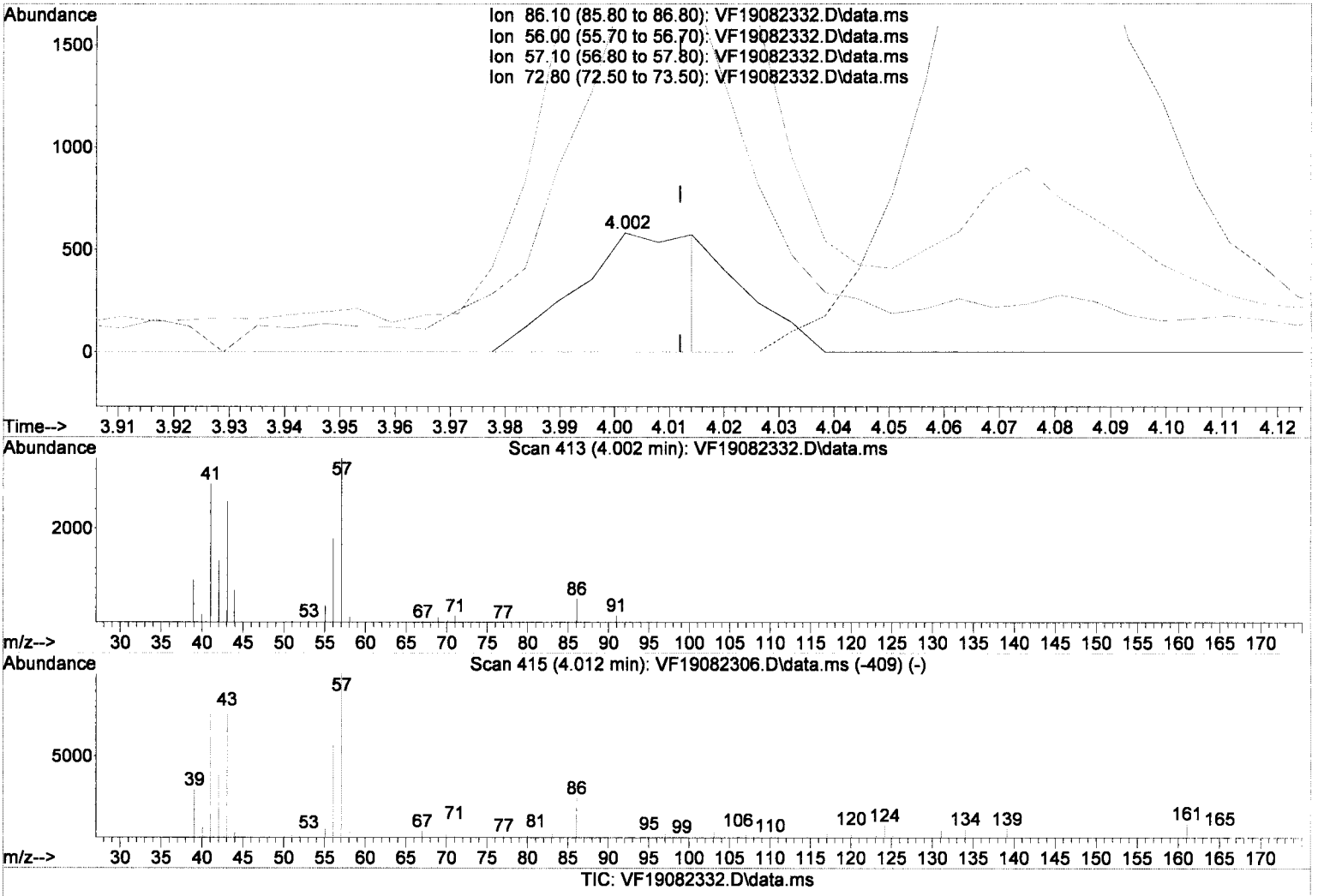
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

Int = (-)

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



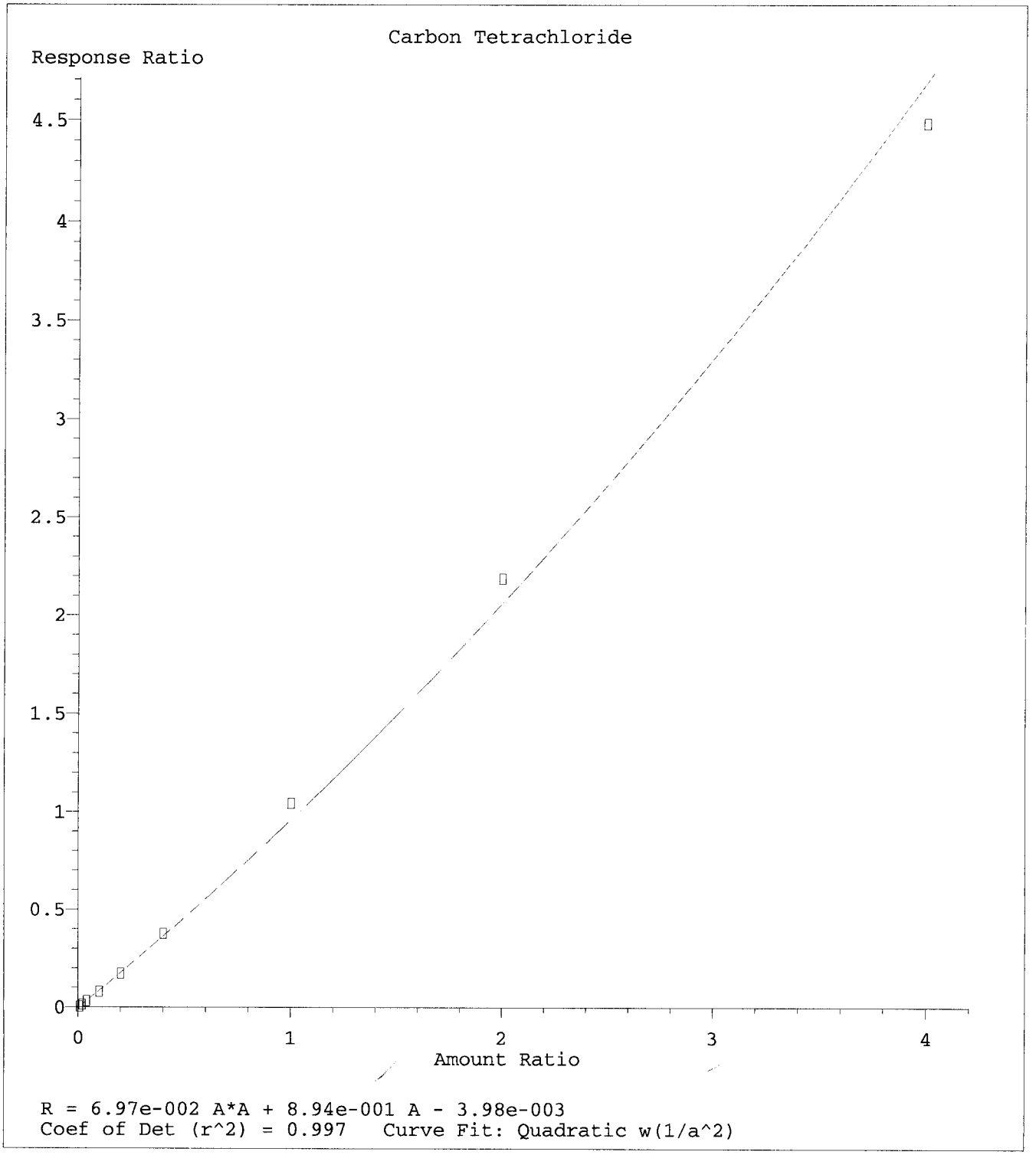
TIC: VF19082332.D\data.ms

(16) n-Hexane

4.002min (-0.010) 0.28 ug/L m

response 881

Ion	Exp%	Act%
86.10	100	100
56.00	275.70	307.75#
57.10	523.30	589.16#
72.80	1.70	0.00



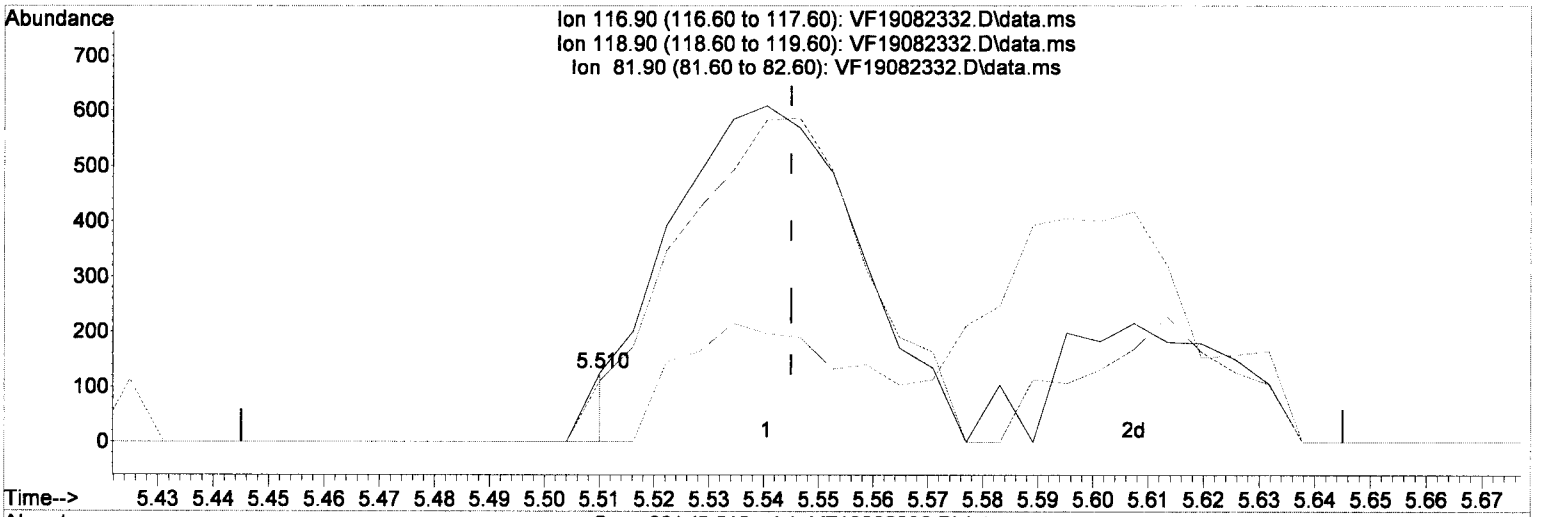
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

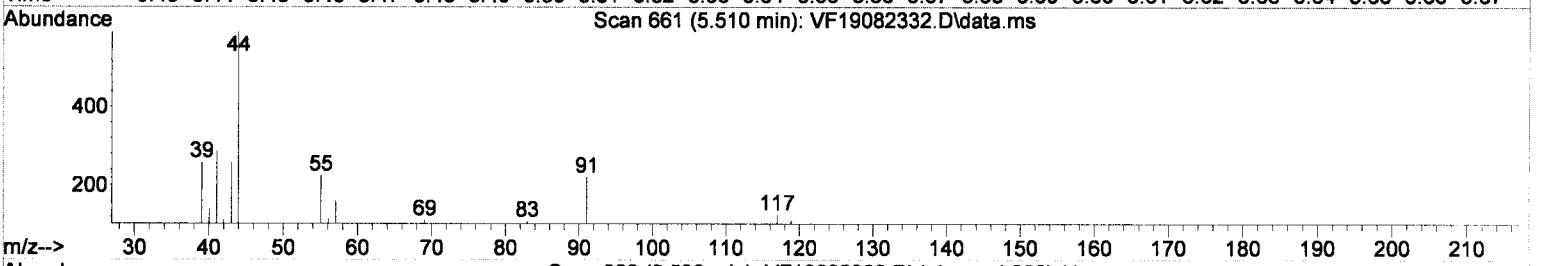
Int = 0.25

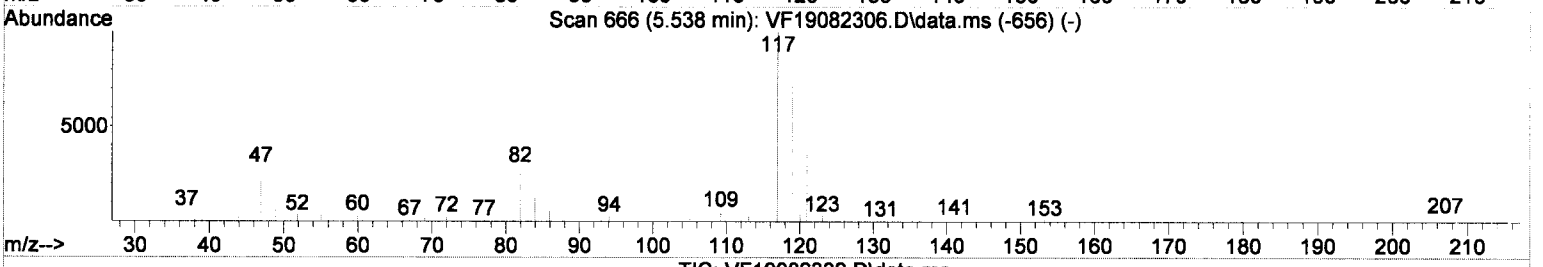
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







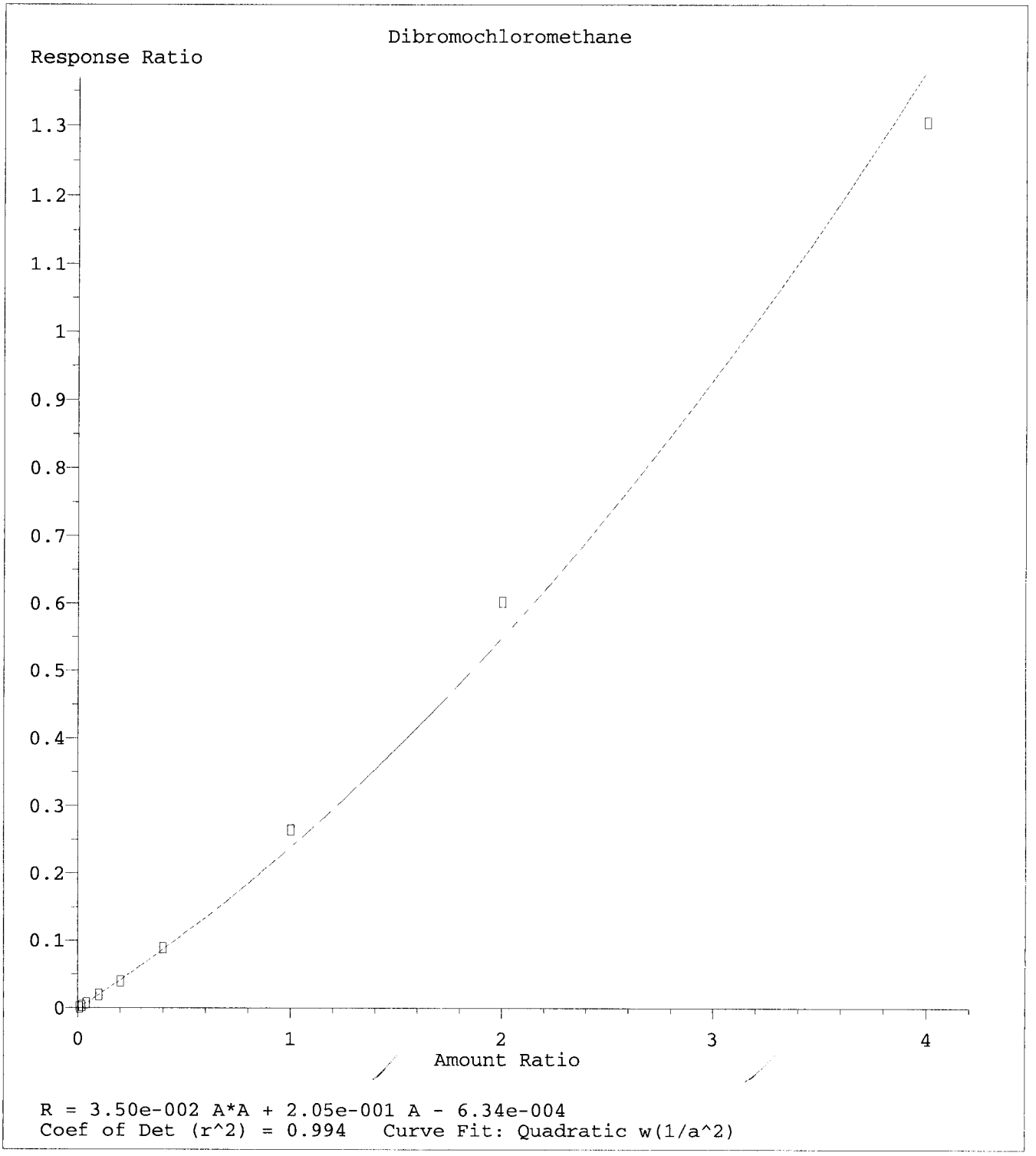
TIC: VF19082332.D\data.ms

(27) Carbon Tetrachloride

5.510min (-0.035) 0.25 ug/L m

response 46

Ion	Exp%	Act%
116.90	100	100
118.90	93.00	88.80
81.90	23.10	0.00
0.00	0.00	0.00



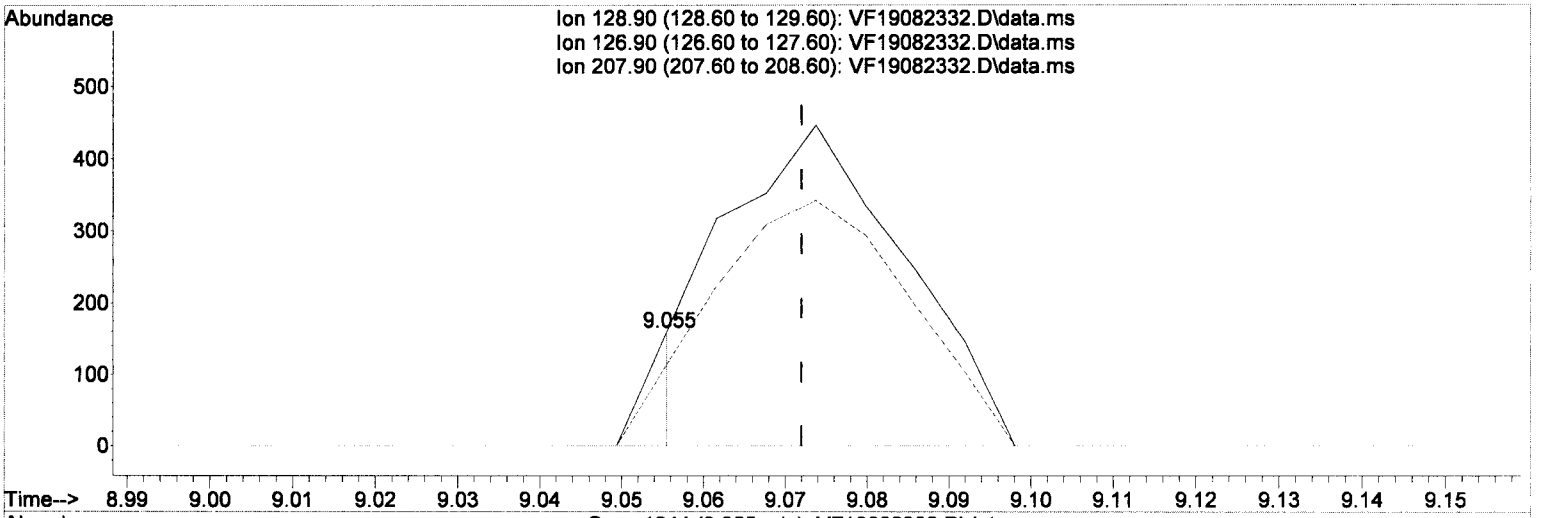
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

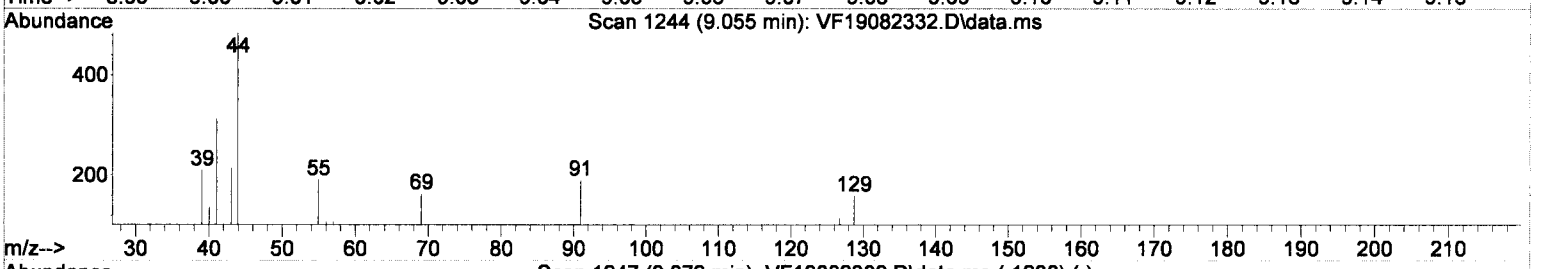
Int = 0.21

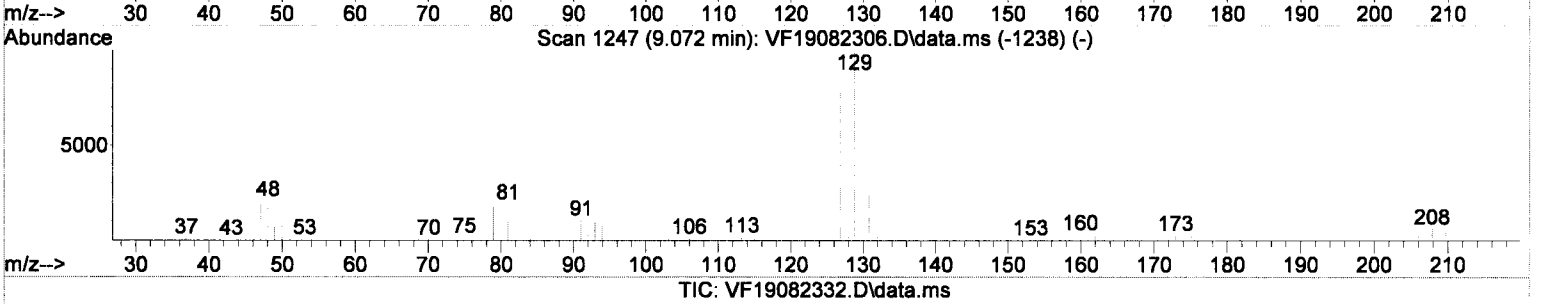
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration







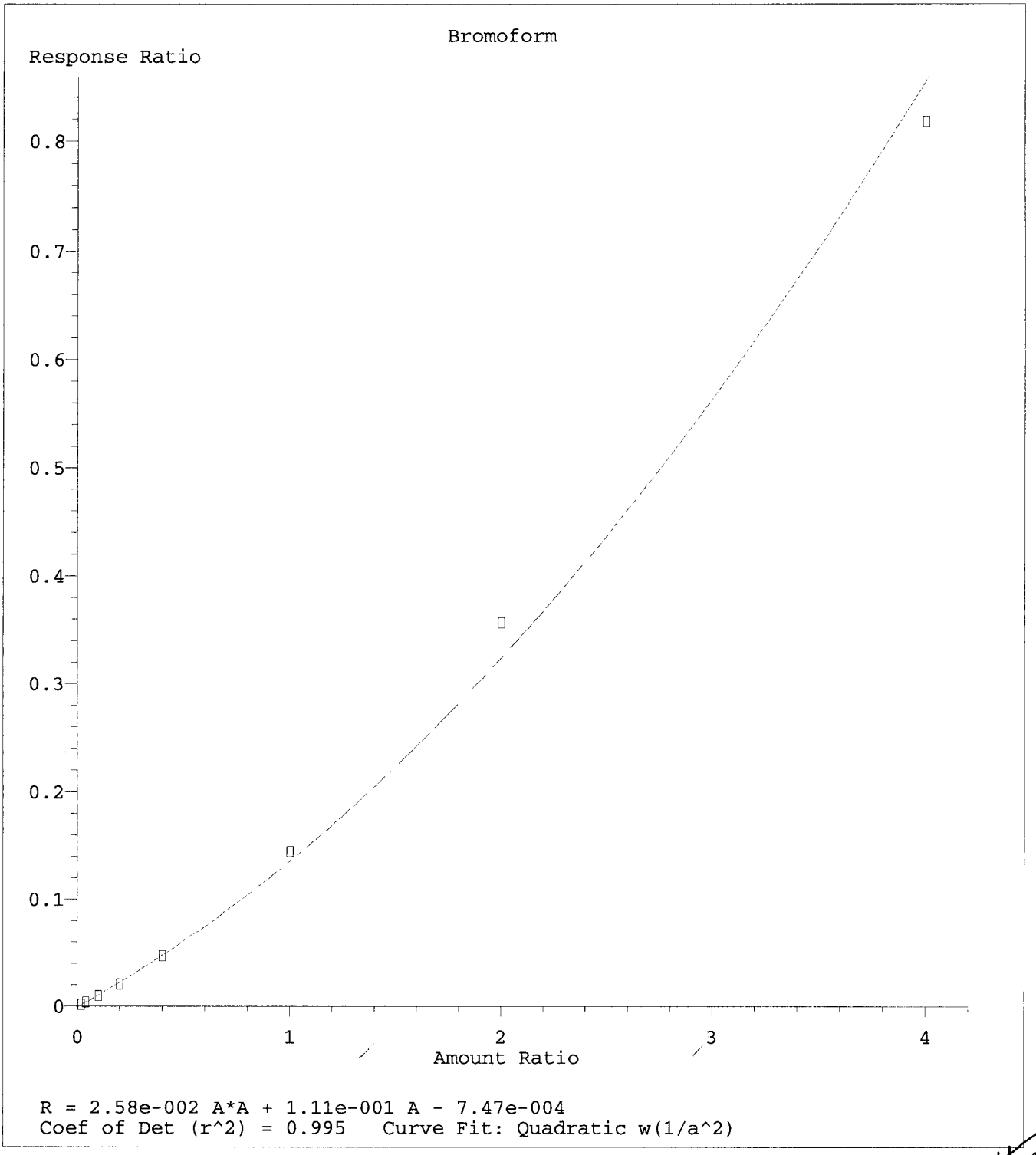
TIC: VF19082332.D\data.ms

(51) Dibromochloromethane

9.055min (-0.017) 0.21 ug/L m

response 58

Ion	Exp%	Act%
128.90	100	100
126.90	81.20	71.70
207.90	7.40	0.00
0.00	0.00	0.00



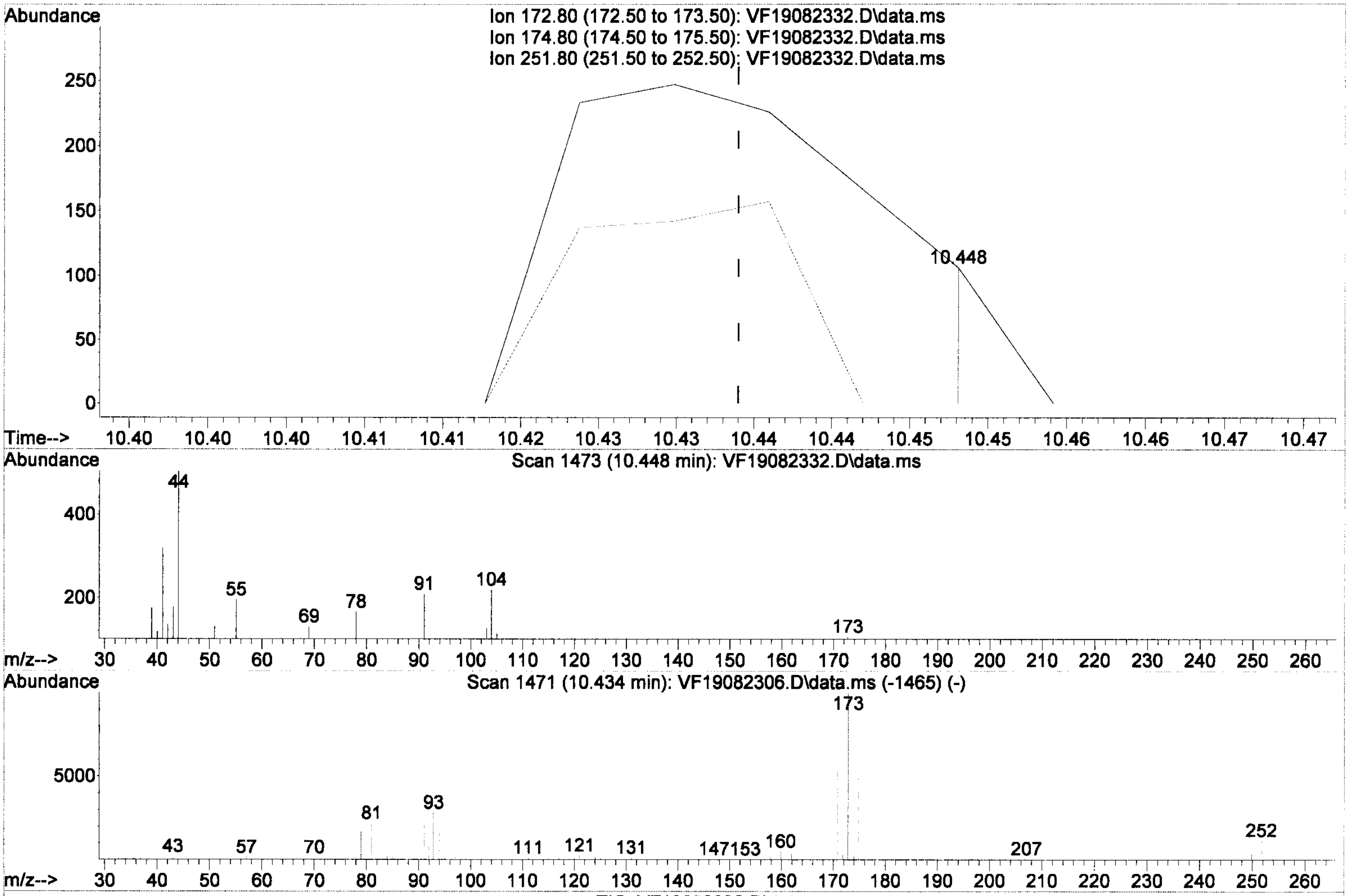
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

Int = 0.34 8/27/19

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On    : 23 Aug 2019  10:34 pm
Operator  : TB
Sample    : 9H23046-CAL4
Misc      : 1X  5mL 1ppb VOCO DI+MeOH
ALS Vial  : 16   Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title  : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration
```



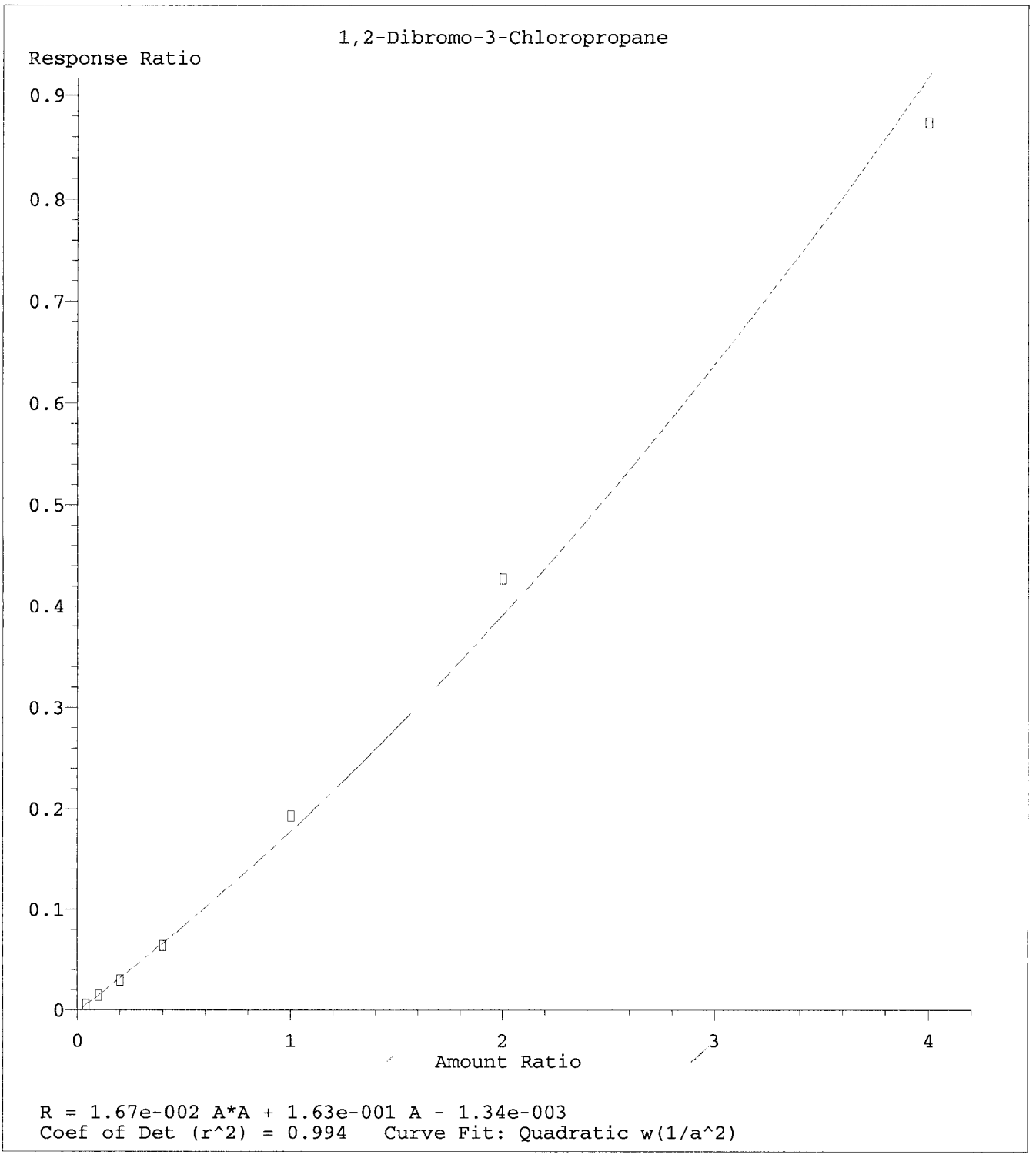
TIC: VF19082332.D\data.ms

(61) Bromoform (P)

10.448min (+0.014) 0.34 ug/L m

response 0

Ion	Exp%	Act%
172.80	100	0.00
174.80	49.10	0.00#
251.80	12.50	0.00
0.00	0.00	0.00



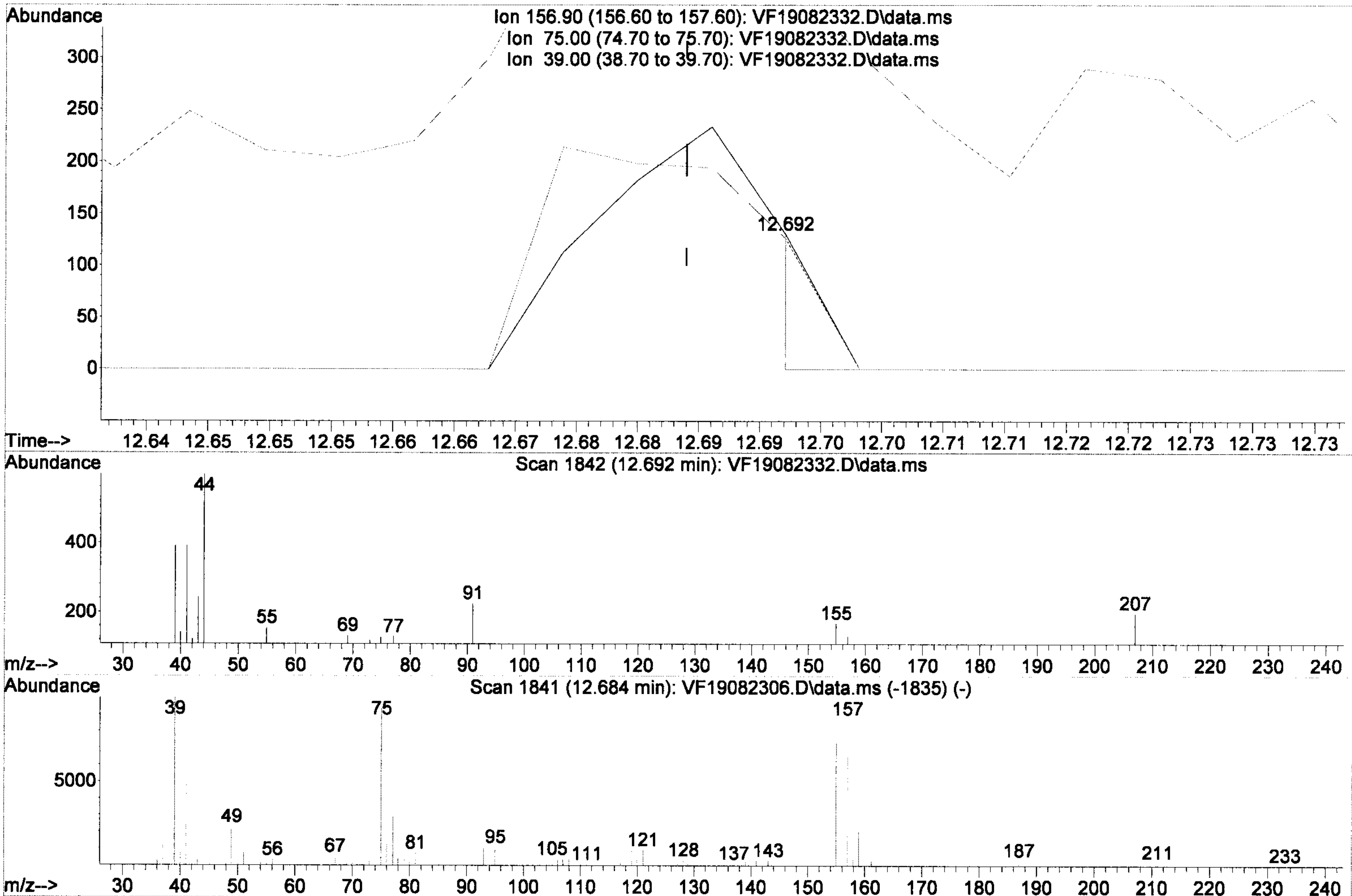
Method Name: C:\msdchem\1\METHODS\VF190823S.M
Calibration Table Last Updated: Tue Aug 27 13:36:40 2019

Int = 0.41

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\DATA\2019-08\9H23046\REQUANT\
Data File : VF19082332.D
Acq On    : 23 Aug 2019  10:34 pm
Operator  : TB
Sample    : 9H23046-CAL4
Misc      : 1X  5mL 1ppb VOCO DI+MeOH
ALS Vial  : 16   Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:57:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title  : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration
```



TIC: VF19082332.D\data.ms

(81) 1,2-Dibromo-3-Chloropropane

12.692min (+0.008) 0.41 ug/L m

response 0

Ion	Exp%	Act%
156.90	100	0.00
75.00	79.00	0.00#
39.00	63.10	0.00#
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082344.D
Acq On : 24 Aug 2019 3:58 am
Operator : TB
Sample : 9H23046-ICV1
Misc : 1X 5mL 20ppb VOC/OXY DI+MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

8/27/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	100	0.00
2		Dichlorodifluoromethane	20.000	26.607	-33.0#	132	0.00 — EOS
3	P	Chloromethane	20.000	22.697	-13.5	119	0.00
4	C	Vinyl Chloride	20.000	22.052	-10.3	110	0.00
5		Bromomethane	20.000	25.008	-25.0	119	0.00
6		Chloroethane	20.000	24.631	-23.2	131	0.00
7		Trichlorofluoromethane	20.000	20.997	-5.0	106	0.00
8		Ethanol	1250.000	1180.952	5.5	104	0.00
9	C	1,1-Dichloroethene	20.000	20.304	-1.5	102	0.00
10		Carbon Disulfide	20.000	21.064	-5.3	110	0.00
11		Freon 113	20.000	20.967	-4.8	102	0.00
12		Iodomethane	20.000	22.246	-11.2	112	0.00
13		Methylene Chloride	20.000	19.577	2.1	99	0.00
14		Acetone	40.000	39.361	1.6	99	0.00
15		t-1,2-Dichloroethene	20.000	21.910	-9.6	104	0.00
16		n-Hexane	20.000	18.702	6.5	98	0.00
17		Methyl-tert-butyl-ether	20.000	19.149	4.3	95	0.00
18		tert-Butanol (TBA)	1250.000	1209.476	3.2	104	0.00
19		Diisopropyl ether (DIPE)	5.000	4.625	7.5	101	0.00
20	P	1,1-Dichloroethane	20.000	21.511	-7.6	107	0.00
21		Acrylonitrile	20.000	18.739	6.3	97	0.00
22		Ethyl-tert-butyl ether (ETB	5.000	4.723	5.5	100	0.00
23		c-1,2-Dichloroethene	20.000	20.691	-3.5	98	0.00
24		2,2-Dichloropropane	20.000	17.948	10.3	93	0.00
25		Bromochloromethane	20.000	19.754	1.2	98	0.00
26	C	Chloroform	20.000	18.907	5.5	99	0.00
27		Carbon Tetrachloride	20.000	21.653	-8.3	105	0.00
28		Tetrahydrofuran	20.000	19.253	3.7	96	0.00
29		1,1,1-Trichloroethane	20.000	20.180	-0.9	106	0.00
30	S	Dibromofluoromethane (S)	50.000	51.547	-3.1	101	0.00
31		1,1-Dichloropropene	20.000	20.546	-2.7	101	0.00
32		2-Butanone (MEK)	40.000	38.316	4.2	97	0.00
33		Benzene	20.000	19.421	2.9	99	0.00
34		tert-Amyl methyl ether (TAM	5.000	4.533	9.3	100	0.00
35		1,2-Dichloroethane (EDC)	20.000	20.520	-2.6	100	0.00
36		iso-Butyl Alcohol	500.000	506.311	-1.3	101	0.00
37	S	1,4-Difluorobenzene (S)	50.000	50.372	-0.7	100	0.00
38		Trichloroethene (TCE)	20.000	20.310	-1.5	100	0.00
39		tert-Amyl ethyl ether (TAEE	5.000	4.641	7.2	98	0.00
40		Dibromomethane	20.000	20.069	-0.3	98	0.00
41	C	1,2-Dichloropropane	20.000	19.749	1.3	98	0.00
42		Bromodichloromethane	20.000	20.657	-3.3	106	0.00
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	100	0.00
44		c-1,3-Dichloropropene	20.000	20.933	-4.7	99	0.00
45	S	Toluene-d8 (S)	50.000	49.642	0.7	99	0.00
46	C	Toluene	20.000	18.955	5.2	99	0.00
47		Tetrachloroethene (PCE)	20.000	20.652	-3.3	101	0.00
48		4-Methyl-2-Pentanone (MIBK)	40.000	38.532	3.7	96	0.00
49		t-1,3-Dichloropropene	20.000	20.458	-2.3	99	0.00
50		1,1,2-Trichloroethane	20.000	19.327	3.4	98	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082344.D
Acq On : 24 Aug 2019 3:58 am
Operator : TB
Sample : 9H23046-ICV1
Misc : 1X 5mL 20ppb VOC/OXY DI+MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		Dibromochloromethane	20.000	22.632	-13.2	111	0.00
52		1,3-Dichloropropane	20.000	20.178	-0.9	97	0.00
53		1,2-Dibromoethane (EDB)	20.000	20.432	-2.2	99	0.00
54		2-Hexanone	40.000	38.800	3.0	97	0.00
55	P	Chlorobenzene	20.000	19.512	2.4	99	0.00
56	C	Ethylbenzene	20.000	19.180	4.1	100	0.00
57		1,1,1,2-Tetrachloroethane	20.000	21.009	-5.0	103	0.00
58		m,p-Xylenes (2)	40.000	39.477	1.3	99	0.00
59		o-Xylene	20.000	19.196	4.0	98	0.00
60		Styrene	20.000	20.742	-3.7	98	0.00
61	P	Bromoform	20.000	22.717	-13.6	116	0.00
62		Isopropylbenzene	20.000	19.590	2.1	98	0.00
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	98	0.00
64	S	4-Bromofluorobenzene (S)	50.000	50.098	-0.2	98	0.00
65		Bromobenzene	20.000	20.512	-2.6	98	0.00
66		n-Propylbenzene	20.000	20.139	-0.7	98	0.00
67	P	1,1,2,2-Tetrachloroethane	20.000	20.126	-0.6	104	0.00
68		2-Chlorotoluene	20.000	20.673	-3.4	99	0.00
69		1,3,5-Trimethylbenzene	20.000	19.050	4.7	98	0.00
70		1,2,3-Trichloropropane	20.000	20.451	-2.3	98	0.00
71		t-1,4-Dichloro-2-butene	20.000	18.791	6.0	90	0.00
72		4-Chlorotoluene	20.000	20.063	-0.3	99	0.00
73		tert-Butylbenzene	20.000	19.800	1.0	100	0.00
74		1,2,4-Trimethylbenzene	20.000	19.253	3.7	99	0.00
75		sec-Butylbenzene	20.000	19.621	1.9	100	0.00
76		4-Isopropyltoluene	20.000	20.475	-2.4	100	0.00
77		1,3-Dichlorobenzene	20.000	20.876	-4.4	100	0.00
78		1,4-Dichlorobenzene	20.000	20.256	-1.3	100	0.00
79		n-Butylbenzene	20.000	20.825	-4.1	101	0.00
80		1,2-Dichlorobenzene	20.000	21.117	-5.6	99	0.00
81		1,2-Dibromo-3-Chloropropane	20.000	22.314	-11.6	115	0.00
82		Hexachlorobutadiene	20.000	22.039	-10.2	103	0.00
83		1,2,4-Trichlorobenzene	20.000	21.725	-8.6	103	0.00
84		Naphthalene	20.000	22.218	-11.1	104	0.00
85		1,2,3-Trichlorobenzene	20.000	21.522	-7.6	104	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9H23046

Analysis Included
8260C Full List
8260C Iodomethane Add On
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9H23046-TUN1	MS Tune	Water		A19H381	8/23/2019 8:19:00PM
9H23046-ICB1	Initial Cal Blank	Water		A19H381	8/23/2019 8:46:00PM
9H23046-CAL1	Cal Standard	Water	A19H354	"	8/23/2019 9:13:00PM
9H23046-CAL2	Cal Standard	Water	A19H355	"	8/23/2019 9:40:00PM
9H23046-CAL3	Cal Standard	Water	A19H356	"	8/23/2019 10:07:00PM
9H23046-CAL4	Cal Standard	Water	A19H357	"	8/23/2019 10:34:00PM
9H23046-CAL5	Cal Standard	Water	A19H358	"	8/23/2019 11:01:00PM
9H23046-CAL6	Cal Standard	Water	A19H359	"	8/23/2019 11:28:00PM
9H23046-CAL7	Cal Standard	Water	A19H360	"	8/23/2019 11:55:00PM
9H23046-CAL8	Cal Standard	Water	A19H361	"	8/24/2019 12:22:00AM
9H23046-CAL9	Cal Standard	Water	A19H362	"	8/24/2019 12:49:00AM
9H23046-CALA	Cal Standard	Water	A19H363	"	8/24/2019 1:43:00AM
9H23046-CALB	Cal Standard	Water	A19H364	"	8/24/2019 2:37:00AM
9H23046-ICV1	Initial Cal Check	Water	A19H365	"	8/24/2019 3:58:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9H2706** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9H23046** Matrix: **Water**

9H23046-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
Bromomethane	5.0000	6.57	5.00	131	LMRL
9H23046-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CAL9	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALA	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALB	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9H23046

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9H2706** Instrument: **VOA-GCMS6**

8260C Full List Sequence: **9H23046** Matrix: **Water**

9H23046-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual
Dichlorodifluoromethane	1	20.0	**26.61**	133	E-05

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

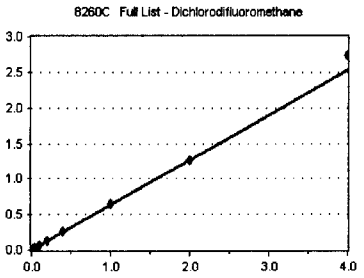
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

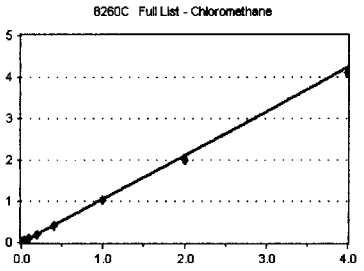


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	505	0.558	1.64
9H23046-CAL4	1	1285	0.571	1.62
9H23046-CAL5	2	3108	0.692	1.63
9H23046-CAL6	5	7188	0.647	1.62
9H23046-CAL7	10	14412	0.637	1.63
9H23046-CAL8	20	28873	0.641	1.63
9H23046-CAL9	50	73417	0.642	1.63
9H23046-CALA	100	146344	0.630	1.64
9H23046-CALB	200	322318	0.683	1.63

AVE RF **0.633** RF RSD **7.04** AVE RT **1.63**

Chloromethane

Curve Fit: **AVERAGE RF**

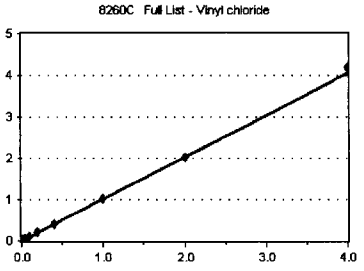


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	1177	1.300	1.85
9H23046-CAL4	1	2366	1.051	1.83
9H23046-CAL5	2	4841	1.078	1.85
9H23046-CAL6	5	11530	1.038	1.83
9H23046-CAL7	10	22907	1.012	1.84
9H23046-CAL8	20	45533	1.012	1.84
9H23046-CAL9	50	116646	1.019	1.84
9H23046-CALA	100	231186	0.996	1.84
9H23046-CALB	200	483897	1.026	1.83

AVE RF **1.059** RF RSD **8.83** AVE RT **1.84**

Vinyl chloride

Curve Fit: **AVERAGE RF**

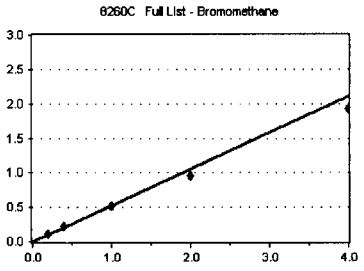


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	409	0.887	1.94
9H23046-CAL3	0.4	927	1.024	1.95
9H23046-CAL4	1	2259	1.004	1.93
9H23046-CAL5	2	4725	1.052	1.94
9H23046-CAL6	5	11430	1.029	1.93
9H23046-CAL7	10	23209	1.025	1.93
9H23046-CAL8	20	45876	1.019	1.94
9H23046-CAL9	50	117508	1.027	1.93
9H23046-CALA	100	234929	1.012	1.94
9H23046-CALB	200	493406	1.046	1.94

AVE RF **1.013** RF RSD **4.57** AVE RT **1.94**

Bromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~1343~~	~~5.933~~	~~2.30~~
~~9H23046-CAL2~~	~~0.2~~	~~1390~~	~~3.016~~	~~2.30~~
~~9H23046-CAL3~~	~~0.4~~	~~1706~~	~~1.884~~	~~2.31~~
~~9H23046-CAL4~~	~~1~~	~~3185~~	~~1.415~~	~~2.29~~
~~9H23046-CAL5~~	~~2~~	~~4649~~	~~1.036~~	~~2.30~~
~~9H23046-CAL6~~	~~5~~	~~7687~~	~~0.692~~	~~2.29~~
9H23046-CAL7	10	13671	0.604	2.29
9H23046-CAL8	20	25103	0.558	2.30
9H23046-CAL9	50	58800	0.514	2.29
9H23046-CALA	100	110498	0.476	2.31
9H23046-CALB	200	227738	0.483	2.29

AVE RF **0.527** RF RSD **10.22** AVE RT **2.30**

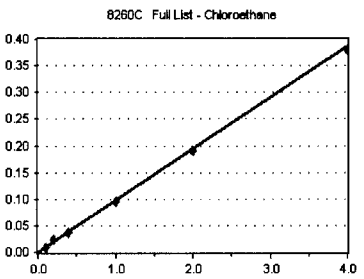
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Chloroethane

Curve Fit: **AVERAGE RF**

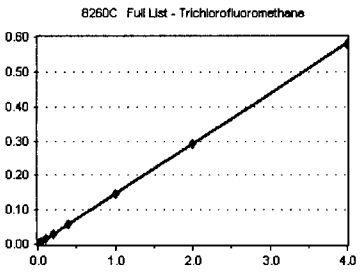


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL5~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL6	5	996	8.967	2.42
9H23046-CAL7	10	2614	0.115	2.42
9H23046-CAL8	20	4129	0.092	2.43
9H23046-CAL9	50	10870	9.499	2.42
9H23046-CALA	100	21995	0.095	2.43
9H23046-CALB	200	44883	9.516	2.42

AVE RF **9.696** RF RSD **9.62** AVE RT **2.42**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

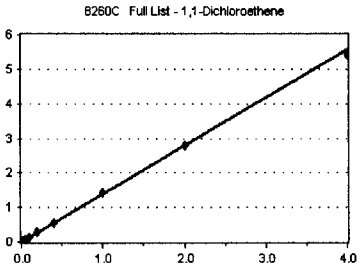


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	334	0.148	2.54
9H23046-CAL5	2	629	0.140	2.56
9H23046-CAL6	5	1658	0.149	2.55
9H23046-CAL7	10	3372	0.149	2.55
9H23046-CAL8	20	6512	0.145	2.55
9H23046-CAL9	50	16720	0.146	2.55
9H23046-CALA	100	33863	0.146	2.55
9H23046-CALB	200	68558	0.145	2.55

AVE RF **0.146** RF RSD **2.04** AVE RT **2.55**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

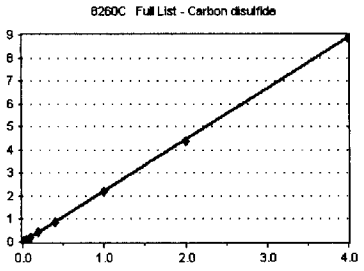


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	652	1.415	3.13
9H23046-CAL3	0.4	1273	1.406	3.13
9H23046-CAL4	1	3019	1.342	3.11
9H23046-CAL5	2	6392	1.424	3.13
9H23046-CAL6	5	15746	1.418	3.12
9H23046-CAL7	10	31954	1.412	3.12
9H23046-CAL8	20	62780	1.395	3.12
9H23046-CAL9	50	161476	1.411	3.12
9H23046-CALA	100	324629	1.398	3.13
9H23046-CALB	200	639235	1.355	3.12

AVE RF **1.397** RF RSD **1.96** AVE RT **3.12**

Carbon disulfide

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	598	2.642	3.14
9H23046-CAL2	0.2	1126	2.443	3.14
9H23046-CAL3	0.4	2082	2.299	3.14
9H23046-CAL4	1	4634	2.059	3.13
9H23046-CAL5	2	9420	2.098	3.14
9H23046-CAL6	5	23060	2.076	3.13
9H23046-CAL7	10	47996	2.120	3.13
9H23046-CAL8	20	95965	2.132	3.14
9H23046-CAL9	50	251548	2.198	3.13
9H23046-CALA	100	510745	2.199	3.14
9H23046-CALB	200	1041607	2.208	3.13

AVE RF **2.225** RF RSD **7.96** AVE RT **3.14**

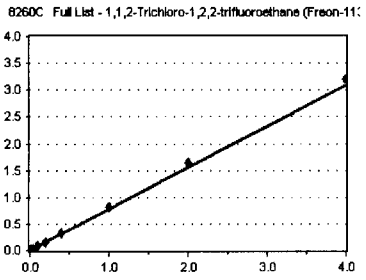
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,1,2-Trichloro-1,2,2-trifluoroeth

Curve Fit: **AVERAGE RF**

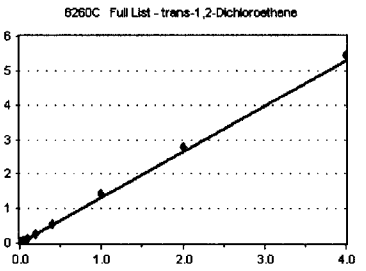


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	305	0.662	3.17
9H23046-CAL3	0.4	691	0.763	3.18
9H23046-CAL4	1	1624	0.722	3.18
9H23046-CAL5	2	3582	0.798	3.18
9H23046-CAL6	5	8661	0.780	3.17
9H23046-CAL7	10	18130	0.801	3.17
9H23046-CAL8	20	35885	0.797	3.17
9H23046-CAL9	50	93139	0.814	3.17
9H23046-CALA	100	190421	0.820	3.18
9H23046-CALB	200	377105	0.800	3.17

AVE RF **0.776** RF RSD **6.32** AVE RT **3.17**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

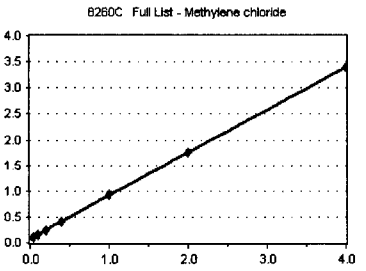


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	222	0.981	0.00
9H23046-CAL2	0.2	561	1.217	3.93
9H23046-CAL3	0.4	1194	1.319	3.94
9H23046-CAL4	1	3048	1.354	3.93
9H23046-CAL5	2	6203	1.382	3.94
9H23046-CAL6	5	15085	1.358	3.93
9H23046-CAL7	10	31170	1.377	3.93
9H23046-CAL8	20	62673	1.392	3.93
9H23046-CAL9	50	161808	1.414	3.93
9H23046-CALA	100	323601	1.393	3.94
9H23046-CALB	200	640984	1.359	3.93

AVE RF **1.322** RF RSD **9.45** AVE RT **3.58**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

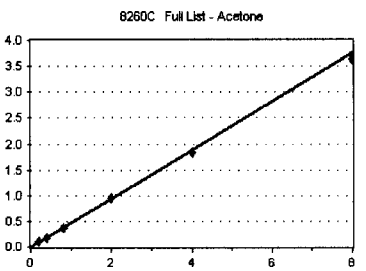


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~9502~~	~~41.975~~	~~3.77~~
~~9H23046-CAL2~~	~~0.2~~	~~9630~~	~~20.895~~	~~3.77~~
~~9H23046-CAL3~~	~~0.4~~	~~10203~~	~~11.268~~	~~3.78~~
~~9H23046-CAL4~~	~~1~~	~~11114~~	~~4.939~~	~~3.77~~
9H23046-CAL5	2	12469	2.777	3.77
9H23046-CAL6	5	17898	1.611	3.77
9H23046-CAL7	10	27505	1.215	3.77
9H23046-CAL8	20	46436	1.032	3.77
9H23046-CAL9	50	105592	0.923	3.76
9H23046-CALA	100	203956	0.878	3.77
9H23046-CALB	200	400388	0.849	3.77

AVE RF **1.326** RF RSD **52.21** AVE RT **3.77**

Acetone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~2~~	~~3198~~	~~0.711~~	~~3.86~~
~~9H23046-CAL5~~	~~4~~	~~5464~~	~~0.609~~	~~3.87~~
9H23046-CAL6	10	11080	0.499	3.85
9H23046-CAL7	20	20726	0.458	3.86
9H23046-CAL8	40	42032	0.467	3.86
9H23046-CAL9	100	109271	0.477	3.85
9H23046-CALA	200	213843	0.460	3.86
9H23046-CALB	400	427262	0.453	3.85

AVE RF **0.469** RF RSD **3.59** AVE RT **3.86**

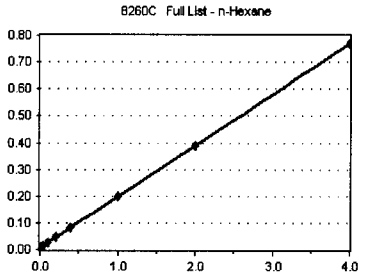
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

n-Hexane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

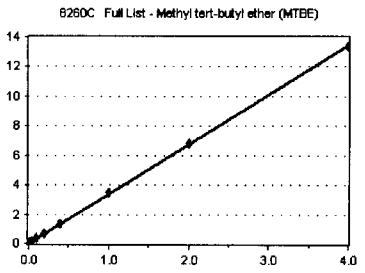


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~770~~	~~3.401~~	~~4.02~~
~~9H23046-CAL2~~	~~0.2~~	~~903~~	~~1.959~~	~~4.02~~
~~9H23046-CAL3~~	~~0.4~~	~~1062~~	~~1.173~~	~~4.01~~
9H23046-CAL4	1	1166	0.518	4.00
9H23046-CAL5	2	1668	0.372	4.02
9H23046-CAL6	5	2874	0.259	4.01
9H23046-CAL7	10	5250	0.232	4.01
9H23046-CAL8	20	9015	0.200	4.01
9H23046-CAL9	50	22842	0.200	4.01
9H23046-CALA	100	45147	0.194	4.01
9H23046-CALB	200	90732	0.192	4.01

AVE RF **0.271** RF RSD **43.01** AVE RT **4.01**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

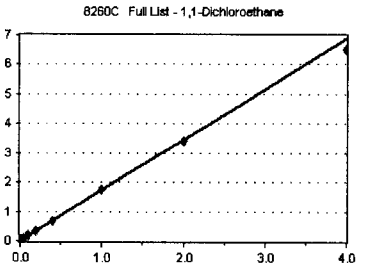


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	3035	3.352	4.08
9H23046-CAL4	1	7413	3.294	4.08
9H23046-CAL5	2	15530	3.459	4.08
9H23046-CAL6	5	37963	3.418	4.07
9H23046-CAL7	10	73396	3.242	4.07
9H23046-CAL8	20	153273	3.405	4.08
9H23046-CAL9	50	396025	3.461	4.07
9H23046-CALA	100	790700	3.405	4.08
9H23046-CALB	200	1583383	3.357	4.07

AVE RF **3.377** RF RSD **2.17** AVE RT **4.08**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

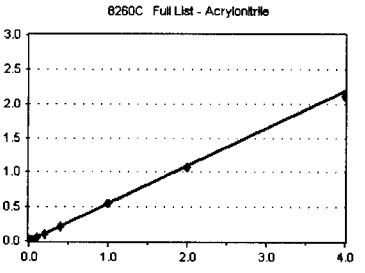


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	823	1.786	4.57
9H23046-CAL3	0.4	1493	1.649	4.58
9H23046-CAL4	1	3936	1.749	4.57
9H23046-CAL5	2	7899	1.759	4.58
9H23046-CAL6	5	19191	1.728	4.57
9H23046-CAL7	10	39027	1.724	4.57
9H23046-CAL8	20	77841	1.729	4.57
9H23046-CAL9	50	199457	1.743	4.57
9H23046-CALA	100	396629	1.708	4.57
9H23046-CALB	200	765936	1.624	4.57

AVE RF **1.720** RF RSD **2.87** AVE RT **4.57**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	1353	0.601	4.65
9H23046-CAL5	2	2585	0.576	4.65
9H23046-CAL6	5	6047	0.544	4.65
9H23046-CAL7	10	11905	0.526	4.65
9H23046-CAL8	20	23800	0.529	4.65
9H23046-CAL9	50	62372	0.545	4.64
9H23046-CALA	100	124007	0.534	4.65
9H23046-CALB	200	248703	0.527	4.64

AVE RF **0.548** RF RSD **4.93** AVE RT **4.65**

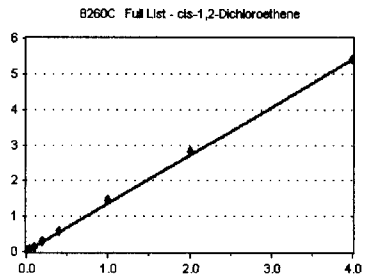
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

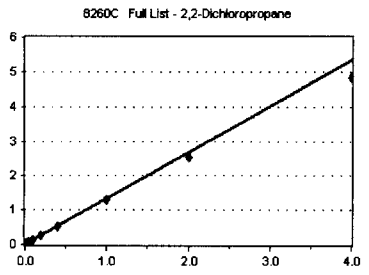


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	231	1.020	0.00
9H23046-CAL2	0.2	613	1.330	5.13
9H23046-CAL3	0.4	1147	1.267	5.14
9H23046-CAL4	1	3073	1.366	5.13
9H23046-CAL5	2	6415	1.429	5.14
9H23046-CAL6	5	15632	1.407	5.13
9H23046-CAL7	10	32015	1.414	5.13
9H23046-CAL8	20	64342	1.429	5.13
9H23046-CAL9	50	167106	1.460	5.13
9H23046-CALA	100	329116	1.417	5.13
9H23046-CALB	200	639266	1.355	5.13

AVE RF **1.354** RF RSD **9.12** AVE RT **4.66**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

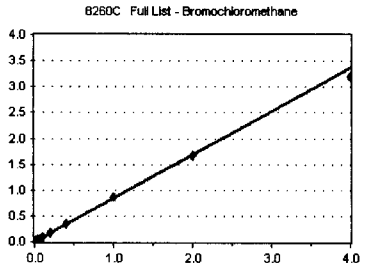


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~920~~	~~1.996~~	~~5.24~~
9H23046-CAL3	0.4	1454	1.606	5.24
9H23046-CAL4	1	3132	1.392	5.23
9H23046-CAL5	2	6290	1.401	5.24
9H23046-CAL6	5	14357	1.293	5.23
9H23046-CAL7	10	28959	1.279	5.24
9H23046-CAL8	20	58154	1.292	5.23
9H23046-CAL9	50	148959	1.302	5.23
9H23046-CALA	100	292574	1.260	5.24
9H23046-CALB	200	569255	1.207	5.23

AVE RF **1.337** RF RSD **8.80** AVE RT **5.23**

Bromochloromethane

Curve Fit: **AVERAGE RF**

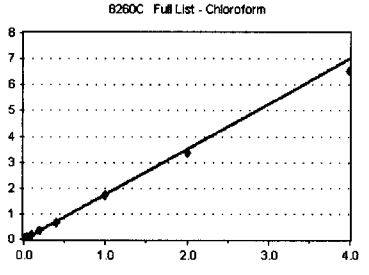


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	407	0.883	5.33
9H23046-CAL3	0.4	732	0.808	5.33
9H23046-CAL4	1	1870	0.831	5.33
9H23046-CAL5	2	3861	0.860	5.34
9H23046-CAL6	5	9555	0.860	5.33
9H23046-CAL7	10	19072	0.842	5.33
9H23046-CAL8	20	38376	0.853	5.33
9H23046-CAL9	50	99448	0.869	5.33
9H23046-CALA	100	194164	0.836	5.33
9H23046-CALB	200	377595	0.801	5.33

AVE RF **0.844** RF RSD **3.09** AVE RT **5.33**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~1091~~	~~2.367~~	~~5.42~~
9H23046-CAL3	0.4	1982	2.189	5.42
9H23046-CAL4	1	4083	1.814	5.41
9H23046-CAL5	2	7968	1.775	5.42
9H23046-CAL6	5	18445	1.661	5.41
9H23046-CAL7	10	36921	1.631	5.42
9H23046-CAL8	20	75236	1.671	5.42
9H23046-CAL9	50	195751	1.711	5.41
9H23046-CALA	100	389180	1.676	5.42
9H23046-CALB	200	769881	1.632	5.41

AVE RF **1.751** RF RSD **10.03** AVE RT **5.42**

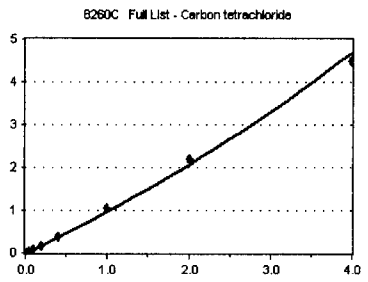
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Carbon tetrachloride

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

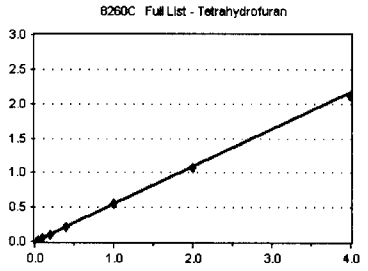


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	382	0.422	5.55
9H23046-CAL4	1	1490	0.662	5.54
9H23046-CAL5	2	3440	0.766	5.55
9H23046-CAL6	5	8920	0.803	5.54
9H23046-CAL7	10	19539	0.863	5.54
9H23046-CAL8	20	42475	0.944	5.55
9H23046-CAL9	50	119376	1.043	5.54
9H23046-CALA	100	254013	1.094	5.55
9H23046-CALB	200	528368	1.120	5.54

AVE RF **0.857** RF RSD **26.27** AVE RT **5.54**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

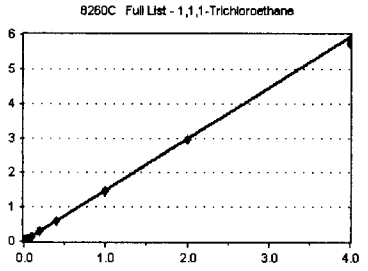


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL5	2	2580	0.575	5.60
9H23046-CAL6	5	6267	0.564	5.59
9H23046-CAL7	10	11521	0.509	5.59
9H23046-CAL8	20	24585	0.546	5.59
9H23046-CAL9	50	63396	0.554	5.59
9H23046-CALA	100	125137	0.539	5.59
9H23046-CALB	200	249141	0.528	5.58

AVE RF **0.545** RF RSD **4.07** AVE RT **5.59**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

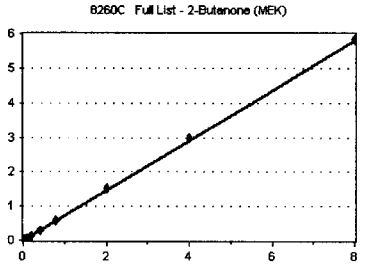


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	375	1.657	5.62
9H23046-CAL2	0.2	787	1.708	5.61
9H23046-CAL3	0.4	1327	1.465	5.62
9H23046-CAL4	1	3281	1.458	5.61
9H23046-CAL5	2	6428	1.432	5.62
9H23046-CAL6	5	15331	1.380	5.61
9H23046-CAL7	10	31549	1.394	5.61
9H23046-CAL8	20	63930	1.420	5.61
9H23046-CAL9	50	167682	1.465	5.61
9H23046-CALA	100	340907	1.468	5.61
9H23046-CALB	200	677513	1.436	5.61

AVE RF **1.480** RF RSD **7.06** AVE RT **5.61**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	2	3158	0.702	5.75
9H23046-CAL5	4	6673	0.743	5.74
9H23046-CAL6	10	15982	0.719	5.75
9H23046-CAL7	20	31412	0.694	5.74
9H23046-CAL8	40	65171	0.724	5.74
9H23046-CAL9	100	173238	0.757	5.74
9H23046-CALA	200	345218	0.743	5.74
9H23046-CALB	400	689742	0.731	5.74

AVE RF **0.727** RF RSD **2.97** AVE RT **5.74**

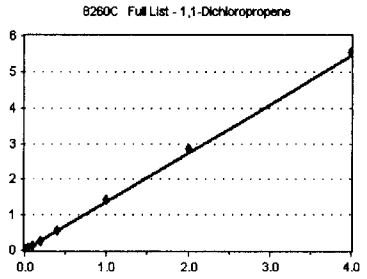
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

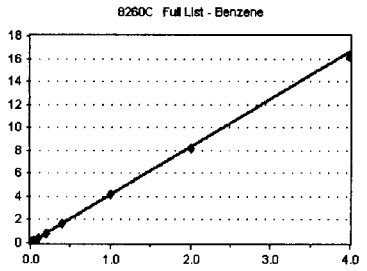


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	601	1.304	5.75
9H23046-CAL3	0.4	1175	1.298	5.75
9H23046-CAL4	1	2860	1.271	5.74
9H23046-CAL5	2	6320	1.408	5.75
9H23046-CAL6	5	15074	1.357	5.74
9H23046-CAL7	10	30670	1.355	5.74
9H23046-CAL8	20	62807	1.395	5.74
9H23046-CAL9	50	164741	1.440	5.74
9H23046-CALA	100	330948	1.425	5.74
9H23046-CALB	200	654294	1.387	5.74

AVE RF **1.364** RF RSD **4.21** AVE RT **5.74**

Benzene

Curve Fit: **AVERAGE RF**

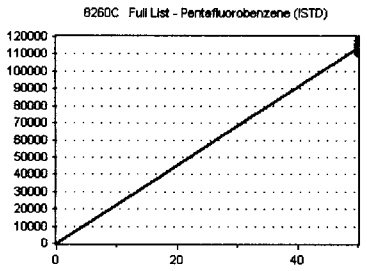


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	1062	4.691	6.01
9H23046-CAL2	0.2	2081	4.515	6.00
9H23046-CAL3	0.4	3767	4.160	6.01
9H23046-CAL4	1	8977	3.989	6.00
9H23046-CAL5	2	18060	4.023	6.00
9H23046-CAL6	5	44027	3.964	6.00
9H23046-CAL7	10	89873	3.970	6.00
9H23046-CAL8	20	183279	4.072	6.00
9H23046-CAL9	50	475884	4.159	6.00
9H23046-CALA	100	952806	4.103	6.00
9H23046-CALB	200	1902472	4.034	6.00

AVE RF **4.153** RF RSD **5.69** AVE RT **6.00**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

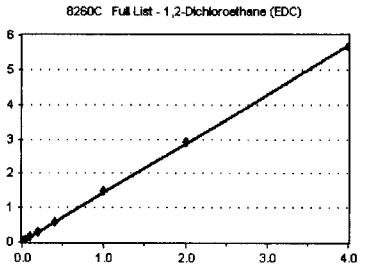


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	113186	2263.720	6.09
9H23046-CAL2	50	115217	2304.340	6.09
9H23046-CAL3	50	113189	2263.780	6.09
9H23046-CAL4	50	112521	2250.420	6.09
9H23046-CAL5	50	112239	2244.780	6.09
9H23046-CAL6	50	111074	2221.480	6.09
9H23046-CAL7	50	113188	2263.760	6.09
9H23046-CAL8	50	112536	2250.720	6.09
9H23046-CAL9	50	114431	2288.620	6.09
9H23046-CALA	50	116111	2322.220	6.09
9H23046-CALB	50	117913	2358.260	6.09

AVE RF **2275.645** RF RSD **1.73** AVE RT **6.09**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	619	1.343	6.22
9H23046-CAL3	0.4	1213	1.340	6.22
9H23046-CAL4	1	3195	1.420	6.22
9H23046-CAL5	2	6511	1.450	6.22
9H23046-CAL6	5	16304	1.468	6.22
9H23046-CAL7	10	31536	1.393	6.22
9H23046-CAL8	20	66313	1.473	6.21
9H23046-CAL9	50	171614	1.500	6.21
9H23046-CALA	100	338120	1.456	6.22
9H23046-CALB	200	670626	1.422	6.22

AVE RF **1.426** RF RSD **3.80** AVE RT **6.22**

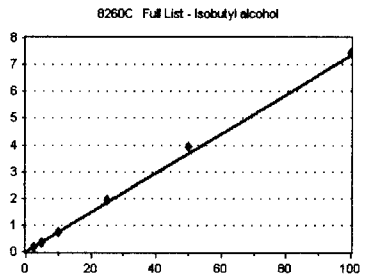
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

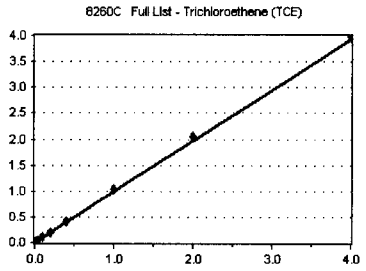


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~2.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~5~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~25~~	~~3515~~	~~6.248~~	~~6.29~~
~~9H23046-CAL5~~	~~50~~	~~6887~~	~~6.136~~	~~6.29~~
9H23046-CAL6	125	18066	6.506	6.29
9H23046-CAL7	250	40144	7.093	6.29
9H23046-CAL8	500	83220	7.395	6.28
9H23046-CAL9	1250	222160	7.766	6.27
9H23046-CALA	2500	455649	7.849	6.28
9H23046-CALB	5000	879121	7.456	6.28

AVE RF **7.344** RF RSD **6.71** AVE RT **6.28**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**

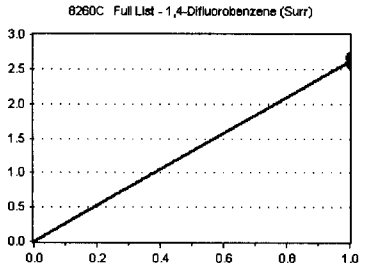


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	415	0.900	6.63
9H23046-CAL3	0.4	858	0.948	6.63
9H23046-CAL4	1	2088	0.928	6.62
9H23046-CAL5	2	4623	1.030	6.63
9H23046-CAL6	5	10856	0.977	6.62
9H23046-CAL7	10	21985	0.971	6.62
9H23046-CAL8	20	45291	1.006	6.62
9H23046-CAL9	50	118892	1.039	6.62
9H23046-CALA	100	238722	1.028	6.62
9H23046-CALB	200	469542	0.996	6.62

AVE RF **0.982** RF RSD **4.72** AVE RT **6.62**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

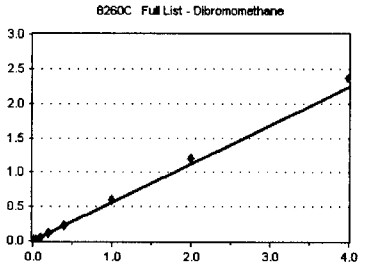


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	291703	2.577	6.66
9H23046-CAL2	50	297594	2.583	6.65
9H23046-CAL3	50	291590	2.576	6.66
9H23046-CAL4	50	292104	2.596	6.65
9H23046-CAL5	50	293165	2.612	6.66
9H23046-CAL6	50	288232	2.595	6.65
9H23046-CAL7	50	290747	2.569	6.65
9H23046-CAL8	50	297253	2.641	6.65
9H23046-CAL9	50	308021	2.692	6.65
9H23046-CALA	50	308703	2.659	6.65
9H23046-CALB	50	316612	2.685	6.65

AVE RF **2.617** RF RSD **1.72** AVE RT **6.65**

Dibromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	440	0.486	7.08
9H23046-CAL4	1	1204	0.535	7.07
9H23046-CAL5	2	2462	0.548	7.08
9H23046-CAL6	5	6226	0.561	7.07
9H23046-CAL7	10	12397	0.548	7.07
9H23046-CAL8	20	26007	0.578	7.07
9H23046-CAL9	50	69298	0.606	7.07
9H23046-CALA	100	138625	0.597	7.07
9H23046-CALB	200	278311	0.590	7.07

AVE RF **0.561** RF RSD **6.63** AVE RT **7.07**

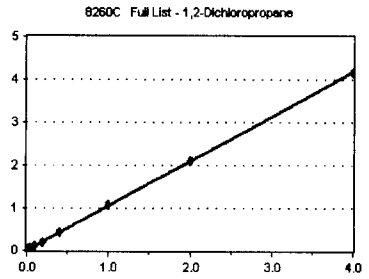
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

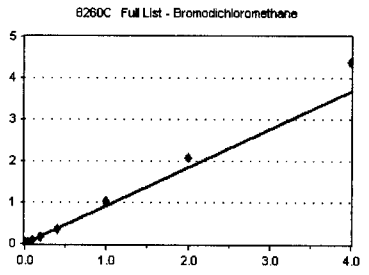


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	948	1.047	7.18
9H23046-CAL4	1	2263	1.006	7.18
9H23046-CAL5	2	4663	1.039	7.18
9H23046-CAL6	5	11702	1.054	7.18
9H23046-CAL7	10	22854	1.010	7.18
9H23046-CAL8	20	47771	1.061	7.18
9H23046-CAL9	50	124259	1.086	7.18
9H23046-CALA	100	245133	1.056	7.18
9H23046-CALB	200	489814	1.039	7.18

AVE RF **1.044** RF RSD **2.40** AVE RT **7.18**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

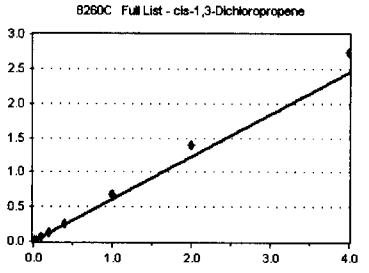


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	1860	0.827	7.26
9H23046-CAL5	2	3756	0.837	7.26
9H23046-CAL6	5	9154	0.824	7.25
9H23046-CAL7	10	18574	0.820	7.25
9H23046-CAL8	20	40357	0.897	7.25
9H23046-CAL9	50	116099	1.015	7.25
9H23046-CALA	100	242658	1.045	7.26
9H23046-CALB	200	515355	1.093	7.26

AVE RF **0.920** RF RSD **12.31** AVE RT **7.26**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

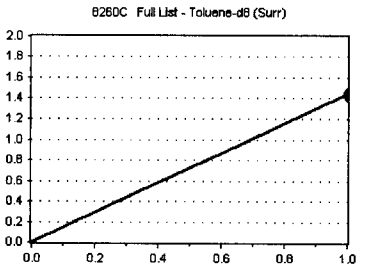


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	471	0.486	7.96
9H23046-CAL3	0.4	1039	0.548	7.97
9H23046-CAL4	1	2650	0.560	7.96
9H23046-CAL5	2	5748	0.601	7.96
9H23046-CAL6	5	14205	0.606	7.96
9H23046-CAL7	10	29142	0.620	7.96
9H23046-CAL8	20	63252	0.647	7.96
9H23046-CAL9	50	170381	0.676	7.95
9H23046-CALA	100	344050	0.699	7.96
9H23046-CALB	200	701320	0.684	7.96

AVE RF **0.613** RF RSD **11.02** AVE RT **7.96**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	346031	1.455	8.17
9H23046-CAL2	50	352463	1.453	8.16
9H23046-CAL3	50	343623	1.451	8.17
9H23046-CAL4	50	344014	1.455	8.16
9H23046-CAL5	50	348016	1.455	8.16
9H23046-CAL6	50	341661	1.458	8.17
9H23046-CAL7	50	342986	1.458	8.16
9H23046-CAL8	50	352854	1.443	8.17
9H23046-CAL9	50	358807	1.423	8.16
9H23046-CALA	50	351875	1.430	8.17
9H23046-CALB	50	363189	1.417	8.16

AVE RF **1.445** RF RSD **1.03** AVE RT **8.16**

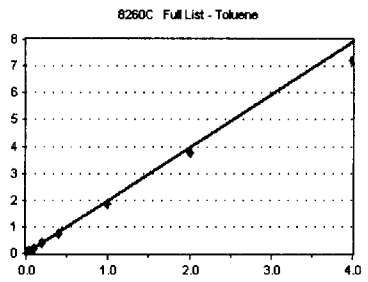
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Toluene

Curve Fit: **AVERAGE RF**

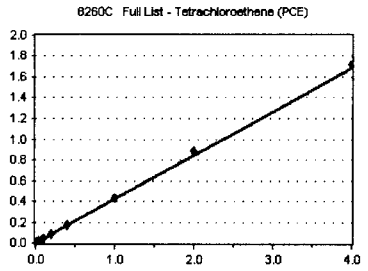


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~1588~~	~~3.340~~	~~8.23~~
9H23046-CAL2	0.2	2438	2.513	8.22
9H23046-CAL3	0.4	4008	2.115	8.22
9H23046-CAL4	1	9227	1.951	8.22
9H23046-CAL5	2	18878	1.973	8.23
9H23046-CAL6	5	44092	1.882	8.22
9H23046-CAL7	10	89832	1.910	8.22
9H23046-CAL8	20	183695	1.878	8.22
9H23046-CAL9	50	470013	1.864	8.22
9H23046-CALA	100	929375	1.889	8.22
9H23046-CALB	200	1846035	1.801	8.22

AVE RF **1.978** RF RSD **10.42** AVE RT **8.22**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

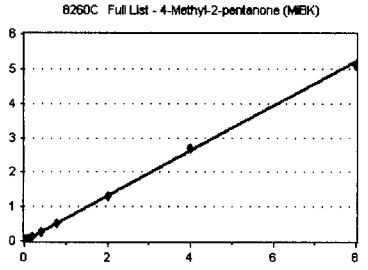


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	347	0.358	8.68
9H23046-CAL3	0.4	764	0.403	8.67
9H23046-CAL4	1	2047	0.433	8.67
9H23046-CAL5	2	4000	0.418	8.67
9H23046-CAL6	5	9951	0.425	8.67
9H23046-CAL7	10	20512	0.436	8.67
9H23046-CAL8	20	42068	0.430	8.67
9H23046-CAL9	50	108479	0.430	8.67
9H23046-CALA	100	218946	0.445	8.67
9H23046-CALB	200	439874	0.429	8.67

AVE RF **0.421** RF RSD **5.89** AVE RT **8.67**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

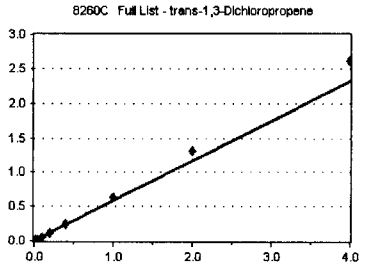


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.8	2427	0.640	8.68
9H23046-CAL4	2	6338	0.670	8.67
9H23046-CAL5	4	12432	0.650	8.68
9H23046-CAL6	10	30805	0.657	8.67
9H23046-CAL7	20	61595	0.655	8.67
9H23046-CAL8	40	127784	0.653	8.67
9H23046-CAL9	100	330806	0.656	8.66
9H23046-CALA	200	659850	0.671	8.67
9H23046-CALB	400	1300769	0.635	8.67

AVE RF **0.654** RF RSD **1.82** AVE RT **8.67**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	912	0.481	8.72
9H23046-CAL4	1	2498	0.528	8.72
9H23046-CAL5	2	5234	0.547	8.72
9H23046-CAL6	5	13126	0.560	8.71
9H23046-CAL7	10	27155	0.577	8.71
9H23046-CAL8	20	58546	0.599	8.71
9H23046-CAL9	50	159787	0.634	8.71
9H23046-CALA	100	322508	0.655	8.71
9H23046-CALB	200	667262	0.651	8.71

AVE RF **0.581** RF RSD **10.15** AVE RT **8.71**

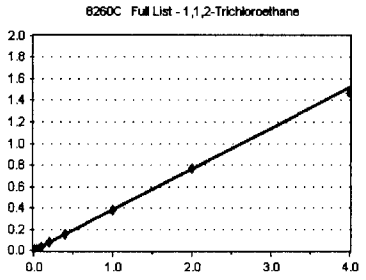
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**

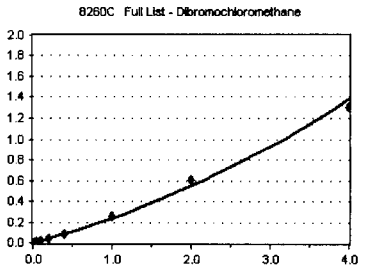


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	397	0.409	8.89
9H23046-CAL3	0.4	713	0.376	8.88
9H23046-CAL4	1	1866	0.395	8.89
9H23046-CAL5	2	3649	0.381	8.89
9H23046-CAL6	5	8821	0.376	8.88
9H23046-CAL7	10	17407	0.370	8.88
9H23046-CAL8	20	36714	0.375	8.88
9H23046-CAL9	50	95583	0.379	8.88
9H23046-CALA	100	188025	0.382	8.89
9H23046-CALB	200	377668	0.368	8.89

AVE RF **0.381** RF RSD **3.20** AVE RT **8.89**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

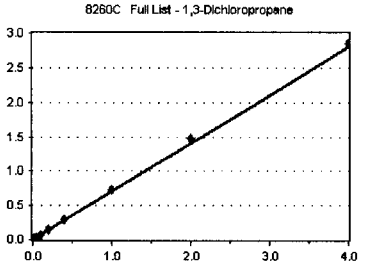


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	259	0.137	9.08
9H23046-CAL4	1	730	0.154	9.07
9H23046-CAL5	2	1730	0.181	9.07
9H23046-CAL6	5	4565	0.195	9.07
9H23046-CAL7	10	9326	0.198	9.07
9H23046-CAL8	20	21761	0.222	9.07
9H23046-CAL9	50	66661	0.264	9.07
9H23046-CALA	100	148219	0.301	9.07
9H23046-CALB	200	334043	0.326	9.08

AVE RF **0.220** RF RSD **29.51** AVE RT **9.07**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

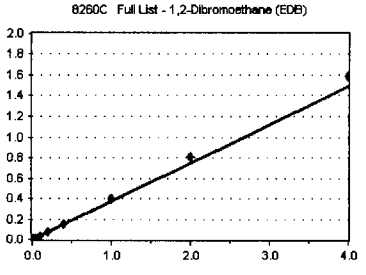


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	580	0.598	9.18
9H23046-CAL3	0.4	1256	0.663	9.18
9H23046-CAL4	1	3255	0.688	9.17
9H23046-CAL5	2	6884	0.719	9.17
9H23046-CAL6	5	16934	0.723	9.17
9H23046-CAL7	10	33311	0.708	9.17
9H23046-CAL8	20	71315	0.729	9.17
9H23046-CAL9	50	185628	0.736	9.17
9H23046-CALA	100	364850	0.741	9.17
9H23046-CALB	200	731023	0.713	9.17

AVE RF **0.702** RF RSD **6.18** AVE RT **9.17**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~225~~	~~0.232~~	~~9.32~~
9H23046-CAL3	0.4	639	0.337	9.32
9H23046-CAL4	1	1581	0.334	9.31
9H23046-CAL5	2	3474	0.363	9.31
9H23046-CAL6	5	8752	0.374	9.31
9H23046-CAL7	10	16999	0.361	9.31
9H23046-CAL8	20	37512	0.384	9.31
9H23046-CAL9	50	100517	0.399	9.31
9H23046-CALA	100	199000	0.404	9.31
9H23046-CALB	200	406149	0.396	9.31

AVE RF **0.372** RF RSD **6.91** AVE RT **9.31**

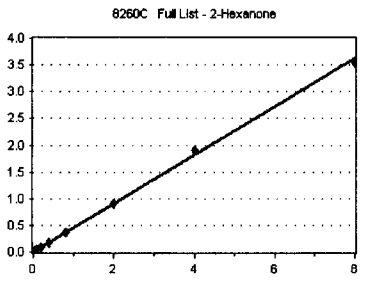
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

2-Hexanone

Curve Fit: **AVERAGE RF**

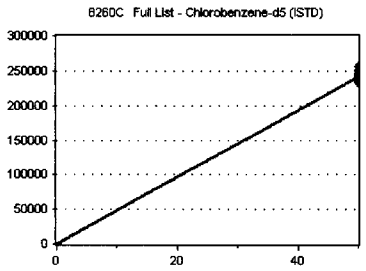


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.8	1717	0.453	9.55
9H23046-CAL4	2	4508	0.477	9.55
9H23046-CAL5	4	8448	0.441	9.55
9H23046-CAL6	10	20941	0.447	9.54
9H23046-CAL7	20	42994	0.457	9.54
9H23046-CAL8	40	88402	0.452	9.54
9H23046-CAL9	100	228964	0.454	9.54
9H23046-CALA	200	465791	0.473	9.54
9H23046-CALB	400	910126	0.444	9.54

AVE RF **0.455** RF RSD **2.68** AVE RT **9.54**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

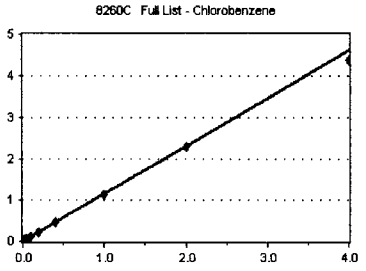


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	237760	4755.200	9.80
9H23046-CAL2	50	242508	4850.160	9.80
9H23046-CAL3	50	236855	4737.100	9.80
9H23046-CAL4	50	236449	4728.980	9.80
9H23046-CAL5	50	239240	4784.800	9.80
9H23046-CAL6	50	234314	4686.280	9.80
9H23046-CAL7	50	235169	4703.380	9.80
9H23046-CAL8	50	244508	4890.160	9.80
9H23046-CAL9	50	252142	5042.840	9.80
9H23046-CALA	50	246022	4920.440	9.80
9H23046-CALB	50	256238	5124.760	9.80

AVE RF **4838.555** RF RSD **2.97** AVE RT **9.80**

Chlorobenzene

Curve Fit: **AVERAGE RF**

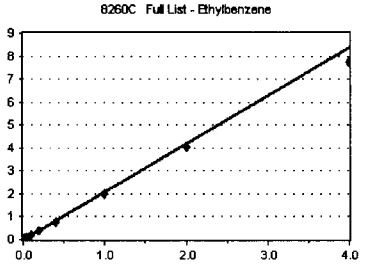


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	631	1.327	9.82
9H23046-CAL2	0.2	1237	1.275	9.82
9H23046-CAL3	0.4	2075	1.095	9.82
9H23046-CAL4	1	5290	1.119	9.82
9H23046-CAL5	2	10813	1.130	9.82
9H23046-CAL6	5	26611	1.136	9.82
9H23046-CAL7	10	53178	1.131	9.82
9H23046-CAL8	20	110656	1.131	9.81
9H23046-CAL9	50	286085	1.135	9.81
9H23046-CALA	100	562026	1.142	9.82
9H23046-CALB	200	1121901	1.095	9.82

AVE RF **1.156** RF RSD **6.43** AVE RT **9.82**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	1245	2.618	9.85
9H23046-CAL2	0.2	2263	2.333	9.85
9H23046-CAL3	0.4	3858	2.036	9.85
9H23046-CAL4	1	9254	1.957	9.85
9H23046-CAL5	2	19825	2.072	9.84
9H23046-CAL6	5	46676	1.992	9.84
9H23046-CAL7	10	94519	2.010	9.85
9H23046-CAL8	20	195057	1.994	9.85
9H23046-CAL9	50	506523	2.009	9.84
9H23046-CALA	100	998471	2.029	9.84
9H23046-CALB	200	1986216	1.938	9.84

AVE RF **2.090** RF RSD **9.78** AVE RT **9.84**

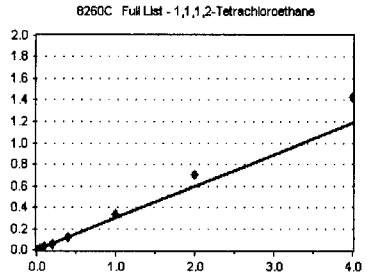
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,1,1,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

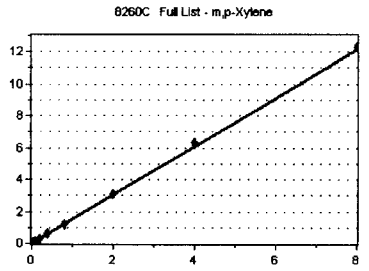


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	515	0.272	9.88
9H23046-CAL4	1	1135	0.240	9.88
9H23046-CAL5	2	2576	0.269	9.88
9H23046-CAL6	5	6336	0.270	9.88
9H23046-CAL7	10	13357	0.284	9.88
9H23046-CAL8	20	29500	0.302	9.88
9H23046-CAL9	50	83294	0.330	9.88
9H23046-CALA	100	173445	0.352	9.88
9H23046-CALB	200	367035	0.358	9.88

AVE RF **0.298** RF RSD **13.79** AVE RT **9.88**

m,p-Xylene

Curve Fit: **AVERAGE RF**

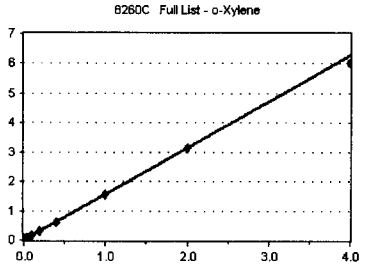


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.2~~	~~1575~~	~~1.656~~	~~9.99~~
9H23046-CAL2	0.4	3053	1.574	9.98
9H23046-CAL3	0.8	5773	1.523	9.98
9H23046-CAL4	2	13902	1.470	9.98
9H23046-CAL5	4	28634	1.496	9.98
9H23046-CAL6	10	68844	1.469	9.98
9H23046-CAL7	20	140718	1.496	9.98
9H23046-CAL8	40	295871	1.513	9.98
9H23046-CAL9	100	771606	1.530	9.98
9H23046-CALA	200	1552900	1.578	9.98
9H23046-CALB	400	3151231	1.537	9.98

AVE RF **1.519** RF RSD **2.50** AVE RT **9.98**

o-Xylene

Curve Fit: **AVERAGE RF**

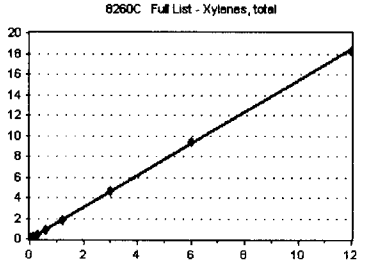


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~1188~~	~~2.498~~	~~10.37~~
9H23046-CAL2	0.2	1827	1.883	10.36
9H23046-CAL3	0.4	3021	1.594	10.36
9H23046-CAL4	1	7410	1.567	10.36
9H23046-CAL5	2	14660	1.532	10.36
9H23046-CAL6	5	35208	1.503	10.36
9H23046-CAL7	10	71807	1.527	10.36
9H23046-CAL8	20	150167	1.535	10.36
9H23046-CAL9	50	386929	1.535	10.36
9H23046-CALA	100	769633	1.564	10.36
9H23046-CALB	200	1538116	1.501	10.36

AVE RF **1.574** RF RSD **7.15** AVE RT **10.36**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.3~~	~~2763~~	~~1.937~~	~~10.37~~
9H23046-CAL2	0.6	4880	1.677	10.36
9H23046-CAL3	1.2	8794	1.547	10.36
9H23046-CAL4	3	21312	1.502	10.36
9H23046-CAL5	6	43294	1.508	10.36
9H23046-CAL6	15	104052	1.480	10.36
9H23046-CAL7	30	212525	1.506	10.36
9H23046-CAL8	60	446038	1.520	10.36
9H23046-CAL9	150	1158535	1.532	10.36
9H23046-CALA	300	2322533	1.573	10.36
9H23046-CALB	600	4689347	1.525	10.36

AVE RF **1.537** RF RSD **3.61** AVE RT **10.36**

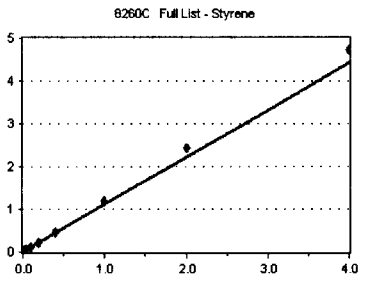
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Styrene

Curve Fit: **AVERAGE RF**

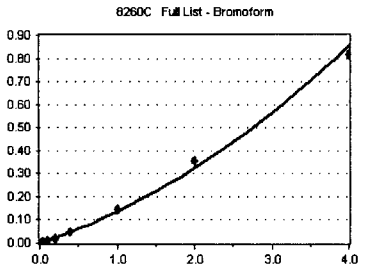


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	476	1.001	10.42
9H23046-CAL2	0.2	969	0.999	10.42
9H23046-CAL3	0.4	1881	0.993	10.41
9H23046-CAL4	1	5043	1.066	10.41
9H23046-CAL5	2	10610	1.109	10.41
9H23046-CAL6	5	25892	1.105	10.41
9H23046-CAL7	10	52997	1.127	10.41
9H23046-CAL8	20	114265	1.168	10.40
9H23046-CAL9	50	299326	1.187	10.40
9H23046-CALA	100	596605	1.213	10.41
9H23046-CALB	200	1215067	1.185	10.41

AVE RF **1.105** RF RSD **7.32** AVE RT **10.41**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

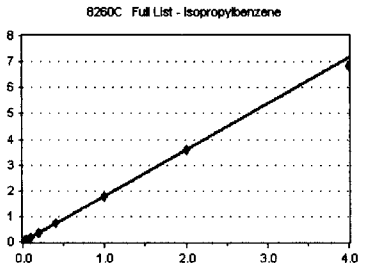


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	357	7.549	10.43
9H23046-CAL5	2	910	9.509	10.43
9H23046-CAL6	5	2298	9.807	10.43
9H23046-CAL7	10	4865	0.103	10.44
9H23046-CAL8	20	11506	0.118	10.43
9H23046-CAL9	50	36481	0.145	10.43
9H23046-CALA	100	87714	0.178	10.44
9H23046-CALB	200	209437	0.204	10.43

AVE RF **0.127** RF RSD **35.27** AVE RT **10.43**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

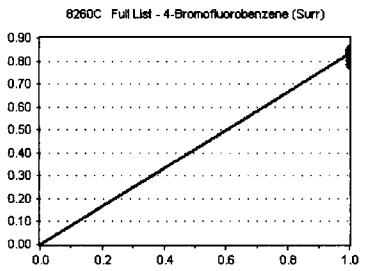


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~1303~~	~~2.740~~	~~10.63~~
9H23046-CAL2	0.2	1956	2.016	10.63
9H23046-CAL3	0.4	3458	1.825	10.63
9H23046-CAL4	1	8313	1.758	10.63
9H23046-CAL5	2	17160	1.793	10.63
9H23046-CAL6	5	41085	1.753	10.63
9H23046-CAL7	10	83845	1.783	10.63
9H23046-CAL8	20	174650	1.786	10.63
9H23046-CAL9	50	447050	1.773	10.63
9H23046-CALA	100	881306	1.791	10.62
9H23046-CALB	200	1750073	1.707	10.63

AVE RF **1.799** RF RSD **4.59** AVE RT **10.63**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	89219	0.847	10.87
9H23046-CAL2	50	92028	0.842	10.87
9H23046-CAL3	50	88475	0.842	10.87
9H23046-CAL4	50	90208	0.839	10.87
9H23046-CAL5	50	91972	0.848	10.86
9H23046-CAL6	50	89612	0.850	10.87
9H23046-CAL7	50	89698	0.832	10.87
9H23046-CAL8	50	94590	0.838	10.87
9H23046-CAL9	50	96823	0.836	10.87
9H23046-CALA	50	95542	0.803	10.87
9H23046-CALB	50	98121	0.785	10.87

AVE RF **0.833** RF RSD **2.45** AVE RT **10.87**

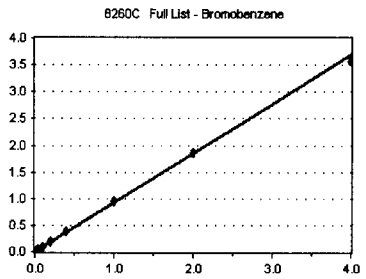
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Bromobenzene

Curve Fit: **AVERAGE RF**

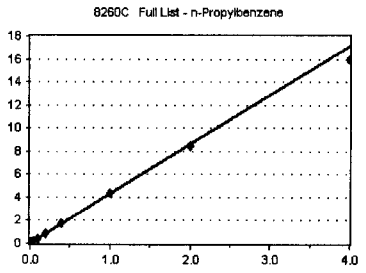


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	379	0.867	10.95
9H23046-CAL3	0.4	736	0.875	10.95
9H23046-CAL4	1	2054	0.956	10.95
9H23046-CAL5	2	4076	0.940	10.96
9H23046-CAL6	5	9954	0.944	10.95
9H23046-CAL7	10	19964	0.926	10.95
9H23046-CAL8	20	42745	0.946	10.95
9H23046-CAL9	50	111071	0.959	10.95
9H23046-CALA	100	220436	0.926	10.95
9H23046-CALB	200	444948	0.890	10.95

AVE RF **0.923** RF RSD **3.64** AVE RT **10.95**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

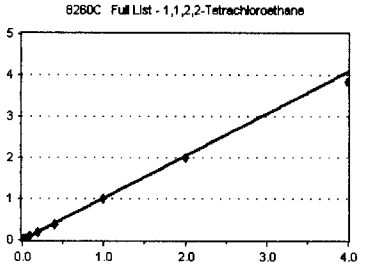


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	878	4.167	10.97
9H23046-CAL2	0.2	2016	4.612	10.98
9H23046-CAL3	0.4	3596	4.275	10.98
9H23046-CAL4	1	9031	4.202	10.97
9H23046-CAL5	2	18895	4.355	10.97
9H23046-CAL6	5	45705	4.335	10.97
9H23046-CAL7	10	93280	4.325	10.97
9H23046-CAL8	20	195359	4.324	10.97
9H23046-CAL9	50	503424	4.346	10.97
9H23046-CALA	100	1005628	4.226	10.97
9H23046-CALB	200	1996842	3.993	10.97

AVE RF **4.287** RF RSD **3.54** AVE RT **10.97**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

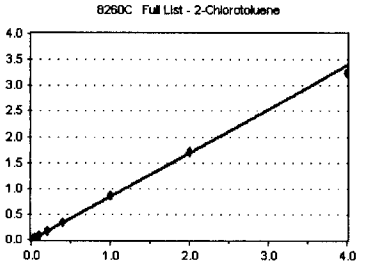


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	591	1.352	11.04
9H23046-CAL3	0.4	898	1.068	11.04
9H23046-CAL4	1	2082	0.969	11.04
9H23046-CAL5	2	4163	0.960	11.04
9H23046-CAL6	5	10113	0.959	11.04
9H23046-CAL7	10	21104	0.979	11.04
9H23046-CAL8	20	44069	0.975	11.04
9H23046-CAL9	50	115220	0.995	11.04
9H23046-CALA	100	239096	1.005	11.04
9H23046-CALB	200	478407	0.957	11.04

AVE RF **1.022** RF RSD **11.81** AVE RT **11.04**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	336	0.769	11.10
9H23046-CAL3	0.4	718	0.854	11.10
9H23046-CAL4	1	1796	0.836	11.10
9H23046-CAL5	2	3825	0.882	11.10
9H23046-CAL6	5	9166	0.869	11.10
9H23046-CAL7	10	18317	0.849	11.10
9H23046-CAL8	20	39239	0.869	11.10
9H23046-CAL9	50	101362	0.875	11.10
9H23046-CALA	100	202436	0.851	11.10
9H23046-CALB	200	405687	0.811	11.10

AVE RF **0.846** RF RSD **4.05** AVE RT **11.10**

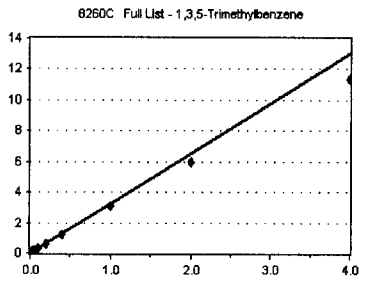
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

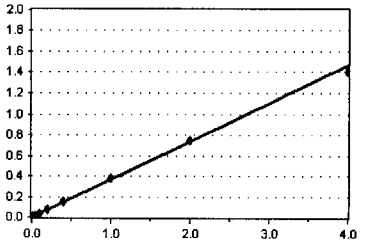


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	888	4.214	11.13
9H23046-CAL2	0.2	1632	3.734	11.13
9H23046-CAL3	0.4	2845	3.383	11.13
9H23046-CAL4	1	6820	3.173	11.13
9H23046-CAL5	2	13420	3.093	11.13
9H23046-CAL6	5	32707	3.102	11.13
9H23046-CAL7	10	66635	3.090	11.13
9H23046-CAL8	20	140535	3.111	11.13
9H23046-CAL9	50	360533	3.113	11.13
9H23046-CALA	100	715623	3.007	11.13
9H23046-CALB	200	1423457	2.847	11.12

AVE RF **3.261** RF RSD **11.95** AVE RT **11.13**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

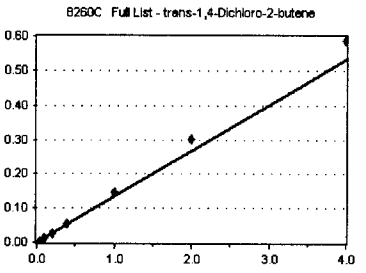


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	282	0.335	11.15
9H23046-CAL4	1	795	0.370	11.15
9H23046-CAL5	2	1636	0.377	11.14
9H23046-CAL6	5	3962	0.376	11.15
9H23046-CAL7	10	8087	0.375	11.14
9H23046-CAL8	20	16937	0.375	11.15
9H23046-CAL9	50	43324	0.374	11.15
9H23046-CALA	100	88802	0.373	11.14
9H23046-CALB	200	175677	0.351	11.14

AVE RF **0.367** RF RSD **3.91** AVE RT **11.14**

trans-1,4-Dichloro-2-butene

Curve Fit: **AVERAGE RF**

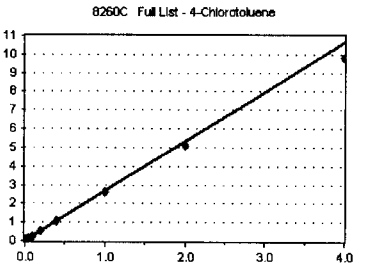


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL5	2	490	0.113	11.18
9H23046-CAL6	5	1211	0.115	11.18
9H23046-CAL7	10	2728	0.126	11.18
9H23046-CAL8	20	6171	0.137	11.18
9H23046-CAL9	50	16847	0.145	11.18
9H23046-CALA	100	35867	0.151	11.17
9H23046-CALB	200	73225	0.146	11.17

AVE RF **0.133** RF RSD **11.60** AVE RT **11.17**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	1362	3.116	11.24
9H23046-CAL3	0.4	2243	2.667	11.24
9H23046-CAL4	1	5652	2.630	11.23
9H23046-CAL5	2	11543	2.661	11.24
9H23046-CAL6	5	27329	2.592	11.23
9H23046-CAL7	10	55995	2.596	11.23
9H23046-CAL8	20	119295	2.641	11.23
9H23046-CAL9	50	306428	2.645	11.23
9H23046-CALA	100	611670	2.570	11.23
9H23046-CALB	200	1224134	2.448	11.23

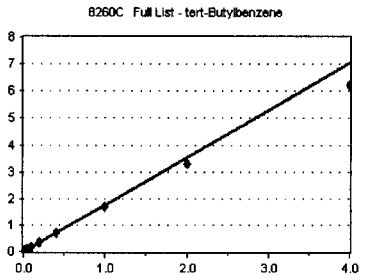
AVE RF **2.657** RF RSD **6.53** AVE RT **11.23**

Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

tert-Butylbenzene

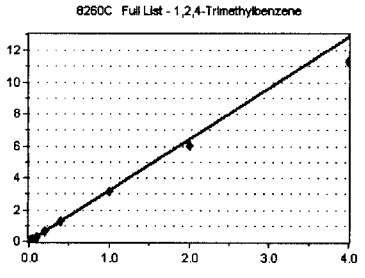


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	900	2.059	11.38
9H23046-CAL3	0.4	1583	1.882	11.38
9H23046-CAL4	1	3839	1.786	11.38
9H23046-CAL5	2	7817	1.802	11.38
9H23046-CAL6	5	18516	1.756	11.38
9H23046-CAL7	10	37411	1.735	11.38
9H23046-CAL8	20	77831	1.723	11.38
9H23046-CAL9	50	197353	1.704	11.38
9H23046-CALA	100	391596	1.646	11.38
9H23046-CALB	200	777765	1.555	11.38

AVE RF **1.765** RF RSD **7.71** AVE RT **11.38**

1,2,4-Trimethylbenzene

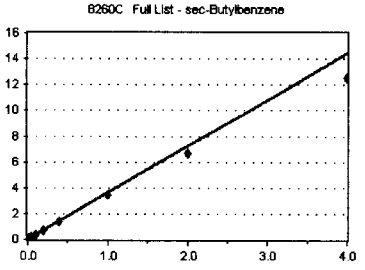


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	1751	4.006	11.44
9H23046-CAL3	0.4	3018	3.588	11.44
9H23046-CAL4	1	6691	3.113	11.43
9H23046-CAL5	2	13612	3.138	11.44
9H23046-CAL6	5	32697	3.102	11.44
9H23046-CAL7	10	67149	3.113	11.43
9H23046-CAL8	20	139035	3.078	11.43
9H23046-CAL9	50	363544	3.139	11.43
9H23046-CALA	100	716264	3.010	11.43
9H23046-CALB	200	1418079	2.836	11.43

AVE RF **3.212** RF RSD **10.45** AVE RT **11.43**

sec-Butylbenzene

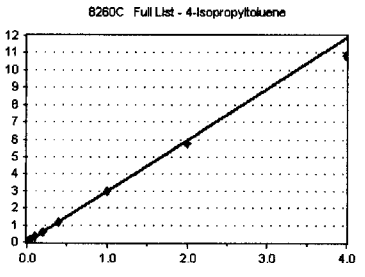


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~1071~~	~~5.083~~	~~11.52~~
9H23046-CAL2	0.2	1940	4.438	11.52
9H23046-CAL3	0.4	3283	3.903	11.52
9H23046-CAL4	1	7837	3.647	11.52
9H23046-CAL5	2	15807	3.643	11.52
9H23046-CAL6	5	37244	3.533	11.52
9H23046-CAL7	10	75540	3.503	11.52
9H23046-CAL8	20	157900	3.495	11.52
9H23046-CAL9	50	405582	3.502	11.52
9H23046-CALA	100	796660	3.348	11.52
9H23046-CALB	200	1567956	3.136	11.52

AVE RF **3.615** RF RSD **9.72** AVE RT **11.52**

4-Isopropyltoluene



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	662	3.142	11.63
9H23046-CAL2	0.2	1379	3.155	11.63
9H23046-CAL3	0.4	2435	2.895	11.63
9H23046-CAL4	1	6294	2.929	11.62
9H23046-CAL5	2	13091	3.017	11.63
9H23046-CAL6	5	31751	3.012	11.63
9H23046-CAL7	10	64031	2.969	11.63
9H23046-CAL8	20	135172	2.992	11.63
9H23046-CAL9	50	348632	3.010	11.63
9H23046-CALA	100	690102	2.900	11.62
9H23046-CALB	200	1350695	2.701	11.62

AVE RF **2.975** RF RSD **4.17** AVE RT **11.63**

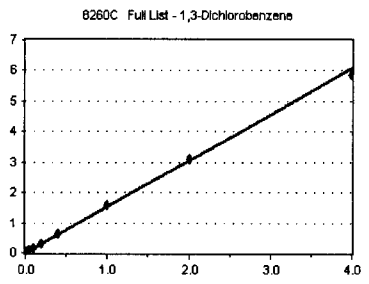
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

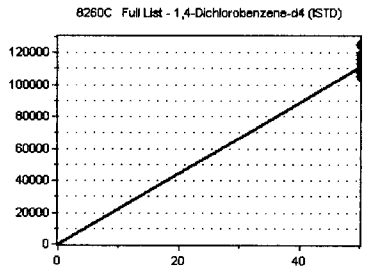


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	317	1.504	11.70
9H23046-CAL2	0.2	668	1.528	11.70
9H23046-CAL3	0.4	1255	1.492	11.70
9H23046-CAL4	1	3152	1.467	11.70
9H23046-CAL5	2	6541	1.508	11.70
9H23046-CAL6	5	16331	1.549	11.69
9H23046-CAL7	10	33356	1.547	11.69
9H23046-CAL8	20	70858	1.568	11.69
9H23046-CAL9	50	183038	1.580	11.69
9H23046-CALA	100	369136	1.551	11.69
9H23046-CALB	200	735052	1.470	11.69

AVE RF **1.524** RF RSD **2.53** AVE RT **11.69**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

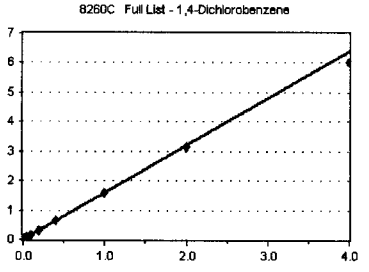


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	105354	2107.080	11.75
9H23046-CAL2	50	109279	2185.580	11.75
9H23046-CAL3	50	105136	2102.720	11.75
9H23046-CAL4	50	107459	2149.180	11.75
9H23046-CAL5	50	108461	2169.220	11.75
9H23046-CAL6	50	105422	2108.440	11.75
9H23046-CAL7	50	107837	2156.740	11.75
9H23046-CAL8	50	112942	2258.840	11.75
9H23046-CAL9	50	115830	2316.600	11.75
9H23046-CALA	50	118989	2379.780	11.75
9H23046-CALB	50	125008	2500.160	11.75

AVE RF **2221.304** RF RSD **5.81** AVE RT **11.75**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

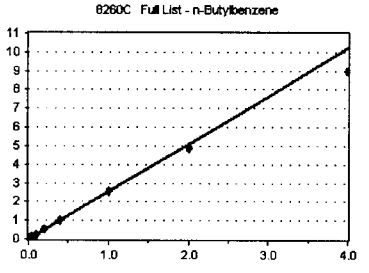


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	344	1.633	11.76
9H23046-CAL2	0.2	755	1.727	11.76
9H23046-CAL3	0.4	1332	1.584	11.76
9H23046-CAL4	1	3452	1.606	11.76
9H23046-CAL5	2	6991	1.611	11.76
9H23046-CAL6	5	16807	1.594	11.76
9H23046-CAL7	10	34100	1.581	11.76
9H23046-CAL8	20	72301	1.600	11.76
9H23046-CAL9	50	186043	1.606	11.76
9H23046-CALA	100	375539	1.578	11.76
9H23046-CALB	200	751486	1.503	11.76

AVE RF **1.602** RF RSD **3.30** AVE RT **11.76**

n-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	1131	2.587	11.95
9H23046-CAL3	0.4	2404	2.858	11.94
9H23046-CAL4	1	5239	2.438	11.94
9H23046-CAL5	2	11180	2.577	11.94
9H23046-CAL6	5	27501	2.609	11.94
9H23046-CAL7	10	55963	2.595	11.94
9H23046-CAL8	20	116780	2.585	11.94
9H23046-CAL9	50	296797	2.562	11.94
9H23046-CALA	100	582209	2.446	11.94
9H23046-CALB	200	1123539	2.247	11.95

AVE RF **2.550** RF RSD **6.12** AVE RT **11.94**

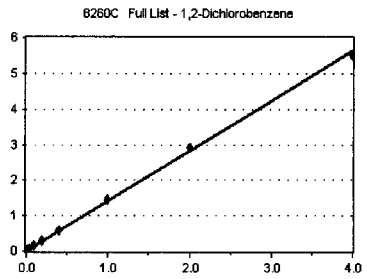
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

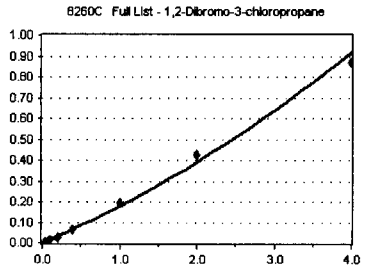


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	0.1	250	1.186	12.08
9H23046-CAL2	0.2	635	1.453	12.08
9H23046-CAL3	0.4	1116	1.327	12.08
9H23046-CAL4	1	2970	1.382	12.08
9H23046-CAL5	2	6300	1.452	12.08
9H23046-CAL6	5	15403	1.461	12.08
9H23046-CAL7	10	31708	1.470	12.08
9H23046-CAL8	20	66459	1.471	12.08
9H23046-CAL9	50	170457	1.472	12.08
9H23046-CALA	100	346185	1.455	12.08
9H23046-CALB	200	688526	1.377	12.08

AVE RF **1.410** RF RSD **6.27** AVE RT **12.08**

1,2-Dibromo-3-chloropropane

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

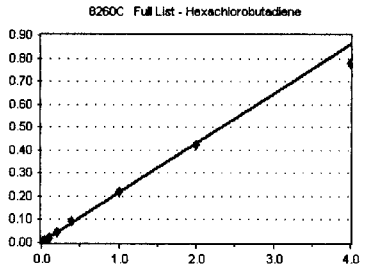


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL5	2	589	0.136	12.69
9H23046-CAL6	5	1505	0.143	12.68
9H23046-CAL7	10	3177	0.147	12.69
9H23046-CAL8	20	7220	0.160	12.69
9H23046-CAL9	50	22359	0.193	12.68
9H23046-CALA	100	50830	0.214	12.69
9H23046-CALB	200	109077	0.218	12.68

AVE RF **0.173** RF RSD **20.06** AVE RT **12.68**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

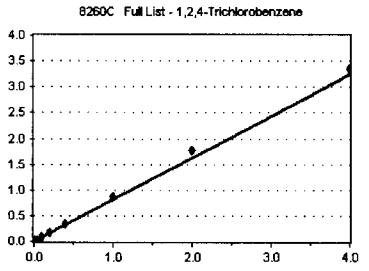


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	469	0.218	13.19
9H23046-CAL5	2	966	0.223	13.19
9H23046-CAL6	5	2262	0.215	13.19
9H23046-CAL7	10	4683	0.217	13.19
9H23046-CAL8	20	10181	0.225	13.19
9H23046-CAL9	50	25198	0.218	13.19
9H23046-CALA	100	50479	0.212	13.19
9H23046-CALB	200	97175	0.194	13.19

AVE RF **0.215** RF RSD **4.38** AVE RT **13.19**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL3	0.4	614	0.730	13.23
9H23046-CAL4	1	1535	0.714	13.23
9H23046-CAL5	2	3381	0.779	13.22
9H23046-CAL6	5	8401	0.797	13.23
9H23046-CAL7	10	18177	0.843	13.22
9H23046-CAL8	20	37933	0.840	13.22
9H23046-CAL9	50	100940	0.871	13.23
9H23046-CALA	100	211508	0.889	13.22
9H23046-CALB	200	418966	0.838	13.22

AVE RF **0.811** RF RSD **7.47** AVE RT **13.22**

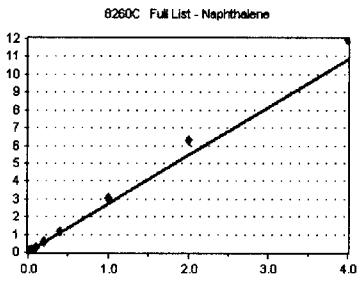
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VF190823S.m VF190823G.m**

Naphthalene

Curve Fit: **AVERAGE RF**

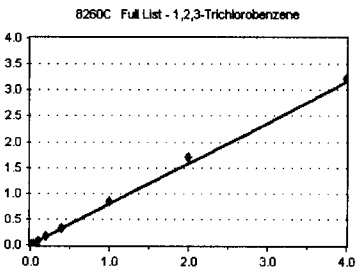


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL2	0.2	1042	2.384	13.50
9H23046-CAL3	0.4	2020	2.402	13.50
9H23046-CAL4	1	4982	2.318	13.50
9H23046-CAL5	2	10751	2.478	13.50
9H23046-CAL6	5	27984	2.654	13.50
9H23046-CAL7	10	61250	2.840	13.50
9H23046-CAL8	20	128491	2.844	13.50
9H23046-CAL9	50	355475	3.069	13.50
9H23046-CALA	100	749752	3.151	13.50
9H23046-CALB	200	1492009	2.984	13.50

AVE RF **2.712** RF RSD **11.29** AVE RT **13.50**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~681~~	~~0.691~~	~~13.66~~
9H23046-CAL4	1	1519	0.707	13.67
9H23046-CAL5	2	3136	0.723	13.66
9H23046-CAL6	5	8029	0.762	13.66
9H23046-CAL7	10	17563	0.814	13.66
9H23046-CAL8	20	36406	0.806	13.66
9H23046-CAL9	50	98076	0.847	13.66
9H23046-CALA	100	203821	0.856	13.66
9H23046-CALB	200	401725	0.803	13.66

AVE RF **0.790** RF RSD **6.92** AVE RT **13.66**

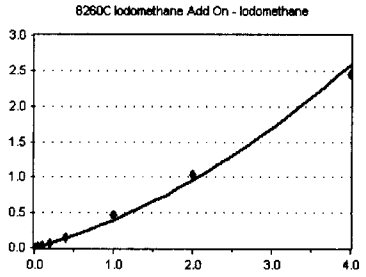
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Iodomethane Add On** Instrument Cal ID: **VF190823S.m VF190823G.m**

Iodomethane

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

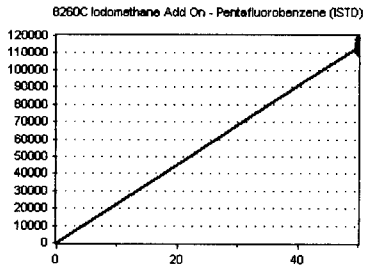


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	1	513	0.228	3.27
9H23046-CAL5	2	1091	0.243	3.29
9H23046-CAL6	5	2840	0.256	3.28
9H23046-CAL7	10	6636	0.293	3.27
9H23046-CAL8	20	15596	0.346	3.28
9H23046-CAL9	50	53155	0.465	3.27
9H23046-CALA	100	119699	0.515	3.28
9H23046-CALB	200	289644	0.614	3.27

AVE RF **0.370** RF RSD **38.96** AVE RT **3.28**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	113186	2263.720	6.09
9H23046-CAL2	50	115217	2304.340	6.09
9H23046-CAL3	50	113189	2263.780	6.09
9H23046-CAL4	50	112521	2250.420	6.09
9H23046-CAL5	50	112239	2244.780	6.09
9H23046-CAL6	50	111074	2221.480	6.09
9H23046-CAL7	50	113188	2263.760	6.09
9H23046-CAL8	50	112536	2250.720	6.09
9H23046-CAL9	50	114431	2288.620	6.09
9H23046-CALA	50	116111	2322.220	6.09
9H23046-CALB	50	117913	2358.260	6.09

AVE RF **2275.645** RF RSD **1.73** AVE RT **6.09**

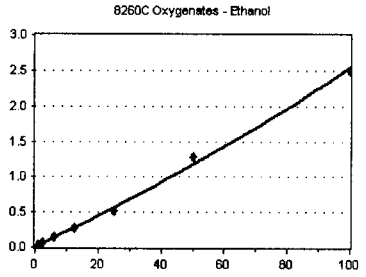
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VF190823S.m VF190823G.m**

Ethanol

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

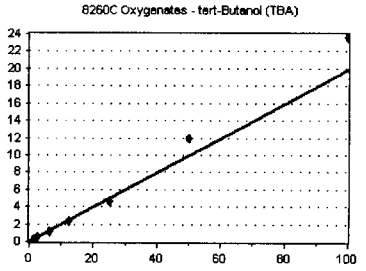


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~6.25~~	~~1996~~	~~0.141~~	~~3.25~~
~~9H23046-CAL2~~	~~12.5~~	~~2098~~	~~7.284~~	~~3.24~~
~~9H23046-CAL3~~	~~25~~	~~2643~~	~~4.670~~	~~3.25~~
9H23046-CAL4	62.5	4464	3.174	3.25
9H23046-CAL5	125	7504	2.674	3.25
9H23046-CAL6	312	15448	2.229	3.25
9H23046-CAL7	625	30356	2.146	3.24
9H23046-CAL8	1250	58218	2.069	3.25
9H23046-CAL9	2500	146724	0.026	3.24
9H23046-CALA	5000	290735	0.025	3.25

AVE RF **2.480** RF RSD **15.36** AVE RT **3.25**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**

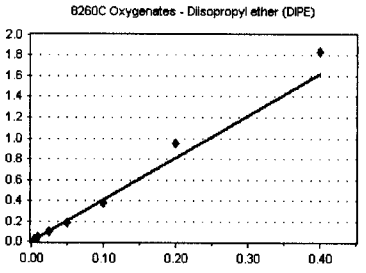


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~12.5~~	~~5229~~	~~0.182~~	~~4.24~~
~~9H23046-CAL3~~	~~25~~	~~9929~~	~~0.175~~	~~4.26~~
9H23046-CAL4	62.5	25728	0.183	4.25
9H23046-CAL5	125	51536	0.184	4.25
9H23046-CAL6	312	128031	0.185	4.24
9H23046-CAL7	625	257986	0.182	4.24
9H23046-CAL8	1250	522867	0.186	4.24
9H23046-CAL9	2500	1360028	0.238	4.24
9H23046-CALA	5000	2746175	0.237	4.25

AVE RF **0.199** RF RSD **13.05** AVE RT **4.24**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

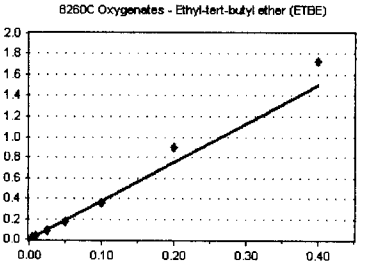


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	0.25	2227	3.958	4.47
9H23046-CAL5	0.5	4490	4.000	4.47
9H23046-CAL6	1.25	10347	3.726	4.47
9H23046-CAL7	2.5	20516	3.625	4.47
9H23046-CAL8	5	42050	3.737	4.47
9H23046-CAL9	10	109019	4.764	4.47
9H23046-CALA	20	213966	4.607	4.47

AVE RF **4.060** RF RSD **11.08** AVE RT **4.47**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.1~~	~~738~~	~~3.260~~	~~4.84~~
9H23046-CAL4	0.25	1883	3.347	4.84
9H23046-CAL5	0.5	4020	3.582	4.84
9H23046-CAL6	1.25	9948	3.582	4.83
9H23046-CAL7	2.5	19441	3.435	4.84
9H23046-CAL8	5	40237	3.575	4.84
9H23046-CAL9	10	102534	4.480	4.83
9H23046-CALA	20	201394	4.336	4.84

AVE RF **3.763** RF RSD **12.00** AVE RT **4.84**

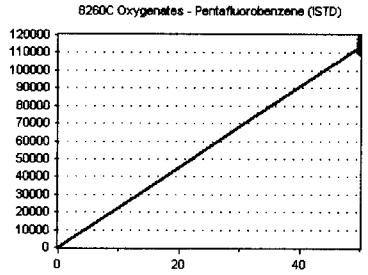
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VF190823S.m VF190823G.m**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

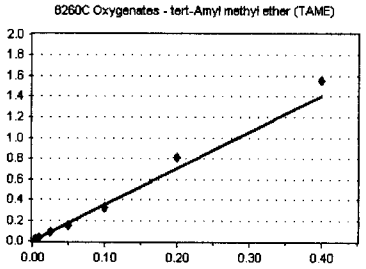


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	113186	2263.720	6.09
9H23046-CAL2	50	115217	2304.340	6.09
9H23046-CAL3	50	113189	2263.780	6.09
9H23046-CAL4	50	112521	2250.420	6.09
9H23046-CAL5	50	112239	2244.780	6.09
9H23046-CAL6	50	111074	2221.480	6.09
9H23046-CAL7	50	113188	2263.760	6.09
9H23046-CAL8	50	112536	2250.720	6.09
9H23046-CAL9	50	114431	2288.620	6.09
9H23046-CALA	50	116111	2322.220	6.09
9H23046-CALB	50	117913	2358.260	6.09

AVE RF **2275.645** RF RSD **1.73** AVE RT **6.09**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

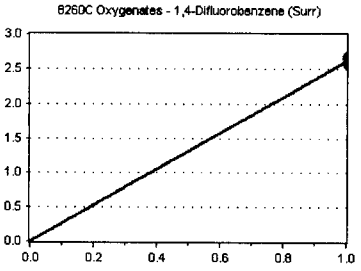


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9H23046-CAL4	0.25	1971	3.503	6.14
9H23046-CAL5	0.5	3998	3.562	6.13
9H23046-CAL6	1.25	9064	3.264	6.13
9H23046-CAL7	2.5	17603	3.110	6.13
9H23046-CAL8	5	36097	3.208	6.13
9H23046-CAL9	10	92403	4.037	6.13
9H23046-CALA	20	180880	3.895	6.13

AVE RF **3.511** RF RSD **10.00** AVE RT **6.13**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

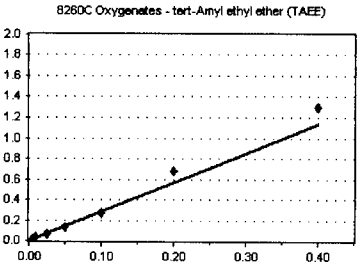


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	291703	2.577	6.66
9H23046-CAL2	50	297594	2.583	6.65
9H23046-CAL3	50	291590	2.576	6.66
9H23046-CAL4	50	292104	2.596	6.65
9H23046-CAL5	50	293165	2.612	6.66
9H23046-CAL6	50	288232	2.595	6.65
9H23046-CAL7	50	290747	2.569	6.65
9H23046-CAL8	50	297253	2.641	6.65
9H23046-CAL9	50	308021	2.692	6.65
9H23046-CALA	50	308703	2.659	6.65
9H23046-CALB	50	316612	2.685	6.65

AVE RF **2.617** RF RSD **1.72** AVE RT **6.65**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9H23046-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9H23046-CAL3~~	~~0.1~~	~~590~~	~~2.606~~	~~6.88~~
9H23046-CAL4	0.25	1432	2.545	6.88
9H23046-CAL5	0.5	3066	2.732	6.88
9H23046-CAL6	1.25	7378	2.657	6.88
9H23046-CAL7	2.5	14768	2.609	6.88
9H23046-CAL8	5	30425	2.704	6.88
9H23046-CAL9	10	78228	3.418	6.88
9H23046-CALA	20	150632	3.243	6.88

AVE RF **2.844** RF RSD **12.01** AVE RT **6.88**

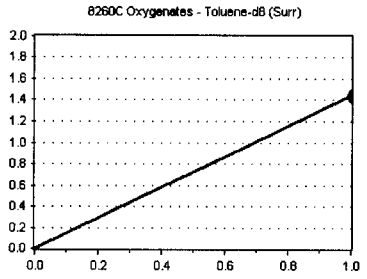
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VF190823S.m VF190823G.m**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

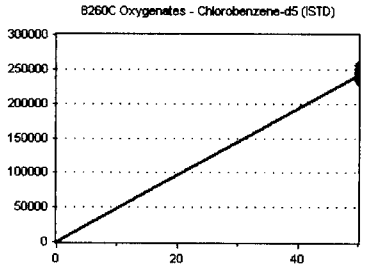


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	346031	1.455	8.17
9H23046-CAL2	50	352463	1.453	8.16
9H23046-CAL3	50	343623	1.451	8.17
9H23046-CAL4	50	344014	1.455	8.16
9H23046-CAL5	50	348016	1.455	8.16
9H23046-CAL6	50	341661	1.458	8.17
9H23046-CAL7	50	342986	1.458	8.16
9H23046-CAL8	50	352854	1.443	8.17
9H23046-CAL9	50	358807	1.423	8.16
9H23046-CALA	50	351875	1.430	8.17
9H23046-CALB	50	363189	1.417	8.16

AVE RF **1.445** RF RSD **1.03** AVE RT **8.16**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

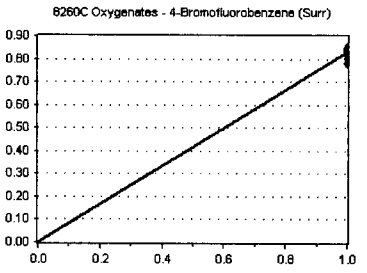


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	237760	4755.200	9.80
9H23046-CAL2	50	242508	4850.160	9.80
9H23046-CAL3	50	236855	4737.100	9.80
9H23046-CAL4	50	236449	4728.980	9.80
9H23046-CAL5	50	239240	4784.800	9.80
9H23046-CAL6	50	234314	4686.280	9.80
9H23046-CAL7	50	235169	4703.380	9.80
9H23046-CAL8	50	244508	4890.160	9.80
9H23046-CAL9	50	252142	5042.840	9.80
9H23046-CALA	50	246022	4920.440	9.80
9H23046-CALB	50	256238	5124.760	9.80

AVE RF **4838.555** RF RSD **2.97** AVE RT **9.80**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

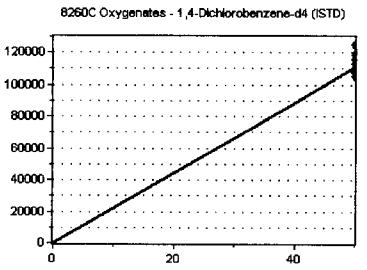


Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	89219	0.847	10.87
9H23046-CAL2	50	92028	0.842	10.87
9H23046-CAL3	50	88475	0.842	10.87
9H23046-CAL4	50	90208	0.839	10.87
9H23046-CAL5	50	91972	0.848	10.86
9H23046-CAL6	50	89612	0.850	10.87
9H23046-CAL7	50	89698	0.832	10.87
9H23046-CAL8	50	94590	0.838	10.87
9H23046-CAL9	50	96823	0.836	10.87
9H23046-CALA	50	95542	0.803	10.87
9H23046-CALB	50	98121	0.785	10.87

AVE RF **0.833** RF RSD **2.45** AVE RT **10.87**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CAL1	50	105354	2107.080	11.75
9H23046-CAL2	50	109279	2185.580	11.75
9H23046-CAL3	50	105136	2102.720	11.75
9H23046-CAL4	50	107459	2149.180	11.75
9H23046-CAL5	50	108461	2169.220	11.75
9H23046-CAL6	50	105422	2108.440	11.75
9H23046-CAL7	50	107837	2156.740	11.75
9H23046-CAL8	50	112942	2258.840	11.75
9H23046-CAL9	50	115830	2316.600	11.75
9H23046-CALA	50	118989	2379.780	11.75
9H23046-CALB	50	125008	2500.160	11.75

AVE RF **2221.304** RF RSD **5.81** AVE RT **11.75**

Calibration Status Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823G.M
Title : NWTPH-Gx by GC/MS
Last Update : Tue Aug 27 15:24:35 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082349.D
2	2	100	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082350.D
3	3	250	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082351.D
4	4	500	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082352.D
5	5	1000	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082353.D
6	6	2500	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082354.D
7	7	5000	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082355.D
8	8	10000	50	C:\msdchem\1\DATA\2019-08\9H23046\VF19082356.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 6:13 am
2	2	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 6:40 am
3	3	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 7:07 am
4	4	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 7:34 am
5	5	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 8:01 am
6	6	Aug 27 15:24 2019	Aug 27 15:11 2019	24 Aug 2019 8:28 am
7	7	Aug 27 15:24 2019	Aug 27 15:23 2019	24 Aug 2019 8:55 am
8	8	Aug 27 15:24 2019	Aug 27 15:23 2019	24 Aug 2019 9:22 am

VF190823G.M Tue Aug 27 16:14:31 2019

Response Factor Report VOA-GCMS6

Method Path : C:\msdchem\1\METHODS\
Method File : VF190823G.M
Title : NWTPH-Gx by GC/MS
Last Update : Tue Aug 27 15:24:35 2019
Response Via : Initial Calibration

Calibration Files
1 =VF19082349.D 2 =VF19082350.D 3 =VF19082351.D 4 =VF19082352.D 5 =VF19082353.D 6 =VF19082354.D
7 =VF19082355.D 8 =VF19082356.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	Pentafluorobenzene...	----------ISTD----------									
2)	S	1,4-Difluorobe...	3.619	3.759	3.675	3.740	3.767	3.806	4.047	4.754	3.896	9.47
3)	S	4-Bromofluorob...	2.864	2.797	2.849	2.730	2.849	2.788	2.638	2.454	2.746	5.09
4)	S	Chlorobenzene-...									0.000	-1.00
5)	H	TPHg (C5-C9)		2.659	2.526	2.390	2.352	2.267	2.346	2.425	2.424	5.40
6)	H	TPHg (C6-C10)		2.159	1.990	1.915	1.896	1.861	1.934	2.021	1.968	5.10
7)	H	CA-LUFT (C5-C12)		2.968	2.897	2.780	2.775	2.700	2.792	2.911	2.832	3.35
8)	H	NWTPH-Gx	1.381	1.250	1.469	1.549	1.647	1.684	1.734	1.827	1.568	12.30
9)		Benzene (NR)									0.000	-1.00
10)	S	Toluene-d8 (NR)									0.000	-1.00
11)	C	Toluene (NR)									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS6

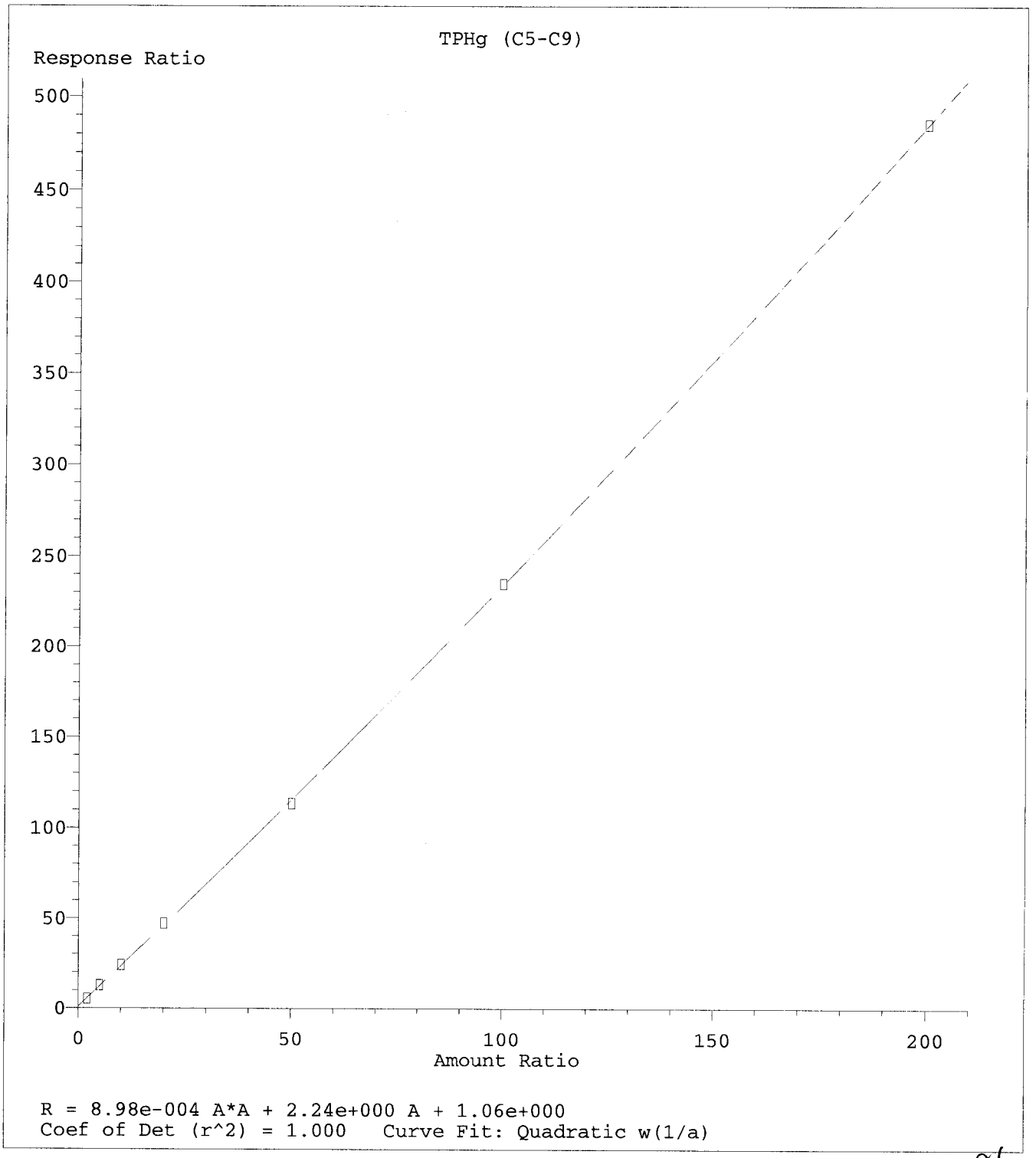
Method Path : C:\msdchem\1\METHODS\
Method File : VF190823G.M
Title : NWTPH-Gx by GC/MS
Last Update : Tue Aug 27 15:24:35 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.096	1.000	A	2	A	A
2	S	1,4-Difluorobenzene (Sur)	TIC	6.661	1.093	A	2	A	A
3	S	4-Bromofluorobenzene (Sur)	TIC	10.871	1.783	A	2	A	A
4	S	Chlorobenzene-d5 (NR)	TIC	9.806	1.609	A	2	A	A
5	H	TPHg (C5-C9)	TIC	9.860	1.618	Q	0	A	A
6	H	TPHg (C6-C10)	TIC	9.860	1.618	Q	0	A	A
7	H	CA-LUFT (C5-C12)	TIC	9.860	1.618	Q	0	A	A
8	H	NWTPH-Gx	TIC	9.870	1.619	Q	0	A	A
9		Benzene (NR)	78	6.004	0.985	A	2	A	A
10	S	Toluene-d8 (NR)	TIC	8.170	1.340	A	2	A	A
11	C	Toluene (NR)	91	8.225	1.349	A	2	A	A
12	S	1,4-Dichlorobenzene-d4 (NR)	TIC	11.747	1.927	A	2	A	A
13		Naphthalene (NR)	128	13.499	2.215	A	2	A	A

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VF190823G.M Tue Aug 27 16:14:37 2019



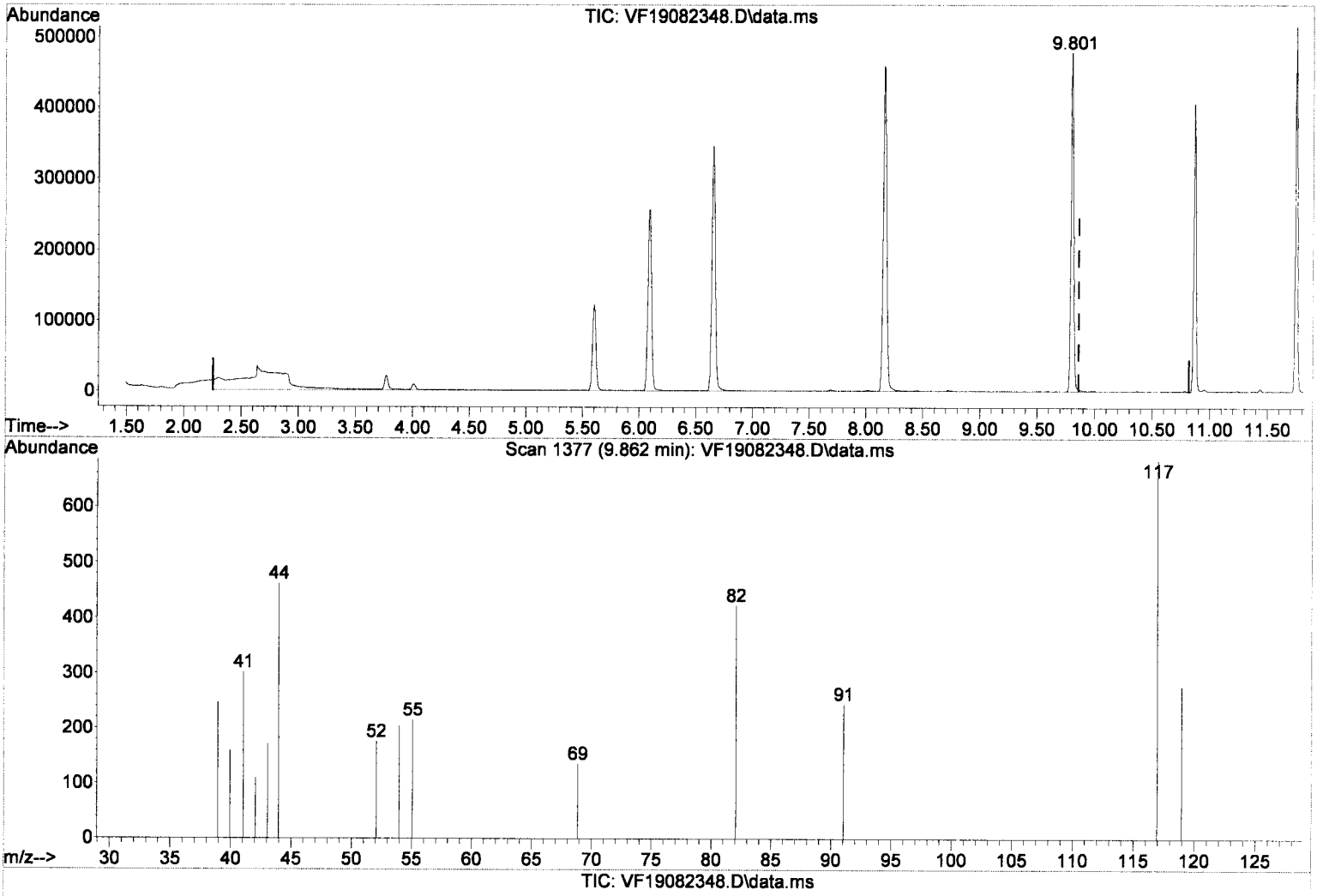
Method Name: C:\msdchem\1\METHODS\VF190823G.M
Calibration Table Last Updated: Tue Aug 27 15:24:35 2019

Int = 21,86

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



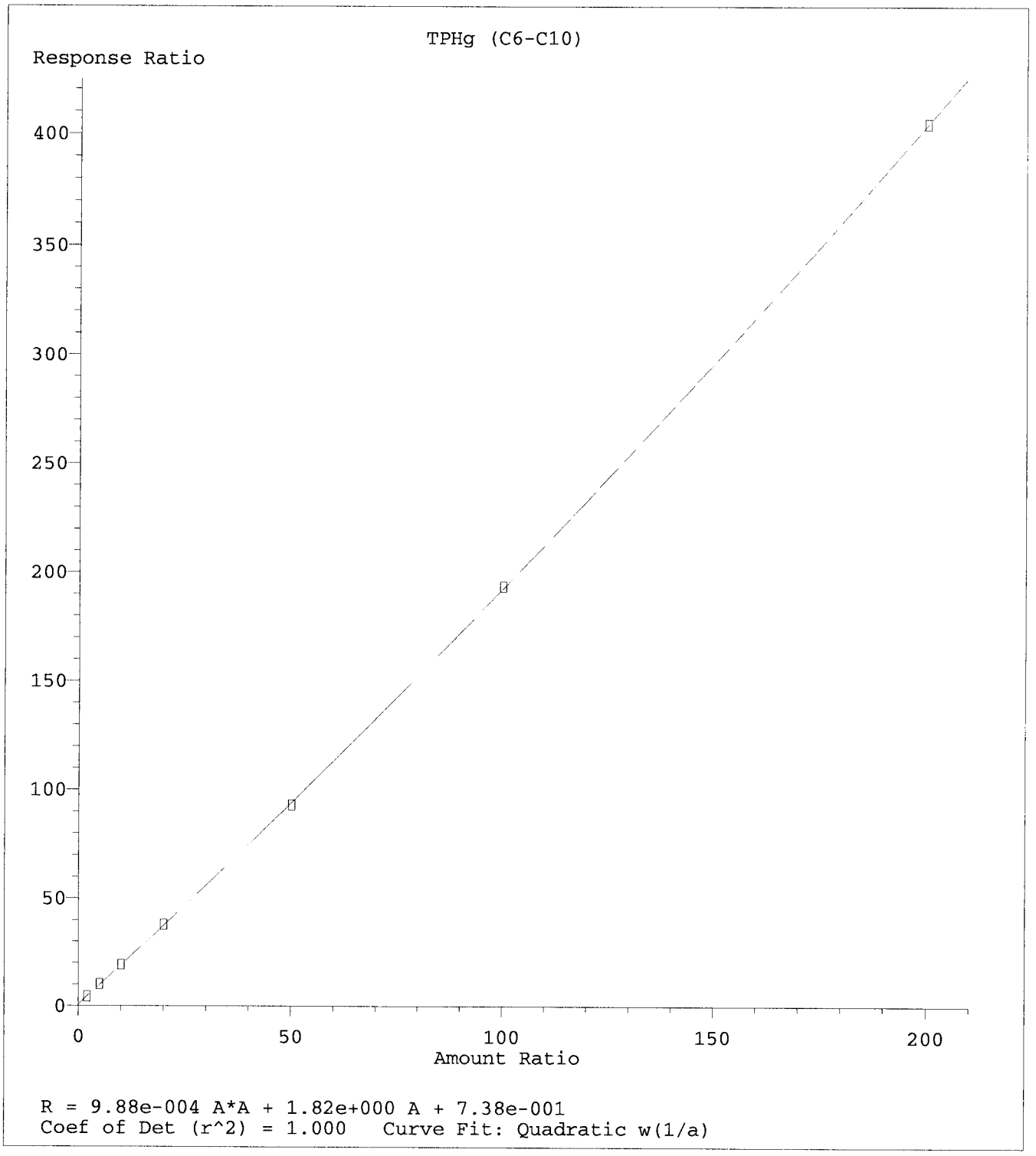
TIC: VF19082348.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 21.86 ug/L m

response 401467

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



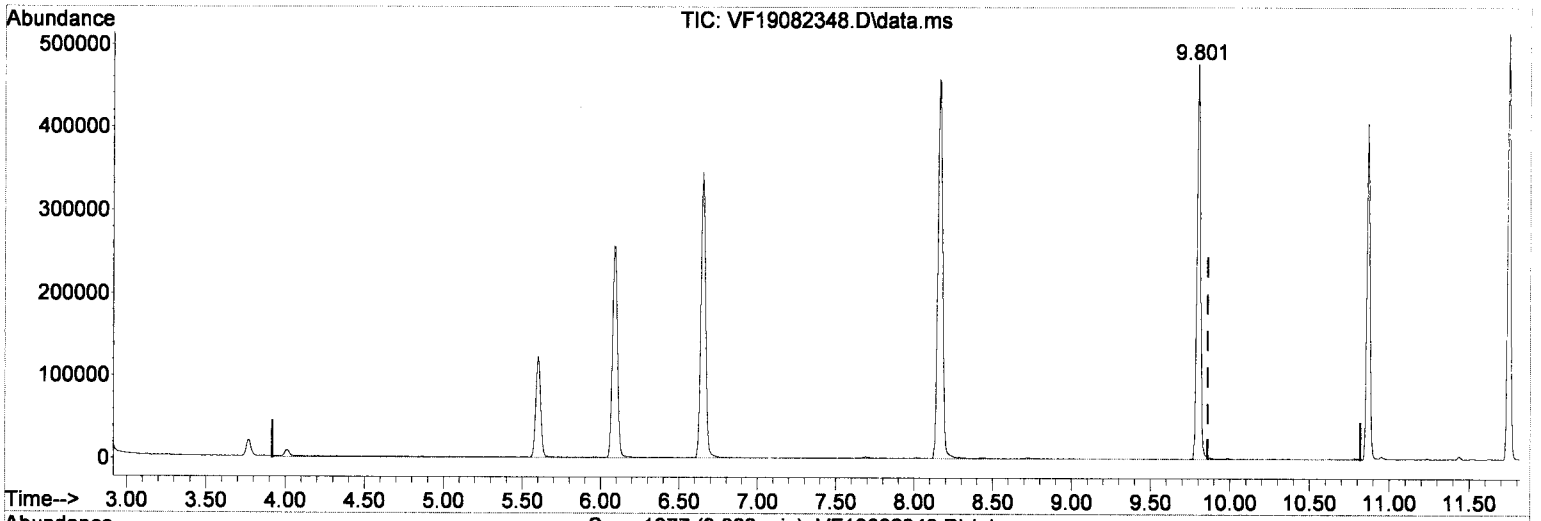
Method Name: C:\msdchem\1\METHODS\VF190823G.M
Calibration Table Last Updated: Tue Aug 27 15:24:35 2019

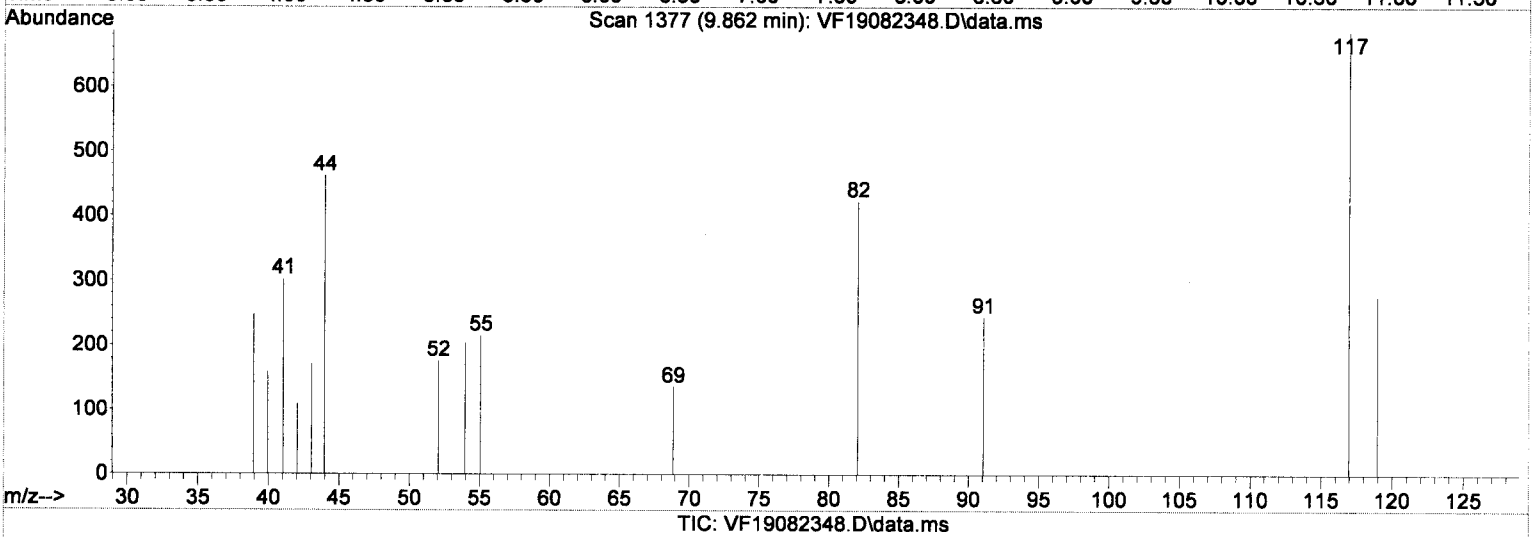
Int = 20.72

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration





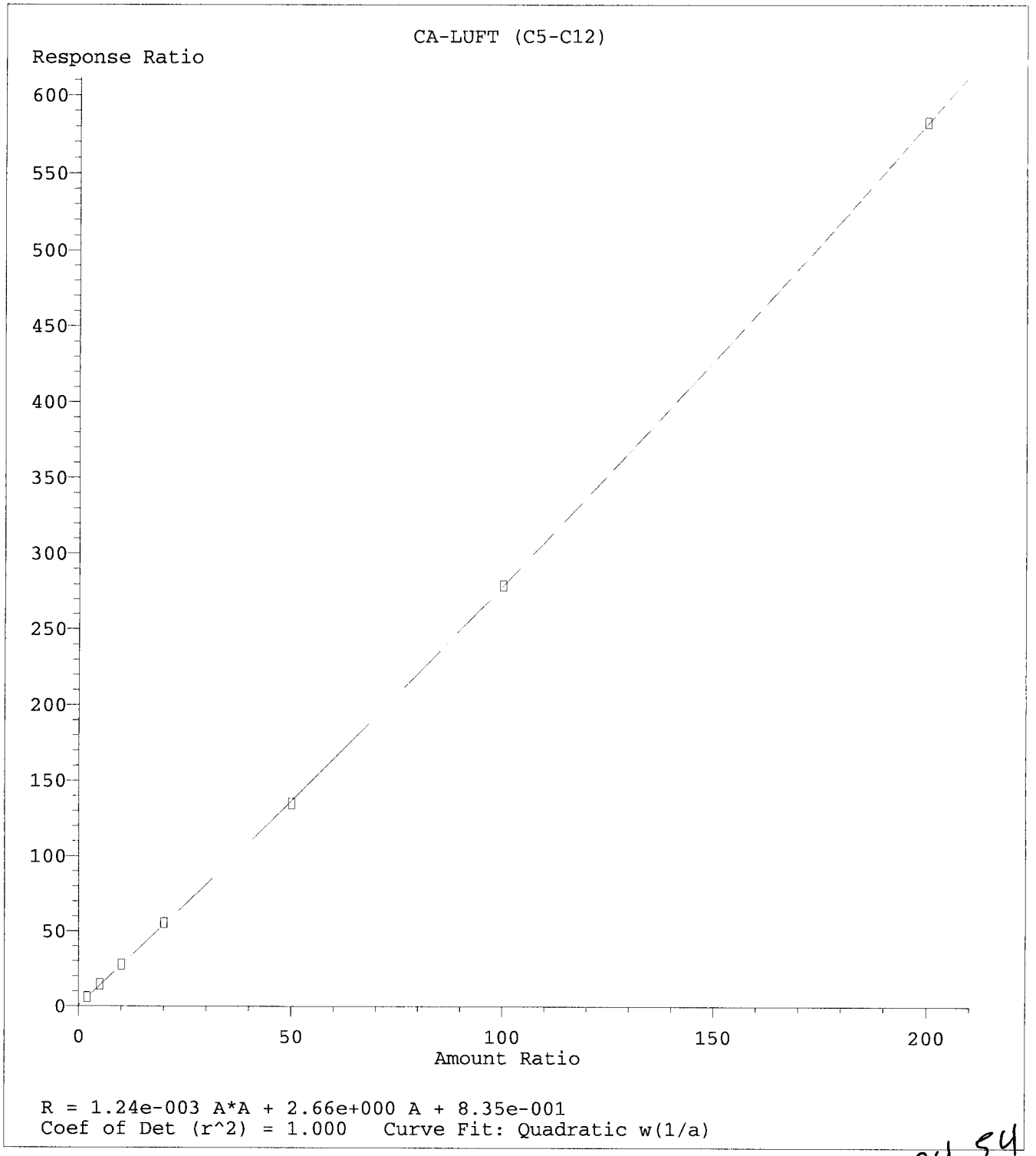
TIC: VF19082348.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 20.72 ug/L m

response 293749

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



Int= 24.54

Method Name: C:\msdchem\1\METHODS\VF190823G.M
Calibration Table Last Updated: Tue Aug 27 15:24:35 2019

Quantitation Report (Qedit)

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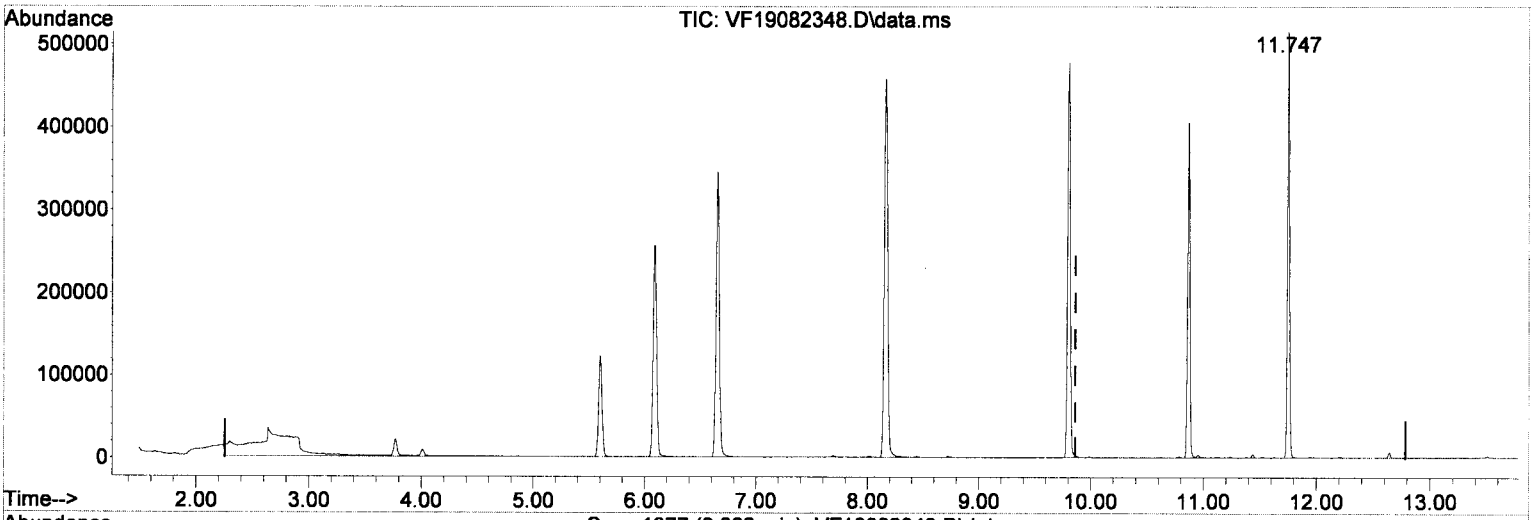
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



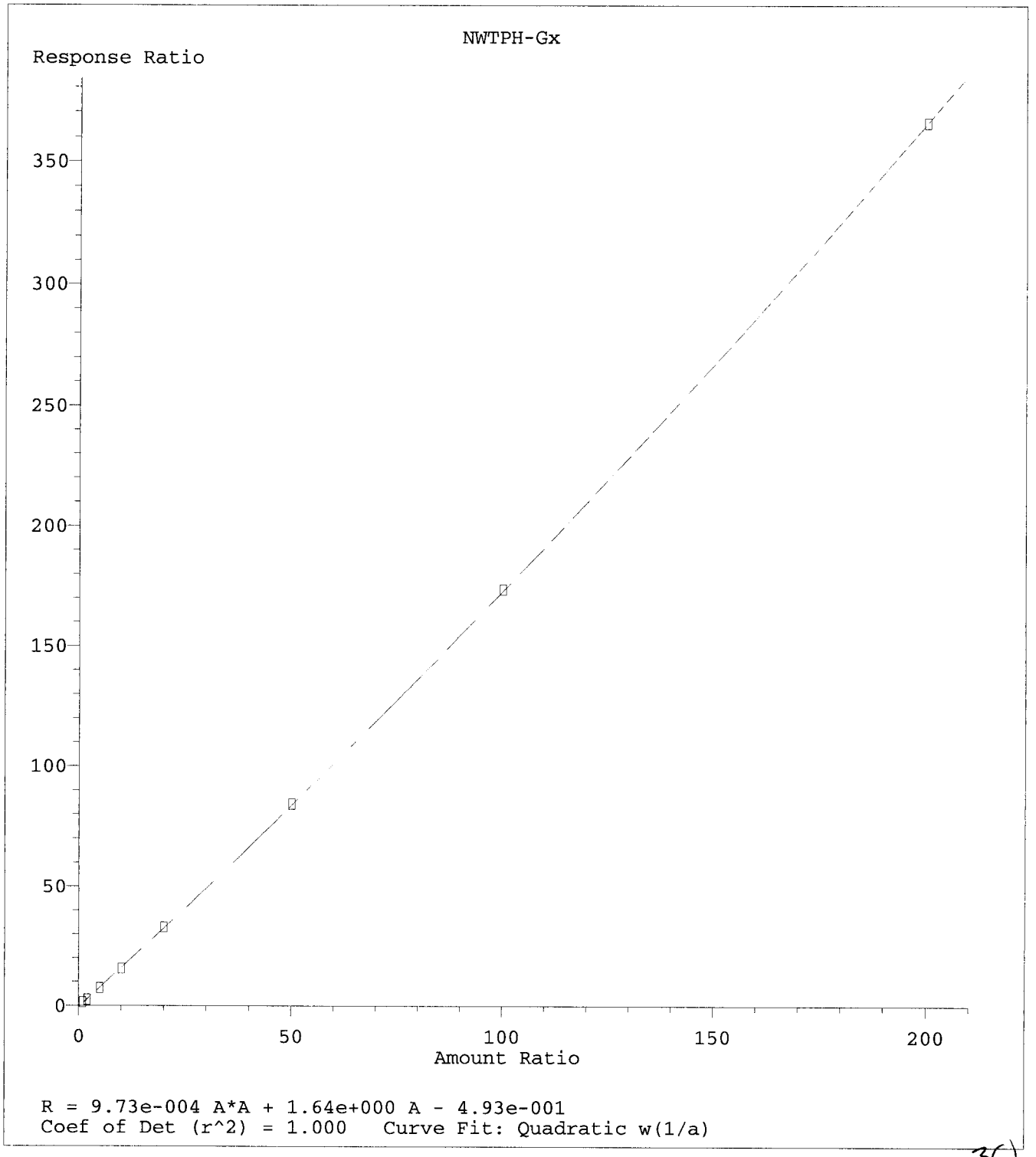
TIC: VF19082348.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.860min (0.000) 24.54 ug/L m

response 421170

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



Method Name: C:\msdchem\1\METHODS\VF190823G.M
Calibration Table Last Updated: Tue Aug 27 15:24:35 2019

Int = 20.30

Quantitation Report (Qedit)

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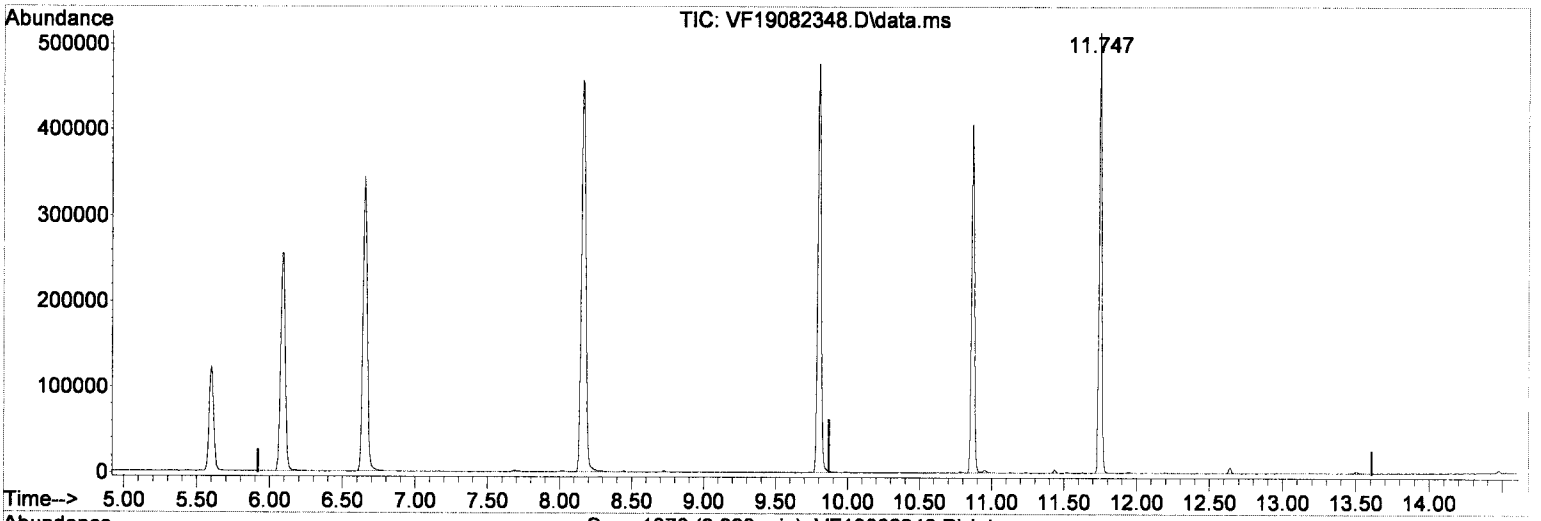
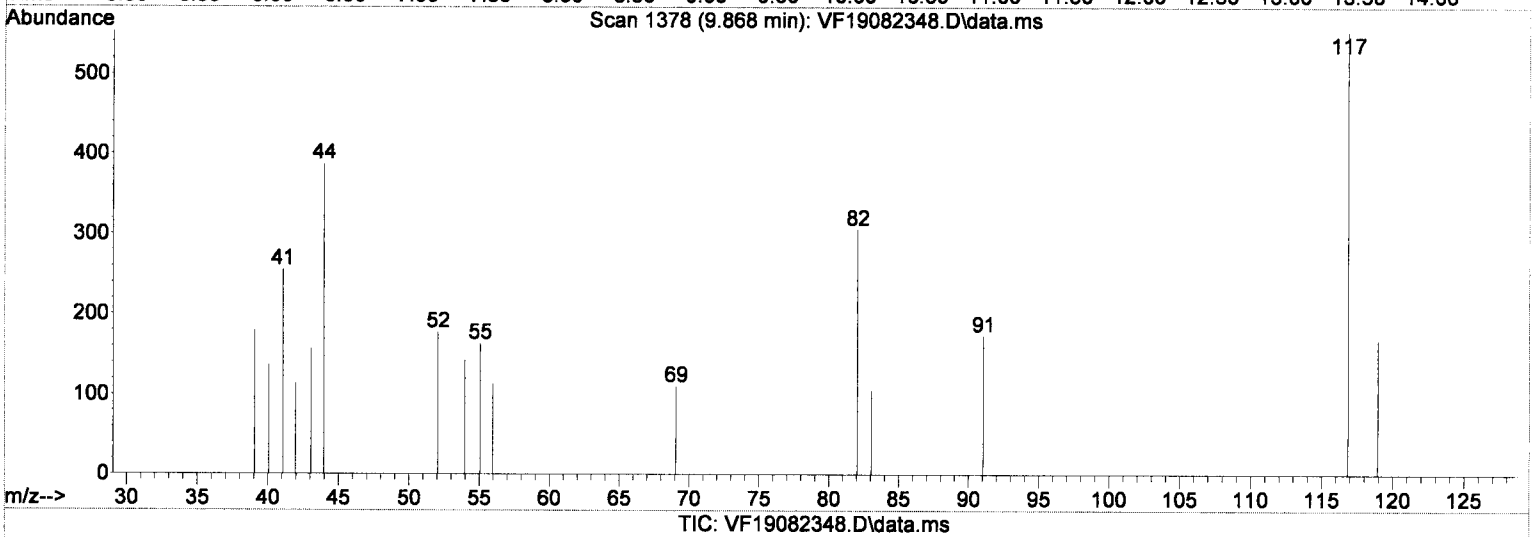
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration





TIC: VF19082348.D\data.ms

(8) NWTPH-Gx (H)

9.870min (0.000) 20.30 ug/L m

response 33837

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082359.D
Acq On : 24 Aug 2019 10:43 am
Operator : TB
Sample : 9H23046-ICV2
Misc : 1X 5mL 500ppb GX DI+MeOH
ALS Vial : 43 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

8/27/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	100	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	47.097	5.8	98	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	51.033	-2.1	103	0.00
4	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	103	0.00
5	H	TPHg (C5-C9)	500.000	515.271	-3.1	101	0.00
6	H	TPHg (C6-C10)	500.000	530.740	-6.1	105	0.00
7	H	CA-LUFT (C5-C12)	500.000	518.319	-3.7	102	0.00
8	H	NWTPH-Gx	500.000	529.673	-5.9	109	0.00
9		Benzene (NR)	-1.000	0.000	0.0	105	0.00
10	S	Toluene-d8 (NR)	-1.000	0.000	0.0	102	0.00
11	C	Toluene (NR)	-1.000	0.000	0.0	106	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	102	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	113	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9H23046

Analysis Included
8015D-Mod Gasoline (C6-C10) by GC/MS
CA LUFT GRO
NWTPH-Gx

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed	
9H23046-TUN2	MS Tune	Water		A19H381	8/24/2019	4:52:00AM
9H23046-ICB2	Initial Cal Blank	Water		A19H381	8/24/2019	5:46:00AM
9H23046-CALC	Cal Standard	Water	A19H366	"	8/24/2019	6:13:00AM
9H23046-CALD	Cal Standard	Water	A19H367	"	8/24/2019	6:40:00AM
9H23046-CALE	Cal Standard	Water	A19H368	"	8/24/2019	7:07:00AM
9H23046-CALF	Cal Standard	Water	A19H369	"	8/24/2019	7:34:00AM
9H23046-CALG	Cal Standard	Water	A19H370	"	8/24/2019	8:01:00AM
9H23046-CALH	Cal Standard	Water	A19H371	"	8/24/2019	8:28:00AM
9H23046-CALI	Cal Standard	Water	A19H372	"	8/24/2019	8:55:00AM
9H23046-CALJ	Cal Standard	Water	A19H373	"	8/24/2019	9:22:00AM
9H23046-ICV2	Initial Cal Check	Water	A19G350	"	8/24/2019	10:43:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9H2706** Instrument: **VOA-GCMS6**

8015D-Mod Gasoline (C6-C10 Sequence: **9H23046** Matrix: **Water**

9H23046-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9H23046-CALJ	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9H23046

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9H2706** Instrument: **VOA-GCMS6**

CA LUFT GRO Sequence: **9H23046** Matrix: **Water**

9H23046-ICV2	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

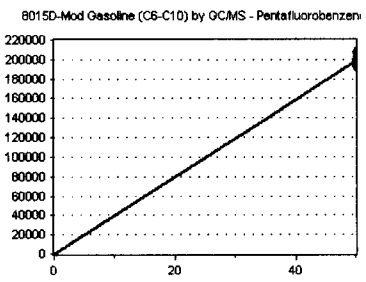
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VF190823S.m VF190823G.m**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

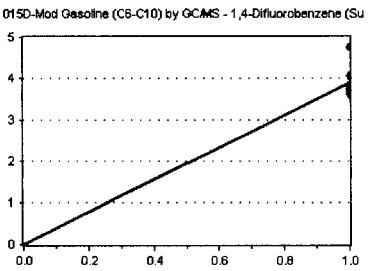


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	195889	3917.780	6.09
9H23046-CALD	50	196284	3925.680	6.09
9H23046-CALE	50	197859	3957.180	6.09
9H23046-CALF	50	192785	3855.700	6.09
9H23046-CALG	50	196063	3921.260	6.09
9H23046-CALH	50	197636	3952.720	6.10
9H23046-CALI	50	201012	4020.240	6.09
9H23046-CALJ	50	207556	4151.120	6.09

AVE RF **3962.710** RF RSD **2.25** AVE RT **6.09**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

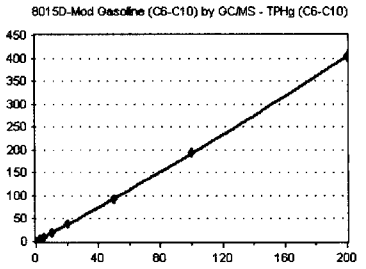


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	708890	3.619	6.65
9H23046-CALD	50	737743	3.759	6.65
9H23046-CALE	50	727034	3.675	6.65
9H23046-CALF	50	721102	3.740	6.65
9H23046-CALG	50	738538	3.767	6.66
9H23046-CALH	50	752257	3.806	6.65
9H23046-CALI	50	813479	4.047	6.65
9H23046-CALJ	50	986674	4.754	6.65

AVE RF **3.896** RF RSD **9.47** AVE RT **6.65**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

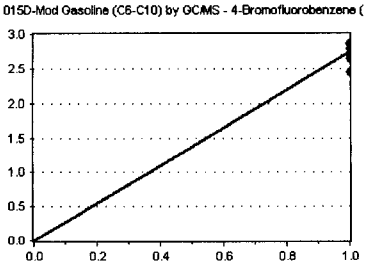


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CALC~~	~~50~~	~~568425~~	~~2.902~~	~~9.86~~
9H23046-CALD	100	847597	2.159	9.86
9H23046-CALE	250	1968990	1.990	9.86
9H23046-CALF	500	3692052	1.915	9.86
9H23046-CALG	1000	7433650	1.896	9.86
9H23046-CALH	2500	1.838643E+07	1.861	9.86
9H23046-CALI	5000	3.888259E+07	1.934	9.86
9H23046-CALJ	10000	8.387354E+07	2.021	9.86

AVE RF **1.968** RF RSD **5.10** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	560956	2.864	10.87
9H23046-CALD	50	548939	2.797	10.87
9H23046-CALE	50	563653	2.849	10.87
9H23046-CALF	50	526341	2.730	10.87
9H23046-CALG	50	558533	2.849	10.87
9H23046-CALH	50	551101	2.788	10.87
9H23046-CALI	50	530299	2.638	10.87
9H23046-CALJ	50	509335	2.454	10.87

AVE RF **2.746** RF RSD **5.09** AVE RT **10.87**

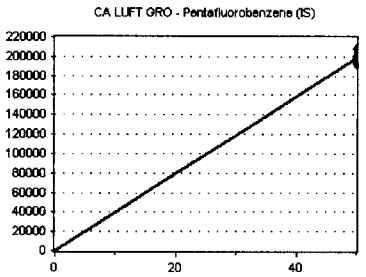
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VF190823S.m VF190823G.m**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

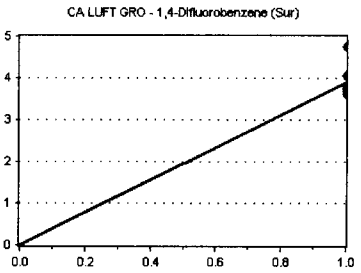


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	195889	3917.780	6.09
9H23046-CALD	50	196284	3925.680	6.09
9H23046-CALE	50	197859	3957.180	6.09
9H23046-CALF	50	192785	3855.700	6.09
9H23046-CALG	50	196063	3921.260	6.09
9H23046-CALH	50	197636	3952.720	6.10
9H23046-CALI	50	201012	4020.240	6.09
9H23046-CALJ	50	207556	4151.120	6.09

AVE RF **3962.710** RF RSD **2.25** AVE RT **6.09**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

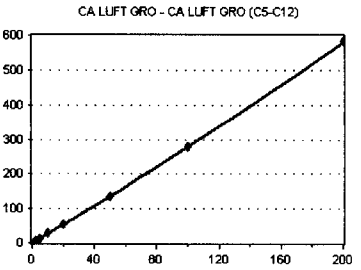


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	708890	3.619	6.65
9H23046-CALD	50	737743	3.759	6.65
9H23046-CALE	50	727034	3.675	6.65
9H23046-CALF	50	721102	3.740	6.65
9H23046-CALG	50	738538	3.767	6.66
9H23046-CALH	50	752257	3.806	6.65
9H23046-CALI	50	813479	4.047	6.65
9H23046-CALJ	50	986674	4.754	6.65

AVE RF **3.896** RF RSD **9.47** AVE RT **6.65**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

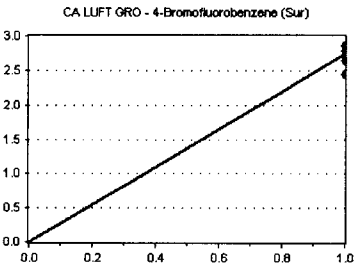


Standard	Concentration	Response	Response Factor	RT
~~9H23046-CALC~~	~~50~~	~~797249~~	~~4.070~~	~~9.86~~
9H23046-CALD	100	1164980	2.968	9.86
9H23046-CALE	250	2866360	2.897	9.86
9H23046-CALF	500	5360108	2.780	9.86
9H23046-CALG	1000	1.088106E+07	2.775	9.86
9H23046-CALH	2500	2.66781E+07	2.700	9.86
9H23046-CALI	5000	5.612521E+07	2.792	9.86
9H23046-CALJ	10000	1.208362E+08	2.911	9.86

AVE RF **2.832** RF RSD **3.35** AVE RT **9.86**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	560956	2.864	10.87
9H23046-CALD	50	548939	2.797	10.87
9H23046-CALE	50	563653	2.849	10.87
9H23046-CALF	50	526341	2.730	10.87
9H23046-CALG	50	558533	2.849	10.87
9H23046-CALH	50	551101	2.788	10.87
9H23046-CALI	50	530299	2.638	10.87
9H23046-CALJ	50	509335	2.454	10.87

AVE RF **2.746** RF RSD **5.09** AVE RT **10.87**

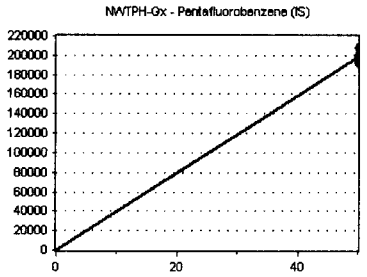
Element Calibration Review Sheet

Calibration ID: **A9H2706** Instrument: **VOA-GCMS6** Calibration Date: **08/27/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VF190823S.m VF190823G.m**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

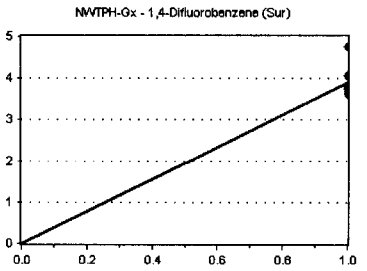


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	195889	3917.780	6.09
9H23046-CALD	50	196284	3925.680	6.09
9H23046-CALE	50	197859	3957.180	6.09
9H23046-CALF	50	192785	3855.700	6.09
9H23046-CALG	50	196063	3921.260	6.09
9H23046-CALH	50	197636	3952.720	6.10
9H23046-CALI	50	201012	4020.240	6.09
9H23046-CALJ	50	207556	4151.120	6.09

AVE RF **3962.710** RF RSD **2.25** AVE RT **6.09**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

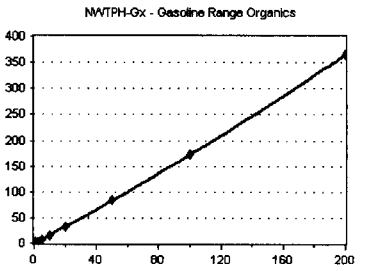


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	708890	3.619	6.65
9H23046-CALD	50	737743	3.759	6.65
9H23046-CALE	50	727034	3.675	6.65
9H23046-CALF	50	721102	3.740	6.65
9H23046-CALG	50	738538	3.767	6.66
9H23046-CALH	50	752257	3.806	6.65
9H23046-CALI	50	813479	4.047	6.65
9H23046-CALJ	50	986674	4.754	6.65

AVE RF **3.896** RF RSD **9.47** AVE RT **6.65**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

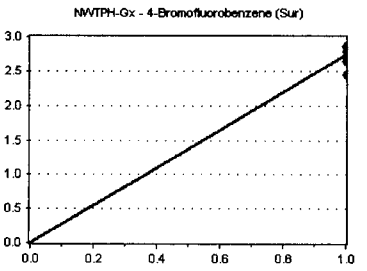


Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	270537	1.381	9.87
9H23046-CALD	100	490705	1.250	9.87
9H23046-CALE	250	1452983	1.469	9.87
9H23046-CALF	500	2986086	1.549	9.87
9H23046-CALG	1000	6457995	1.647	9.87
9H23046-CALH	2500	1.663842E+07	1.684	9.87
9H23046-CALI	5000	3.485454E+07	1.734	9.87
9H23046-CALJ	10000	7.583119E+07	1.827	9.87

AVE RF **1.568** RF RSD **12.30** AVE RT **9.87**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9H23046-CALC	50	560956	2.864	10.87
9H23046-CALD	50	548939	2.797	10.87
9H23046-CALE	50	563653	2.849	10.87
9H23046-CALF	50	526341	2.730	10.87
9H23046-CALG	50	558533	2.849	10.87
9H23046-CALH	50	551101	2.788	10.87
9H23046-CALI	50	530299	2.638	10.87
9H23046-CALJ	50	509335	2.454	10.87

AVE RF **2.746** RF RSD **5.09** AVE RT **10.87**

Injection Log

Directory: k:\DATA\2019-08\9H23046

Line	Vial	FileName	Multiplier	SampleName		Misc Info	Injected
1	1	Vf19082317.d	1.	9H23046-IBL1		1X 5mL DI+MeOH	23 Aug 2019 15:48
2	2	Vf19082318.d	1.	9H23046-IBL2		1X 5mL DI+MeOH	23 Aug 2019 16:15
3	3	Vf19082319.d	1.	9H23046-IBL3		1X 5mL DI+MeOH	23 Aug 2019 16:43
4	4	Vf19082320.d	1.	9H23046-IBL4		1X 5mL DI+MeOH	23 Aug 2019 17:10
5	5	Vf19082321.d	1.	9H23046-IBL5		1X 5mL DI+MeOH	23 Aug 2019 17:37
6	6	Vf19082322.d	1.	9H23046-IBL6		1X 5mL DI+MeOH	23 Aug 2019 18:04
7	7	Vf19082323.d	1.	9H23046-IBL7		1X 5mL DI+MeOH	23 Aug 2019 18:31
8	8	Vf19082324.d	1.	9H23046-IBL8		1X 5mL DI+MeOH	23 Aug 2019 18:58
9	9	Vf19082325.d	1.	9H23046-IBL9		1X 5mL DI+MeOH	23 Aug 2019 19:25
10	10	Vf19082326.d	1.	9H23046-IBLA		1X 5mL DI+MeOH	23 Aug 2019 19:52
11	11	Vf19082327.d	1.	9H23046-TUN1		1X 5mL A19D196 I...	23 Aug 2019 20:19
12	12	Vf19082328.d	1.	9H23046-ICB1		1X 5mL DI+MeOH	23 Aug 2019 20:46
13	13	Vf19082329.d	1.	9H23046-CAL1		1X 5mL 0.1ppb VO...	23 Aug 2019 21:13
14	14	Vf19082330.d	1.	9H23046-CAL2		1X 5mL 0.2ppb VO...	23 Aug 2019 21:40
15	15	Vf19082331.d	1.	9H23046-CAL3		1X 5mL 0.4ppb VO...	23 Aug 2019 22:07
16	16	Vf19082332.d	1.	9H23046-CAL4		1X 5mL 1ppb VOCO...	23 Aug 2019 22:34
17	17	Vf19082333.d	1.	9H23046-CAL5		1X 5mL 2ppb VOCO...	23 Aug 2019 23:01
18	18	Vf19082334.d	1.	9H23046-CAL6		1X 5mL 5ppb VOCO...	23 Aug 2019 23:28
19	19	Vf19082335.d	1.	9H23046-CAL7		1X 5mL 10ppb VOC...	23 Aug 2019 23:55
20	20	Vf19082336.d	1.	9H23046-CAL8		1X 5mL 20ppb VOC...	24 Aug 2019 00:22
21	21	Vf19082337.d	1.	9H23046-CAL9		1X 5mL 50ppb VOC...	24 Aug 2019 00:49
22	22	Vf19082338.d	1.	9H23046-IBLB		1X 5mL DI+MeOH	24 Aug 2019 01:16
23	23	Vf19082339.d	1.	9H23046-CALA		1X 5mL 100ppb VO...	24 Aug 2019 01:43
24	24	Vf19082340.d	1.	9H23046-IBLC		1X 5mL DI+MeOH	24 Aug 2019 02:10
25	25	Vf19082341.d	1.	9H23046-CALB		1X 5mL 200ppb VO...	24 Aug 2019 02:37
26	26	Vf19082342.d	1.	9H23046-IBLD		1X 5mL DI+MeOH	24 Aug 2019 03:04
27	27	Vf19082343.d	1.	9H23046-IBLE		1X 5mL DI+MeOH	24 Aug 2019 03:31
28	28	Vf19082344.d	1.	9H23046-ICV1		1X 5mL 20ppb VOC...	24 Aug 2019 03:58
29	29	Vf19082345.d	1.	9H23046-IBLF		1X 5mL DI+MeOH	24 Aug 2019 04:25
30	30	Vf19082346.d	1.	9H23046-TUN2	RT	1X 5mL A19D196 I...	24 Aug 2019 04:52
31	31	Vf19082347.d	1.	9H23046-IBLG		1X 5mL DI+MeOH	24 Aug 2019 05:19
32	32	Vf19082348.d	1.	9H23046-ICB2		1X 5mL DI+MeOH	24 Aug 2019 05:46
33	33	Vf19082349.d	1.	9H23046-CALC		1X 5mL 50ppb GX ...	24 Aug 2019 06:13
34	34	Vf19082350.d	1.	9H23046-CALD		1X 5mL 100ppb GX...	24 Aug 2019 06:40
35	35	Vf19082351.d	1.	9H23046-CALE		1X 5mL 250ppb GX...	24 Aug 2019 07:07
36	36	Vf19082352.d	1.	9H23046-CALF		1X 5mL 500ppb GX...	24 Aug 2019 07:34
37	37	Vf19082353.d	1.	9H23046-CALG		1X 5mL 1000ppb G...	24 Aug 2019 08:01
38	38	Vf19082354.d	1.	9H23046-CALH		1X 5mL 2500ppb G...	24 Aug 2019 08:28
39	39	Vf19082355.d	1.	9H23046-CALI		1X 5mL 5000ppb G...	24 Aug 2019 08:55
40	40	Vf19082356.d	1.	9H23046-CALJ		1X 5mL 10000ppb ...	24 Aug 2019 09:22
41	41	Vf19082357.d	1.	9H23046-IBLH		1X 5mL DI+MeOH	24 Aug 2019 09:49
42	42	Vf19082358.d	1.	9H23046-IBLI		1X 5mL DI+MeOH	24 Aug 2019 10:16
43	43	Vf19082359.d	1.	9H23046-ICV2		1X 5mL 500ppb GX...	24 Aug 2019 10:43
44	44	Vf19082360.d	1.	9H23046-IBLJ		1X 5mL DI+MeOH	24 Aug 2019 11:10

8/26/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082317.D
Acq On : 23 Aug 2019 3:48 pm
Operator : TB
Sample : 9H23046-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

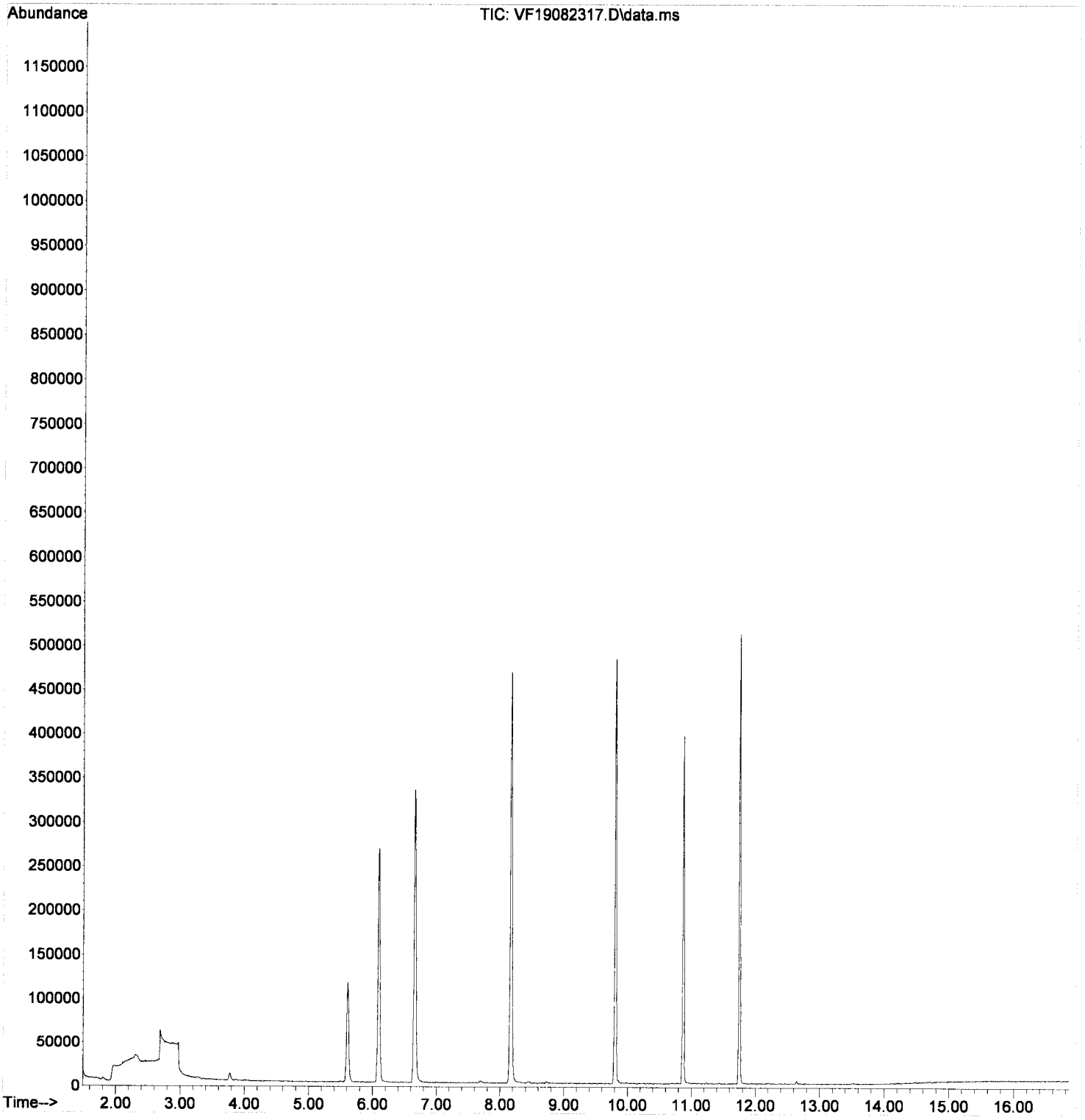
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	115964	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	238159	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	104534	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.607	111	82064	49.27	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	295090	48.62	ug/L		0.00
45) Toluene-d8 (S)	8.167	98	351708	51.08	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	88496	50.83	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.842	50	628	0.26	ug/L		87
5) Bromomethane	2.305	96	1829	1.50	ug/L		82
6) Chloroethane	2.426	64	127	0.56	ug/L	#	1
8) Ethanol	3.272	45	1850	11.54	ug/L		81
12) Iodomethane	3.284	142	282	0.73	ug/L	#	61
13) Methylene Chloride	3.770	84	4164	Below Cal			94
14) Acetone	3.868	43	1616	1.49	ug/L		73
21) Acrylonitrile	4.628	53	181	0.14	ug/L	#	14
24) 2,2-Dichloropropane	5.242	77	372	0.12	ug/L	#	1
32) 2-Butanone (MEK)	5.765	43	193	0.11	ug/L	#	36
36) iso-Butyl Alcohol	6.300	43	129	0.76	ug/L		71
54) 2-Hexanone	9.560	43	198	0.09	ug/L	#	30
74) 1,2,4-Trimethylbenzene	11.445	105	567	0.08	ug/L	#	40
84) Naphthalene	13.506	128	713	0.13	ug/L		60

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082317.D
Acq On : 23 Aug 2019 3:48 pm
Operator : TB
Sample : 9H23046-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:18 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082318.D
Acq On : 23 Aug 2019 4:15 pm
Operator : TB
Sample : 9H23046-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

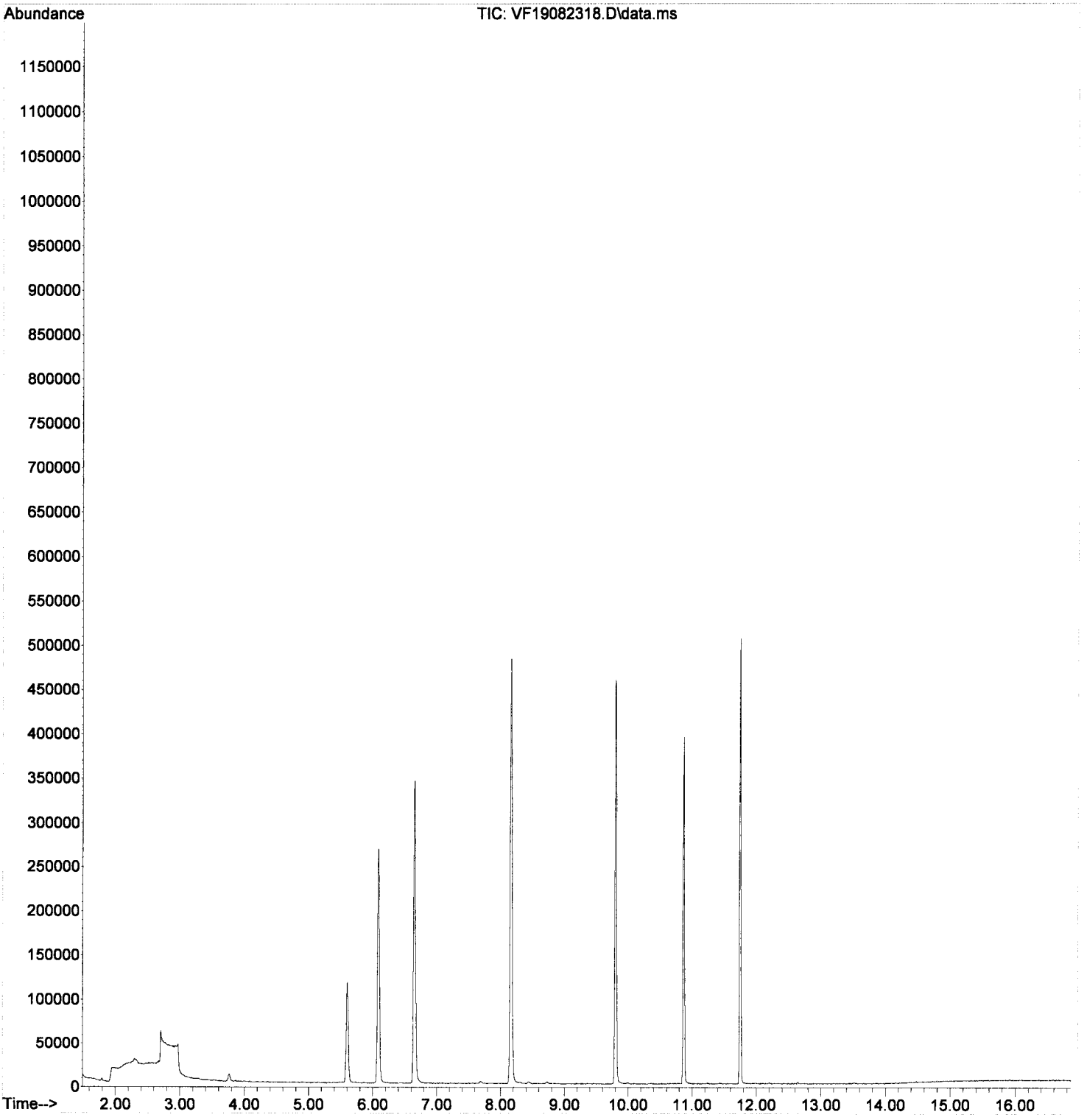
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	113751	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	238698	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	104936	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	79513	48.67	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	297679	50.00	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	352095	51.03	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	87087	49.82	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.831	50	625	0.26	ug/L		91
5) Bromomethane	2.293	96	2004	1.67	ug/L		86
6) Chloroethane	2.494	64	141	0.64	ug/L	#	1
8) Ethanol	3.290	45	1844	12.15	ug/L		80
12) Iodomethane	3.266	142	220	0.65	ug/L	#	47
13) Methylene Chloride	3.765	84	4330	Below Cal			90
14) Acetone	3.862	43	1091	1.02	ug/L		68
21) Acrylonitrile	4.616	53	100	0.08	ug/L	#	14
28) Tetrahydrofuran	5.589	42	114	0.09	ug/L	#	1
32) 2-Butanone (MEK)	5.735	43	180	0.11	ug/L	#	37
36) iso-Butyl Alcohol	6.282	43	204	1.22	ug/L	#	57
42) Bromodichloromethane	7.249	83	246	0.12	ug/L	#	26
48) 4-Methyl-2-Pentanone (...	8.666	43	377	0.12	ug/L	#	41
58) m,p-Xylenes (2)	9.980	91	627	0.09	ug/L	#	57
59) o-Xylene	10.363	91	668	0.09	ug/L		59
67) 1,1,2,2-Tetrachloroethane	11.038	83	267	0.12	ug/L	#	25
69) 1,3,5-Trimethylbenzene	11.117	105	758	0.11	ug/L	#	25
74) 1,2,4-Trimethylbenzene	11.433	105	542	0.08	ug/L	#	25
84) Naphthalene	13.507	128	536	0.09	ug/L		78

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082318.D
Acq On : 23 Aug 2019 4:15 pm
Operator : TB
Sample : 9H23046-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:20 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082319.D
Acq On : 23 Aug 2019 4:43 pm
Operator : TB
Sample : 9H23046-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

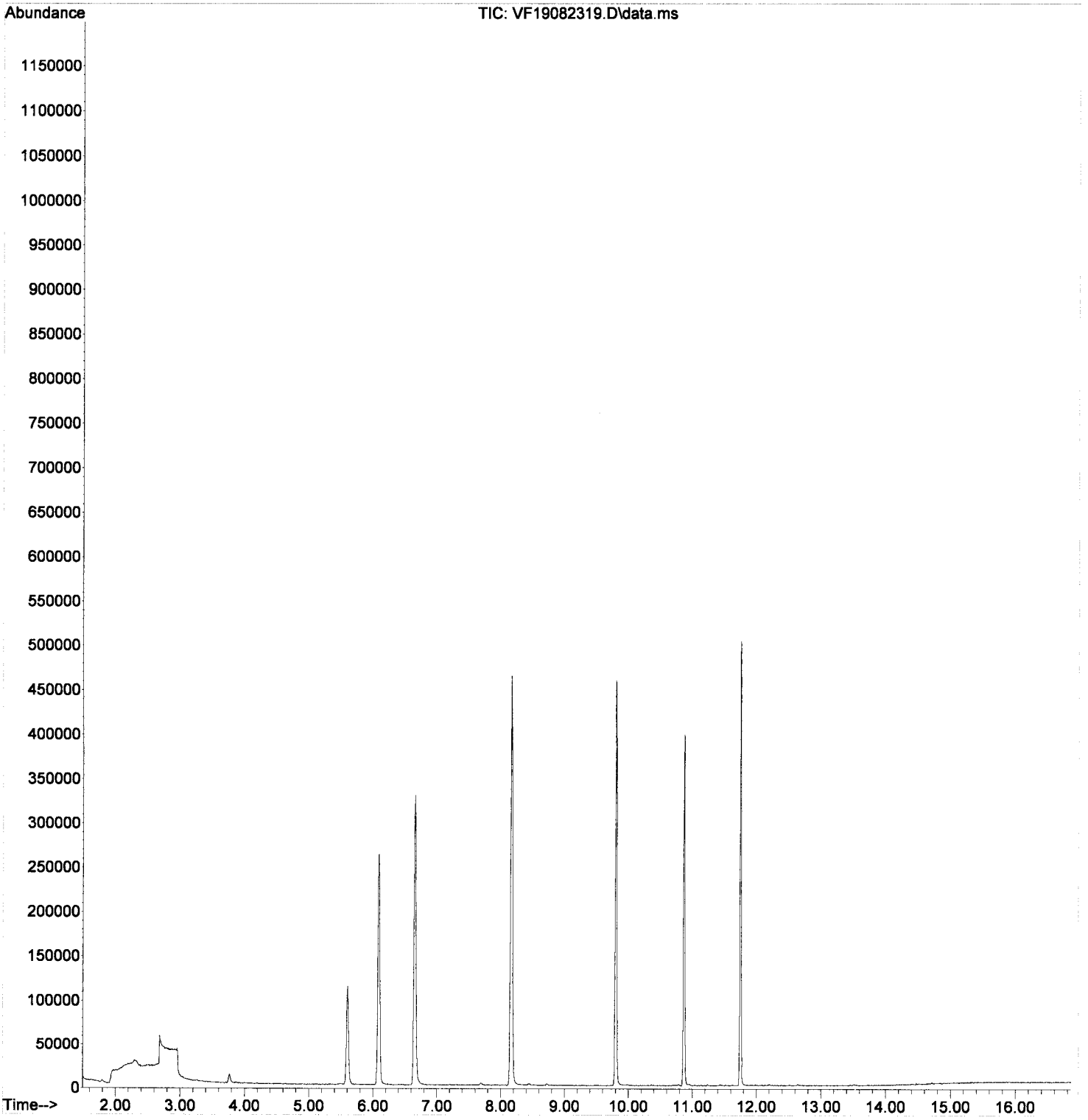
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	112917	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.804	117	236499	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	103893	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	78471	48.39	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.654	114	289089	48.92	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	345580	50.55	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	87807	50.74	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.837	50	529	0.22	ug/L		81
5) Bromomethane	2.299	96	1823	1.53	ug/L		89
6) Chloroethane	2.433	64	105	0.48	ug/L	#	1
8) Ethanol	3.254	45	806	Below Cal		#	74
12) Iodomethane	3.272	142	225	0.66	ug/L	#	45
13) Methylene Chloride	3.765	84	4951	Below Cal			85
14) Acetone	3.874	43	979	0.92	ug/L		71
21) Acrylonitrile	4.647	53	192	0.16	ug/L	#	14
26) Chloroform	5.328	83	374	0.09	ug/L	#	28
28) Tetrahydrofuran	5.559	42	132	0.11	ug/L	#	1
32) 2-Butanone (MEK)	5.747	43	363	0.22	ug/L	#	38
36) iso-Butyl Alcohol	6.374	43	136	0.82	ug/L	#	58
54) 2-Hexanone	9.548	43	185	0.09	ug/L	#	27
67) 1,1,2,2-Tetrachloroethane	11.050	83	177	0.08	ug/L	#	25
69) 1,3,5-Trimethylbenzene	11.129	105	634	0.09	ug/L	#	25

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082319.D
Acq On : 23 Aug 2019 4:43 pm
Operator : TB
Sample : 9H23046-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:22 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082320.D
Acq On : 23 Aug 2019 5:10 pm
Operator : TB
Sample : 9H23046-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

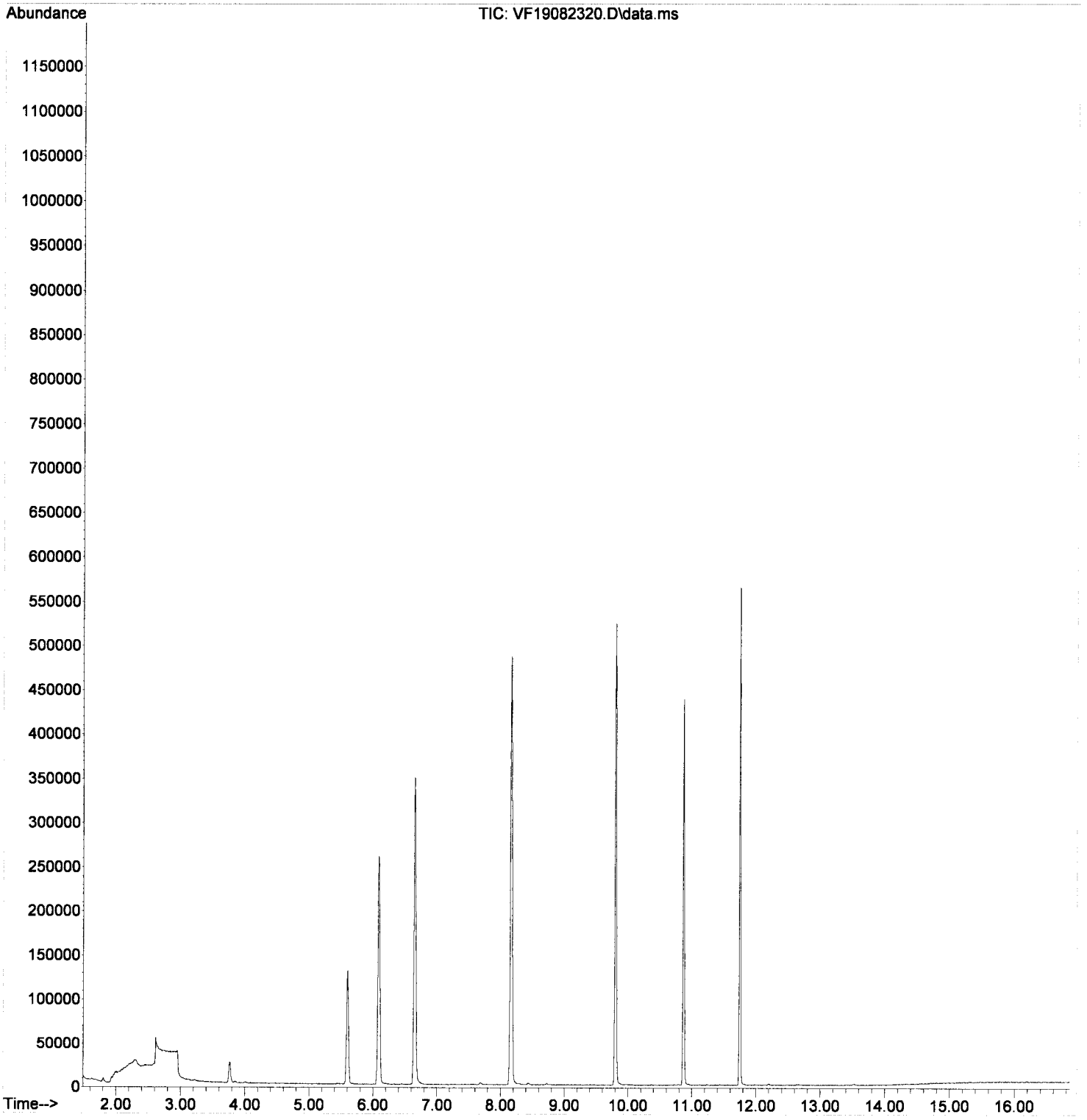
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	112333	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	256193	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	111798	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.598	111	83771	51.92	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.650	114	297516	50.61	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	359676	48.56	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	96008	51.56	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.834	50	444	0.19	ug/L	#	48
5) Bromomethane	2.290	96	1176	0.99	ug/L		85
6) Chloroethane	2.436	64	110	0.50	ug/L	#	1
8) Ethanol	3.221	45	1655	8.68	ug/L		82
13) Methylene Chloride	3.768	84	11345	1.44	ug/L		85
14) Acetone	3.853	43	1723	1.64	ug/L		86
18) tert-Butanol (TBA)	4.224	59	124	0.28	ug/L	#	1
21) Acrylonitrile	4.656	53	135	0.11	ug/L	#	14
28) Tetrahydrofuran	5.580	42	147	0.12	ug/L	#	1
32) 2-Butanone (MEK)	5.769	43	259	0.16	ug/L		44
36) iso-Butyl Alcohol	6.237	43	120	0.73	ug/L	#	41
42) Bromodichloromethane	7.265	83	251	0.12	ug/L	#	26
54) 2-Hexanone	9.466	43	192	0.08	ug/L	#	26
74) 1,2,4-Trimethylbenzene	11.443	105	796	0.11	ug/L	#	42

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082320.D
Acq On : 23 Aug 2019 5:10 pm
Operator : TB
Sample : 9H23046-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:24 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082321.D
Acq On : 23 Aug 2019 5:37 pm
Operator : TB
Sample : 9H23046-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:26 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

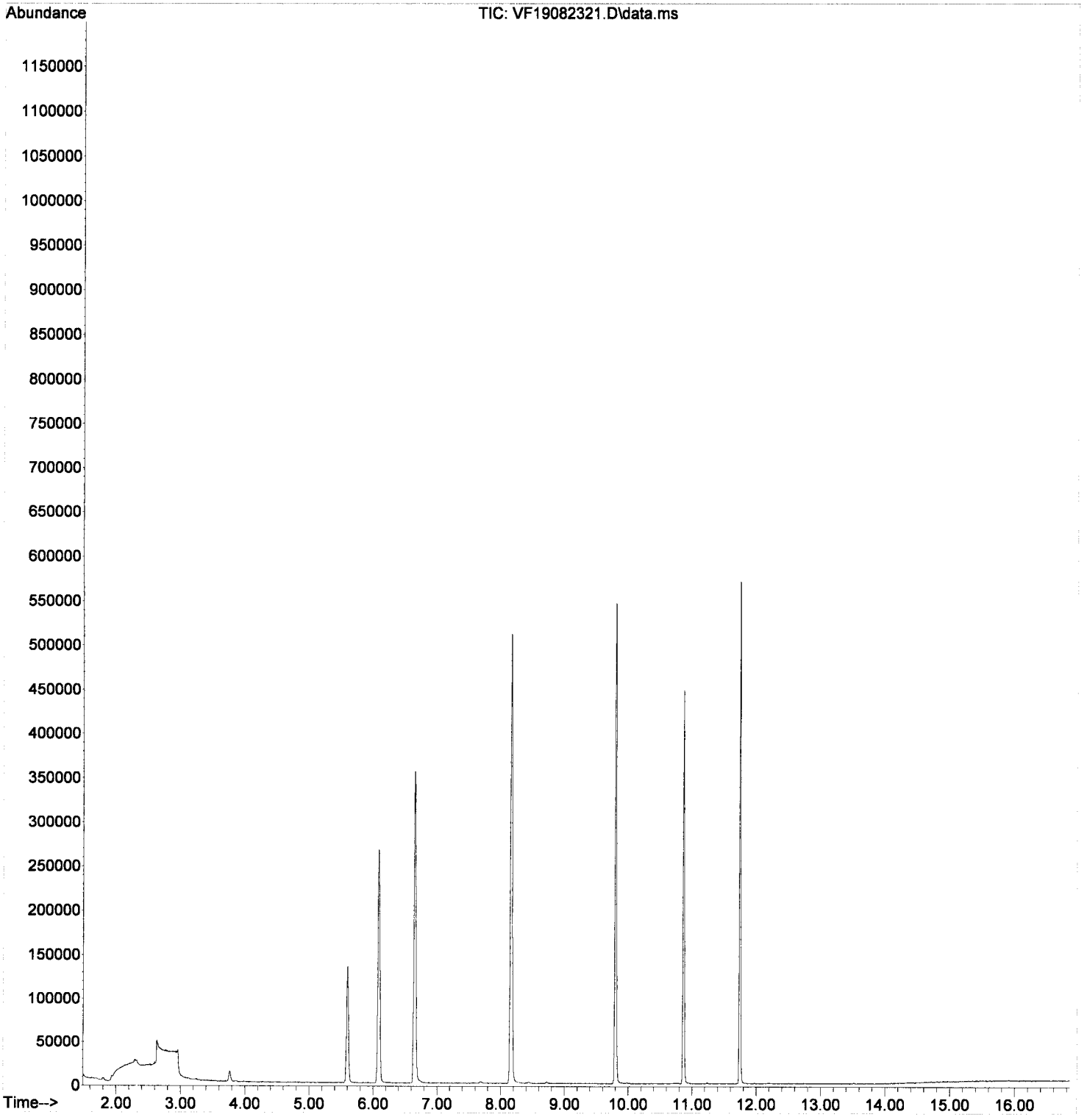
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.084	99	115752	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	267236	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	114378	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.598	111	87437	52.59	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.650	114	309217	51.04	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	374004	48.41	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.864	174	99359	52.15	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.833	50	420	0.17	ug/L		77
5) Bromomethane	2.295	96	1395	1.14	ug/L		87
6) Chloroethane	2.441	64	110	0.49	ug/L	#	1
8) Ethanol	3.232	45	1716	8.90	ug/L	#	78
13) Methylene Chloride	3.767	84	5623	Below Cal			83
14) Acetone	3.852	43	851	0.78	ug/L		76
21) Acrylonitrile	4.691	53	170	0.13	ug/L	#	14
28) Tetrahydrofuran	5.494	42	106	0.08	ug/L	#	1
32) 2-Butanone (MEK)	5.737	43	211	0.13	ug/L		41
36) iso-Butyl Alcohol	6.169	43	111	0.65	ug/L	#	64
42) Bromodichloromethane	7.234	83	187	0.09	ug/L	#	26
74) 1,2,4-Trimethylbenzene	11.436	105	784	0.11	ug/L	#	6

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082321.D
Acq On : 23 Aug 2019 5:37 pm
Operator : TB
Sample : 9H23046-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:26 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082322.D
Acq On : 23 Aug 2019 6:04 pm
Operator : TB
Sample : 9H23046-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

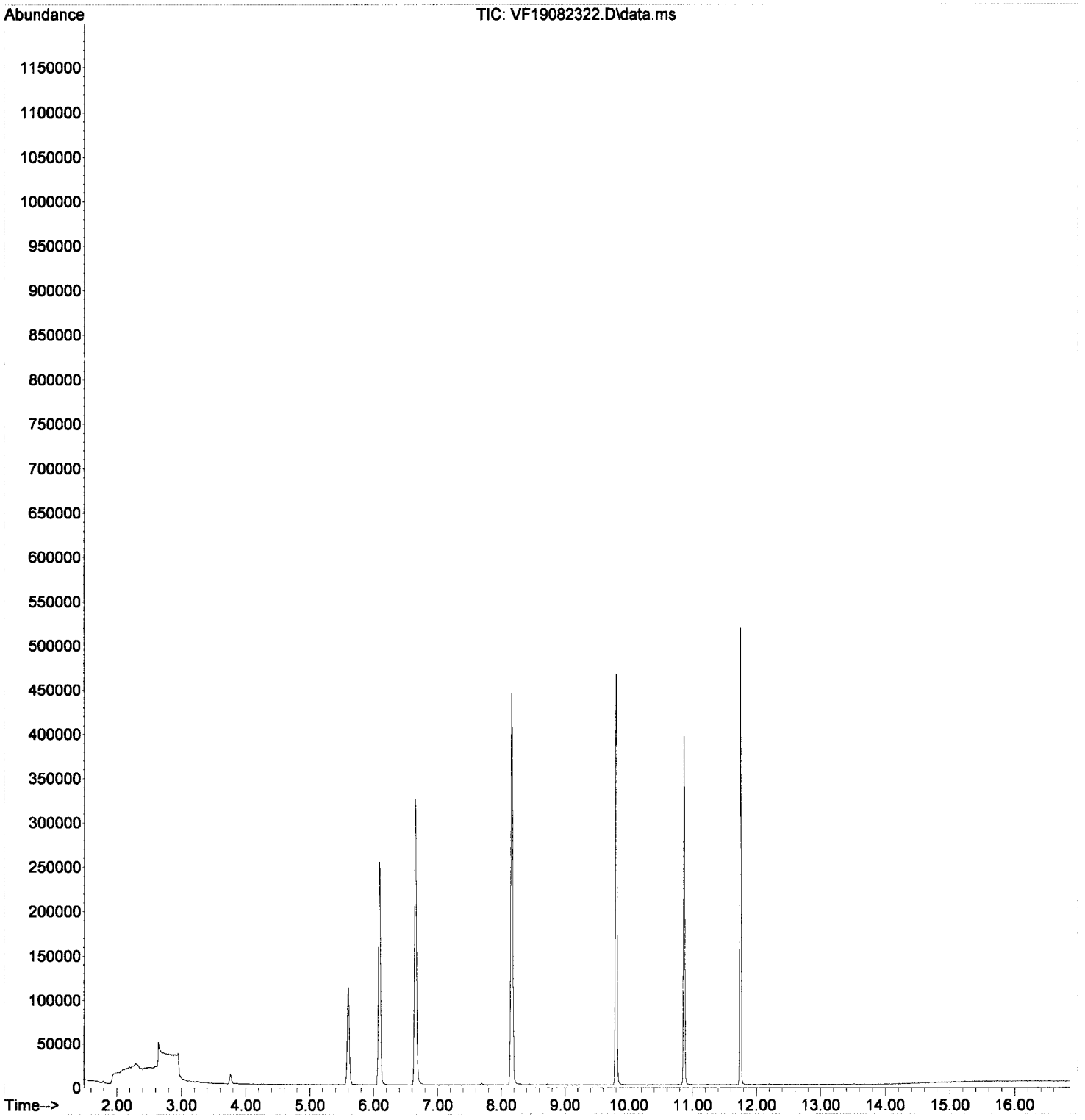
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	111380	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	231698	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	103191	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.598	111	77769	48.62	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	283900	48.70	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	337839	50.44	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	86848	50.53	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.834	50	399	0.17	ug/L		85
5) Bromomethane	2.290	96	1429	1.22	ug/L		85
6) Chloroethane	2.430	64	153	0.71	ug/L	#	1
8) Ethanol	3.239	45	1925	14.67	ug/L		94
12) Iodomethane	3.275	142	157	0.57	ug/L	#	47
13) Methylene Chloride	3.762	84	5575	Below Cal			84
14) Acetone	3.853	43	895	0.86	ug/L		72
21) Acrylonitrile	4.534	53	124	0.10	ug/L	#	14
26) Chloroform	5.434	83	350	0.09	ug/L	#	28
28) Tetrahydrofuran	5.604	42	107	0.09	ug/L	#	1
32) 2-Butanone (MEK)	5.726	43	146	0.09	ug/L	#	38
36) iso-Butyl Alcohol	6.243	43	110	0.67	ug/L		71
42) Bromodichloromethane	7.228	83	290	0.14	ug/L	#	26
54) 2-Hexanone	9.563	43	248	0.12	ug/L	#	29
74) 1,2,4-Trimethylbenzene	11.443	105	867	0.13	ug/L	#	1
75) sec-Butylbenzene	11.528	105	644	0.09	ug/L	#	1

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082322.D
Acq On : 23 Aug 2019 6:04 pm
Operator : TB
Sample : 9H23046-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:28 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082323.D
Acq On : 23 Aug 2019 6:31 pm
Operator : TB
Sample : 9H23046-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

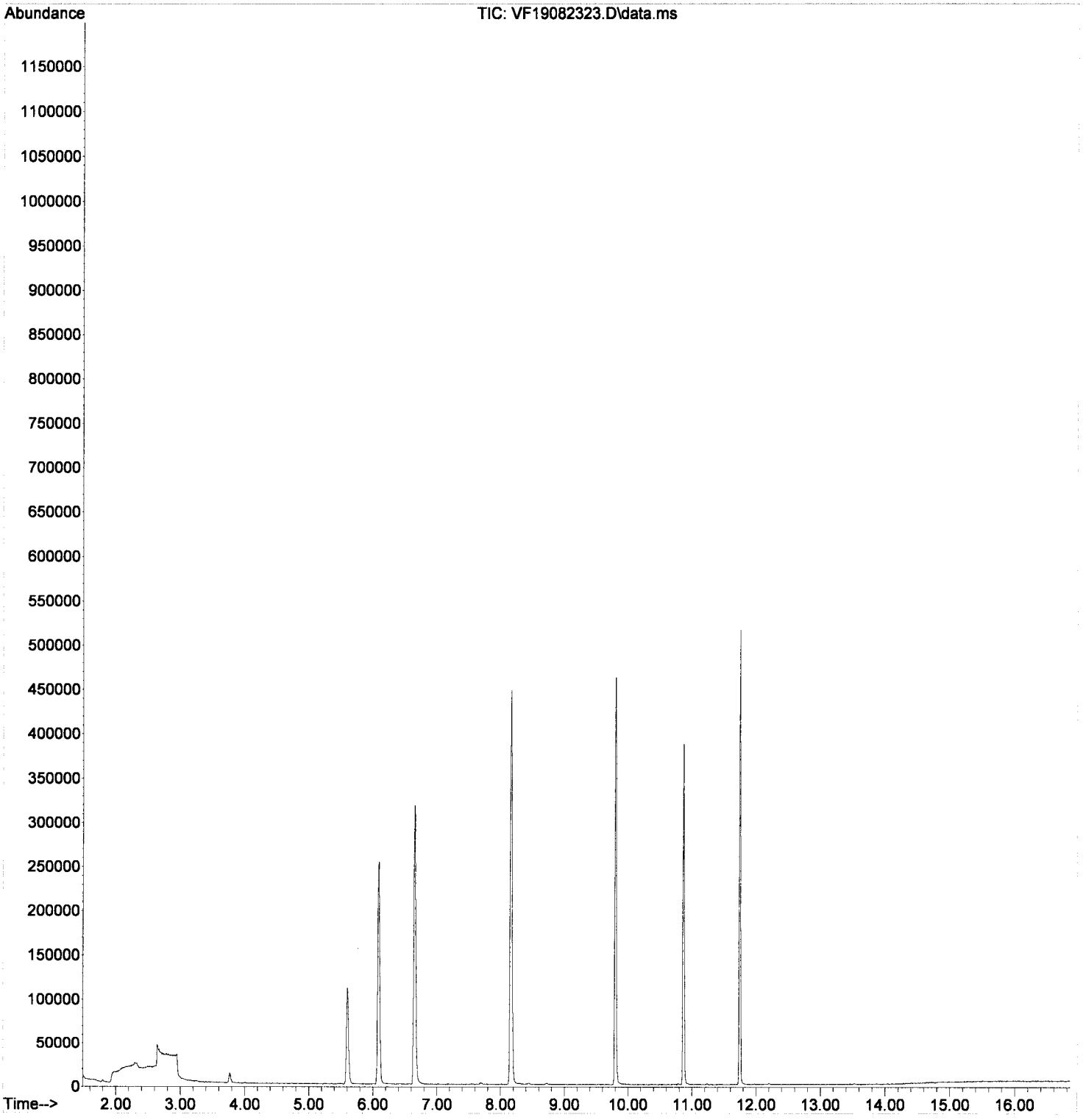
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	99	110150	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	230351	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	103272	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	77361	48.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	282311	48.97	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	337903	50.74	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	87092	50.63	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.835	50	323	0.14	ug/L		74
5) Bromomethane	2.297	96	1178	1.02	ug/L		94
6) Chloroethane	2.461	64	117	0.55	ug/L	#	1
8) Ethanol	3.227	45	1720	10.75	ug/L		80
13) Methylene Chloride	3.769	84	5622	Below Cal			81
14) Acetone	3.854	43	1074	1.04	ug/L	#	42
32) 2-Butanone (MEK)	5.830	43	185	0.12	ug/L	#	36
36) iso-Butyl Alcohol	6.298	43	123	0.76	ug/L		71
42) Bromodichloromethane	7.223	83	192	0.09	ug/L	#	26
74) 1,2,4-Trimethylbenzene	11.437	105	708	0.11	ug/L	#	1

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082323.D
Acq On : 23 Aug 2019 6:31 pm
Operator : TB
Sample : 9H23046-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:30 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082324.D
Acq On : 23 Aug 2019 6:58 pm
Operator : TB
Sample : 9H23046-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:32 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

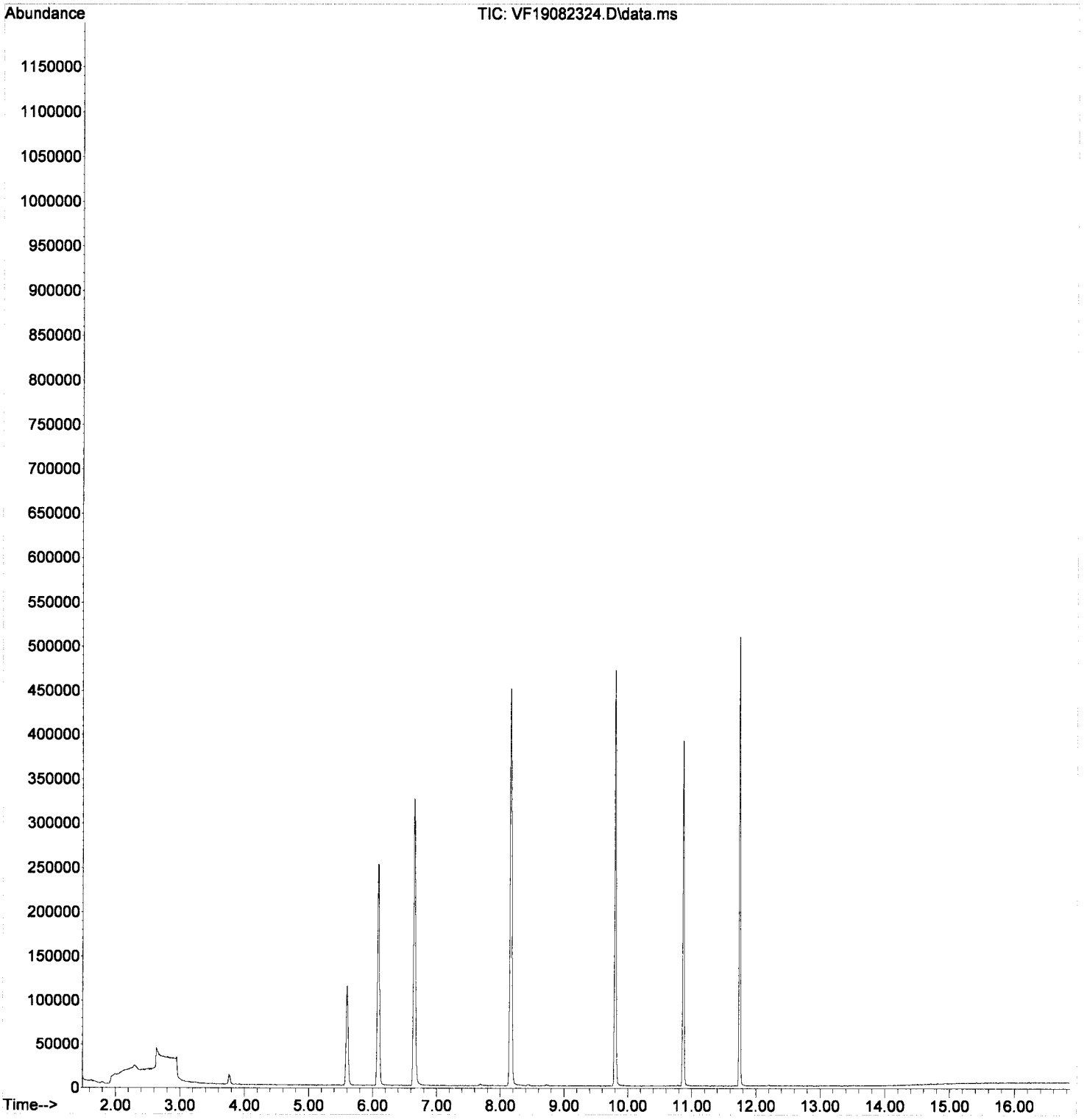
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.091	99	110840	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	233890	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	103599	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.599	111	78967	49.61 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	285764	49.26 ug/L		0.00
45) Toluene-d8 (S)	8.165	98	342160	50.61 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	88063	51.03 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.835	50	320	0.14 ug/L	#	48
5) Bromomethane	2.291	96	1174	1.01 ug/L		88
6) Chloroethane	2.443	64	105	0.49 ug/L	#	1
8) Ethanol	3.239	45	1661	9.27 ug/L	#	75
13) Methylene Chloride	3.768	84	5507	Below Cal		89
14) Acetone	3.860	43	433	0.42 ug/L		78
28) Tetrahydrofuran	5.599	42	100	0.08 ug/L	#	1
32) 2-Butanone (MEK)	5.702	43	148	0.09 ug/L	#	37
36) iso-Butyl Alcohol	6.280	43	175	1.07 ug/L	#	65
74) 1,2,4-Trimethylbenzene	11.437	105	540	0.08 ug/L	#	1

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082324.D
Acq On : 23 Aug 2019 6:58 pm
Operator : TB
Sample : 9H23046-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:32 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082325.D
Acq On : 23 Aug 2019 7:25 pm
Operator : TB
Sample : 9H23046-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:34 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

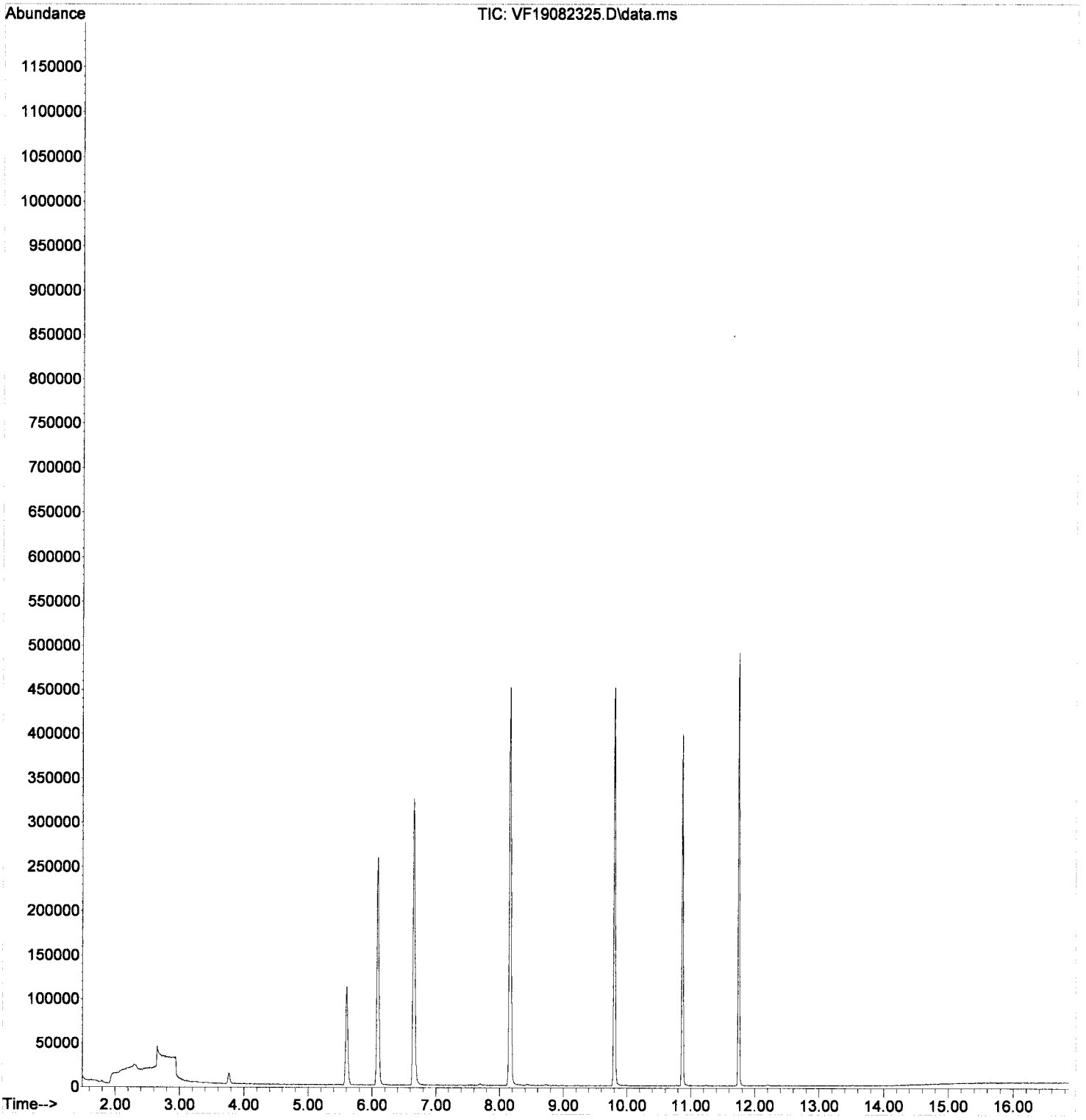
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	112174	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	232523	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	104231	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	77988	48.41	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	285838	48.69	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	341177	50.76	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	88399	50.92	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.837	50	339	0.14	ug/L		84
5) Bromomethane	2.299	96	1295	1.10	ug/L		87
6) Chloroethane	2.427	64	136	0.63	ug/L	#	1
8) Ethanol	3.248	45	1837	12.54	ug/L		94
13) Methylene Chloride	3.765	84	5696	Below Cal			83
14) Acetone	3.862	43	755	0.72	ug/L	#	42
28) Tetrahydrofuran	5.504	42	154	0.13	ug/L	#	1
32) 2-Butanone (MEK)	5.723	43	165	0.10	ug/L	#	39
36) iso-Butyl Alcohol	6.227	43	169	1.03	ug/L		69
42) Bromodichloromethane	7.352	83	188	0.09	ug/L	#	26

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082325.D
Acq On : 23 Aug 2019 7:25 pm
Operator : TB
Sample : 9H23046-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:34 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082326.D
Acq On : 23 Aug 2019 7:52 pm
Operator : TB
Sample : 9H23046-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

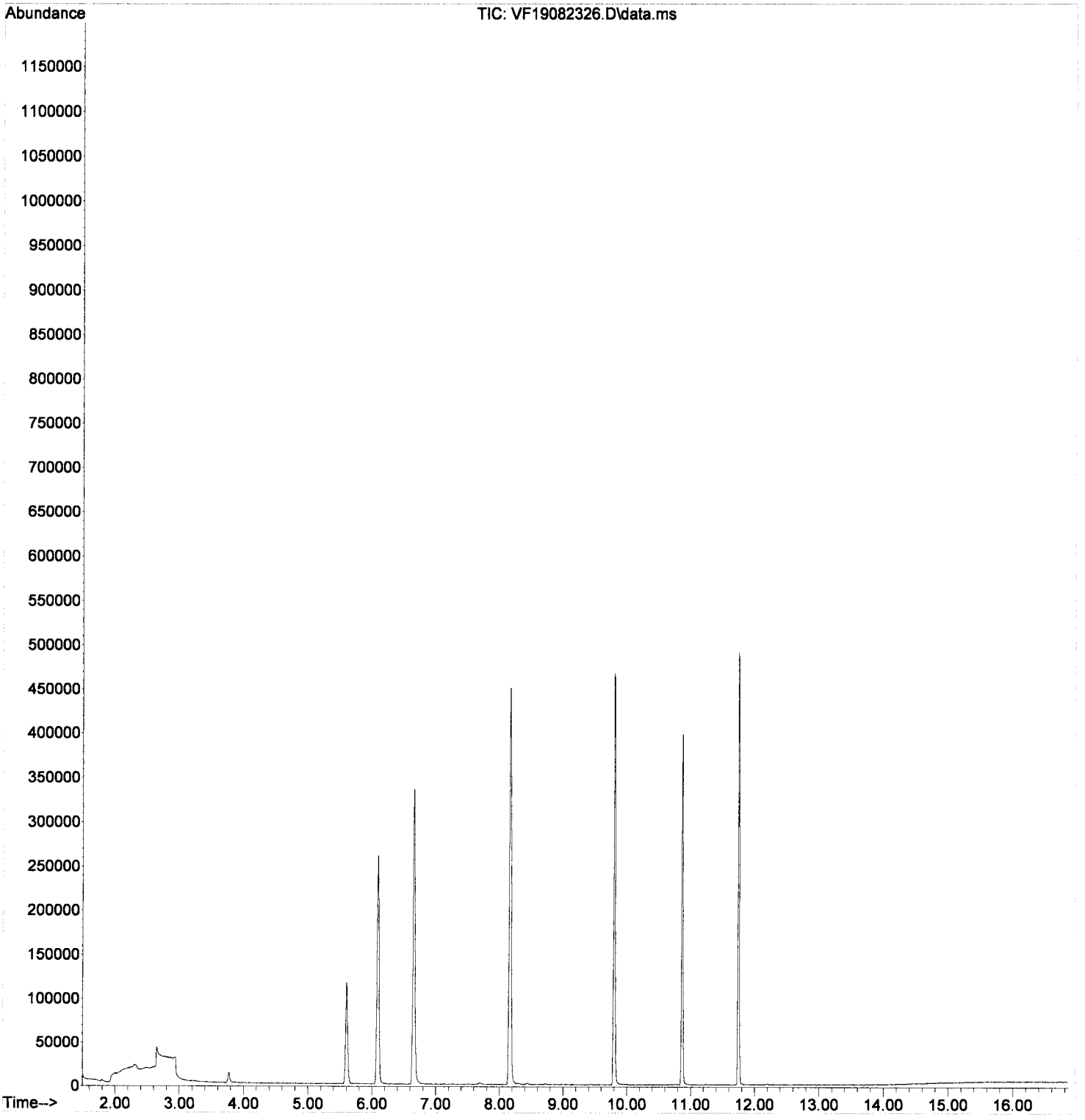
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	112627	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.804	117	238700	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	105863	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	79263	49.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.654	114	293793	49.84	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	348101	50.45	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	89733	50.89	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.843	50	405	0.17	ug/L		84
5) Bromomethane	2.299	96	1400	1.18	ug/L		81
6) Chloroethane	2.397	64	228	1.04	ug/L	#	1
8) Ethanol	3.236	45	1509	5.55	ug/L		79
13) Methylene Chloride	3.771	84	5570	Below Cal		#	76
14) Acetone	3.856	43	892	0.84	ug/L		74
32) 2-Butanone (MEK)	5.735	43	181	0.11	ug/L	#	39
36) iso-Butyl Alcohol	6.277	43	116	0.70	ug/L	#	60
74) 1,2,4-Trimethylbenzene	11.440	105	697	0.10	ug/L	#	6

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082326.D
Acq On : 23 Aug 2019 7:52 pm
Operator : TB
Sample : 9H23046-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

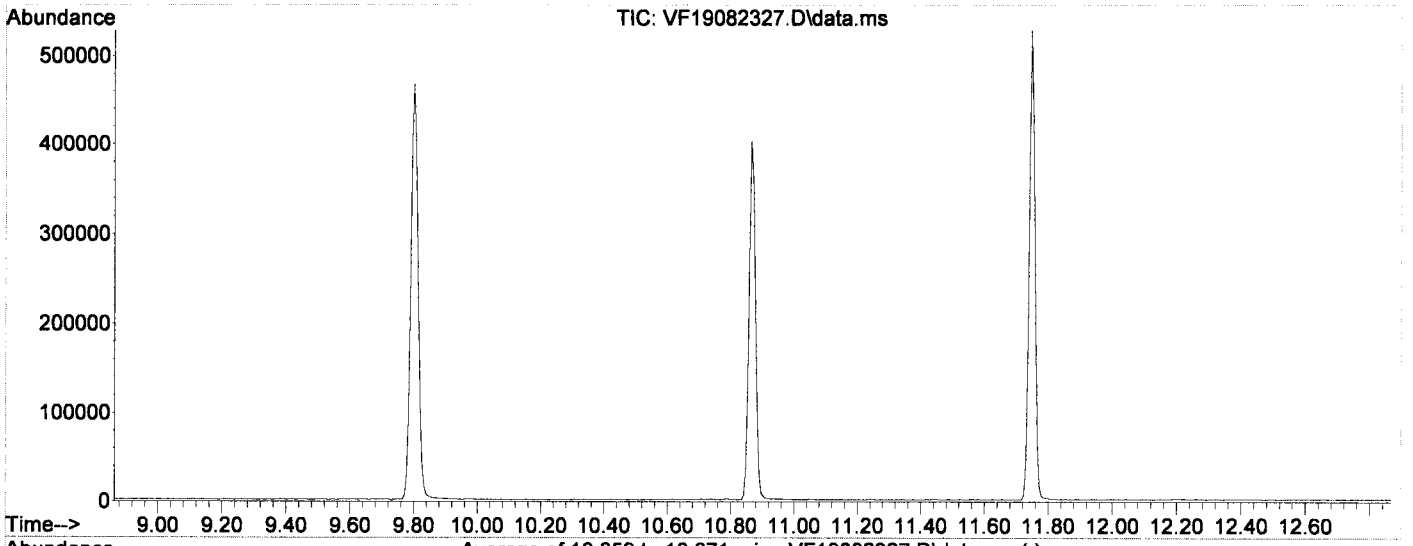


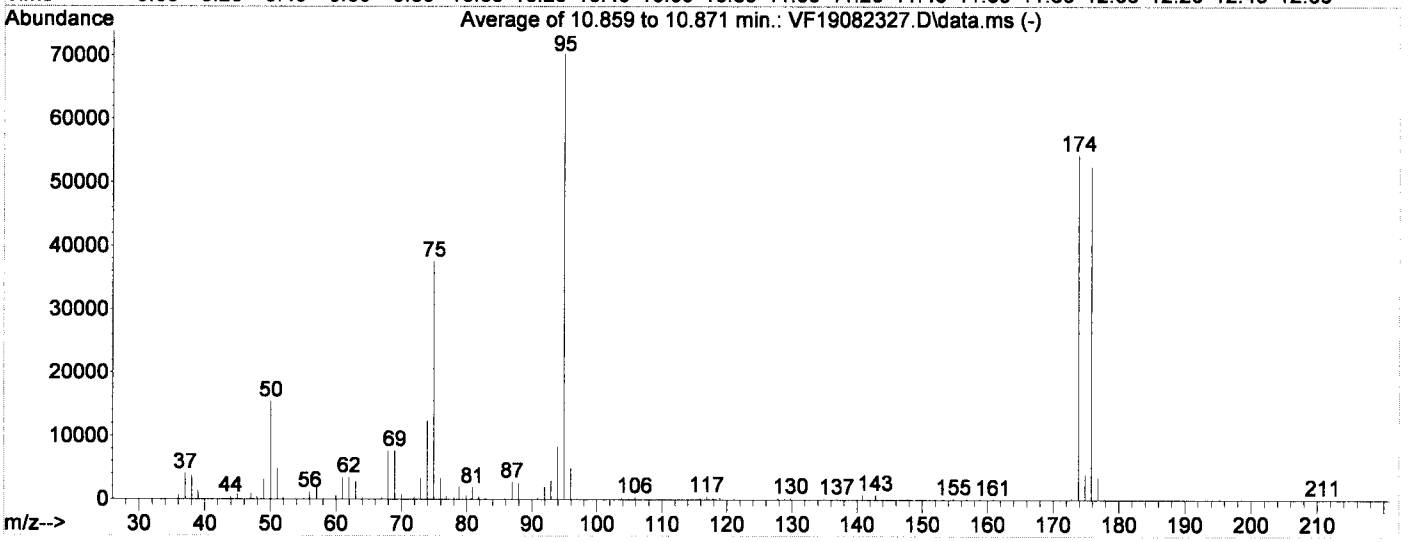
Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082327.D
Acq On : 23 Aug 2019 8:19 pm
Operator : TB
Sample : 9H23046-TUN1
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 11 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190823S.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Aug 27 13:36:40 2019

8/27/19





AutoFind: Scans 1541, 1542, 1543; Background Corrected with Scan 1534

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	129.2	70242	PASS
96	95	5	9	7.0	4889	PASS
173	174	0.00	2	0.4	198	PASS
174	95	50	200	77.4	54352	PASS
175	174	5	9	7.3	3968	PASS
176	174	95	105	96.7	52552	PASS
177	176	5	10	6.6	3480	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082327.D
Acq On : 23 Aug 2019 8:19 pm
Operator : TB
Sample : 9H23046-TUN1
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

8/27/19

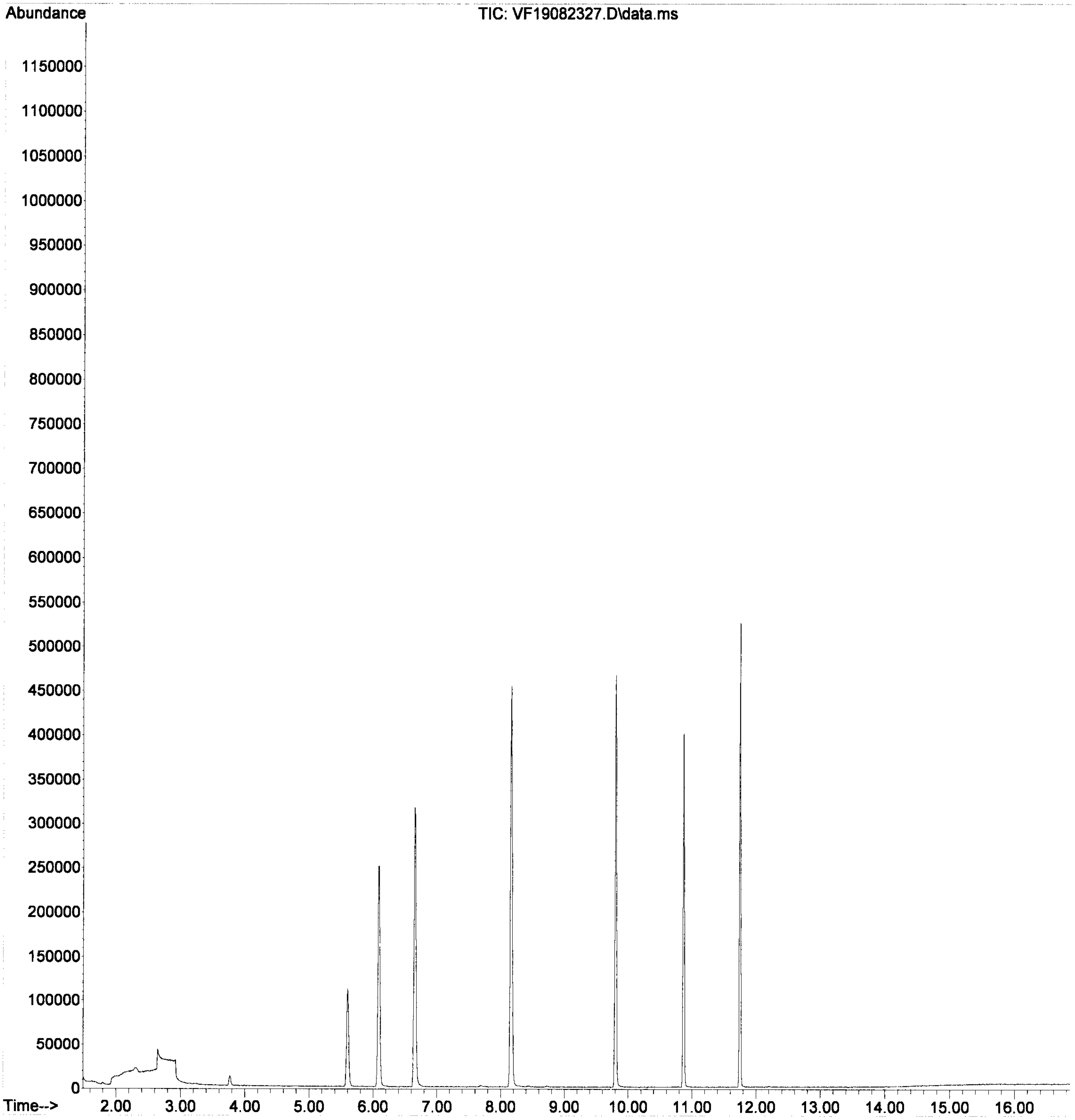
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	111208	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	235069	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	105984	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	77384	48.45	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	286203	49.17	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	343606	50.56	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	90062	51.02	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.834	50	225	0.10	ug/L	#	48
5) Bromomethane	2.296	96	1343	1.15	ug/L		90
8) Ethanol	3.233	45	1558	6.98	ug/L	#	73
13) Methylene Chloride	3.768	84	5307	Below Cal			82
14) Acetone	3.871	43	671	0.64	ug/L	#	42
28) Tetrahydrofuran	5.696	42	166	0.14	ug/L	#	1
36) iso-Butyl Alcohol	6.213	43	140	0.86	ug/L		72
42) Bromodichloromethane	7.180	83	170	0.08	ug/L	#	26

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082327.D
Acq On : 23 Aug 2019 8:19 pm
Operator : TB
Sample : 9H23046-TUN1
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082328.D
Acq On : 23 Aug 2019 8:46 pm
Operator : TB
Sample : 9H23046-ICB1
Misc : 1X 5mL DI+MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 14:53:40 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.090	99	114217	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	244112	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	107138	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.604	111	78641	47.94	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.656	114	295034	49.36	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	351233	49.77	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.870	174	92071	51.59	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.839	50	321	0.13	ug/L		81
5) Bromomethane	2.302	96	1200	1.00	ug/L		89
8) Ethanol	3.244	45	1616	7.31	ug/L		88
13) Methylene Chloride	3.773	84	7796	Below Cal			82
14) Acetone	3.858	43	710	0.66	ug/L	#	42
16) n-Hexane	4.010	86	518	Below Cal		#	47
28) Tetrahydrofuran	5.573	42	124	0.10	ug/L	#	1
32) 2-Butanone (MEK)	5.756	43	364	0.22	ug/L		42
36) iso-Butyl Alcohol	6.267	43	221	1.32	ug/L		79
54) 2-Hexanone	9.563	43	265	0.12	ug/L	#	24

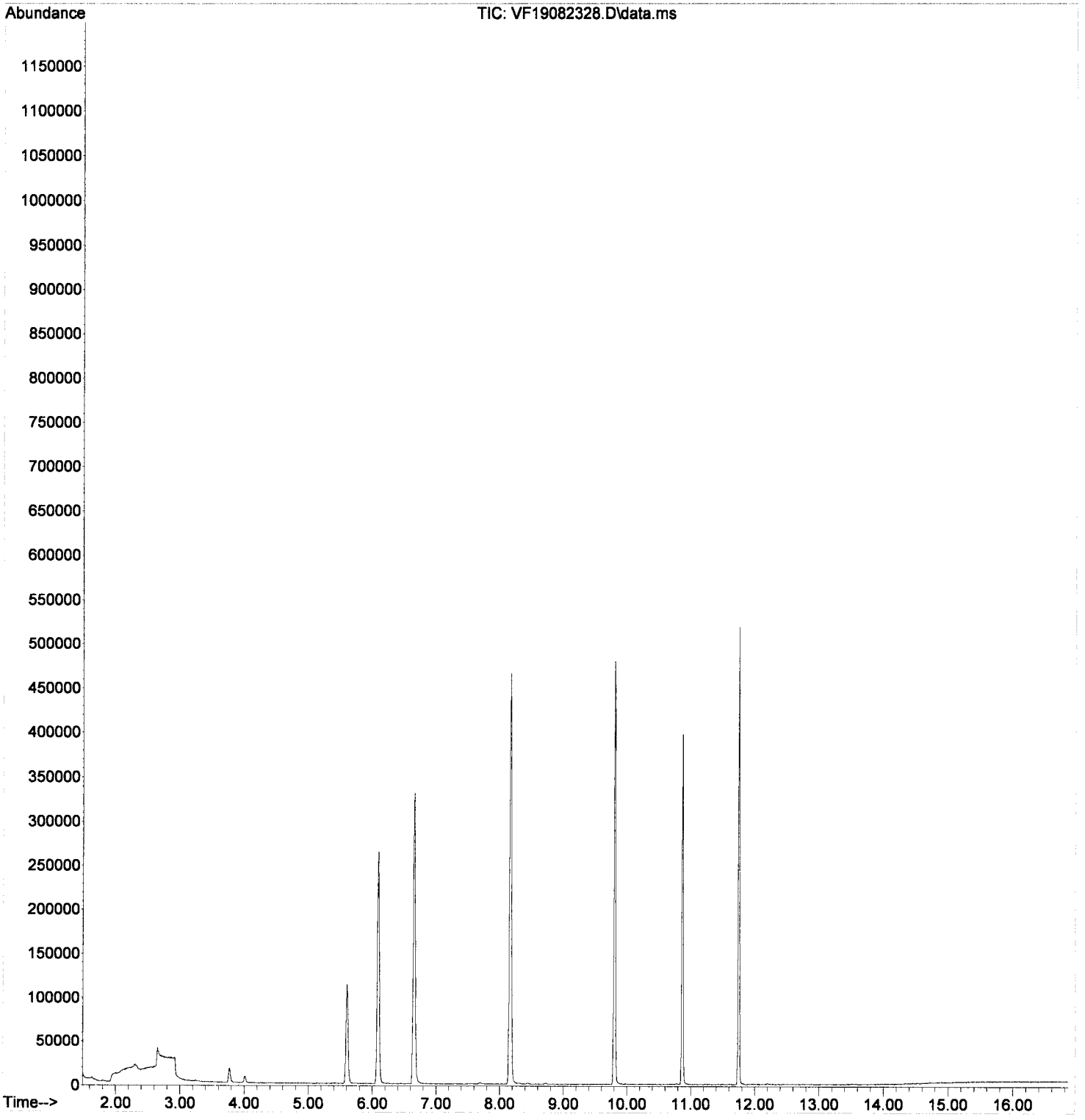
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082328.D
Acq On : 23 Aug 2019 8:46 pm
Operator : TB
Sample : 9H23046-ICB1
Misc : 1X 5mL DI+MeOH
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:40 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:39:10 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	113186	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	237760	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	105354	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.605	111	78389	47.02	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.657	114	291703	48.78	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	346031	50.42	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.871	174	89219	50.56	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	0.000		0	N.D.	d		
5) Bromomethane	2.302	96	1343	1.06	ug/L		88
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.245	45	1996	42.61	ug/L	#	75
9) 1,1-Dichloroethene	0.000		0	N.D.	d		
10) Carbon Disulfide	3.142	76	598	0.12	ug/L		46
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Methylene Chloride	3.774	84	9502	4.07	ug/L		83
14) Acetone	0.000		0	N.D.	d		
15) t-1,2-Dichloroethene	3.938	61	222	0.07	ug/L	#	52
16) n-Hexane	4.017	86	770	1.70	ug/L	#	76
17) Methyl-tert-butyl-ether	0.000		0	N.D.	d		
18) tert-Butanol (TBA)	0.000		0	N.D.	d		
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d		
20) 1,1-Dichloroethane	0.000		0	N.D.	d		
21) Acrylonitrile	0.000		0	N.D.			
22) Ethyl-tert-butyl ether...	0.000		0	N.D.			
23) c-1,2-Dichloroethene	5.136	61	231	0.07	ug/L		90
24) 2,2-Dichloropropane	0.000		0	N.D.	d		
25) Bromochloromethane	0.000		0	N.D.	d		
26) Chloroform	0.000		0	N.D.	d		
27) Carbon Tetrachloride	0.000		0	N.D.			
28) Tetrahydrofuran	0.000		0	N.D.	d		
29) 1,1,1-Trichloroethane	5.617	97	375	0.12	ug/L		83
31) 1,1-Dichloropropene	0.000		0	N.D.	d		
32) 2-Butanone (MEK)	0.000		0	N.D.	d		
33) Benzene	6.012	78	1062	0.12	ug/L		74
34) tert-Amyl methyl ether...	0.000		0	N.D.	d		
35) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	d		
36) iso-Butyl Alcohol	0.000		0	N.D.	d		
38) Trichloroethene (TCE)	0.000		0	N.D.	d		
39) tert-Amyl ethyl ether ...	0.000		0	N.D.			
40) Dibromomethane	0.000		0	N.D.			
41) 1,2-Dichloropropane	0.000		0	N.D.	d		
42) Bromodichloromethane	0.000		0	N.D.	d		
44) c-1,3-Dichloropropene	0.000		0	N.D.			
46) Toluene	8.226	91	1588	0.18	ug/L		93
47) Tetrachloroethene (PCE)	0.000		0	N.D.			
48) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:39:10 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

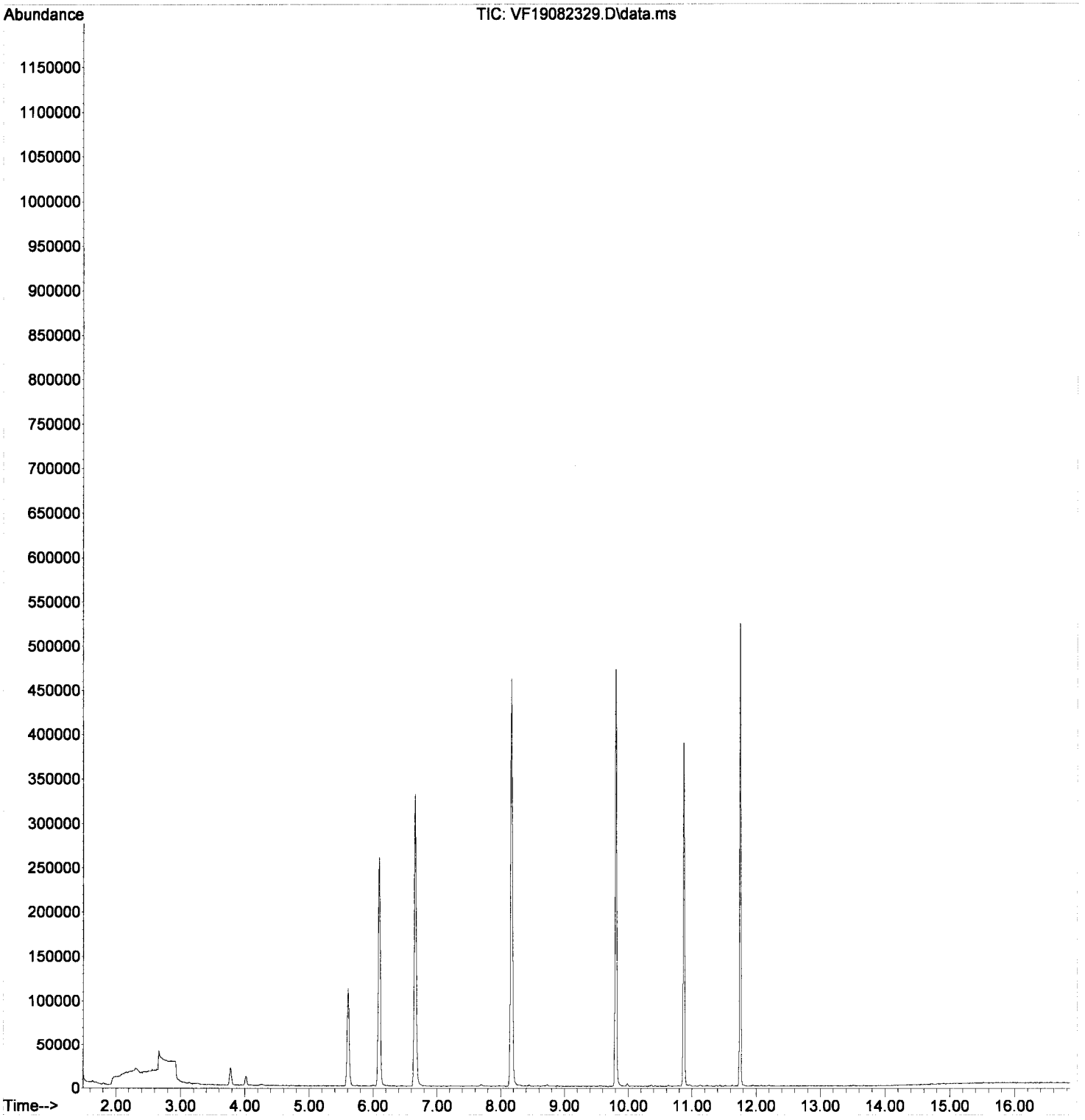
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) t-1,3-Dichloropropene	0.000		0	N.D. d		
50) 1,1,2-Trichloroethane	0.000		0	N.D. d		
51) Dibromochloromethane	0.000		0	N.D.		
52) 1,3-Dichloropropane	0.000		0	N.D. d		
53) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
54) 2-Hexanone	0.000		0	N.D. d		
55) Chlorobenzene	9.819	112	631	0.12	ug/L #	1
56) Ethylbenzene	9.849	91	1245	0.13	ug/L	76
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
58) m,p-Xylenes (2)	9.989	91	1575	0.22	ug/L	84
59) o-Xylene	10.366	91	1188	0.16	ug/L	83
60) Styrene	10.421	104	476	0.09	ug/L #	51
61) Bromoform	0.000		0	N.D.		
62) Isopropylbenzene	10.628	105	1303	0.15	ug/L	87
65) Bromobenzene	0.000		0	N.D.		
66) n-Propylbenzene	10.974	91	878	0.10	ug/L	83
67) 1,1,2,2-Tetrachloroethane	0.000		0	N.D. d		
68) 2-Chlorotoluene	0.000		0	N.D. d		
69) 1,3,5-Trimethylbenzene	11.127	105	888	0.14	ug/L	82
70) 1,2,3-Trichloropropane	0.000		0	N.D.		
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
72) 4-Chlorotoluene	0.000		0	N.D. d		
73) tert-Butylbenzene	0.000		0	N.D. d		
74) 1,2,4-Trimethylbenzene	0.000		0	N.D. d		
75) sec-Butylbenzene	11.516	105	1071	0.15	ug/L #	58
76) 4-Isopropyltoluene	11.625	119	662	0.11	ug/L #	53
77) 1,3-Dichlorobenzene	11.698	146	317	0.10	ug/L	88
78) 1,4-Dichlorobenzene	11.759	146	344	0.10	ug/L #	1
79) n-Butylbenzene	0.000		0	N.D. d		
80) 1,2-Dichlorobenzene	12.081	146	250	0.08	ug/L	75
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
82) Hexachlorobutadiene	0.000		0	N.D.		
83) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
84) Naphthalene	0.000		0	N.D. d		
85) 1,2,3-Trichlorobenzene	0.000		0	N.D.		

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:39:10 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:42 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	113186	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	237760	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	105354	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.605	111	78389	47.02	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.657	114	291703	48.78	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	346031	50.42	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.871	174	89219	50.56	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.640	85	165	0.11	ug/L	#	50
3) Chloromethane	1.846	50	515	0.22	ug/L		89
4) Vinyl Chloride	1.944	62	145	0.06	ug/L	#	44
5) Bromomethane	2.302	96	1343	1.06	ug/L		88
6) Chloroethane	2.412	64	303	1.46	ug/L	#	1
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.245	45	1996	42.61	ug/L	#	75
9) 1,1-Dichloroethene	3.117	61	295	0.09	ug/L	#	71
10) Carbon Disulfide	3.142	76	598	0.12	ug/L		46
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Methylene Chloride	3.774	84	9502	4.07	ug/L		83
14) Acetone	3.871	43	970	0.92	ug/L		82
15) t-1,2-Dichloroethene	3.938	61	222	0.07	ug/L	#	52
16) n-Hexane	4.017	86	770	1.70	ug/L	#	76
17) Methyl-tert-butyl-ether	4.090	73	720	0.09	ug/L	#	7
18) tert-Butanol (TBA)	4.267	59	2584	6.14	ug/L	#	94
19) Diisopropyl ether (DIPE)	4.474	45	216	0.03	ug/L	#	1
20) 1,1-Dichloroethane	4.583	63	331	0.08	ug/L	#	49
21) Acrylonitrile	0.000		0	N.D.			
22) Ethyl-tert-butyl ether...	0.000		0	N.D.			
23) c-1,2-Dichloroethene	5.136	61	231	0.07	ug/L		90
24) 2,2-Dichloropropane	5.234	77	487	0.17	ug/L	#	1
25) Bromochloromethane	5.337	49	106	0.05	ug/L	#	15
26) Chloroform	5.416	83	747	0.20	ug/L		82
27) Carbon Tetrachloride	0.000		0	N.D.			
28) Tetrahydrofuran	5.599	42	197	0.16	ug/L	#	1
29) 1,1,1-Trichloroethane	5.617	97	375	0.12	ug/L		83
31) 1,1-Dichloropropene	5.751	75	206	0.07	ug/L	#	35
32) 2-Butanone (MEK)	5.763	43	702	0.43	ug/L		48
33) Benzene	6.012	78	1062	0.12	ug/L		74
34) tert-Amyl methyl ether...	6.085	73	112	0.02	ug/L	#	1
35) 1,2-Dichloroethane (EDC)	6.225	62	311	0.09	ug/L		60
36) iso-Butyl Alcohol	6.298	43	165	0.99	ug/L	#	58
38) Trichloroethene (TCE)	6.632	130	127	0.06	ug/L	#	40
39) tert-Amyl ethyl ether ...	0.000		0	N.D.			
40) Dibromomethane	0.000		0	N.D.			
41) 1,2-Dichloropropane	7.174	63	174	0.07	ug/L	#	37
42) Bromodichloromethane	7.271	83	392	0.19	ug/L	#	26
44) c-1,3-Dichloropropene	0.000		0	N.D.			
46) Toluene	8.226	91	1588	0.18	ug/L		93
47) Tetrachloroethene (PCE)	0.000		0	N.D.			
48) 4-Methyl-2-Pentanone (...	8.682	43	635	0.20	ug/L	#	41

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

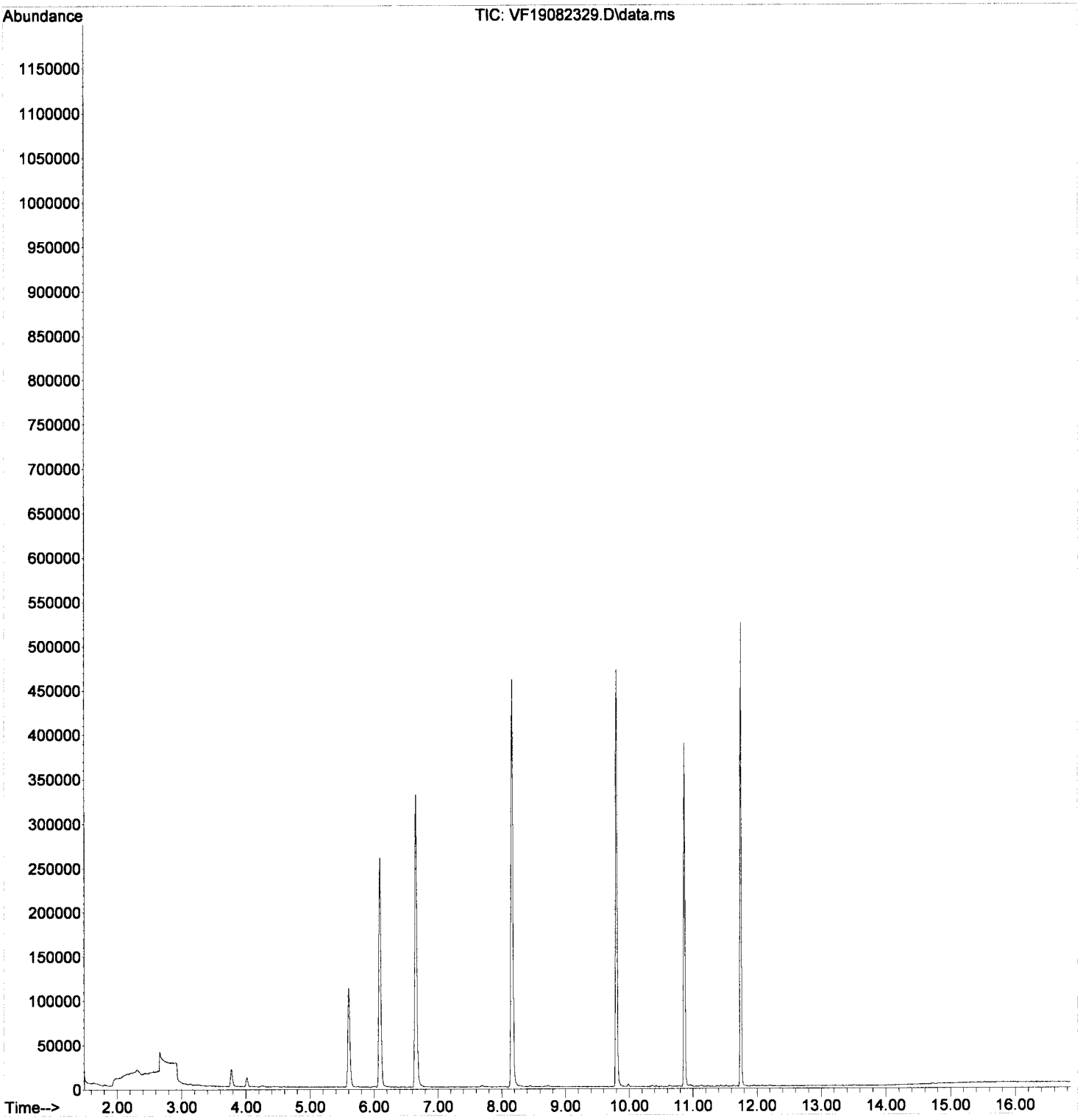
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.718	75	133	0.05	ug/L		47
50) 1,1,2-Trichloroethane	8.889	97	237	0.13	ug/L	#	65
51) Dibromochloromethane	0.000		0	N.D.			
52) 1,3-Dichloropropane	9.180	76	256	0.07	ug/L	#	1
53) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
54) 2-Hexanone	9.558	43	567	0.26	ug/L	#	64
55) Chlorobenzene	9.819	112	631	0.12	ug/L	#	1
56) Ethylbenzene	9.849	91	1245	0.13	ug/L		76
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
58) m,p-Xylenes (2)	9.989	91	1575	0.22	ug/L		84
59) o-Xylene	10.366	91	1188	0.16	ug/L		83
60) Styrene	10.421	104	476	0.09	ug/L	#	51
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.628	105	1303	0.15	ug/L		87
65) Bromobenzene	0.000		0	N.D.			
66) n-Propylbenzene	10.974	91	878	0.10	ug/L		83
67) 1,1,2,2-Tetrachloroethane	11.047	83	392	0.19	ug/L		78
68) 2-Chlorotoluene	11.102	126	151	0.08	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.127	105	888	0.14	ug/L		82
70) 1,2,3-Trichloropropane	0.000		0	N.D.			
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.242	91	652	0.12	ug/L		79
73) tert-Butylbenzene	11.376	91	427	0.12	ug/L	#	46
74) 1,2,4-Trimethylbenzene	11.437	105	1042	0.16	ug/L	#	72
75) sec-Butylbenzene	11.516	105	1071	0.15	ug/L	#	58
76) 4-Isopropyltoluene	11.625	119	662	0.11	ug/L	#	53
77) 1,3-Dichlorobenzene	11.698	146	317	0.10	ug/L		88
78) 1,4-Dichlorobenzene	11.759	146	344	0.10	ug/L	#	1
79) n-Butylbenzene	11.947	91	545	0.10	ug/L		74
80) 1,2-Dichlorobenzene	12.081	146	250	0.08	ug/L		75
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	0.000		0	N.D.			
84) Naphthalene	13.504	128	558	0.09	ug/L		78
85) 1,2,3-Trichlorobenzene	0.000		0	N.D.			

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082329.D
Acq On : 23 Aug 2019 9:13 pm
Operator : TB
Sample : 9H23046-CAL1
Misc : 1X 5mL 0.1ppb VOCO DI+MeOH
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:58:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	115217	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	242508	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	109279	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	80610	47.50	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	297594	48.89	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	352463	50.36	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	92028	50.28	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	0.000		0	N.D.	d		
4) Vinyl Chloride	1.939	62	409	0.17	ug/L	#	53
5) Bromomethane	2.304	96	1390	1.08	ug/L		87
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.241	45	2098	44.00	ug/L		79
9) 1,1-Dichloroethene	3.125	61	652	0.20	ug/L		94
10) Carbon Disulfide	3.137	76	1126	0.23	ug/L		83
11) Freon 113	3.168	101	305	0.17	ug/L	#	69
12) Iodomethane	0.000		0	N.D.	d		
13) Methylene Chloride	3.770	84	9630	4.05	ug/L		87
14) Acetone	0.000		0	N.D.	d		
15) t-1,2-Dichloroethene	3.934	61	561	0.17	ug/L		98
16) n-Hexane	4.019	86	903	1.96	ug/L	#	91
17) Methyl-tert-butyl-ether	0.000		0	N.D.	d		
18) tert-Butanol (TBA)	4.244	59	5229	12.21	ug/L	#	66
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d		
20) 1,1-Dichloroethane	4.573	63	823	0.21	ug/L		83
21) Acrylonitrile	0.000		0	N.D.	d		
22) Ethyl-tert-butyl ether...	0.000		0	N.D.	d		
23) c-1,2-Dichloroethene	5.132	61	613	0.19	ug/L		87
24) 2,2-Dichloropropane	5.235	77	920	0.31	ug/L	#	9
25) Bromochloromethane	5.333	49	407	0.21	ug/L		78
26) Chloroform	5.418	83	1091	0.28	ug/L		83
27) Carbon Tetrachloride	0.000		0	N.D.			
28) Tetrahydrofuran	0.000		0	N.D.	d		
29) 1,1,1-Trichloroethane	5.612	97	787	0.24	ug/L		92
31) 1,1-Dichloropropene	5.746	75	601	0.19	ug/L		78
32) 2-Butanone (MEK)	0.000		0	N.D.	d		
33) Benzene	6.002	78	2081	0.22	ug/L		81
34) tert-Amyl methyl ether...	0.000		0	N.D.	d		
35) 1,2-Dichloroethane (EDC)	6.221	62	619	0.18	ug/L		76
36) iso-Butyl Alcohol	0.000		0	N.D.	d		
38) Trichloroethene (TCE)	6.634	130	415	0.18	ug/L	#	42
39) tert-Amyl ethyl ether ...	0.000		0	N.D.	d		
40) Dibromomethane	0.000		0	N.D.	d		
41) 1,2-Dichloropropane	0.000		0	N.D.	d		
42) Bromodichloromethane	0.000		0	N.D.	d		
44) c-1,3-Dichloropropene	7.960	75	471	0.15	ug/L	#	1
46) Toluene	8.221	91	2438	0.27	ug/L		86
47) Tetrachloroethene (PCE)	8.677	166	347	0.17	ug/L		91
48) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:58:25 2019
Quant Method : C:\msdchem\1\METHODS\VF~~190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

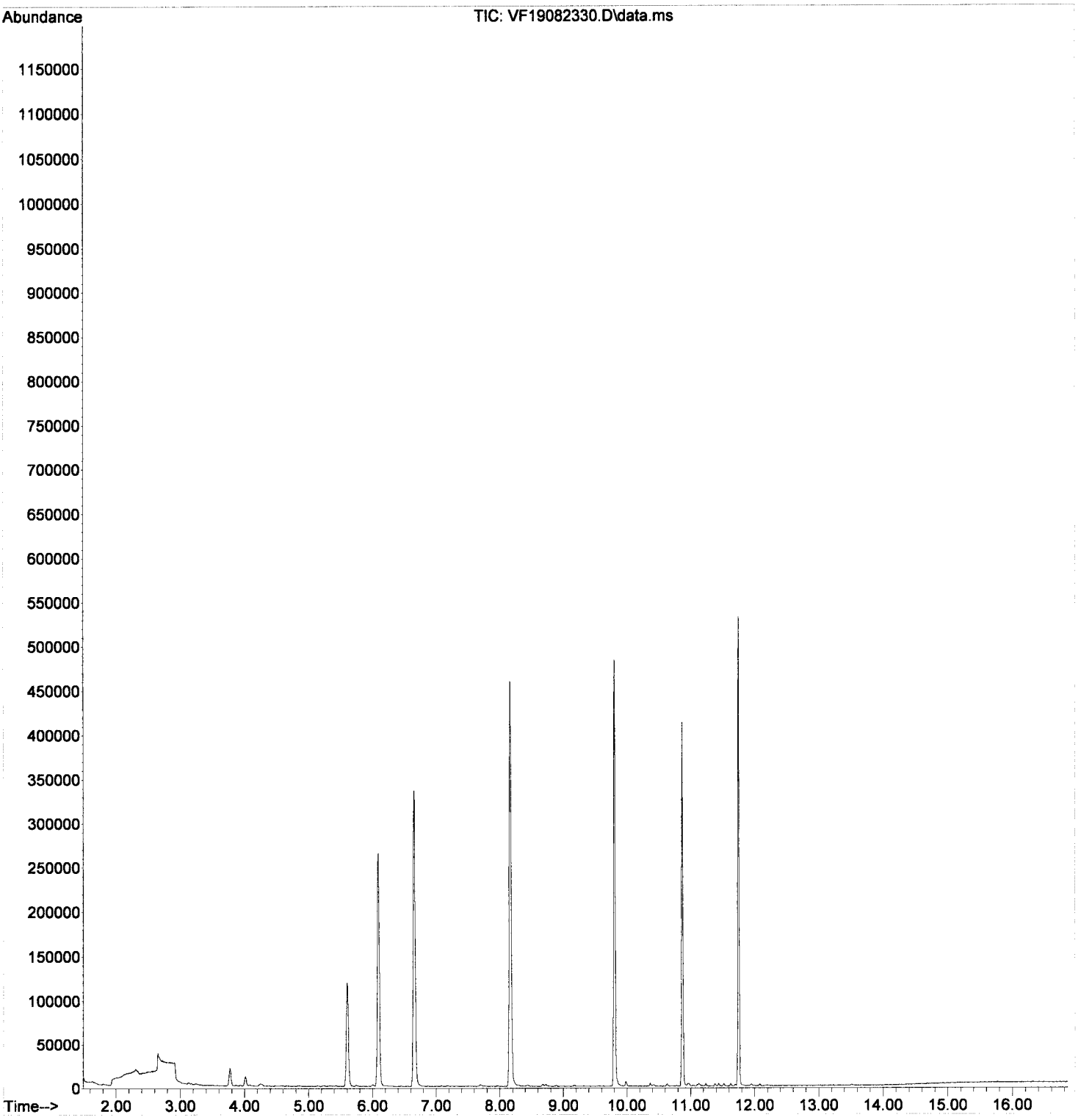
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	0.000		0	N.D.	d		
50) 1,1,2-Trichloroethane	8.890	97	397	0.22	ug/L	#	66
51) Dibromochloromethane	0.000		0	N.D.			
52) 1,3-Dichloropropane	9.176	76	580	0.16	ug/L	#	22
53) 1,2-Dibromoethane (EDB)	9.316	107	225	0.12	ug/L		91
54) 2-Hexanone	0.000		0	N.D.	d		
55) Chlorobenzene	9.821	112	1237	0.23	ug/L	#	52
56) Ethylbenzene	9.845	91	2263	0.23	ug/L		92
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	d		
58) m,p-Xylenes (2)	9.979	91	3053	0.42	ug/L		89
59) o-Xylene	10.362	91	1827	0.25	ug/L		85
60) Styrene	10.417	104	969	0.17	ug/L		73
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.630	105	1956	0.23	ug/L		92
65) Bromobenzene	10.952	156	379	0.18	ug/L	#	77
66) n-Propylbenzene	10.976	91	2016	0.21	ug/L		86
67) 1,1,2,2-Tetrachloroethane	11.037	83	591	0.28	ug/L		92
68) 2-Chlorotoluene	11.098	126	336	0.18	ug/L	#	80
69) 1,3,5-Trimethylbenzene	11.128	105	1632	0.24	ug/L		93
70) 1,2,3-Trichloropropane	0.000		0	N.D.			
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.238	91	1362	0.24	ug/L		87
73) tert-Butylbenzene	11.378	91	900	0.24	ug/L	#	61
74) 1,2,4-Trimethylbenzene	11.438	105	1751	0.26	ug/L		87
75) sec-Butylbenzene	11.517	105	1940	0.25	ug/L		79
76) 4-Isopropyltoluene	11.627	119	1379	0.21	ug/L		80
77) 1,3-Dichlorobenzene	11.700	146	668	0.19	ug/L		93
78) 1,4-Dichlorobenzene	11.761	146	755	0.22	ug/L	#	49
79) n-Butylbenzene	11.949	91	1131	0.20	ug/L		84
80) 1,2-Dichlorobenzene	12.083	146	635	0.20	ug/L		89
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d		
84) Naphthalene	13.500	128	1042	0.17	ug/L		78
85) 1,2,3-Trichlorobenzene	0.000		0	N.D.	d		

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:58:25 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:45 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	115217	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	242508	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	109279	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	80610	47.50	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	297594	48.89	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	352463	50.36	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	92028	50.28	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	304	0.21	ug/L	#	50
3) Chloromethane	1.842	50	729	0.31	ug/L		86
4) Vinyl Chloride	1.939	62	409	0.17	ug/L	#	53
5) Bromomethane	2.304	96	1390	1.08	ug/L		87
6) Chloroethane	2.432	64	298	1.41	ug/L	#	1
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.241	45	2098	44.00	ug/L		79
9) 1,1-Dichloroethene	3.125	61	652	0.20	ug/L		94
10) Carbon Disulfide	3.137	76	1126	0.23	ug/L		83
11) Freon 113	3.168	101	305	0.17	ug/L	#	69
12) Iodomethane	3.277	142	142	0.18	ug/L	#	47
13) Methylene Chloride	3.770	84	9630	4.05	ug/L		87
14) Acetone	3.867	43	1145	1.06	ug/L		89
15) t-1,2-Dichloroethene	3.934	61	561	0.17	ug/L		98
16) n-Hexane	4.019	86	903	1.96	ug/L	#	91
17) Methyl-tert-butyl-ether	4.086	73	1692	0.22	ug/L		55
18) tert-Butanol (TBA)	4.244	59	5229	12.21	ug/L	#	66
19) Diisopropyl ether (DIPE)	4.481	45	474	0.06	ug/L	#	1
20) 1,1-Dichloroethane	4.573	63	823	0.21	ug/L		83
21) Acrylonitrile	4.652	53	123	0.10	ug/L	#	14
22) Ethyl-tert-butyl ether...	4.852	59	371	0.05	ug/L	#	1
23) c-1,2-Dichloroethene	5.132	61	613	0.19	ug/L		87
24) 2,2-Dichloropropane	5.235	77	920	0.31	ug/L	#	9
25) Bromochloromethane	5.333	49	407	0.21	ug/L		78
26) Chloroform	5.418	83	1091	0.28	ug/L		83
27) Carbon Tetrachloride	0.000		0	N.D.			
28) Tetrahydrofuran	5.600	42	614	0.49	ug/L	#	17
29) 1,1,1-Trichloroethane	5.612	97	787	0.24	ug/L		92
31) 1,1-Dichloropropene	5.746	75	601	0.19	ug/L		78
32) 2-Butanone (MEK)	5.752	43	1248	0.74	ug/L		43
33) Benzene	6.002	78	2081	0.22	ug/L		81
34) tert-Amyl methyl ether...	6.135	73	348	0.05	ug/L	#	1
35) 1,2-Dichloroethane (EDC)	6.221	62	619	0.18	ug/L		76
36) iso-Butyl Alcohol	6.287	43	323	1.90	ug/L	#	64
38) Trichloroethene (TCE)	6.634	130	415	0.18	ug/L	#	42
39) tert-Amyl ethyl ether ...	6.877	59	185	0.03	ug/L	#	21
40) Dibromomethane	7.078	93	201	0.15	ug/L	#	32
41) 1,2-Dichloropropane	7.169	63	369	0.15	ug/L	#	37
42) Bromodichloromethane	7.254	83	549	0.27	ug/L		87
44) c-1,3-Dichloropropene	7.960	75	471	0.15	ug/L	#	1
46) Toluene	8.221	91	2438	0.27	ug/L		86
47) Tetrachloroethene (PCE)	8.677	166	347	0.17	ug/L		91
48) 4-Methyl-2-Pentanone (...	8.671	43	1403	0.44	ug/L		83

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

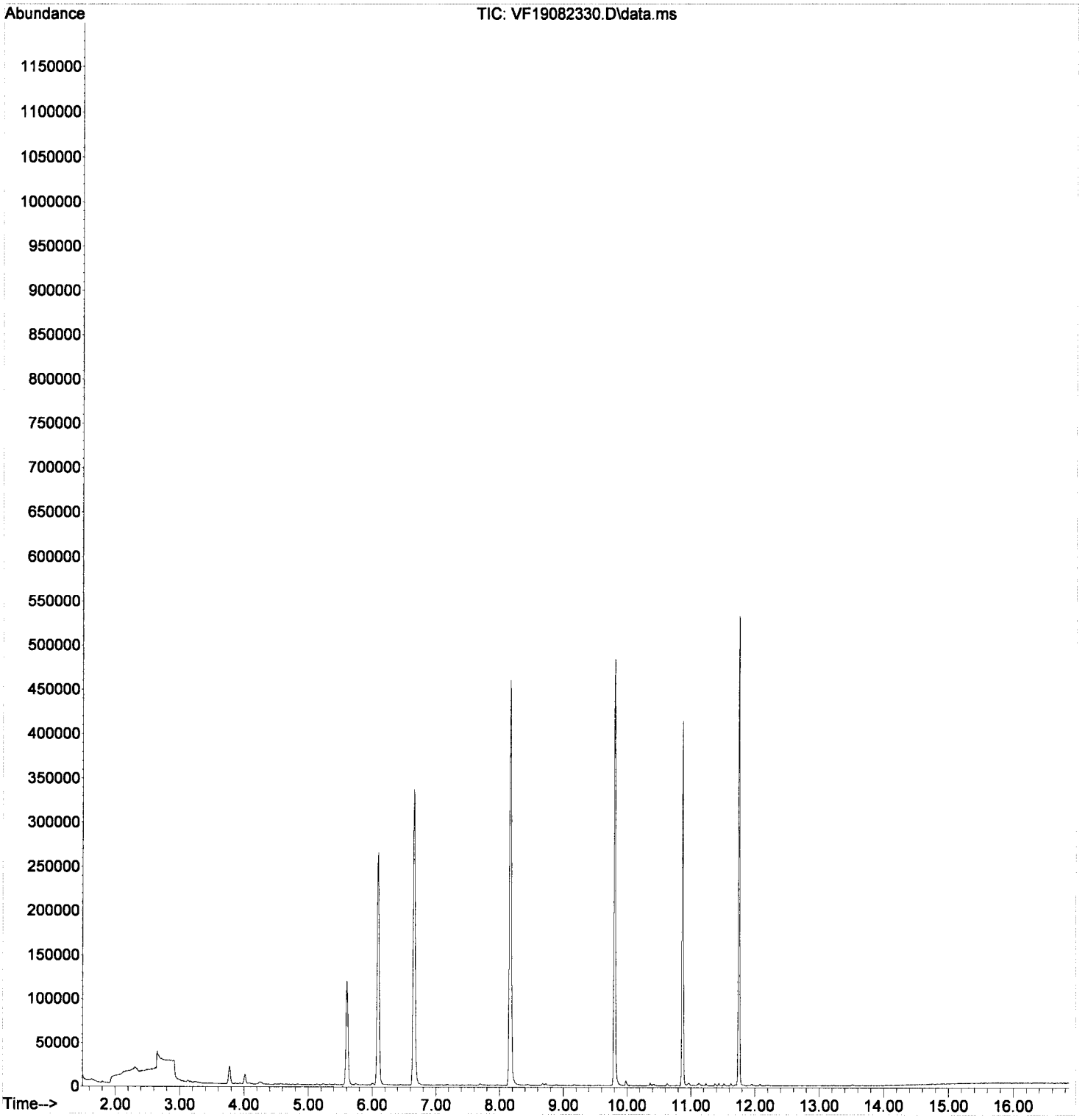
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.720	75	454	0.16	ug/L		50
50) 1,1,2-Trichloroethane	8.890	97	397	0.22	ug/L	#	66
51) Dibromochloromethane	0.000		0	N.D.			
52) 1,3-Dichloropropane	9.176	76	580	0.16	ug/L	#	22
53) 1,2-Dibromoethane (EDB)	9.316	107	225	0.12	ug/L		91
54) 2-Hexanone	9.553	43	854	0.39	ug/L		67
55) Chlorobenzene	9.821	112	1237	0.23	ug/L	#	52
56) Ethylbenzene	9.845	91	2263	0.23	ug/L		92
57) 1,1,1,2-Tetrachloroethane	9.882	131	138	0.09	ug/L	#	43
58) m,p-Xylenes (2)	9.979	91	3053	0.42	ug/L		89
59) o-Xylene	10.362	91	1827	0.25	ug/L		85
60) Styrene	10.417	104	969	0.17	ug/L		73
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.630	105	1956	0.23	ug/L		92
65) Bromobenzene	10.952	156	379	0.18	ug/L	#	77
66) n-Propylbenzene	10.976	91	2016	0.21	ug/L		86
67) 1,1,2,2-Tetrachloroethane	11.037	83	591	0.28	ug/L		92
68) 2-Chlorotoluene	11.098	126	336	0.18	ug/L	#	80
69) 1,3,5-Trimethylbenzene	11.128	105	1632	0.24	ug/L		93
70) 1,2,3-Trichloropropane	0.000		0	N.D.			
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.238	91	1362	0.24	ug/L		87
73) tert-Butylbenzene	11.378	91	900	0.24	ug/L	#	61
74) 1,2,4-Trimethylbenzene	11.438	105	1751	0.26	ug/L		87
75) sec-Butylbenzene	11.517	105	1940	0.25	ug/L		79
76) 4-Isopropyltoluene	11.627	119	1379	0.21	ug/L		80
77) 1,3-Dichlorobenzene	11.700	146	668	0.19	ug/L		93
78) 1,4-Dichlorobenzene	11.761	146	755	0.22	ug/L	#	49
79) n-Butylbenzene	11.949	91	1131	0.20	ug/L		84
80) 1,2-Dichlorobenzene	12.083	146	635	0.20	ug/L		89
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	13.226	180	285	0.16	ug/L		84
84) Naphthalene	13.500	128	1042	0.17	ug/L		78
85) 1,2,3-Trichlorobenzene	13.664	180	213	0.12	ug/L		72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082330.D
Acq On : 23 Aug 2019 9:40 pm
Operator : TB
Sample : 9H23046-CAL2
Misc : 1X 5mL 0.2ppb VOCO DI+MeOH
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:45 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:59:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	113189	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	236855	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	105136	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.606	111	77637	46.57	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.658	114	291590	48.76	ug/L		0.00
45) Toluene-d8 (S)	8.167	98	343623	50.27	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	88475	50.24	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.641	85	505	0.35	ug/L		93
3) Chloromethane	1.848	50	1177	0.51	ug/L		96
4) Vinyl Chloride	1.951	62	927	0.40	ug/L		83
5) Bromomethane	2.310	96	1706	1.35	ug/L		78
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.247	45	2643	56.42	ug/L		82
9) 1,1-Dichloroethene	3.131	61	1273	0.40	ug/L		84
10) Carbon Disulfide	3.143	76	2082	0.43	ug/L		82
11) Freon 113	3.180	101	691	0.38	ug/L		77
12) Iodomethane	0.000		0	N.D.	d		
13) Methylene Chloride	3.776	84	10203	4.37	ug/L		83
14) Acetone	0.000		0	N.D.	d		
15) t-1,2-Dichloroethene	3.940	61	1194	0.38	ug/L		93
16) n-Hexane	4.013	86	1062	2.34	ug/L	#	91
17) Methyl-tert-butyl-ether	4.080	73	3035	0.39	ug/L		67
18) tert-Butanol (TBA)	4.256	59	9929	23.60	ug/L	#	86
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d		
20) 1,1-Dichloroethane	4.579	63	1493	0.38	ug/L		94
21) Acrylonitrile	0.000		0	N.D.	d		
22) Ethyl-tert-butyl ether...	4.840	59	738	0.09	ug/L	#	69
23) c-1,2-Dichloroethene	5.138	61	1147	0.35	ug/L		94
24) 2,2-Dichloropropane	5.235	77	1454	0.50	ug/L	#	45
25) Bromochloromethane	5.333	49	732	0.38	ug/L	#	68
26) Chloroform	5.418	83	1982	0.52	ug/L		94
27) Carbon Tetrachloride	5.546	117	382	0.18	ug/L		78
28) Tetrahydrofuran	0.000		0	N.D.	d		
29) 1,1,1-Trichloroethane	5.619	97	1327	0.41	ug/L		91
31) 1,1-Dichloropropene	5.752	75	1175	0.37	ug/L		84
32) 2-Butanone (MEK)	0.000		0	N.D.	d		
33) Benzene	6.008	78	3767	0.41	ug/L		94
34) tert-Amyl methyl ether...	0.000		0	N.D.	d		
35) 1,2-Dichloroethane (EDC)	6.221	62	1213	0.36	ug/L		83
36) iso-Butyl Alcohol	0.000		0	N.D.	d		
38) Trichloroethene (TCE)	6.628	130	858	0.38	ug/L	#	77
39) tert-Amyl ethyl ether ...	6.877	59	590	0.10	ug/L	#	64
40) Dibromomethane	7.078	93	440	0.34	ug/L		95
41) 1,2-Dichloropropane	7.181	63	948	0.39	ug/L		93
42) Bromodichloromethane	0.000		0	N.D.	d		
44) c-1,3-Dichloropropene	7.966	75	1039	0.34	ug/L	#	48
46) Toluene	8.221	91	4008	0.45	ug/L		90
47) Tetrachloroethene (PCE)	8.671	166	764	0.37	ug/L		92
48) 4-Methyl-2-Pentanone (...	8.677	43	2427	0.78	ug/L		88

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:59:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

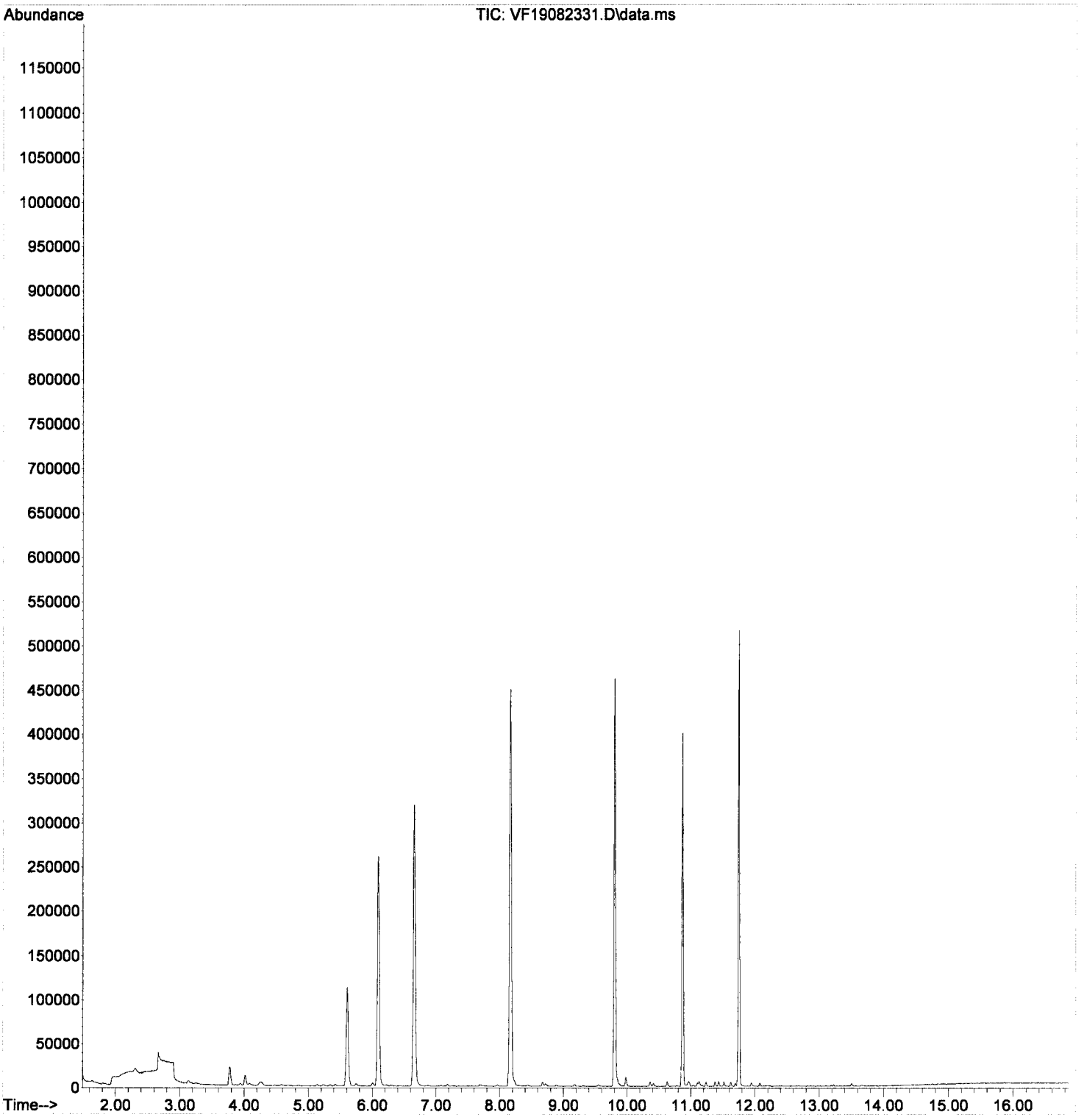
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.720	75	912	0.32	ug/L		94
50) 1,1,2-Trichloroethane	8.884	97	713	0.40	ug/L		88
51) Dibromochloromethane	9.079	129	259	0.25	ug/L		91
52) 1,3-Dichloropropane	9.176	76	1256	0.36	ug/L	#	44
53) 1,2-Dibromoethane (EDB)	9.316	107	639	0.35	ug/L		87
54) 2-Hexanone	9.553	43	1717	0.80	ug/L		73
55) Chlorobenzene	9.821	112	2075	0.39	ug/L	#	68
56) Ethylbenzene	9.845	91	3858	0.41	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.882	131	515	0.36	ug/L	#	62
58) m,p-Xylenes (2)	9.979	91	5773	0.81	ug/L		92
59) o-Xylene	10.362	91	3021	0.42	ug/L		93
60) Styrene	10.411	104	1881	0.34	ug/L		66
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.630	105	3458	0.41	ug/L		95
65) Bromobenzene	10.952	156	736	0.37	ug/L		85
66) n-Propylbenzene	10.976	91	3596	0.40	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.037	83	898	0.44	ug/L		92
68) 2-Chlorotoluene	11.104	126	718	0.39	ug/L		88
69) 1,3,5-Trimethylbenzene	11.128	105	2845	0.43	ug/L		88
70) 1,2,3-Trichloropropane	11.146	110	282	0.36	ug/L	#	78
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.238	91	2243	0.40	ug/L		88
73) tert-Butylbenzene	11.378	91	1583	0.44	ug/L	#	68
74) 1,2,4-Trimethylbenzene	11.438	105	3018	0.47	ug/L		90
75) sec-Butylbenzene	11.517	105	3283	0.45	ug/L		84
76) 4-Isopropyltoluene	11.627	119	2435	0.39	ug/L		86
77) 1,3-Dichlorobenzene	11.700	146	1255	0.38	ug/L		92
78) 1,4-Dichlorobenzene	11.761	146	1332	0.40	ug/L	#	66
79) n-Butylbenzene	11.943	91	2404	0.44	ug/L		86
80) 1,2-Dichlorobenzene	12.083	146	1116	0.36	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	13.226	180	614	0.35	ug/L		91
84) Naphthalene	13.500	128	2020	0.34	ug/L		83
85) 1,2,3-Trichlorobenzene	13.664	180	581	0.34	ug/L		86

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:59:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.093	99	113189	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	236855	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	105136	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.606	111	77637	46.57	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.658	114	291590	48.76	ug/L		0.00
45) Toluene-d8 (S)	8.167	98	343623	50.27	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	88475	50.24	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.641	85	505	0.35	ug/L		93
3) Chloromethane	1.848	50	1177	0.51	ug/L		96
4) Vinyl Chloride	1.951	62	927	0.40	ug/L		83
5) Bromomethane	2.310	96	1706	1.35	ug/L		78
6) Chloroethane	2.432	64	138	0.66	ug/L	#	1
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.247	45	2643	56.42	ug/L		82
9) 1,1-Dichloroethene	3.131	61	1273	0.40	ug/L		84
10) Carbon Disulfide	3.143	76	2082	0.43	ug/L		82
11) Freon 113	3.180	101	691	0.38	ug/L		77
12) Iodomethane	3.283	142	273	0.35	ug/L	#	47
13) Methylene Chloride	3.776	84	10203	4.37	ug/L		83
14) Acetone	3.867	43	2211	2.09	ug/L		75
15) t-1,2-Dichloroethene	3.940	61	1194	0.38	ug/L		93
16) n-Hexane	4.013	86	1062	2.34	ug/L	#	91
17) Methyl-tert-butyl-ether	4.080	73	3035	0.39	ug/L		67
18) tert-Butanol (TBA)	4.256	59	9929	23.60	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.475	45	851	0.10	ug/L	#	26
20) 1,1-Dichloroethane	4.579	63	1493	0.38	ug/L		94
21) Acrylonitrile	4.652	53	318	0.27	ug/L		83
22) Ethyl-tert-butyl ether...	4.840	59	738	0.09	ug/L	#	69
23) c-1,2-Dichloroethene	5.138	61	1147	0.35	ug/L		94
24) 2,2-Dichloropropane	5.235	77	1454	0.50	ug/L	#	45
25) Bromochloromethane	5.333	49	732	0.38	ug/L	#	68
26) Chloroform	5.418	83	1982	0.52	ug/L		94
27) Carbon Tetrachloride	5.546	117	382	0.18	ug/L		78
28) Tetrahydrofuran	5.600	42	1379	1.12	ug/L	#	26
29) 1,1,1-Trichloroethane	5.619	97	1327	0.41	ug/L		91
31) 1,1-Dichloropropene	5.752	75	1175	0.37	ug/L		84
32) 2-Butanone (MEK)	5.758	43	1616	0.98	ug/L		80
33) Benzene	6.008	78	3767	0.41	ug/L		94
34) tert-Amyl methyl ether...	6.135	73	943	0.13	ug/L	#	1
35) 1,2-Dichloroethane (EDC)	6.221	62	1213	0.36	ug/L		83
36) iso-Butyl Alcohol	6.287	43	1284	7.67	ug/L		97
38) Trichloroethene (TCE)	6.628	130	858	0.38	ug/L	#	77
39) tert-Amyl ethyl ether ...	6.877	59	590	0.10	ug/L	#	64
40) Dibromomethane	7.078	93	440	0.34	ug/L		95
41) 1,2-Dichloropropane	7.181	63	948	0.39	ug/L		93
42) Bromodichloromethane	7.254	83	873	0.43	ug/L		92
44) c-1,3-Dichloropropene	7.966	75	1039	0.34	ug/L	#	48
46) Toluene	8.221	91	4008	0.45	ug/L		90
47) Tetrachloroethene (PCE)	8.671	166	764	0.37	ug/L		92
48) 4-Methyl-2-Pentanone (...	8.677	43	2427	0.78	ug/L		88

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

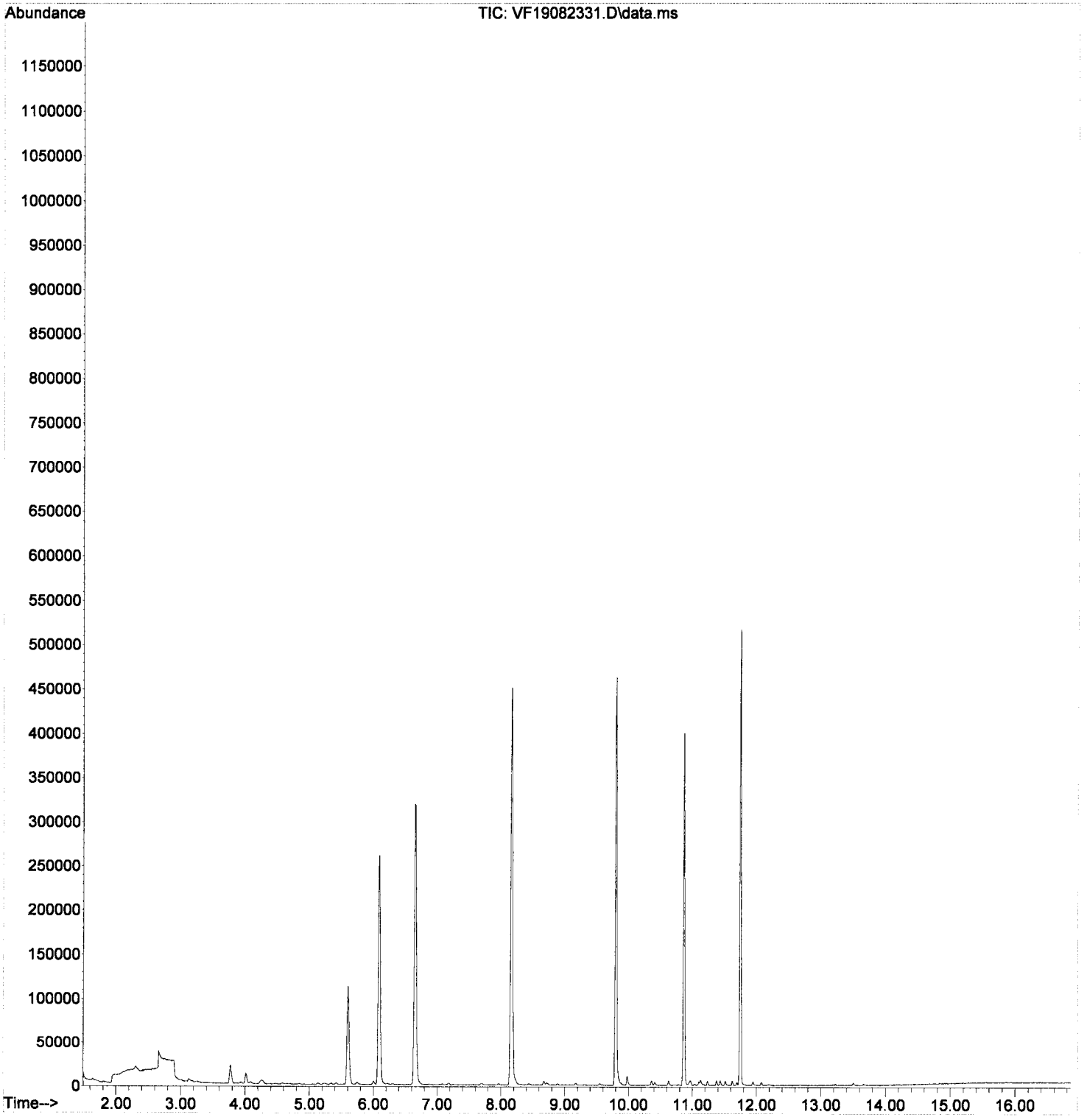
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.720	75	912	0.32	ug/L		94
50) 1,1,2-Trichloroethane	8.884	97	713	0.40	ug/L		88
51) Dibromochloromethane	9.079	129	259	0.25	ug/L		91
52) 1,3-Dichloropropane	9.176	76	1256	0.36	ug/L	#	44
53) 1,2-Dibromoethane (EDB)	9.316	107	639	0.35	ug/L		87
54) 2-Hexanone	9.553	43	1717	0.80	ug/L		73
55) Chlorobenzene	9.821	112	2075	0.39	ug/L	#	68
56) Ethylbenzene	9.845	91	3858	0.41	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.882	131	515	0.36	ug/L	#	62
58) m,p-Xylenes (2)	9.979	91	5773	0.81	ug/L		92
59) o-Xylene	10.362	91	3021	0.42	ug/L		93
60) Styrene	10.411	104	1881	0.34	ug/L		66
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.630	105	3458	0.41	ug/L		95
65) Bromobenzene	10.952	156	736	0.37	ug/L		85
66) n-Propylbenzene	10.976	91	3596	0.40	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.037	83	898	0.44	ug/L		92
68) 2-Chlorotoluene	11.104	126	718	0.39	ug/L		88
69) 1,3,5-Trimethylbenzene	11.128	105	2845	0.43	ug/L		88
70) 1,2,3-Trichloropropane	11.146	110	282	0.36	ug/L	#	78
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.238	91	2243	0.40	ug/L		88
73) tert-Butylbenzene	11.378	91	1583	0.44	ug/L	#	68
74) 1,2,4-Trimethylbenzene	11.438	105	3018	0.47	ug/L		90
75) sec-Butylbenzene	11.517	105	3283	0.45	ug/L		84
76) 4-Isopropyltoluene	11.627	119	2435	0.39	ug/L		86
77) 1,3-Dichlorobenzene	11.700	146	1255	0.38	ug/L		92
78) 1,4-Dichlorobenzene	11.761	146	1332	0.40	ug/L	#	66
79) n-Butylbenzene	11.943	91	2404	0.44	ug/L		86
80) 1,2-Dichlorobenzene	12.083	146	1116	0.36	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	13.226	180	614	0.35	ug/L		91
84) Naphthalene	13.500	128	2020	0.34	ug/L		83
85) 1,2,3-Trichlorobenzene	13.664	180	581	0.34	ug/L		86

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082331.D
Acq On : 23 Aug 2019 10:07 pm
Operator : TB
Sample : 9H23046-CAL3
Misc : 1X 5mL 0.4ppb VOCO DI+MeOH
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:47 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:01:59 2019
Quant Method : C:\msdchem\1\METHODS\VF~~190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	112521	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	236449	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	107459	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	78090	47.12	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	292104	49.14	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	344014	50.41	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	90208	50.12	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.624	85	1285	0.89	ug/L		93
3) Chloromethane	1.831	50	2366	1.04	ug/L		95
4) Vinyl Chloride	1.934	62	2259	0.98	ug/L		90
5) Bromomethane	2.293	96	3185	2.54	ug/L		90
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	2.536	101	334	1.03	ug/L	#	62
8) Ethanol	3.248	45	4464	95.86	ug/L		87
9) 1,1-Dichloroethene	3.114	61	3019	0.96	ug/L		80
10) Carbon Disulfide	3.132	76	4634	0.97	ug/L		90
11) Freon 113	3.175	101	1624	0.91	ug/L		79
12) Iodomethane	3.272	142	513	0.66	ug/L	#	86
13) Methylene Chloride	3.765	84	11114	4.79	ug/L		84
14) Acetone	3.856	43	3198	3.04	ug/L		82
15) t-1,2-Dichloroethene	3.929	61	3048	0.97	ug/L		91
16) n-Hexane	4.002	86	1166	2.59	ug/L	#	79
17) Methyl-tert-butyl-ether	4.075	73	7413	0.97	ug/L		82
18) tert-Butanol (TBA)	4.245	59	25728	61.52	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.470	45	2227	0.26	ug/L		77
20) 1,1-Dichloroethane	4.567	63	3936	1.01	ug/L		94
21) Acrylonitrile	4.653	53	1353	1.14	ug/L		91
22) Ethyl-tert-butyl ether...	4.841	59	1883	0.23	ug/L		80
23) c-1,2-Dichloroethene	5.127	61	3073	0.96	ug/L		85
24) 2,2-Dichloropropane	5.230	77	3132	1.07	ug/L	#	63
25) Bromochloromethane	5.328	49	1870	0.97	ug/L		77
26) Chloroform	5.413	83	4083	1.09	ug/L		95
27) Carbon Tetrachloride	5.540	117	1490	0.70	ug/L		94
28) Tetrahydrofuran	0.000		0	N.D.	d		
29) 1,1,1-Trichloroethane	5.613	97	3281	1.03	ug/L		96
31) 1,1-Dichloropropene	5.741	75	2860	0.91	ug/L		97
32) 2-Butanone (MEK)	5.747	43	3158	1.93	ug/L		91
33) Benzene	5.997	78	8977	0.98	ug/L		92
34) tert-Amyl methyl ether...	6.136	73	1971	0.27	ug/L	#	65
35) 1,2-Dichloroethane (EDC)	6.222	62	3195	0.96	ug/L		93
36) iso-Butyl Alcohol	6.288	43	3515	21.12	ug/L		96
38) Trichloroethene (TCE)	6.623	130	2088	0.92	ug/L		86
39) tert-Amyl ethyl ether ...	6.884	59	1432	0.24	ug/L		85
40) Dibromomethane	7.073	93	1204	0.93	ug/L	#	82
41) 1,2-Dichloropropane	7.176	63	2263	0.95	ug/L		97
42) Bromodichloromethane	7.261	83	1860	0.92	ug/L		95
44) c-1,3-Dichloropropene	7.955	75	2650	0.87	ug/L	#	67
46) Toluene	8.222	91	9227	1.04	ug/L		97
47) Tetrachloroethene (PCE)	8.666	166	2047	1.01	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.672	43	6338	2.05	ug/L		84

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:01:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

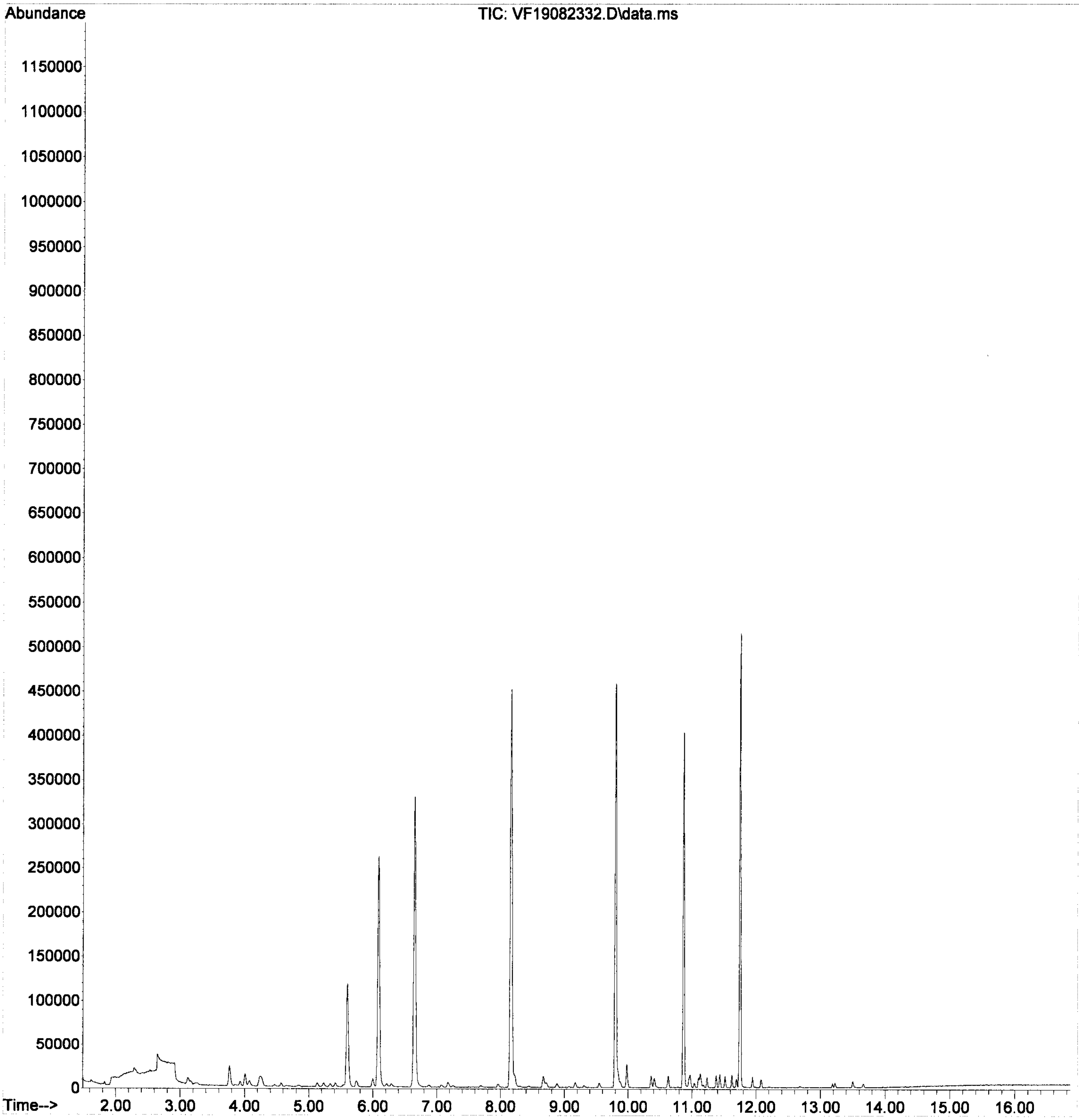
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.715	75	2498	0.88 ug/L	94
50) 1,1,2-Trichloroethane	8.885	97	1866	1.05 ug/L	84
51) Dibromochloromethane	9.074	129	730	0.69 ug/L	94
52) 1,3-Dichloropropane	9.171	76	3255	0.94 ug/L #	65
53) 1,2-Dibromoethane (EDB)	9.311	107	1581	0.87 ug/L	99
54) 2-Hexanone	9.548	43	4508	2.11 ug/L	89
55) Chlorobenzene	9.816	112	5290	0.99 ug/L	78
56) Ethylbenzene	9.846	91	9254	0.98 ug/L	95
57) 1,1,1,2-Tetrachloroethane	9.883	131	1135	0.80 ug/L	84
58) m,p-Xylenes (2)	9.980	91	13902	1.94 ug/L	91
59) o-Xylene	10.363	91	7410	1.02 ug/L	95
60) Styrene	10.412	104	5043	0.91 ug/L	91
61) Bromoform	10.430	173	357	0.64 ug/L	84
62) Isopropylbenzene	10.631	105	8313	0.98 ug/L	97
65) Bromobenzene	10.953	156	2054	1.01 ug/L	85
66) n-Propylbenzene	10.971	91	9031	0.97 ug/L	96
67) 1,1,2,2-Tetrachloroethane	11.038	83	2082	0.99 ug/L	100
68) 2-Chlorotoluene	11.099	126	1796	0.96 ug/L #	80
69) 1,3,5-Trimethylbenzene	11.129	105	6820	1.02 ug/L	92
70) 1,2,3-Trichloropropane	11.147	110	795	0.99 ug/L	92
71) t-1,4-Dichloro-2-butene	0.000		0	N.D. d	
72) 4-Chlorotoluene	11.233	91	5652	1.00 ug/L	90
73) tert-Butylbenzene	11.379	91	3839	1.04 ug/L	84
74) 1,2,4-Trimethylbenzene	11.433	105	6691	1.01 ug/L	96
75) sec-Butylbenzene	11.518	105	7837	1.04 ug/L	92
76) 4-Isopropyltoluene	11.622	119	6294	0.98 ug/L	93
77) 1,3-Dichlorobenzene	11.695	146	3152	0.94 ug/L	92
78) 1,4-Dichlorobenzene	11.762	146	3452	1.00 ug/L	89
79) n-Butylbenzene	11.944	91	5239	0.94 ug/L	93
80) 1,2-Dichlorobenzene	12.078	146	2970	0.94 ug/L	98
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D. d	
82) Hexachlorobutadiene	13.191	223	469	0.97 ug/L	93
83) 1,2,4-Trichlorobenzene	13.227	180	1535	0.85 ug/L	94
84) Naphthalene	13.501	128	4982	0.82 ug/L	96
85) 1,2,3-Trichlorobenzene	13.665	180	1519	0.88 ug/L	93

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:01:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	112521	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	236449	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	107459	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	78090	47.12	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	292104	49.14	ug/L		0.00
45) Toluene-d8 (S)	8.162	98	344014	50.41	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	90208	50.12	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.624	85	1285	0.89	ug/L		93
3) Chloromethane	1.831	50	2366	1.04	ug/L		95
4) Vinyl Chloride	1.934	62	2259	0.98	ug/L		90
5) Bromomethane	2.293	96	3185	2.54	ug/L		90
6) Chloroethane	2.415	64	292	1.41	ug/L	#	1
7) Trichlorofluoromethane	2.536	101	334	1.03	ug/L	#	62
8) Ethanol	3.248	45	4464	95.86	ug/L		87
9) 1,1-Dichloroethene	3.114	61	3019	0.96	ug/L		80
10) Carbon Disulfide	3.132	76	4634	0.97	ug/L		90
11) Freon 113	3.175	101	1624	0.91	ug/L		79
12) Iodomethane	3.272	142	513	0.66	ug/L	#	86
13) Methylene Chloride	3.765	84	11114	4.79	ug/L		84
14) Acetone	3.856	43	3198	3.04	ug/L		82
15) t-1,2-Dichloroethene	3.929	61	3048	0.97	ug/L		91
16) n-Hexane	4.002	86	1166	2.59	ug/L	#	79
17) Methyl-tert-butyl-ether	4.075	73	7413	0.97	ug/L		82
18) tert-Butanol (TBA)	4.245	59	25728	61.52	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.470	45	2227	0.26	ug/L		77
20) 1,1-Dichloroethane	4.567	63	3936	1.01	ug/L		94
21) Acrylonitrile	4.653	53	1353	1.14	ug/L		91
22) Ethyl-tert-butyl ether...	4.841	59	1883	0.23	ug/L		80
23) c-1,2-Dichloroethene	5.127	61	3073	0.96	ug/L		85
24) 2,2-Dichloropropane	5.230	77	3132	1.07	ug/L	#	63
25) Bromochloromethane	5.328	49	1870	0.97	ug/L		77
26) Chloroform	5.413	83	4083	1.09	ug/L		95
27) Carbon Tetrachloride	5.540	117	1490	0.70	ug/L		94
28) Tetrahydrofuran	5.601	42	1882	1.53	ug/L		79
29) 1,1,1-Trichloroethane	5.613	97	3281	1.03	ug/L		96
31) 1,1-Dichloropropene	5.741	75	2860	0.91	ug/L		97
32) 2-Butanone (MEK)	5.747	43	3158	1.93	ug/L		91
33) Benzene	5.997	78	8977	0.98	ug/L		92
34) tert-Amyl methyl ether...	6.136	73	1971	0.27	ug/L	#	65
35) 1,2-Dichloroethane (EDC)	6.222	62	3195	0.96	ug/L		93
36) iso-Butyl Alcohol	6.288	43	3515	21.12	ug/L		96
38) Trichloroethene (TCE)	6.623	130	2088	0.92	ug/L		86
39) tert-Amyl ethyl ether ...	6.884	59	1432	0.24	ug/L		85
40) Dibromomethane	7.073	93	1204	0.93	ug/L	#	82
41) 1,2-Dichloropropane	7.176	63	2263	0.95	ug/L		97
42) Bromodichloromethane	7.261	83	1860	0.92	ug/L		95
44) c-1,3-Dichloropropene	7.955	75	2650	0.87	ug/L	#	67
46) Toluene	8.222	91	9227	1.04	ug/L		97
47) Tetrachloroethene (PCE)	8.666	166	2047	1.01	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.672	43	6338	2.05	ug/L		84

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

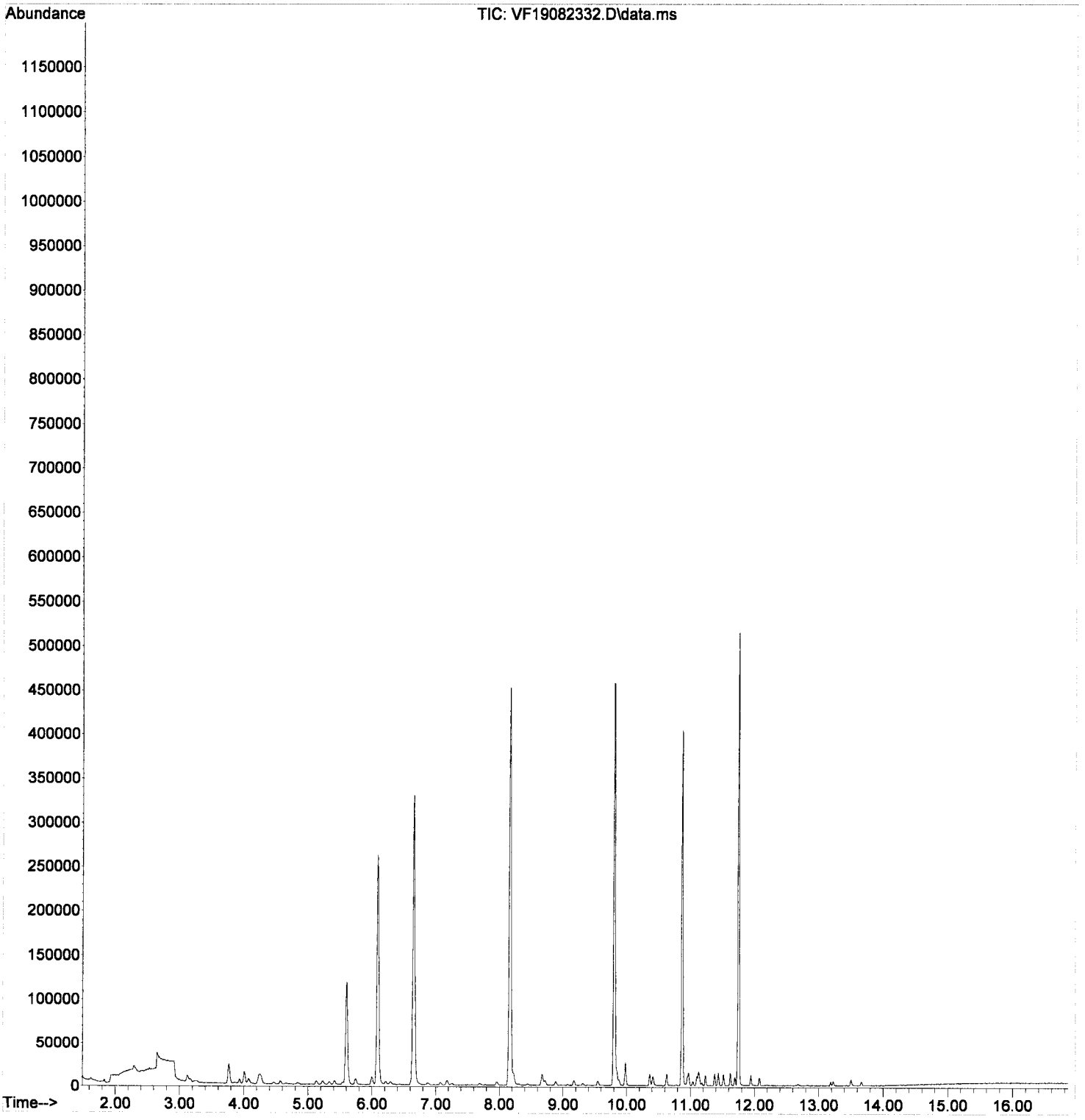
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.715	75	2498	0.88	ug/L		94
50) 1,1,2-Trichloroethane	8.885	97	1866	1.05	ug/L		84
51) Dibromochloromethane	9.074	129	730	0.69	ug/L		94
52) 1,3-Dichloropropane	9.171	76	3255	0.94	ug/L	#	65
53) 1,2-Dibromoethane (EDB)	9.311	107	1581	0.87	ug/L		99
54) 2-Hexanone	9.548	43	4508	2.11	ug/L		89
55) Chlorobenzene	9.816	112	5290	0.99	ug/L		78
56) Ethylbenzene	9.846	91	9254	0.98	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.883	131	1135	0.80	ug/L		84
58) m,p-Xylenes (2)	9.980	91	13902	1.94	ug/L		91
59) o-Xylene	10.363	91	7410	1.02	ug/L		95
60) Styrene	10.412	104	5043	0.91	ug/L		91
61) Bromoform	10.430	173	357	0.64	ug/L		84
62) Isopropylbenzene	10.631	105	8313	0.98	ug/L		97
65) Bromobenzene	10.953	156	2054	1.01	ug/L		85
66) n-Propylbenzene	10.971	91	9031	0.97	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.038	83	2082	0.99	ug/L		100
68) 2-Chlorotoluene	11.099	126	1796	0.96	ug/L	#	80
69) 1,3,5-Trimethylbenzene	11.129	105	6820	1.02	ug/L		92
70) 1,2,3-Trichloropropane	11.147	110	795	0.99	ug/L		92
71) t-1,4-Dichloro-2-butene	11.178	88	217	0.74	ug/L	#	74
72) 4-Chlorotoluene	11.233	91	5652	1.00	ug/L		90
73) tert-Butylbenzene	11.379	91	3839	1.04	ug/L		84
74) 1,2,4-Trimethylbenzene	11.433	105	6691	1.01	ug/L		96
75) sec-Butylbenzene	11.518	105	7837	1.04	ug/L		92
76) 4-Isopropyltoluene	11.622	119	6294	0.98	ug/L		93
77) 1,3-Dichlorobenzene	11.695	146	3152	0.94	ug/L		92
78) 1,4-Dichlorobenzene	11.762	146	3452	1.00	ug/L		89
79) n-Butylbenzene	11.944	91	5239	0.94	ug/L		93
80) 1,2-Dichlorobenzene	12.078	146	2970	0.94	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.686	157	240	0.70	ug/L	#	11
82) Hexachlorobutadiene	13.191	223	469	0.97	ug/L		93
83) 1,2,4-Trichlorobenzene	13.227	180	1535	0.85	ug/L		94
84) Naphthalene	13.501	128	4982	0.82	ug/L		96
85) 1,2,3-Trichlorobenzene	13.665	180	1519	0.88	ug/L		93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082332.D
Acq On : 23 Aug 2019 10:34 pm
Operator : TB
Sample : 9H23046-CAL4
Misc : 1X 5mL 1ppb VOCO DI+MeOH
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:49 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:02:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	112239	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.800	117	239240	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	108461	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.604	111	79263	47.95	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.656	114	293165	49.44	ug/L		0.00
45) Toluene-d8 (S)	8.164	98	348016	50.40	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.864	174	91972	50.62	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.633	85	3108	2.16	ug/L		98
3) Chloromethane	1.846	50	4841	2.13	ug/L		98
4) Vinyl Chloride	1.943	62	4725	2.07	ug/L		95
5) Bromomethane	2.302	96	4649	3.71	ug/L		97
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	2.557	101	629	1.94	ug/L		81
8) Ethanol	3.251	45	7504	161.54	ug/L		84
9) 1,1-Dichloroethene	3.129	61	6392	2.04	ug/L		81
10) Carbon Disulfide	3.141	76	9420	1.97	ug/L		97
11) Freon 113	3.178	101	3582	2.00	ug/L		77
12) Iodomethane	3.287	142	1091	1.40	ug/L	#	85
13) Methylene Chloride	3.774	84	12469	5.38	ug/L		83
14) Acetone	3.865	43	5464	5.21	ug/L		90
15) t-1,2-Dichloroethene	3.938	61	6203	1.98	ug/L		94
16) n-Hexane	4.017	86	1668	3.71	ug/L	#	65
17) Methyl-tert-butyl-ether	4.084	73	15530	2.03	ug/L		90
18) tert-Butanol (TBA)	4.248	59	51536	123.53	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.473	45	4490	0.54	ug/L		86
20) 1,1-Dichloroethane	4.576	63	7899	2.03	ug/L		95
21) Acrylonitrile	4.649	53	2585	2.18	ug/L		88
22) Ethyl-tert-butyl ether...	4.844	59	4020	0.50	ug/L		92
23) c-1,2-Dichloroethene	5.136	61	6415	2.00	ug/L		90
24) 2,2-Dichloropropane	5.239	77	6290	2.16	ug/L		88
25) Bromochloromethane	5.336	49	3861	2.02	ug/L		81
26) Chloroform	5.416	83	7968	2.12	ug/L		96
27) Carbon Tetrachloride	5.549	117	3440	1.62	ug/L		97
28) Tetrahydrofuran	5.598	42	2580	2.10	ug/L		85
29) 1,1,1-Trichloroethane	5.616	97	6428	2.02	ug/L		92
31) 1,1-Dichloropropene	5.750	75	6320	2.02	ug/L		94
32) 2-Butanone (MEK)	5.744	43	6673	4.08	ug/L		90
33) Benzene	5.999	78	18060	1.98	ug/L		96
34) tert-Amyl methyl ether...	6.133	73	3998	0.56	ug/L		89
35) 1,2-Dichloroethane (EDC)	6.224	62	6511	1.97	ug/L		98
36) iso-Butyl Alcohol	6.285	43	6887	41.49	ug/L		98
38) Trichloroethene (TCE)	6.626	130	4623	2.05	ug/L		87
39) tert-Amyl ethyl ether ...	6.881	59	3066	0.51	ug/L		85
40) Dibromomethane	7.076	93	2462	1.90	ug/L		86
41) 1,2-Dichloropropane	7.179	63	4663	1.96	ug/L		99
42) Bromodichloromethane	7.258	83	3756	1.87	ug/L		95
44) c-1,3-Dichloropropene	7.958	75	5748	1.86	ug/L		75
46) Toluene	8.225	91	18878	2.10	ug/L		98
47) Tetrachloroethene (PCE)	8.669	166	4000	1.94	ug/L		85
48) 4-Methyl-2-Pentanone (...	8.675	43	12432	3.98	ug/L		91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:02:17 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

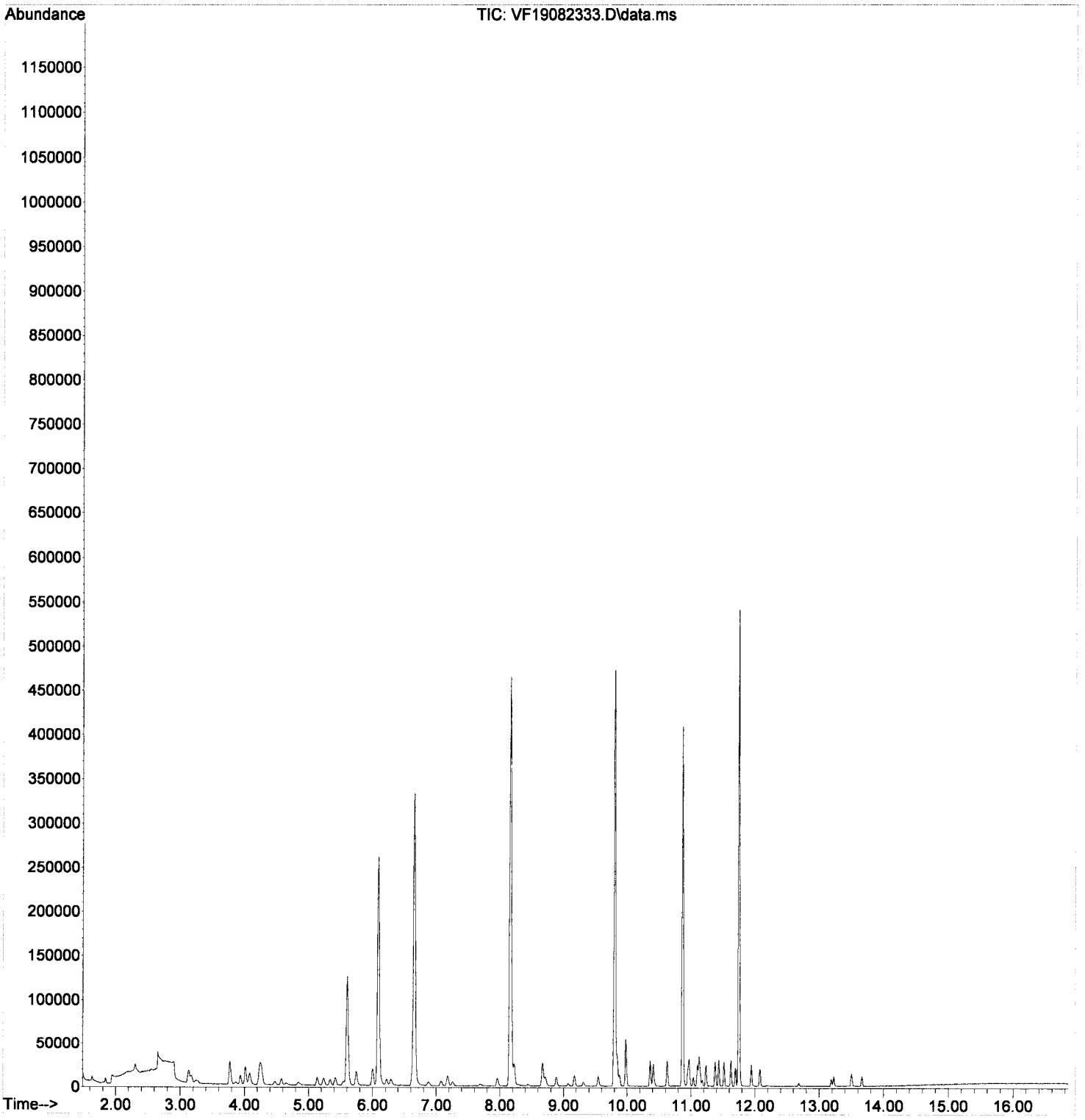
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.718	75	5234	1.88	ug/L		90
50) 1,1,2-Trichloroethane	8.888	97	3649	2.03	ug/L		91
51) Dibromochloromethane	9.070	129	1730	1.63	ug/L		91
52) 1,3-Dichloropropane	9.168	76	6884	1.97	ug/L	#	73
53) 1,2-Dibromoethane (EDB)	9.308	107	3474	1.89	ug/L		97
54) 2-Hexanone	9.545	43	8448	3.91	ug/L		89
55) Chlorobenzene	9.818	112	10813	2.00	ug/L		89
56) Ethylbenzene	9.843	91	19825	2.08	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.879	131	2576	1.78	ug/L		91
58) m,p-Xylenes (2)	9.977	91	28634	3.96	ug/L		97
59) o-Xylene	10.360	91	14660	2.00	ug/L		95
60) Styrene	10.408	104	10610	1.90	ug/L		89
61) Bromoform	10.433	173	910	1.62	ug/L		84
62) Isopropylbenzene	10.627	105	17160	2.01	ug/L		95
65) Bromobenzene	10.956	156	4076	1.99	ug/L	#	82
66) n-Propylbenzene	10.974	91	18895	2.01	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.035	83	4163	1.97	ug/L		99
68) 2-Chlorotoluene	11.102	126	3825	2.03	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.126	105	13420	1.99	ug/L		96
70) 1,2,3-Trichloropropane	11.144	110	1636	2.01	ug/L	#	72
71) t-1,4-Dichloro-2-butene	11.175	88	490	1.65	ug/L	#	83
72) 4-Chlorotoluene	11.235	91	11543	2.02	ug/L		94
73) tert-Butylbenzene	11.375	91	7817	2.09	ug/L		80
74) 1,2,4-Trimethylbenzene	11.436	105	13612	2.04	ug/L		97
75) sec-Butylbenzene	11.515	105	15807	2.08	ug/L		96
76) 4-Isopropyltoluene	11.625	119	13091	2.02	ug/L		91
77) 1,3-Dichlorobenzene	11.698	146	6541	1.92	ug/L		100
78) 1,4-Dichlorobenzene	11.758	146	6991	2.01	ug/L		92
79) n-Butylbenzene	11.941	91	11180	1.99	ug/L		97
80) 1,2-Dichlorobenzene	12.081	146	6300	1.97	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.689	157	589	1.70	ug/L	#	52
82) Hexachlorobutadiene	13.187	223	966	1.98	ug/L		96
83) 1,2,4-Trichlorobenzene	13.224	180	3381	1.86	ug/L		93
84) Naphthalene	13.498	128	10751	1.74	ug/L		99
85) 1,2,3-Trichlorobenzene	13.662	180	3136	1.79	ug/L		96

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:02:17 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:51 2019
Quant Method : C:\msdchem\1\METHODS\V~~F190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.091	99	112239	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.800	117	239240	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.746	152	108461	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.604	111	79263	47.95	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.656	114	293165	49.44	ug/L	0.00
45) Toluene-d8 (S)	8.164	98	348016	50.40	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.864	174	91972	50.62	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.633	85	3108	2.16	ug/L	98
3) Chloromethane	1.846	50	4841	2.13	ug/L	98
4) Vinyl Chloride	1.943	62	4725	2.07	ug/L	95
5) Bromomethane	2.302	96	4649	3.71	ug/L	97
6) Chloroethane	2.442	64	488	2.37	ug/L #	1
7) Trichlorofluoromethane	2.557	101	629	1.94	ug/L	81
8) Ethanol	3.251	45	7504	161.54	ug/L	84
9) 1,1-Dichloroethene	3.129	61	6392	2.04	ug/L	81
10) Carbon Disulfide	3.141	76	9420	1.97	ug/L	97
11) Freon 113	3.178	101	3582	2.00	ug/L	77
12) Iodomethane	3.287	142	1091	1.40	ug/L #	85
13) Methylene Chloride	3.774	84	12469	5.38	ug/L	83
14) Acetone	3.865	43	5464	5.21	ug/L	90
15) t-1,2-Dichloroethene	3.938	61	6203	1.98	ug/L	94
16) n-Hexane	4.017	86	1668	3.71	ug/L #	65
17) Methyl-tert-butyl-ether	4.084	73	15530	2.03	ug/L	90
18) tert-Butanol (TBA)	4.248	59	51536	123.53	ug/L #	87
19) Diisopropyl ether (DIPE)	4.473	45	4490	0.54	ug/L	86
20) 1,1-Dichloroethane	4.576	63	7899	2.03	ug/L	95
21) Acrylonitrile	4.649	53	2585	2.18	ug/L	88
22) Ethyl-tert-butyl ether...	4.844	59	4020	0.50	ug/L	92
23) c-1,2-Dichloroethene	5.136	61	6415	2.00	ug/L	90
24) 2,2-Dichloropropane	5.239	77	6290	2.16	ug/L	88
25) Bromochloromethane	5.336	49	3861	2.02	ug/L	81
26) Chloroform	5.416	83	7968	2.12	ug/L	96
27) Carbon Tetrachloride	5.549	117	3440	1.62	ug/L	97
28) Tetrahydrofuran	5.598	42	2580	2.10	ug/L	85
29) 1,1,1-Trichloroethane	5.616	97	6428	2.02	ug/L	92
31) 1,1-Dichloropropene	5.750	75	6320	2.02	ug/L	94
32) 2-Butanone (MEK)	5.744	43	6673	4.08	ug/L	90
33) Benzene	5.999	78	18060	1.98	ug/L	96
34) tert-Amyl methyl ether...	6.133	73	3998	0.56	ug/L	89
35) 1,2-Dichloroethane (EDC)	6.224	62	6511	1.97	ug/L	98
36) iso-Butyl Alcohol	6.285	43	6887	41.49	ug/L	98
38) Trichloroethene (TCE)	6.626	130	4623	2.05	ug/L	87
39) tert-Amyl ethyl ether ...	6.881	59	3066	0.51	ug/L	85
40) Dibromomethane	7.076	93	2462	1.90	ug/L	86
41) 1,2-Dichloropropane	7.179	63	4663	1.96	ug/L	99
42) Bromodichloromethane	7.258	83	3756	1.87	ug/L	95
44) c-1,3-Dichloropropene	7.958	75	5748	1.86	ug/L	75
46) Toluene	8.225	91	18878	2.10	ug/L	98
47) Tetrachloroethene (PCE)	8.669	166	4000	1.94	ug/L	85
48) 4-Methyl-2-Pentanone (...	8.675	43	12432	3.98	ug/L	91

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:51 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

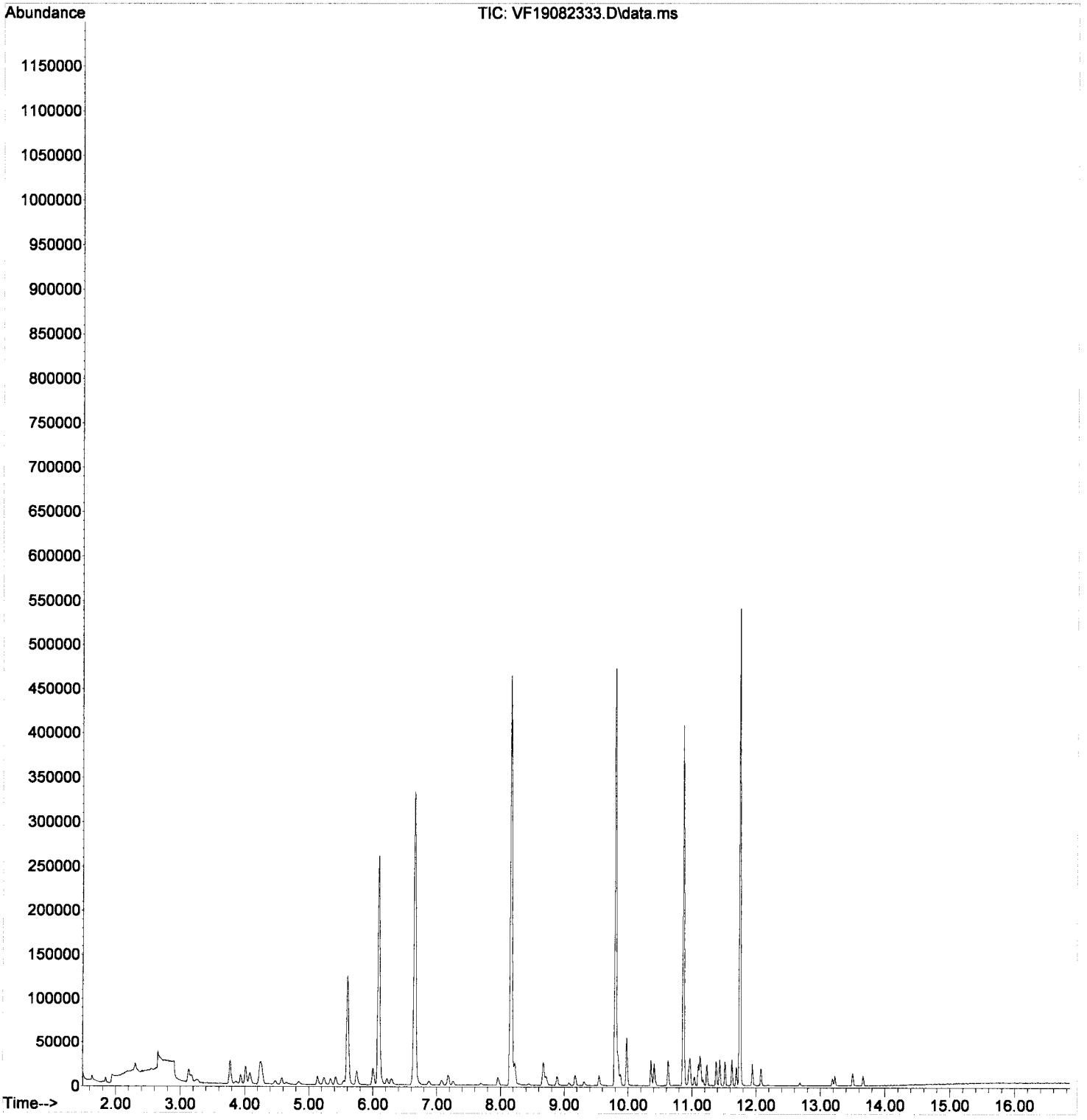
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	t-1,3-Dichloropropene	8.718	75	5234	1.83	ug/L		90
50)	1,1,2-Trichloroethane	8.888	97	3649	2.03	ug/L		91
51)	Dibromochloromethane	9.070	129	1730	1.63	ug/L		91
52)	1,3-Dichloropropane	9.168	76	6884	1.97	ug/L	#	73
53)	1,2-Dibromoethane (EDB)	9.308	107	3474	1.89	ug/L		97
54)	2-Hexanone	9.545	43	8448	3.91	ug/L		89
55)	Chlorobenzene	9.818	112	10813	2.00	ug/L		89
56)	Ethylbenzene	9.843	91	19825	2.08	ug/L		95
57)	1,1,1,2-Tetrachloroethane	9.879	131	2576	1.78	ug/L		91
58)	m,p-Xylenes (2)	9.977	91	28634	3.96	ug/L		97
59)	o-Xylene	10.360	91	14660	2.00	ug/L		95
60)	Styrene	10.408	104	10610	1.90	ug/L		89
61)	Bromoform	10.433	173	910	1.62	ug/L		84
62)	Isopropylbenzene	10.627	105	17160	2.01	ug/L		95
65)	Bromobenzene	10.956	156	4076	1.99	ug/L	#	82
66)	n-Propylbenzene	10.974	91	18895	2.01	ug/L		95
67)	1,1,2,2-Tetrachloroethane	11.035	83	4163	1.97	ug/L		99
68)	2-Chlorotoluene	11.102	126	3825	2.03	ug/L	#	75
69)	1,3,5-Trimethylbenzene	11.126	105	13420	1.99	ug/L		96
70)	1,2,3-Trichloropropane	11.144	110	1636	2.01	ug/L	#	72
71)	t-1,4-Dichloro-2-butene	11.175	88	490	1.65	ug/L	#	83
72)	4-Chlorotoluene	11.235	91	11543	2.02	ug/L		94
73)	tert-Butylbenzene	11.375	91	7817	2.09	ug/L		80
74)	1,2,4-Trimethylbenzene	11.436	105	13612	2.04	ug/L		97
75)	sec-Butylbenzene	11.515	105	15807	2.08	ug/L		96
76)	4-Isopropyltoluene	11.625	119	13091	2.02	ug/L		91
77)	1,3-Dichlorobenzene	11.698	146	6541	1.92	ug/L		100
78)	1,4-Dichlorobenzene	11.758	146	6991	2.01	ug/L		92
79)	n-Butylbenzene	11.941	91	11180	1.99	ug/L		97
80)	1,2-Dichlorobenzene	12.081	146	6300	1.97	ug/L		98
81)	1,2-Dibromo-3-Chloropr...	12.689	157	589	1.70	ug/L	#	52
82)	Hexachlorobutadiene	13.187	223	966	1.98	ug/L		96
83)	1,2,4-Trichlorobenzene	13.224	180	3381	1.86	ug/L		93
84)	Naphthalene	13.498	128	10751	1.74	ug/L		99
85)	1,2,3-Trichlorobenzene	13.662	180	3136	1.79	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082333.D
Acq On : 23 Aug 2019 11:01 pm
Operator : TB
Sample : 9H23046-CAL5
Misc : 1X 5mL 2ppb VOCO DI+MeOH
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:51 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF~~190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	111074	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	234314	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	105422	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	78523	48.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	288232	49.12	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	341661	50.52	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	89612	50.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	7188	5.04	ug/L		97
3) Chloromethane	1.834	50	11530	5.13	ug/L		98
4) Vinyl Chloride	1.932	62	11430	5.05	ug/L		96
5) Bromomethane	2.290	96	7687	6.20	ug/L		97
6) Chloroethane	2.418	64	996	4.89	ug/L	#	1
7) Trichlorofluoromethane	2.546	101	1658	5.16	ug/L		93
8) Ethanol	3.245	45	15448	336.05	ug/L		91
9) 1,1-Dichloroethene	3.117	61	15746	5.08	ug/L		76
10) Carbon Disulfide	3.130	76	23060	4.87	ug/L		97
11) Freon 113	3.172	101	8661	4.89	ug/L		80
12) Iodomethane	3.276	142	2840	3.69	ug/L	#	88
13) Methylene Chloride	3.768	84	17898	7.81	ug/L	#	79
14) Acetone	3.853	43	11080	10.68	ug/L		90
15) t-1,2-Dichloroethene	3.926	61	15085	4.88	ug/L		90
16) n-Hexane	4.011	86	2874	6.46	ug/L	#	83
17) Methyl-tert-butyl-ether	4.072	73	37963	5.02	ug/L		96
18) tert-Butanol (TBA)	4.242	59	128031	310.11	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.468	45	10347	1.25	ug/L		94
20) 1,1-Dichloroethane	4.571	63	19191	5.00	ug/L		97
21) Acrylonitrile	4.650	53	6047	5.15	ug/L		97
22) Ethyl-tert-butyl ether...	4.832	59	9948	1.25	ug/L		96
23) c-1,2-Dichloroethene	5.130	61	15632	4.92	ug/L		92
24) 2,2-Dichloropropane	5.234	77	14357	4.99	ug/L		93
25) Bromochloromethane	5.331	49	9555	5.05	ug/L		76
26) Chloroform	5.410	83	18445	4.97	ug/L		95
27) Carbon Tetrachloride	5.538	117	8920	4.26	ug/L		91
28) Tetrahydrofuran	5.593	42	6267	5.17	ug/L		95
29) 1,1,1-Trichloroethane	5.611	97	15331	4.86	ug/L		95
31) 1,1-Dichloropropene	5.739	75	15074	4.86	ug/L		96
32) 2-Butanone (MEK)	5.745	43	15982	9.88	ug/L		98
33) Benzene	6.000	78	44027	4.87	ug/L		96
34) tert-Amyl methyl ether...	6.128	73	9064	1.27	ug/L		95
35) 1,2-Dichloroethane (EDC)	6.219	62	16304	4.98	ug/L		97
36) iso-Butyl Alcohol	6.286	43	18066	109.97	ug/L		93
38) Trichloroethene (TCE)	6.620	130	10856	4.86	ug/L		92
39) tert-Amyl ethyl ether ...	6.876	59	7378	1.23	ug/L		93
40) Dibromomethane	7.070	93	6226	4.85	ug/L		83
41) 1,2-Dichloropropane	7.180	63	11702	4.96	ug/L		96
42) Bromodichloromethane	7.253	83	9154	4.60	ug/L		97
44) c-1,3-Dichloropropene	7.958	75	14205	4.69	ug/L		79
46) Toluene	8.220	91	44092	5.01	ug/L		100
47) Tetrachloroethene (PCE)	8.670	166	9951	4.94	ug/L		87
48) 4-Methyl-2-Pentanone (...	8.670	43	30805	10.06	ug/L		90

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

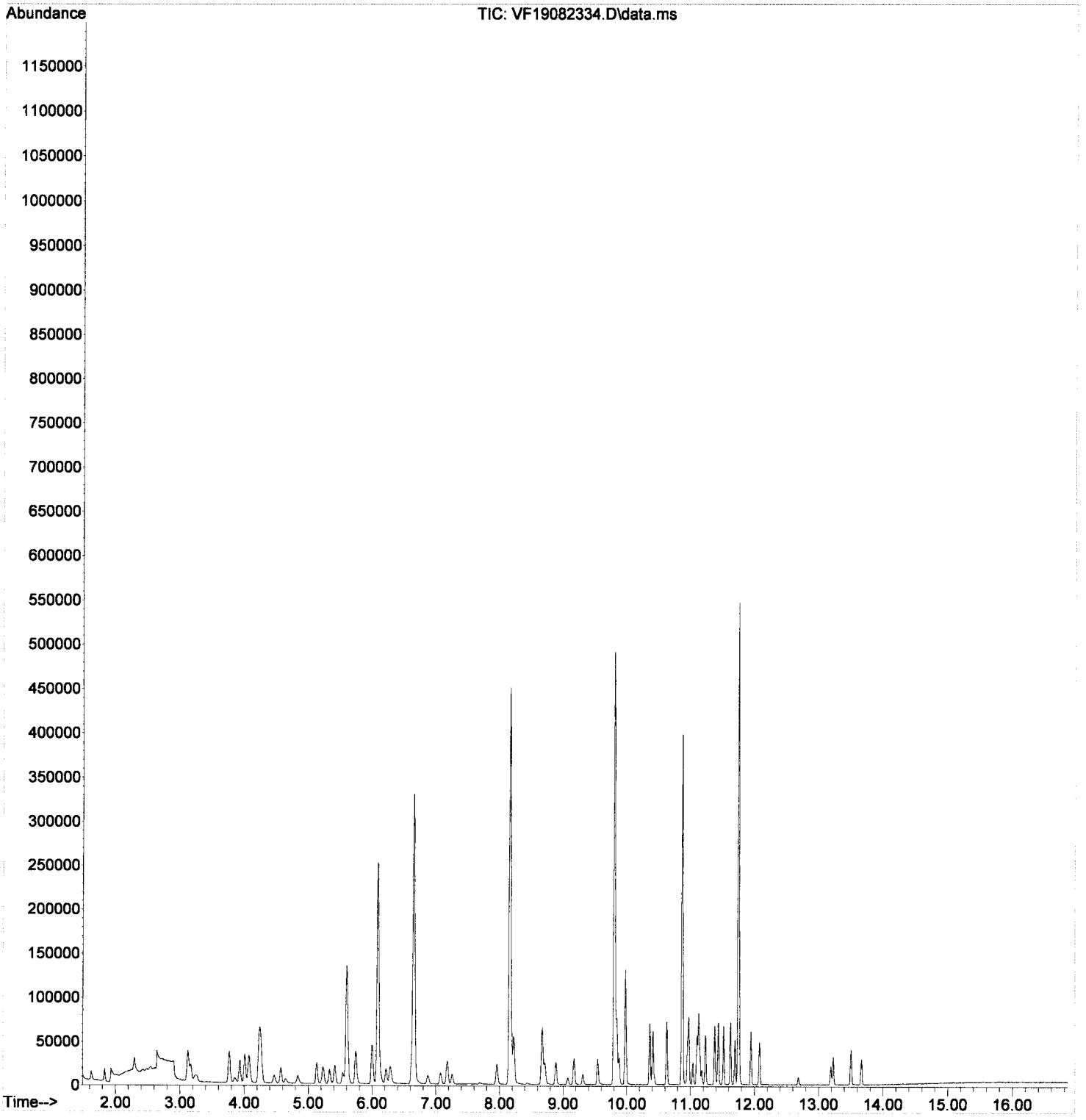
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.712	75	13126	4.68	ug/L		96
50) 1,1,2-Trichloroethane	8.883	97	8821	5.01	ug/L		87
51) Dibromochloromethane	9.071	129	4565	4.38	ug/L		99
52) 1,3-Dichloropropane	9.168	76	16934	4.96	ug/L		82
53) 1,2-Dibromoethane (EDB)	9.308	107	8752	4.87	ug/L		96
54) 2-Hexanone	9.539	43	20941	9.89	ug/L		91
55) Chlorobenzene	9.819	112	26611	5.02	ug/L		94
56) Ethylbenzene	9.843	91	46676	4.99	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.880	131	6336	4.48	ug/L		92
58) m,p-Xylenes (2)	9.977	91	68844	9.71	ug/L		95
59) o-Xylene	10.360	91	35208	4.89	ug/L		98
60) Styrene	10.409	104	25892	4.73	ug/L		90
61) Bromoform	10.433	173	2298	4.17	ug/L		98
62) Isopropylbenzene	10.628	105	41085	4.91	ug/L		97
65) Bromobenzene	10.950	156	9954	4.99	ug/L	#	81
66) n-Propylbenzene	10.968	91	45705	5.01	ug/L		97
67) 1,1,2,2-Tetrachloroethane	11.035	83	10113	4.92	ug/L		98
68) 2-Chlorotoluene	11.102	126	9166	5.01	ug/L		89
69) 1,3,5-Trimethylbenzene	11.127	105	32707	4.99	ug/L		97
70) 1,2,3-Trichloropropane	11.145	110	3962	5.01	ug/L	#	75
71) t-1,4-Dichloro-2-butene	11.175	88	1211	4.20	ug/L		97
72) 4-Chlorotoluene	11.230	91	27329	4.91	ug/L		96
73) tert-Butylbenzene	11.376	91	18516	5.10	ug/L		82
74) 1,2,4-Trimethylbenzene	11.437	105	32697	5.04	ug/L		98
75) sec-Butylbenzene	11.516	105	37244	5.05	ug/L		97
76) 4-Isopropyltoluene	11.625	119	31751	5.03	ug/L		95
77) 1,3-Dichlorobenzene	11.692	146	16331	4.94	ug/L		98
78) 1,4-Dichlorobenzene	11.759	146	16807	4.98	ug/L		95
79) n-Butylbenzene	11.941	91	27501	5.05	ug/L		97
80) 1,2-Dichlorobenzene	12.075	146	15403	4.97	ug/L		99
81) 1,2-Dibromo-3-Chloropr...	12.683	157	1505	4.47	ug/L	#	28
82) Hexachlorobutadiene	13.188	223	2262	4.76	ug/L		96
83) 1,2,4-Trichlorobenzene	13.225	180	8401	4.75	ug/L		94
84) Naphthalene	13.498	128	27984	4.67	ug/L		98
85) 1,2,3-Trichlorobenzene	13.662	180	8029	4.73	ug/L		96

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

pre Int

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.085	99	111074	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	234314	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	105422	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	78523	48.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	288232	49.12	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	341661	50.52	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	89612	50.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.621	85	7188	5.04	ug/L		97
3) Chloromethane	1.834	50	11530	5.13	ug/L		98
4) Vinyl Chloride	1.932	62	11430	5.05	ug/L		96
5) Bromomethane	2.290	96	7687	6.20	ug/L		97
6) Chloroethane	2.418	64	996	4.89	ug/L	#	1
7) Trichlorofluoromethane	2.546	101	1658	5.16	ug/L		93
8) Ethanol	3.245	45	15448	336.05	ug/L		91
9) 1,1-Dichloroethene	3.117	61	15746	5.08	ug/L		76
10) Carbon Disulfide	3.130	76	23060	4.87	ug/L		97
11) Freon 113	3.172	101	8661	4.89	ug/L		80
12) Iodomethane	3.276	142	2840	3.69	ug/L	#	88
13) Methylene Chloride	3.768	84	17898	7.81	ug/L	#	79
14) Acetone	3.853	43	11080	10.68	ug/L		90
15) t-1,2-Dichloroethene	3.926	61	15085	4.88	ug/L		90
16) n-Hexane	4.011	86	2874	6.46	ug/L	#	83
17) Methyl-tert-butyl-ether	4.072	73	37963	5.02	ug/L		96
18) tert-Butanol (TBA)	4.242	59	128031	310.11	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.468	45	10347	1.25	ug/L		94
20) 1,1-Dichloroethane	4.571	63	19191	5.00	ug/L		97
21) Acrylonitrile	4.650	53	6047	5.15	ug/L		97
22) Ethyl-tert-butyl ether...	4.832	59	9948	1.25	ug/L		96
23) c-1,2-Dichloroethene	5.130	61	15632	4.92	ug/L		92
24) 2,2-Dichloropropane	5.234	77	14357	4.99	ug/L		93
25) Bromochloromethane	5.331	49	9555	5.05	ug/L		76
26) Chloroform	5.410	83	18445	4.97	ug/L		95
27) Carbon Tetrachloride	5.538	117	8920	4.26	ug/L		91
28) Tetrahydrofuran	5.593	42	6267	5.17	ug/L		95
29) 1,1,1-Trichloroethane	5.611	97	15331	4.86	ug/L		95
31) 1,1-Dichloropropene	5.739	75	15074	4.86	ug/L		96
32) 2-Butanone (MEK)	5.745	43	15982	9.88	ug/L		98
33) Benzene	6.000	78	44027	4.87	ug/L		96
34) tert-Amyl methyl ether...	6.128	73	9064	1.27	ug/L		95
35) 1,2-Dichloroethane (EDC)	6.219	62	16304	4.98	ug/L		97
36) iso-Butyl Alcohol	6.286	43	18066	109.97	ug/L		93
38) Trichloroethene (TCE)	6.620	130	10856	4.86	ug/L		92
39) tert-Amyl ethyl ether ...	6.876	59	7378	1.23	ug/L		93
40) Dibromomethane	7.070	93	6226	4.85	ug/L		83
41) 1,2-Dichloropropane	7.180	63	11702	4.96	ug/L		96
42) Bromodichloromethane	7.253	83	9154	4.60	ug/L		97
44) c-1,3-Dichloropropene	7.958	75	14205	4.69	ug/L		79
46) Toluene	8.220	91	44092	5.01	ug/L		100
47) Tetrachloroethene (PCE)	8.670	166	9951	4.94	ug/L		87
48) 4-Methyl-2-Pentanone (...	8.670	43	30805	10.06	ug/L		90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

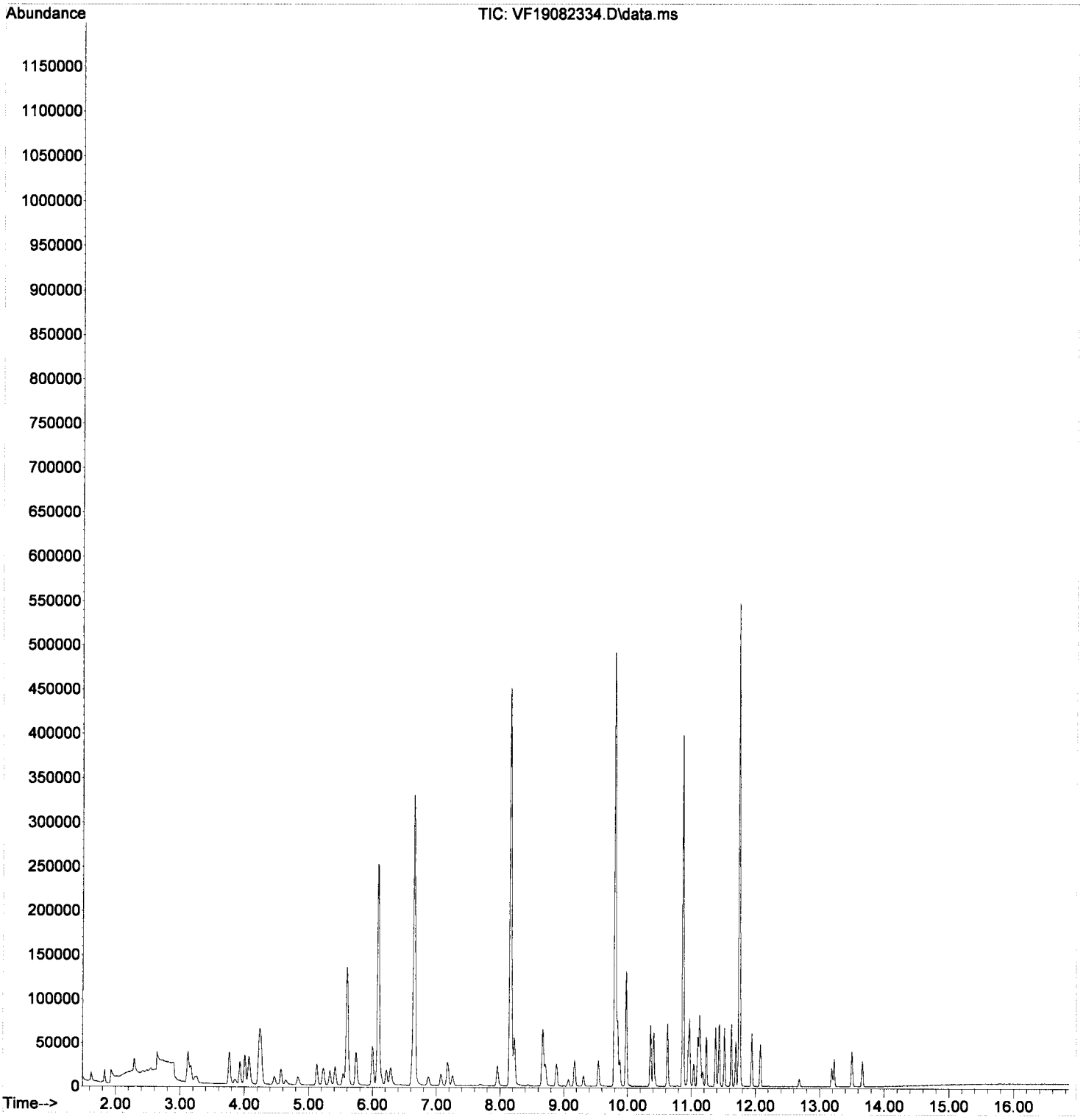
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.712	75	13126	4.68	ug/L		96
50) 1,1,2-Trichloroethane	8.883	97	8821	5.01	ug/L		87
51) Dibromochloromethane	9.071	129	4565	4.38	ug/L		99
52) 1,3-Dichloropropane	9.168	76	16934	4.96	ug/L		82
53) 1,2-Dibromoethane (EDB)	9.308	107	8752	4.87	ug/L		96
54) 2-Hexanone	9.539	43	20941	9.89	ug/L		91
55) Chlorobenzene	9.819	112	26611	5.02	ug/L		94
56) Ethylbenzene	9.843	91	46676	4.99	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.880	131	6336	4.48	ug/L		92
58) m,p-Xylenes (2)	9.977	91	68844	9.71	ug/L		95
59) o-Xylene	10.360	91	35208	4.89	ug/L		98
60) Styrene	10.409	104	25892	4.73	ug/L		90
61) Bromoform	10.433	173	2298	4.17	ug/L		98
62) Isopropylbenzene	10.628	105	41085	4.91	ug/L		97
65) Bromobenzene	10.950	156	9954	4.99	ug/L	#	81
66) n-Propylbenzene	10.968	91	45705	5.01	ug/L		97
67) 1,1,2,2-Tetrachloroethane	11.035	83	10113	4.92	ug/L		98
68) 2-Chlorotoluene	11.102	126	9166	5.01	ug/L		89
69) 1,3,5-Trimethylbenzene	11.127	105	32707	4.99	ug/L		97
70) 1,2,3-Trichloropropane	11.145	110	3962	5.01	ug/L	#	75
71) t-1,4-Dichloro-2-butene	11.175	88	1211	4.20	ug/L		97
72) 4-Chlorotoluene	11.230	91	27329	4.91	ug/L		96
73) tert-Butylbenzene	11.376	91	18516	5.10	ug/L		82
74) 1,2,4-Trimethylbenzene	11.437	105	32697	5.04	ug/L		98
75) sec-Butylbenzene	11.516	105	37244	5.05	ug/L		97
76) 4-Isopropyltoluene	11.625	119	31751	5.03	ug/L		95
77) 1,3-Dichlorobenzene	11.692	146	16331	4.94	ug/L		98
78) 1,4-Dichlorobenzene	11.759	146	16807	4.98	ug/L		95
79) n-Butylbenzene	11.941	91	27501	5.05	ug/L		97
80) 1,2-Dichlorobenzene	12.075	146	15403	4.97	ug/L		99
81) 1,2-Dibromo-3-Chloropr...	12.683	157	1505	4.47	ug/L	#	28
82) Hexachlorobutadiene	13.188	223	2262	4.76	ug/L		96
83) 1,2,4-Trichlorobenzene	13.225	180	8401	4.75	ug/L		94
84) Naphthalene	13.498	128	27984	4.67	ug/L		98
85) 1,2,3-Trichlorobenzene	13.662	180	8029	4.73	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082334.D
Acq On : 23 Aug 2019 11:28 pm
Operator : TB
Sample : 9H23046-CAL6
Misc : 1X 5mL 5ppb VOCO DI+MeOH
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:53 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190~~823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.087	99	113188	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	235169	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	107837	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	78846	47.29	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	290747	48.62	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	342986	50.53	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	89698	49.66	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	14412	9.93	ug/L		97
3) Chloromethane	1.836	50	22907	10.00	ug/L		99
4) Vinyl Chloride	1.933	62	23209	10.06	ug/L		97
5) Bromomethane	2.292	96	13671	10.83	ug/L		98
6) Chloroethane	2.420	64	2614	12.59	ug/L	#	23
7) Trichlorofluoromethane	2.554	101	3372	10.30	ug/L		92
8) Ethanol	3.241	45	30356	648.02	ug/L		87
9) 1,1-Dichloroethene	3.119	61	31954	10.12	ug/L		75
10) Carbon Disulfide	3.131	76	47996	9.95	ug/L		98
11) Freon 113	3.168	101	18130	10.05	ug/L		82
12) Iodomethane	3.271	142	6636	8.46	ug/L	#	91
13) Methylene Chloride	3.770	84	27505	11.78	ug/L		84
14) Acetone	3.861	43	20726	19.61	ug/L		89
15) t-1,2-Dichloroethene	3.934	61	31170	9.89	ug/L		95
16) n-Hexane	4.013	86	5250	11.58	ug/L		94
17) Methyl-tert-butyl-ether	4.074	73	73396	9.52	ug/L		97
18) tert-Butanol (TBA)	4.244	59	257986	613.21	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.469	45	20516	2.43	ug/L		96
20) 1,1-Dichloroethane	4.573	63	39027	9.97	ug/L		98
21) Acrylonitrile	4.646	53	11905	9.95	ug/L		96
22) Ethyl-tert-butyl ether...	4.840	59	19441	2.40	ug/L		93
23) c-1,2-Dichloroethene	5.132	61	32015	9.89	ug/L		90
24) 2,2-Dichloropropane	5.235	77	28959	9.88	ug/L		97
25) Bromochloromethane	5.333	49	19072	9.88	ug/L		84
26) Chloroform	5.418	83	36921	9.76	ug/L		95
27) Carbon Tetrachloride	5.539	117	19539	9.15	ug/L		94
28) Tetrahydrofuran	5.594	42	11521	9.32	ug/L		95
29) 1,1,1-Trichloroethane	5.612	97	31549	9.81	ug/L		95
31) 1,1-Dichloropropene	5.740	75	30670	9.71	ug/L		99
32) 2-Butanone (MEK)	5.740	43	31412	19.05	ug/L		100
33) Benzene	5.996	78	89873	9.75	ug/L		97
34) tert-Amyl methyl ether...	6.129	73	17603	2.42	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.221	62	31536	9.45	ug/L		98
36) iso-Butyl Alcohol	6.287	43	40144	239.80	ug/L		95
38) Trichloroethene (TCE)	6.622	130	21985	9.65	ug/L		92
39) tert-Amyl ethyl ether ...	6.877	59	14768	2.41	ug/L		89
40) Dibromomethane	7.072	93	12397	9.48	ug/L		85
41) 1,2-Dichloropropane	7.175	63	22854	9.51	ug/L		99
42) Bromodichloromethane	7.254	83	18574	9.15	ug/L		99
44) c-1,3-Dichloropropene	7.960	75	29142	9.58	ug/L		81
46) Toluene	8.221	91	89832	10.17	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	20512	10.14	ug/L		92
48) 4-Methyl-2-Pentanone (...	8.671	43	61595	20.05	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

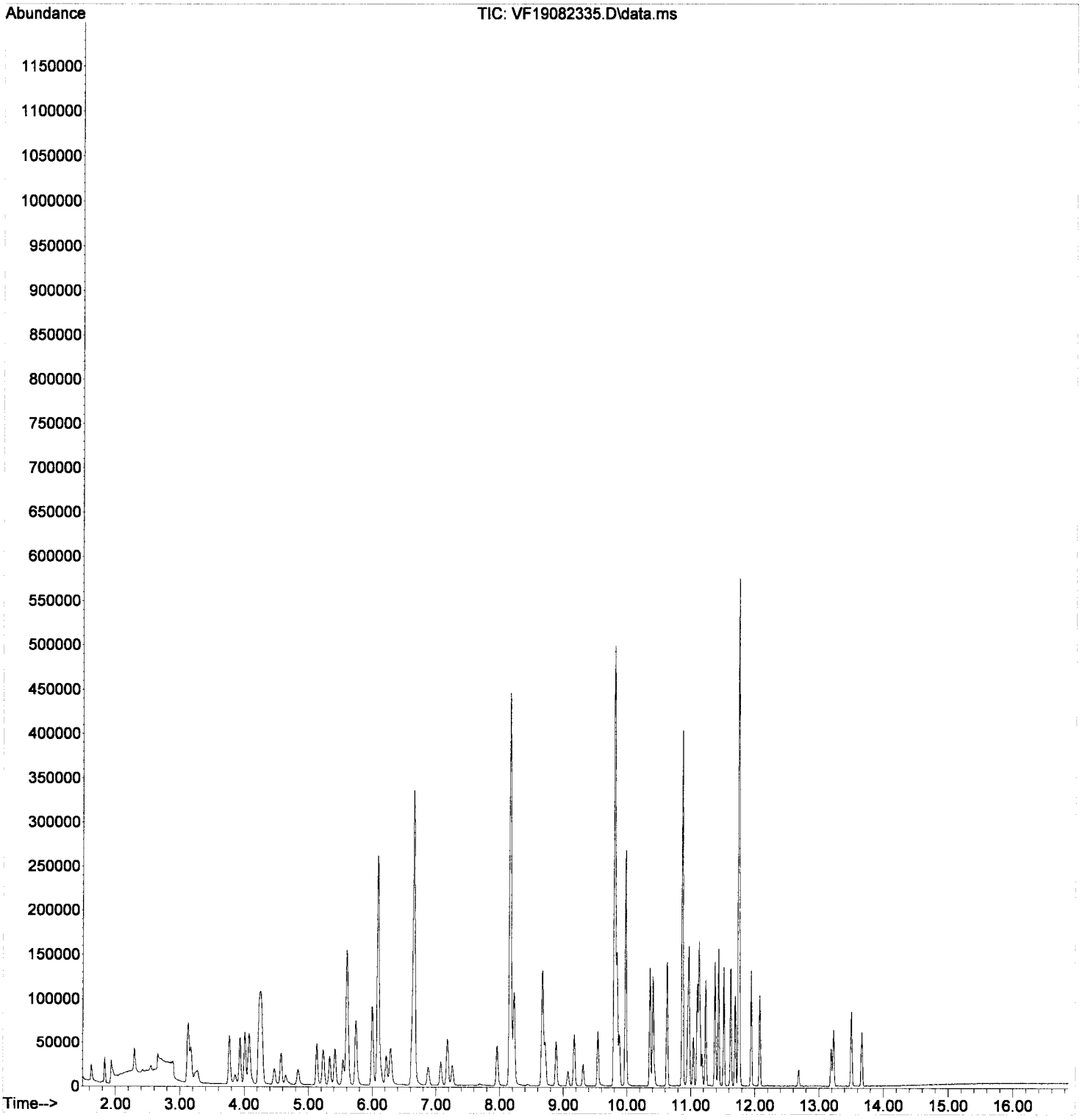
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.714	75	27155	9.64	ug/L		93
50) 1,1,2-Trichloroethane	8.884	97	17407	9.86	ug/L		92
51) Dibromochloromethane	9.073	129	9326	8.91	ug/L		92
52) 1,3-Dichloropropane	9.170	76	33311	9.71	ug/L		84
53) 1,2-Dibromoethane (EDB)	9.310	107	16999	9.42	ug/L		97
54) 2-Hexanone	9.541	43	42994	20.23	ug/L		92
55) Chlorobenzene	9.815	112	53178	9.99	ug/L		93
56) Ethylbenzene	9.845	91	94519	10.08	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.882	131	13357	9.42	ug/L		99
58) m,p-Xylenes (2)	9.979	91	140718	19.78	ug/L		96
59) o-Xylene	10.362	91	71807	9.94	ug/L		97
60) Styrene	10.405	104	52997	9.64	ug/L		90
61) Bromoform	10.435	173	4865	8.79	ug/L		94
62) Isopropylbenzene	10.630	105	83845	9.98	ug/L		99
65) Bromobenzene	10.952	156	19964	9.78	ug/L	#	85
66) n-Propylbenzene	10.970	91	93280	10.00	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.037	83	21104	10.03	ug/L		99
68) 2-Chlorotoluene	11.098	126	18317	9.78	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.128	105	66635	9.93	ug/L		98
70) 1,2,3-Trichloropropane	11.140	110	8087	10.00	ug/L	#	68
71) t-1,4-Dichloro-2-butene	11.177	88	2728	9.26	ug/L		95
72) 4-Chlorotoluene	11.232	91	55995	9.83	ug/L		95
73) tert-Butylbenzene	11.378	91	37411	10.07	ug/L		86
74) 1,2,4-Trimethylbenzene	11.432	105	67149	10.11	ug/L		98
75) sec-Butylbenzene	11.517	105	75540	10.02	ug/L		98
76) 4-Isopropyltoluene	11.627	119	64031	9.92	ug/L		97
77) 1,3-Dichlorobenzene	11.694	146	33356	9.86	ug/L		99
78) 1,4-Dichlorobenzene	11.761	146	34100	9.88	ug/L		98
79) n-Butylbenzene	11.943	91	55963	10.04	ug/L		97
80) 1,2-Dichlorobenzene	12.077	146	31708	9.99	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.685	157	3177	9.22	ug/L	#	46
82) Hexachlorobutadiene	13.190	223	4683	9.63	ug/L		99
83) 1,2,4-Trichlorobenzene	13.220	180	18177	10.04	ug/L		99
84) Naphthalene	13.500	128	61250	9.99	ug/L		99
85) 1,2,3-Trichlorobenzene	13.664	180	17563	10.11	ug/L		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.087	99	113188	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	235169	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	107837	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	78846	47.29	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	290747	48.62	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	342986	50.53	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	89698	49.66	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	14412	9.93	ug/L		97
3) Chloromethane	1.836	50	22907	10.00	ug/L		99
4) Vinyl Chloride	1.933	62	23209	10.06	ug/L		97
5) Bromomethane	2.292	96	13671	10.83	ug/L		98
6) Chloroethane	2.420	64	2614	12.59	ug/L	#	23
7) Trichlorofluoromethane	2.554	101	3372	10.30	ug/L		92
8) Ethanol	3.241	45	30356	648.02	ug/L		87
9) 1,1-Dichloroethene	3.119	61	31954	10.12	ug/L		75
10) Carbon Disulfide	3.131	76	47996	9.95	ug/L		98
11) Freon 113	3.168	101	18130	10.05	ug/L		82
12) Iodomethane	3.271	142	6636	8.46	ug/L	#	91
13) Methylene Chloride	3.770	84	27505	11.78	ug/L		84
14) Acetone	3.861	43	20726	19.61	ug/L		89
15) t-1,2-Dichloroethene	3.934	61	31170	9.89	ug/L		95
16) n-Hexane	4.013	86	5250	11.58	ug/L		94
17) Methyl-tert-butyl-ether	4.074	73	73396	9.52	ug/L		97
18) tert-Butanol (TBA)	4.244	59	257986	613.21	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.469	45	20516	2.43	ug/L		96
20) 1,1-Dichloroethane	4.573	63	39027	9.97	ug/L		98
21) Acrylonitrile	4.646	53	11905	9.95	ug/L		96
22) Ethyl-tert-butyl ether...	4.840	59	19441	2.40	ug/L		93
23) c-1,2-Dichloroethene	5.132	61	32015	9.89	ug/L		90
24) 2,2-Dichloropropane	5.235	77	28959	9.88	ug/L		97
25) Bromochloromethane	5.333	49	19072	9.88	ug/L		84
26) Chloroform	5.418	83	36921	9.76	ug/L		95
27) Carbon Tetrachloride	5.539	117	19539	9.15	ug/L		94
28) Tetrahydrofuran	5.594	42	11521	9.32	ug/L		95
29) 1,1,1-Trichloroethane	5.612	97	31549	9.81	ug/L		95
31) 1,1-Dichloropropene	5.740	75	30670	9.71	ug/L		99
32) 2-Butanone (MEK)	5.740	43	31412	19.05	ug/L		100
33) Benzene	5.996	78	89873	9.75	ug/L		97
34) tert-Amyl methyl ether...	6.129	73	17603	2.42	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.221	62	31536	9.45	ug/L		98
36) iso-Butyl Alcohol	6.287	43	40144	239.80	ug/L		95
38) Trichloroethene (TCE)	6.622	130	21985	9.65	ug/L		92
39) tert-Amyl ethyl ether ...	6.877	59	14768	2.41	ug/L		89
40) Dibromomethane	7.072	93	12397	9.48	ug/L		85
41) 1,2-Dichloropropane	7.175	63	22854	9.51	ug/L		99
42) Bromodichloromethane	7.254	83	18574	9.15	ug/L		99
44) c-1,3-Dichloropropene	7.960	75	29142	9.58	ug/L		81
46) Toluene	8.221	91	89832	10.17	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	20512	10.14	ug/L		92
48) 4-Methyl-2-Pentanone (...	8.671	43	61595	20.05	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

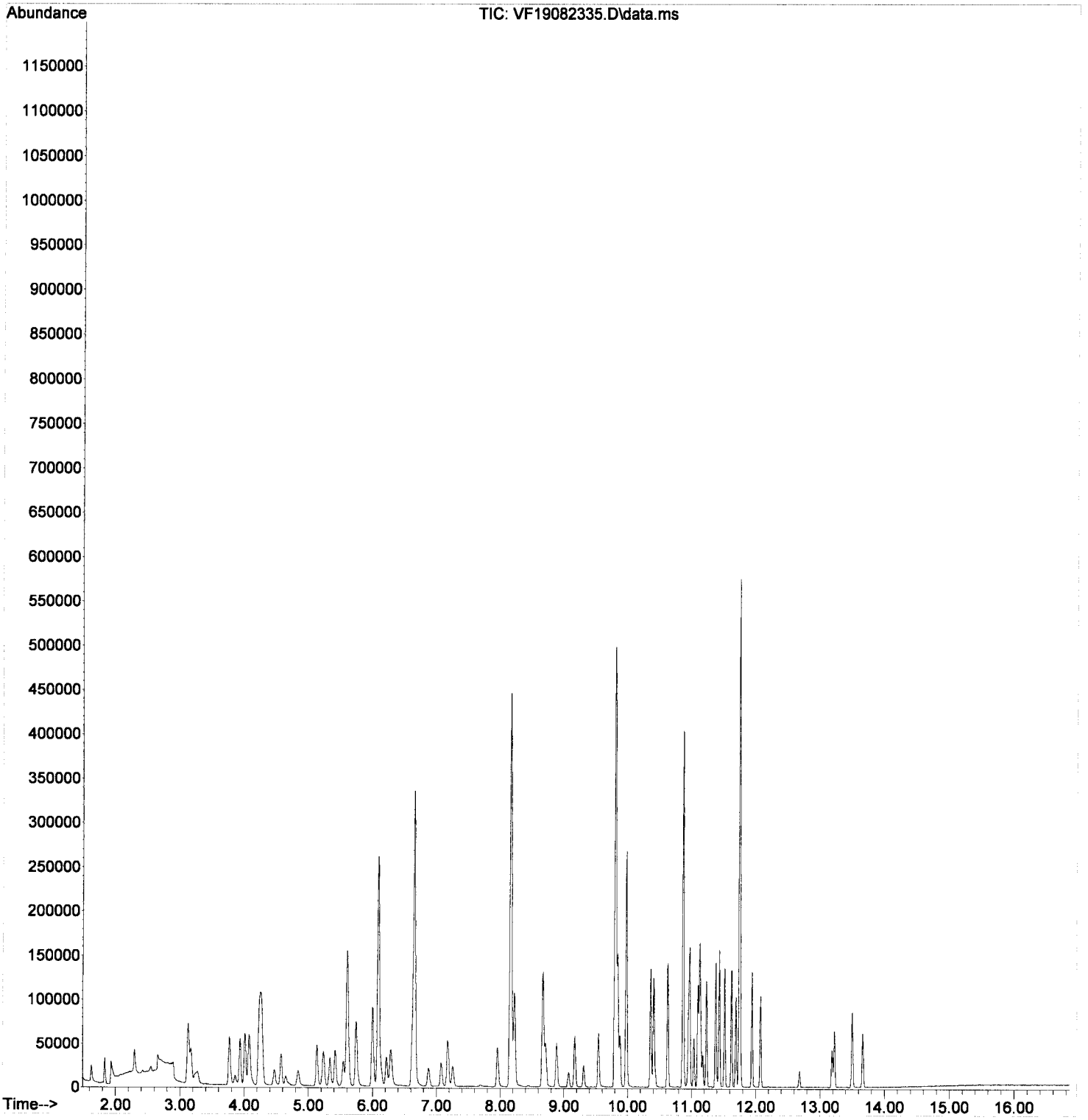
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.714	75	27155	9.64	ug/L		93
50) 1,1,2-Trichloroethane	8.884	97	17407	9.86	ug/L		92
51) Dibromochloromethane	9.073	129	9326	8.91	ug/L		92
52) 1,3-Dichloropropane	9.170	76	33311	9.71	ug/L		84
53) 1,2-Dibromoethane (EDB)	9.310	107	16999	9.42	ug/L		97
54) 2-Hexanone	9.541	43	42994	20.23	ug/L		92
55) Chlorobenzene	9.815	112	53178	9.99	ug/L		93
56) Ethylbenzene	9.845	91	94519	10.08	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.882	131	13357	9.42	ug/L		99
58) m,p-Xylenes (2)	9.979	91	140718	19.78	ug/L		96
59) o-Xylene	10.362	91	71807	9.94	ug/L		97
60) Styrene	10.405	104	52997	9.64	ug/L		90
61) Bromoform	10.435	173	4865	8.79	ug/L		94
62) Isopropylbenzene	10.630	105	83845	9.98	ug/L		99
65) Bromobenzene	10.952	156	19964	9.78	ug/L	#	85
66) n-Propylbenzene	10.970	91	93280	10.00	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.037	83	21104	10.03	ug/L		99
68) 2-Chlorotoluene	11.098	126	18317	9.78	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.128	105	66635	9.93	ug/L		98
70) 1,2,3-Trichloropropane	11.140	110	8087	10.00	ug/L	#	68
71) t-1,4-Dichloro-2-butene	11.177	88	2728	9.26	ug/L		95
72) 4-Chlorotoluene	11.232	91	55995	9.83	ug/L		95
73) tert-Butylbenzene	11.378	91	37411	10.07	ug/L		86
74) 1,2,4-Trimethylbenzene	11.432	105	67149	10.11	ug/L		98
75) sec-Butylbenzene	11.517	105	75540	10.02	ug/L		98
76) 4-Isopropyltoluene	11.627	119	64031	9.92	ug/L		97
77) 1,3-Dichlorobenzene	11.694	146	33356	9.86	ug/L		99
78) 1,4-Dichlorobenzene	11.761	146	34100	9.88	ug/L		98
79) n-Butylbenzene	11.943	91	55963	10.04	ug/L		97
80) 1,2-Dichlorobenzene	12.077	146	31708	9.99	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.685	157	3177	9.22	ug/L	#	46
82) Hexachlorobutadiene	13.190	223	4683	9.63	ug/L		99
83) 1,2,4-Trichlorobenzene	13.220	180	18177	10.04	ug/L		99
84) Naphthalene	13.500	128	61250	9.99	ug/L		99
85) 1,2,3-Trichlorobenzene	13.664	180	17563	10.11	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082335.D
Acq On : 23 Aug 2019 11:55 pm
Operator : TB
Sample : 9H23046-CAL7
Misc : 1X 5mL 10ppb VOCO DI+MeOH
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:55 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	99	112536	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	244508	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	112942	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	82878	50.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	297253	50.00	ug/L		0.00
45) Toluene-d8 (S)	8.166	98	352854	50.00	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	94590	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	28873	20.00	ug/L		97
3) Chloromethane	1.842	50	45533	20.00	ug/L		96
4) Vinyl Chloride	1.939	62	45876	20.00	ug/L		95
5) Bromomethane	2.298	96	25103	20.00	ug/L		99
6) Chloroethane	2.425	64	4129	20.00	ug/L	#	56
7) Trichlorofluoromethane	2.553	101	6512	20.00	ug/L		97
8) Ethanol	3.252	45	58218	1250.00	ug/L		90
9) 1,1-Dichloroethene	3.119	61	62780	20.00	ug/L		77
10) Carbon Disulfide	3.137	76	95965	20.00	ug/L		98
11) Freon 113	3.173	101	35885	20.00	ug/L		83
12) Iodomethane	3.277	142	15596	20.00	ug/L		92
13) Methylene Chloride	3.769	84	46436	20.00	ug/L		84
14) Acetone	3.861	43	42032	40.00	ug/L		92
15) t-1,2-Dichloroethene	3.933	61	62673	20.00	ug/L		95
16) n-Hexane	4.013	86	9015	20.00	ug/L	#	84
17) Methyl-tert-butyl-ether	4.079	73	153273	20.00	ug/L		98
18) tert-Butanol (TBA)	4.244	59	522867	1250.00	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.469	45	42050	5.00	ug/L		97
20) 1,1-Dichloroethane	4.572	63	77841	20.00	ug/L		98
21) Acrylonitrile	4.645	53	23800	20.00	ug/L		99
22) Ethyl-tert-butyl ether...	4.840	59	40237	5.00	ug/L		94
23) c-1,2-Dichloroethene	5.132	61	64342	20.00	ug/L		92
24) 2,2-Dichloropropane	5.229	77	58154	19.96	ug/L		96
25) Bromochloromethane	5.332	49	38376	20.00	ug/L		84
26) Chloroform	5.417	83	75236	20.00	ug/L		95
27) Carbon Tetrachloride	5.545	117	42475	20.00	ug/L		95
28) Tetrahydrofuran	5.588	42	24585	20.00	ug/L		93
29) 1,1,1-Trichloroethane	5.612	97	63930	20.00	ug/L		95
31) 1,1-Dichloropropene	5.740	75	62807	20.00	ug/L		97
32) 2-Butanone (MEK)	5.740	43	65171	39.76	ug/L		98
33) Benzene	6.001	78	183279	20.00	ug/L		96
34) tert-Amyl methyl ether...	6.129	73	36097	5.00	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.214	62	66313	19.98	ug/L		98
36) iso-Butyl Alcohol	6.281	43	83220	500.00	ug/L		91
38) Trichloroethene (TCE)	6.621	130	45291	20.00	ug/L		92
39) tert-Amyl ethyl ether ...	6.877	59	30425	5.00	ug/L		87
40) Dibromomethane	7.071	93	26007	20.00	ug/L		87
41) 1,2-Dichloropropane	7.175	63	47771	20.00	ug/L		96
42) Bromodichloromethane	7.254	83	40357	20.00	ug/L		99
44) c-1,3-Dichloropropene	7.959	75	63252	20.00	ug/L		86
46) Toluene	8.221	91	183695	20.00	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	42068	20.00	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.671	43	127784	40.00	ug/L		92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

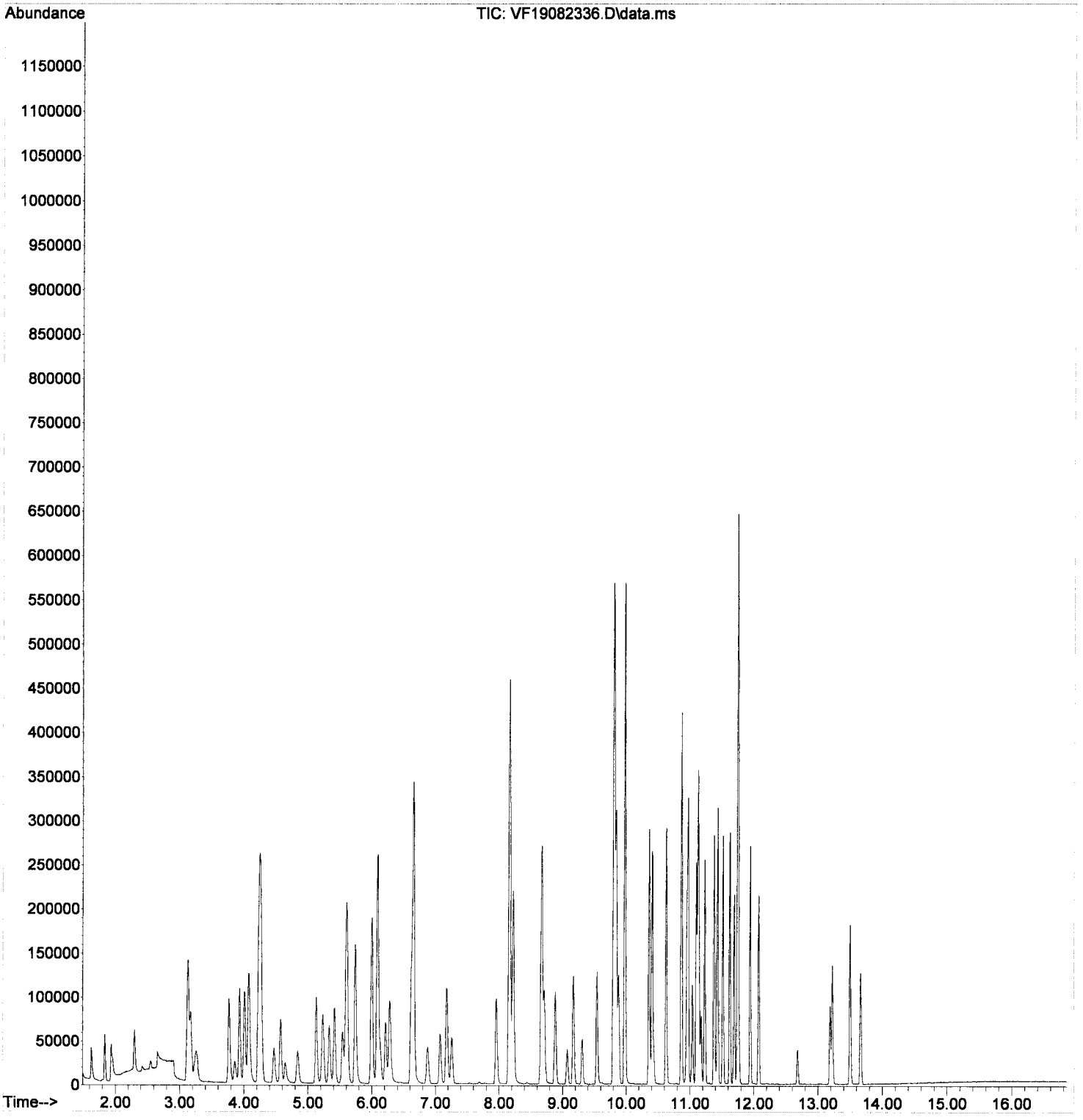
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.707	75	58546	20.00	ug/L		94
50) 1,1,2-Trichloroethane	8.884	97	36714	20.00	ug/L		90
51) Dibromochloromethane	9.072	129	21761	20.00	ug/L		95
52) 1,3-Dichloropropane	9.170	76	71315	20.00	ug/L		87
53) 1,2-Dibromoethane (EDB)	9.309	107	37512	20.00	ug/L		99
54) 2-Hexanone	9.540	43	88402	40.00	ug/L		92
55) Chlorobenzene	9.814	112	110656	20.00	ug/L		95
56) Ethylbenzene	9.845	91	195057	20.00	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.881	131	29500	20.00	ug/L		99
58) m,p-Xylenes (2)	9.978	91	295871	40.00	ug/L		97
59) o-Xylene	10.361	91	150167	20.00	ug/L		96
60) Styrene	10.404	104	114265	20.00	ug/L		89
61) Bromoform	10.434	173	11506	20.00	ug/L		98
62) Isopropylbenzene	10.629	105	174650	20.00	ug/L		98
65) Bromobenzene	10.951	156	42745	20.00	ug/L		86
66) n-Propylbenzene	10.970	91	195359	20.00	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.037	83	44069	20.00	ug/L		100
68) 2-Chlorotoluene	11.097	126	39239	20.00	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.128	105	140535	20.00	ug/L		98
70) 1,2,3-Trichloropropane	11.146	110	16937	20.00	ug/L	#	82
71) t-1,4-Dichloro-2-butene	11.176	88	6171	20.00	ug/L		93
72) 4-Chlorotoluene	11.231	91	119295	20.00	ug/L		97
73) tert-Butylbenzene	11.377	91	77831	20.00	ug/L		86
74) 1,2,4-Trimethylbenzene	11.432	105	139035	19.99	ug/L		99
75) sec-Butylbenzene	11.517	105	157900	20.00	ug/L		97
76) 4-Isopropyltoluene	11.626	119	135172	20.00	ug/L		97
77) 1,3-Dichlorobenzene	11.693	146	70858	20.00	ug/L		96
78) 1,4-Dichlorobenzene	11.760	146	72301	20.00	ug/L		96
79) n-Butylbenzene	11.943	91	116780	20.00	ug/L		96
80) 1,2-Dichlorobenzene	12.076	146	66459	20.00	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.685	157	7220	20.00	ug/L	#	54
82) Hexachlorobutadiene	13.189	223	10181	20.00	ug/L		98
83) 1,2,4-Trichlorobenzene	13.220	180	37933	20.00	ug/L		97
84) Naphthalene	13.499	128	128491	20.00	ug/L		99
85) 1,2,3-Trichlorobenzene	13.664	180	36406	20.00	ug/L		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.092	99	112536	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	244508	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	112942	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.600	111	82878	50.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	297253	50.00	ug/L		0.00
45) Toluene-d8 (S)	8.166	98	352854	50.00	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	94590	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.629	85	28873	20.00	ug/L		97
3) Chloromethane	1.842	50	45533	20.00	ug/L		96
4) Vinyl Chloride	1.939	62	45876	20.00	ug/L		95
5) Bromomethane	2.298	96	25103	20.00	ug/L		99
6) Chloroethane	2.425	64	4129	20.00	ug/L	#	56
7) Trichlorofluoromethane	2.553	101	6512	20.00	ug/L		97
8) Ethanol	3.252	45	58218	1250.00	ug/L		90
9) 1,1-Dichloroethene	3.119	61	62780	20.00	ug/L		77
10) Carbon Disulfide	3.137	76	95965	20.00	ug/L		98
11) Freon 113	3.173	101	35885	20.00	ug/L		83
12) Iodomethane	3.277	142	15596	20.00	ug/L		92
13) Methylene Chloride	3.769	84	46436	20.00	ug/L		84
14) Acetone	3.861	43	42032	40.00	ug/L		92
15) t-1,2-Dichloroethene	3.933	61	62673	20.00	ug/L		95
16) n-Hexane	4.013	86	9015	20.00	ug/L	#	84
17) Methyl-tert-butyl-ether	4.079	73	153273	20.00	ug/L		98
18) tert-Butanol (TBA)	4.244	59	522867	1250.00	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.469	45	42050	5.00	ug/L		97
20) 1,1-Dichloroethane	4.572	63	77841	20.00	ug/L		98
21) Acrylonitrile	4.645	53	23800	20.00	ug/L		99
22) Ethyl-tert-butyl ether...	4.840	59	40237	5.00	ug/L		94
23) c-1,2-Dichloroethene	5.132	61	64342	20.00	ug/L		92
24) 2,2-Dichloropropane	5.229	77	58154	19.96	ug/L		96
25) Bromochloromethane	5.332	49	38376	20.00	ug/L		84
26) Chloroform	5.417	83	75236	20.00	ug/L		95
27) Carbon Tetrachloride	5.545	117	42475	20.00	ug/L		95
28) Tetrahydrofuran	5.588	42	24585	20.00	ug/L		93
29) 1,1,1-Trichloroethane	5.612	97	63930	20.00	ug/L		95
31) 1,1-Dichloropropene	5.740	75	62807	20.00	ug/L		97
32) 2-Butanone (MEK)	5.740	43	65171	39.76	ug/L		98
33) Benzene	6.001	78	183279	20.00	ug/L		96
34) tert-Amyl methyl ether...	6.129	73	36097	5.00	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.214	62	66313	19.98	ug/L		98
36) iso-Butyl Alcohol	6.281	43	83220	500.00	ug/L		91
38) Trichloroethene (TCE)	6.621	130	45291	20.00	ug/L		92
39) tert-Amyl ethyl ether ...	6.877	59	30425	5.00	ug/L		87
40) Dibromomethane	7.071	93	26007	20.00	ug/L		87
41) 1,2-Dichloropropane	7.175	63	47771	20.00	ug/L		96
42) Bromodichloromethane	7.254	83	40357	20.00	ug/L		99
44) c-1,3-Dichloropropene	7.959	75	63252	20.00	ug/L		86
46) Toluene	8.221	91	183695	20.00	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	42068	20.00	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.671	43	127784	40.00	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

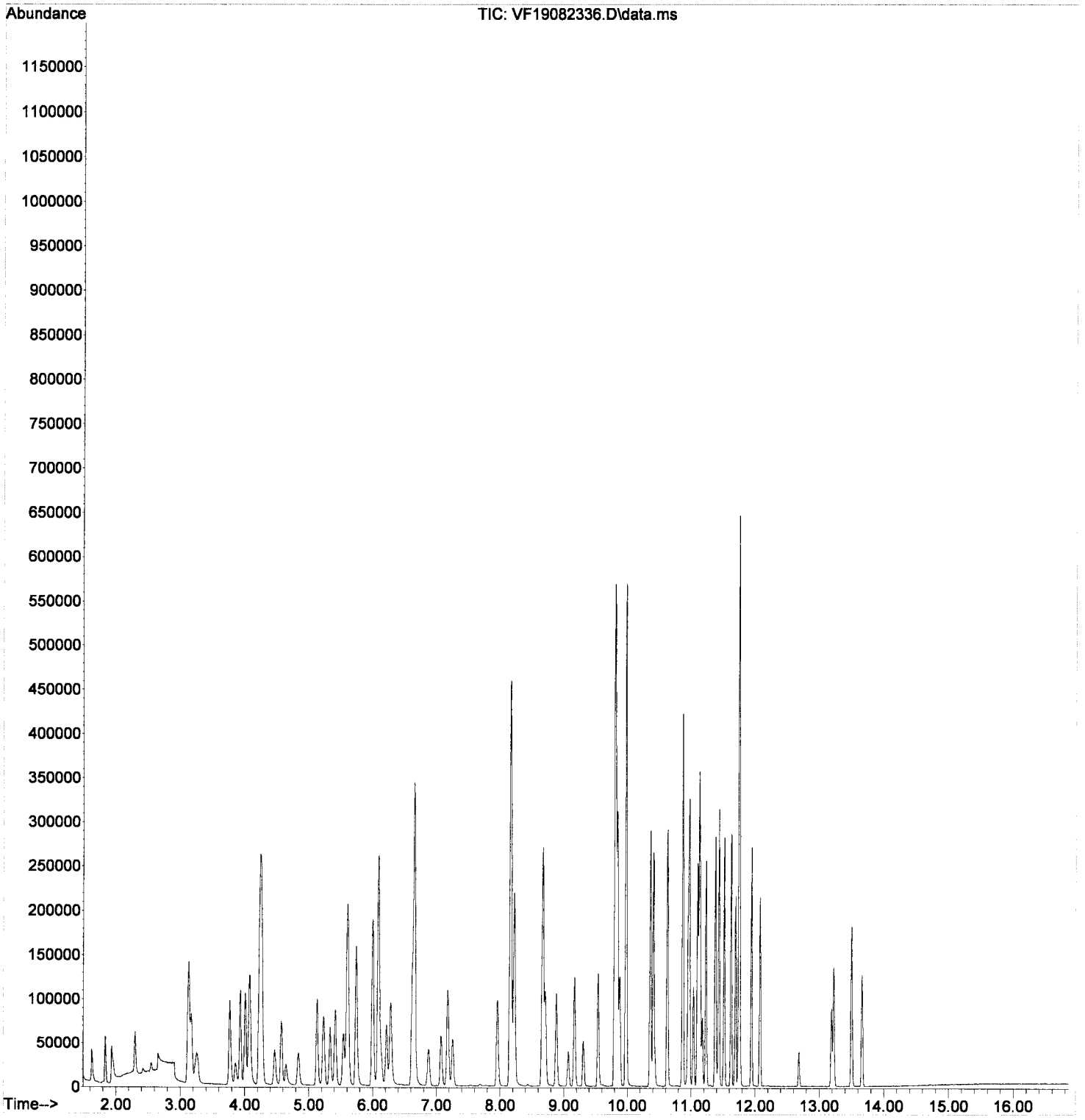
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.707	75	58546	20.00	ug/L		94
50) 1,1,2-Trichloroethane	8.884	97	36714	20.00	ug/L		90
51) Dibromochloromethane	9.072	129	21761	20.00	ug/L		95
52) 1,3-Dichloropropane	9.170	76	71315	20.00	ug/L		87
53) 1,2-Dibromoethane (EDB)	9.309	107	37512	20.00	ug/L		99
54) 2-Hexanone	9.540	43	88402	40.00	ug/L		92
55) Chlorobenzene	9.814	112	110656	20.00	ug/L		95
56) Ethylbenzene	9.845	91	195057	20.00	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.881	131	29500	20.00	ug/L		99
58) m,p-Xylenes (2)	9.978	91	295871	40.00	ug/L		97
59) o-Xylene	10.361	91	150167	20.00	ug/L		96
60) Styrene	10.404	104	114265	20.00	ug/L		89
61) Bromoform	10.434	173	11506	20.00	ug/L		98
62) Isopropylbenzene	10.629	105	174650	20.00	ug/L		98
65) Bromobenzene	10.951	156	42745	20.00	ug/L		86
66) n-Propylbenzene	10.970	91	195359	20.00	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.037	83	44069	20.00	ug/L		100
68) 2-Chlorotoluene	11.097	126	39239	20.00	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.128	105	140535	20.00	ug/L		98
70) 1,2,3-Trichloropropane	11.146	110	16937	20.00	ug/L	#	82
71) t-1,4-Dichloro-2-butene	11.176	88	6171	20.00	ug/L		93
72) 4-Chlorotoluene	11.231	91	119295	20.00	ug/L		97
73) tert-Butylbenzene	11.377	91	77831	20.00	ug/L		86
74) 1,2,4-Trimethylbenzene	11.432	105	139035	19.99	ug/L		99
75) sec-Butylbenzene	11.517	105	157900	20.00	ug/L		97
76) 4-Isopropyltoluene	11.626	119	135172	20.00	ug/L		97
77) 1,3-Dichlorobenzene	11.693	146	70858	20.00	ug/L		96
78) 1,4-Dichlorobenzene	11.760	146	72301	20.00	ug/L		96
79) n-Butylbenzene	11.943	91	116780	20.00	ug/L		96
80) 1,2-Dichlorobenzene	12.076	146	66459	20.00	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.685	157	7220	20.00	ug/L	#	54
82) Hexachlorobutadiene	13.189	223	10181	20.00	ug/L		98
83) 1,2,4-Trichlorobenzene	13.220	180	37933	20.00	ug/L		97
84) Naphthalene	13.499	128	128491	20.00	ug/L		99
85) 1,2,3-Trichlorobenzene	13.664	180	36406	20.00	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082336.D
Acq On : 24 Aug 2019 12:22 am
Operator : TB
Sample : 9H23046-CAL8
Misc : 1X 5mL 20ppb VOCO DI+MeOH
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:57 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.086	99	114431	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	252142	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	115830	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	87023	51.63	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	308021	50.95	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	358807	49.30	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	96823	49.90	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.628	85	73417	50.01	ug/L		98
3) Chloromethane	1.835	50	116646	50.39	ug/L		97
4) Vinyl Chloride	1.932	62	117508	50.38	ug/L		96
5) Bromomethane	2.291	96	58800	46.07	ug/L		98
6) Chloroethane	2.419	64	10870	51.78	ug/L		81
7) Trichlorofluoromethane	2.547	101	16720	50.50	ug/L		96
8) Ethanol	3.240	45	146724	3098.14	ug/L		91
9) 1,1-Dichloroethene	3.118	61	161476	50.59	ug/L		76
10) Carbon Disulfide	3.130	76	251548	51.56	ug/L		98
11) Freon 113	3.167	101	93139	51.05	ug/L		82
12) Iodomethane	3.270	142	53155	67.04	ug/L	#	89
13) Methylene Chloride	3.763	84	105592	44.73	ug/L		85
14) Acetone	3.854	43	109271	102.27	ug/L		91
15) t-1,2-Dichloroethene	3.927	61	161808	50.78	ug/L		93
16) n-Hexane	4.006	86	22842	49.84	ug/L	#	83
17) Methyl-tert-butyl-ether	4.073	73	396025	50.82	ug/L		97
18) tert-Butanol (TBA)	4.243	59	1360028	3197.53	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.468	45	109019	12.75	ug/L		94
20) 1,1-Dichloroethane	4.572	63	199457	50.40	ug/L		97
21) Acrylonitrile	4.639	53	62372	51.55	ug/L		99
22) Ethyl-tert-butyl ether...	4.833	59	102534	12.53	ug/L		96
23) c-1,2-Dichloroethene	5.125	61	167106	51.08	ug/L		89
24) 2,2-Dichloropropane	5.229	77	148959	50.27	ug/L		98
25) Bromochloromethane	5.332	49	99448	50.97	ug/L		86
26) Chloroform	5.411	83	195751	51.17	ug/L		96
27) Carbon Tetrachloride	5.539	117	119376	55.28	ug/L		97
28) Tetrahydrofuran	5.587	42	63396	50.72	ug/L		93
29) 1,1,1-Trichloroethane	5.612	97	167682	51.59	ug/L		95
31) 1,1-Dichloropropene	5.739	75	164741	51.59	ug/L		96
32) 2-Butanone (MEK)	5.739	43	173238	103.94	ug/L		99
33) Benzene	5.995	78	475884	51.07	ug/L		97
34) tert-Amyl methyl ether...	6.129	73	92403	12.59	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.214	62	171614	50.84	ug/L		98
36) iso-Butyl Alcohol	6.274	43	222160	1312.67	ug/L		92
38) Trichloroethene (TCE)	6.615	130	118892	51.63	ug/L		91
39) tert-Amyl ethyl ether ...	6.877	59	78228	12.64	ug/L		87
40) Dibromomethane	7.071	93	69298	52.41	ug/L		87
41) 1,2-Dichloropropane	7.175	63	124259	51.16	ug/L		99
42) Bromodichloromethane	7.254	83	116099	56.58	ug/L		96
44) c-1,3-Dichloropropene	7.953	75	170381	52.24	ug/L		84
46) Toluene	8.221	91	470013	49.62	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	108479	50.01	ug/L		95
48) 4-Methyl-2-Pentanone (...	8.664	43	330806	100.42	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

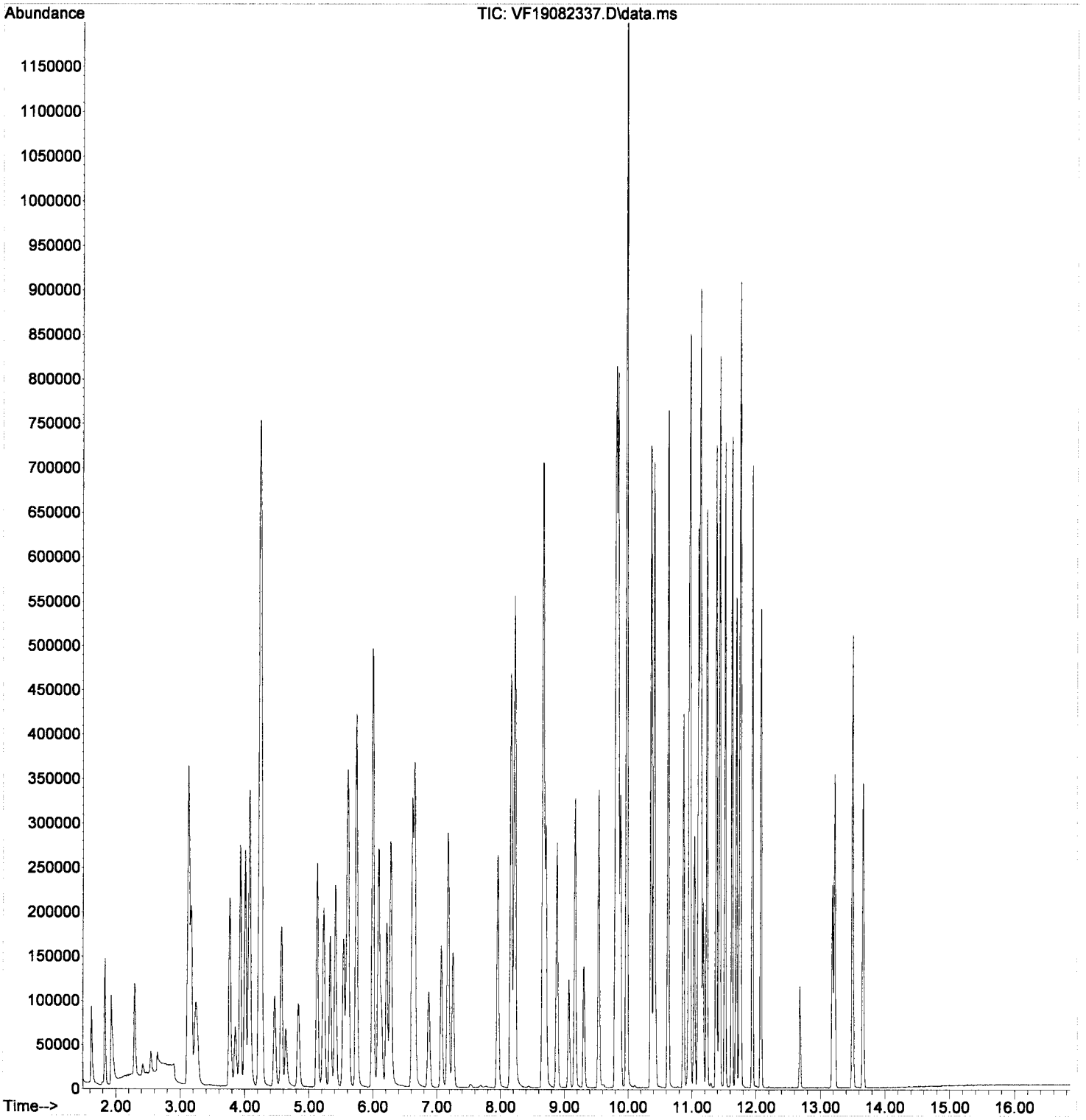
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.707	75	159787	52.93	ug/L		95
50) 1,1,2-Trichloroethane	8.883	97	95583	50.49	ug/L		91
51) Dibromochloromethane	9.072	129	66661	59.41	ug/L		97
52) 1,3-Dichloropropane	9.169	76	185628	50.48	ug/L		87
53) 1,2-Dibromoethane (EDB)	9.309	107	100517	51.97	ug/L		100
54) 2-Hexanone	9.540	43	228964	100.46	ug/L		93
55) Chlorobenzene	9.814	112	286085	50.14	ug/L		93
56) Ethylbenzene	9.844	91	506523	50.36	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.881	131	83294	54.76	ug/L		100
58) m,p-Xylenes (2)	9.978	91	771606	101.16	ug/L		98
59) o-Xylene	10.361	91	386929	49.97	ug/L		97
60) Styrene	10.404	104	299326	50.81	ug/L		91
61) Bromoform	10.434	173	36481	61.49	ug/L		99
62) Isopropylbenzene	10.629	105	447050	49.64	ug/L		99
65) Bromobenzene	10.951	156	111071	50.67	ug/L		87
66) n-Propylbenzene	10.969	91	503424	50.25	ug/L		97
67) 1,1,2,2-Tetrachloroethane	11.036	83	115220	50.99	ug/L		99
68) 2-Chlorotoluene	11.097	126	101362	50.38	ug/L	#	77
69) 1,3,5-Trimethylbenzene	11.127	105	360533	50.03	ug/L		99
70) 1,2,3-Trichloropropane	11.146	110	43324	49.88	ug/L	#	81
71) t-1,4-Dichloro-2-butene	11.176	88	16847	53.24	ug/L	#	90
72) 4-Chlorotoluene	11.231	91	306428	50.09	ug/L		96
73) tert-Butylbenzene	11.377	91	197353	49.45	ug/L		88
74) 1,2,4-Trimethylbenzene	11.431	105	363544	50.97	ug/L		98
75) sec-Butylbenzene	11.517	105	405582	50.09	ug/L		98
76) 4-Isopropyltoluene	11.626	119	348632	50.30	ug/L		97
77) 1,3-Dichlorobenzene	11.693	146	183038	50.38	ug/L		98
78) 1,4-Dichlorobenzene	11.760	146	186043	50.18	ug/L		98
79) n-Butylbenzene	11.942	91	296797	49.56	ug/L		97
80) 1,2-Dichlorobenzene	12.076	146	170457	50.02	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.684	157	22359	60.39	ug/L	#	67
82) Hexachlorobutadiene	13.189	223	25198	48.27	ug/L		98
83) 1,2,4-Trichlorobenzene	13.225	180	100940	51.89	ug/L		98
84) Naphthalene	13.499	128	355475	53.95	ug/L		99
85) 1,2,3-Trichlorobenzene	13.663	180	98076	52.54	ug/L		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.086	99	114431	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	252142	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	115830	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	87023	51.63	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	308021	50.95	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	358807	49.30	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	96823	49.90	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.628	85	73417	50.01	ug/L		98
3) Chloromethane	1.835	50	116646	50.39	ug/L		97
4) Vinyl Chloride	1.932	62	117508	50.38	ug/L		96
5) Bromomethane	2.291	96	58800	46.07	ug/L		98
6) Chloroethane	2.419	64	10870	51.78	ug/L		81
7) Trichlorofluoromethane	2.547	101	16720	50.50	ug/L		96
8) Ethanol	3.240	45	146724	3098.14	ug/L		91
9) 1,1-Dichloroethene	3.118	61	161476	50.59	ug/L		76
10) Carbon Disulfide	3.130	76	251548	51.56	ug/L		98
11) Freon 113	3.167	101	93139	51.05	ug/L		82
12) Iodomethane	3.270	142	53155	67.04	ug/L	#	89
13) Methylene Chloride	3.763	84	105592	44.73	ug/L		85
14) Acetone	3.854	43	109271	102.27	ug/L		91
15) t-1,2-Dichloroethene	3.927	61	161808	50.78	ug/L		93
16) n-Hexane	4.006	86	22842	49.84	ug/L	#	83
17) Methyl-tert-butyl-ether	4.073	73	396025	50.82	ug/L		97
18) tert-Butanol (TBA)	4.243	59	1360028	3197.53	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.468	45	109019	12.75	ug/L		94
20) 1,1-Dichloroethane	4.572	63	199457	50.40	ug/L		97
21) Acrylonitrile	4.639	53	62372	51.55	ug/L		99
22) Ethyl-tert-butyl ether...	4.833	59	102534	12.53	ug/L		96
23) c-1,2-Dichloroethene	5.125	61	167106	51.08	ug/L		89
24) 2,2-Dichloropropane	5.229	77	148959	50.27	ug/L		98
25) Bromochloromethane	5.332	49	99448	50.97	ug/L		86
26) Chloroform	5.411	83	195751	51.17	ug/L		96
27) Carbon Tetrachloride	5.539	117	119376	55.28	ug/L		97
28) Tetrahydrofuran	5.587	42	63396	50.72	ug/L		93
29) 1,1,1-Trichloroethane	5.612	97	167682	51.59	ug/L		95
31) 1,1-Dichloropropene	5.739	75	164741	51.59	ug/L		96
32) 2-Butanone (MEK)	5.739	43	173238	103.94	ug/L		99
33) Benzene	5.995	78	475884	51.07	ug/L		97
34) tert-Amyl methyl ether...	6.129	73	92403	12.59	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.214	62	171614	50.84	ug/L		98
36) iso-Butyl Alcohol	6.274	43	222160	1312.67	ug/L		92
38) Trichloroethene (TCE)	6.615	130	118892	51.63	ug/L		91
39) tert-Amyl ethyl ether ...	6.877	59	78228	12.64	ug/L		87
40) Dibromomethane	7.071	93	69298	52.41	ug/L		87
41) 1,2-Dichloropropane	7.175	63	124259	51.16	ug/L		99
42) Bromodichloromethane	7.254	83	116099	56.58	ug/L		96
44) c-1,3-Dichloropropene	7.953	75	170381	52.24	ug/L		84
46) Toluene	8.221	91	470013	49.62	ug/L		99
47) Tetrachloroethene (PCE)	8.671	166	108479	50.01	ug/L		95
48) 4-Methyl-2-Pentanone (...	8.664	43	330806	100.42	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

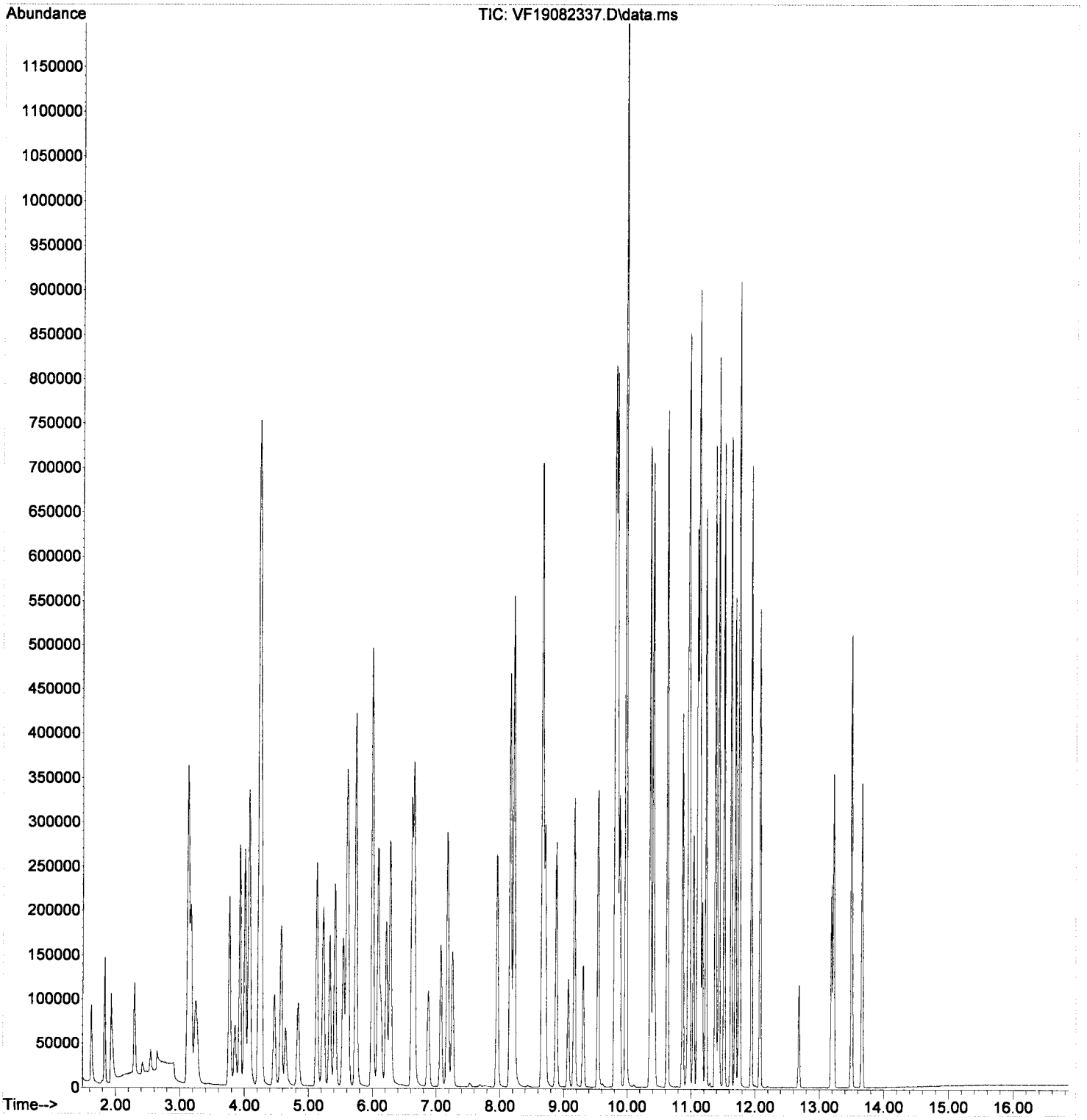
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.707	75	159787	52.93	ug/L		95
50) 1,1,2-Trichloroethane	8.883	97	95583	50.49	ug/L		91
51) Dibromochloromethane	9.072	129	66661	59.41	ug/L		97
52) 1,3-Dichloropropane	9.169	76	185628	50.48	ug/L		87
53) 1,2-Dibromoethane (EDB)	9.309	107	100517	51.97	ug/L		100
54) 2-Hexanone	9.540	43	228964	100.46	ug/L		93
55) Chlorobenzene	9.814	112	286085	50.14	ug/L		93
56) Ethylbenzene	9.844	91	506523	50.36	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.881	131	83294	54.76	ug/L		100
58) m,p-Xylenes (2)	9.978	91	771606	101.16	ug/L		98
59) o-Xylene	10.361	91	386929	49.97	ug/L		97
60) Styrene	10.404	104	299326	50.81	ug/L		91
61) Bromoform	10.434	173	36481	61.49	ug/L		99
62) Isopropylbenzene	10.629	105	447050	49.64	ug/L		99
65) Bromobenzene	10.951	156	111071	50.67	ug/L		87
66) n-Propylbenzene	10.969	91	503424	50.25	ug/L		97
67) 1,1,2,2-Tetrachloroethane	11.036	83	115220	50.99	ug/L		99
68) 2-Chlorotoluene	11.097	126	101362	50.38	ug/L	#	77
69) 1,3,5-Trimethylbenzene	11.127	105	360533	50.03	ug/L		99
70) 1,2,3-Trichloropropane	11.146	110	43324	49.88	ug/L	#	81
71) t-1,4-Dichloro-2-butene	11.176	88	16847	53.24	ug/L	#	90
72) 4-Chlorotoluene	11.231	91	306428	50.09	ug/L		96
73) tert-Butylbenzene	11.377	91	197353	49.45	ug/L		88
74) 1,2,4-Trimethylbenzene	11.431	105	363544	50.97	ug/L		98
75) sec-Butylbenzene	11.517	105	405582	50.09	ug/L		98
76) 4-Isopropyltoluene	11.626	119	348632	50.30	ug/L		97
77) 1,3-Dichlorobenzene	11.693	146	183038	50.38	ug/L		98
78) 1,4-Dichlorobenzene	11.760	146	186043	50.18	ug/L		98
79) n-Butylbenzene	11.942	91	296797	49.56	ug/L		97
80) 1,2-Dichlorobenzene	12.076	146	170457	50.02	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.684	157	22359	60.39	ug/L	#	67
82) Hexachlorobutadiene	13.189	223	25198	48.27	ug/L		98
83) 1,2,4-Trichlorobenzene	13.225	180	100940	51.89	ug/L		98
84) Naphthalene	13.499	128	355475	53.95	ug/L		99
85) 1,2,3-Trichlorobenzene	13.663	180	98076	52.54	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082337.D
Acq On : 24 Aug 2019 12:49 am
Operator : TB
Sample : 9H23046-CAL9
Misc : 1X 5mL 50ppb VOCO DI+MeOH
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:30:59 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082338.D
Acq On : 24 Aug 2019 1:16 am
Operator : TB
Sample : 9H23046-IBLB
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.086	99	112472	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	238178	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	107902	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.599	111	79284	49.08 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	292492	49.69 ug/L		0.00
45) Toluene-d8 (S)	8.160	98	344398	50.02 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	90732	50.48 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.622	85	236	0.17 ug/L	#	50
3) Chloromethane	1.835	50	728	0.31 ug/L		92
5) Bromomethane	2.291	96	2188	1.85 ug/L		90
6) Chloroethane	2.425	64	182	0.83 ug/L	#	1
8) Ethanol	3.240	45	1035	Below Cal		86
10) Carbon Disulfide	3.130	76	1691	0.34 ug/L		73
11) Freon 113	3.167	101	396	0.23 ug/L	#	66
12) Iodomethane	3.276	142	513	1.07 ug/L	#	71
13) Methylene Chloride	3.769	84	5055	Below Cal		93
14) Acetone	3.866	43	1001	0.95 ug/L		71
15) t-1,2-Dichloroethene	3.933	61	417	0.14 ug/L		99
18) tert-Butanol (TBA)	4.249	59	784	1.75 ug/L	#	89
26) Chloroform	5.417	83	383	0.10 ug/L	#	28
28) Tetrahydrofuran	5.606	42	149	0.12 ug/L	#	4
31) 1,1-Dichloropropene	5.739	75	438	0.14 ug/L	#	46
32) 2-Butanone (MEK)	5.751	43	412	0.25 ug/L	#	38
36) iso-Butyl Alcohol	6.281	43	173	1.05 ug/L	#	63
38) Trichloroethene (TCE)	6.615	130	219	0.10 ug/L	#	51
46) Toluene	8.227	91	1051	0.11 ug/L		71
47) Tetrachloroethene (PCE)	8.671	166	296	0.15 ug/L		72
55) Chlorobenzene	9.814	112	640	0.12 ug/L	#	1
56) Ethylbenzene	9.844	91	1332	0.13 ug/L		81
58) m,p-Xylenes (2)	9.984	91	2285	0.32 ug/L		87
59) o-Xylene	10.361	91	1072	0.14 ug/L		70
60) Styrene	10.422	104	500	0.10 ug/L		65
62) Isopropylbenzene	10.629	105	1837	0.21 ug/L		94
66) n-Propylbenzene	10.969	91	2733	0.30 ug/L		92
68) 2-Chlorotoluene	11.103	126	240	0.13 ug/L	#	77
69) 1,3,5-Trimethylbenzene	11.127	105	1938	0.28 ug/L		91
72) 4-Chlorotoluene	11.237	91	1286	0.22 ug/L		87
73) tert-Butylbenzene	11.377	91	1662	0.44 ug/L	#	77
74) 1,2,4-Trimethylbenzene	11.438	105	1952	0.28 ug/L		94
75) sec-Butylbenzene	11.517	105	4280	0.55 ug/L		92
76) 4-Isopropyltoluene	11.626	119	3422	0.53 ug/L		95
77) 1,3-Dichlorobenzene	11.693	146	882	0.27 ug/L		92
78) 1,4-Dichlorobenzene	11.760	146	1078	0.31 ug/L	#	62
79) n-Butylbenzene	11.942	91	4070	0.74 ug/L		92
80) 1,2-Dichlorobenzene	12.082	146	559	0.18 ug/L		83
82) Hexachlorobutadiene	13.183	223	556	1.20 ug/L		88
83) 1,2,4-Trichlorobenzene	13.225	180	1150	0.66 ug/L		95
84) Naphthalene	13.505	128	1452	0.25 ug/L		77
85) 1,2,3-Trichlorobenzene	13.663	180	1132	0.66 ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082338.D
Acq On : 24 Aug 2019 1:16 am
Operator : TB
Sample : 9H23046-IBLB
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

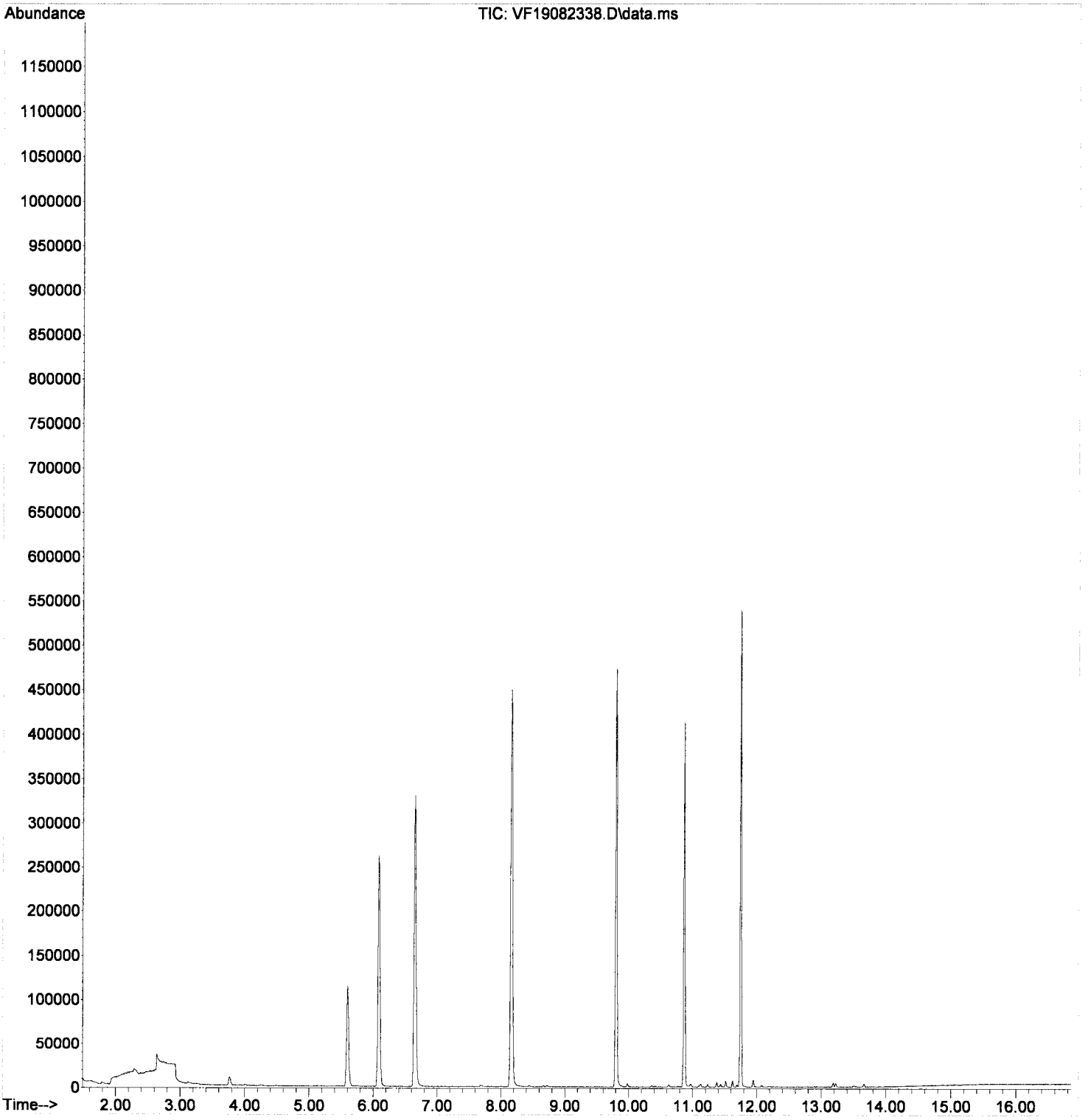
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082338.D
Acq On : 24 Aug 2019 1:16 am
Operator : TB
Sample : 9H23046-IBLB
Misc : 1X 5mL DI+MeOH
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.094	99	116111	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	246022	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	118989	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	88412	51.70	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	308703	50.33	ug/L		0.00
45) Toluene-d8 (S)	8.167	98	351875	49.55	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	95542	47.94	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.636	85	146344	98.25	ug/L		97
3) Chloromethane	1.843	50	231186	98.42	ug/L		97
4) Vinyl Chloride	1.940	62	234929	99.27	ug/L		96
5) Bromomethane	2.305	96	110498	85.33	ug/L		97
6) Chloroethane	2.427	64	21995	103.26	ug/L		90
7) Trichlorofluoromethane	2.554	101	33863	100.80	ug/L		97
8) Ethanol	3.248	45	290735	6050.18	ug/L		90
9) 1,1-Dichloroethene	3.126	61	324629	100.23	ug/L		78
10) Carbon Disulfide	3.138	76	510745	103.17	ug/L		98
11) Freon 113	3.175	101	190421	102.86	ug/L		83
12) Iodomethane	3.284	142	119699	148.77	ug/L		91
13) Methylene Chloride	3.771	84	203956	85.14	ug/L		84
14) Acetone	3.862	43	213843	197.24	ug/L		93
15) t-1,2-Dichloroethene	3.935	61	323601	100.09	ug/L		94
16) n-Hexane	4.014	86	45147	97.08	ug/L	#	83
17) Methyl-tert-butyl-ether	4.081	73	790700	100.00	ug/L		98
18) tert-Butanol (TBA)	4.245	59	2746175	6363.05	ug/L	#	85
19) Diisopropyl ether (DIPE)	4.470	45	213966	24.66	ug/L		95
20) 1,1-Dichloroethane	4.573	63	396629	98.77	ug/L		97
21) Acrylonitrile	4.646	53	124007	101.00	ug/L		100
22) Ethyl-tert-butyl ether...	4.841	59	201394	24.26	ug/L		96
23) c-1,2-Dichloroethene	5.133	61	329116	99.15	ug/L		91
24) 2,2-Dichloropropane	5.236	77	292574	97.31	ug/L		98
25) Bromochloromethane	5.334	49	194164	98.07	ug/L		84
26) Chloroform	5.419	83	389180	100.27	ug/L		96
27) Carbon Tetrachloride	5.546	117	254013	115.92	ug/L		97
28) Tetrahydrofuran	5.589	42	125137	98.67	ug/L		95
29) 1,1,1-Trichloroethane	5.613	97	340907	103.37	ug/L		96
31) 1,1-Dichloropropene	5.741	75	330948	102.14	ug/L		98
32) 2-Butanone (MEK)	5.741	43	345218	204.12	ug/L		99
33) Benzene	6.002	78	952806	100.77	ug/L		97
34) tert-Amyl methyl ether...	6.130	73	180880	24.28	ug/L		92
35) 1,2-Dichloroethane (EDC)	6.215	62	338120	98.72	ug/L		98
36) iso-Butyl Alcohol	6.276	43	455649	2653.33	ug/L		92
38) Trichloroethene (TCE)	6.617	130	238722	102.17	ug/L		92
39) tert-Amyl ethyl ether ...	6.878	59	150632	23.99	ug/L		91
40) Dibromomethane	7.073	93	138625	103.32	ug/L		87
41) 1,2-Dichloropropane	7.176	63	245133	99.47	ug/L		98
42) Bromodichloromethane	7.255	83	242658	116.55	ug/L		98
44) c-1,3-Dichloropropene	7.955	75	344050	108.12	ug/L		86
46) Toluene	8.222	91	929375	100.56	ug/L		99
47) Tetrachloroethene (PCE)	8.666	166	218946	103.45	ug/L		91
48) 4-Methyl-2-Pentanone (...	8.666	43	659850	205.28	ug/L		94

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

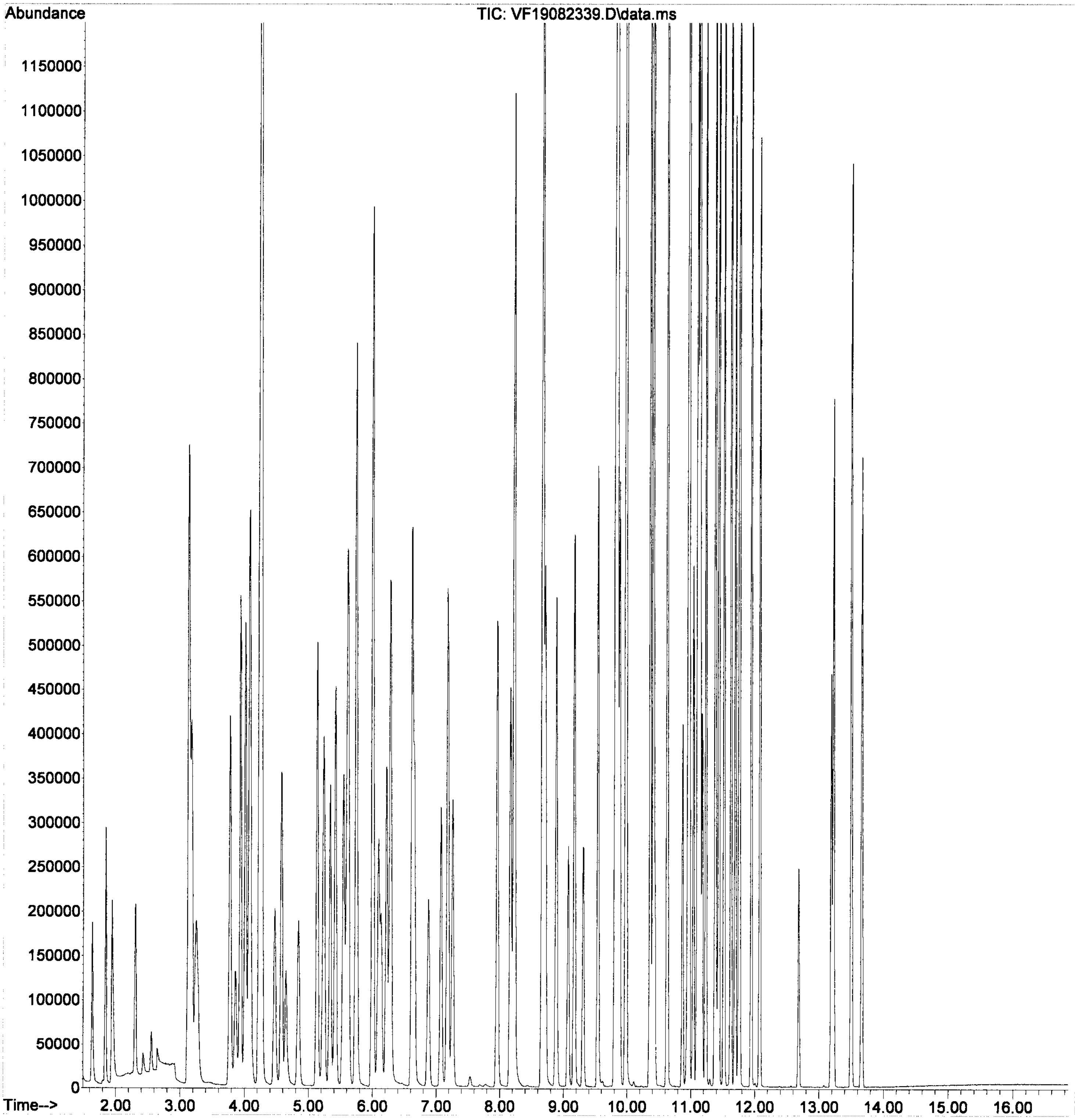
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.709	75	322508	109.49	ug/L		95
50) 1,1,2-Trichloroethane	8.885	97	188025	101.80	ug/L		93
51) Dibromochloromethane	9.074	129	148219	135.39	ug/L		96
52) 1,3-Dichloropropane	9.171	76	364850	101.69	ug/L		89
53) 1,2-Dibromoethane (EDB)	9.311	107	199000	105.45	ug/L		100
54) 2-Hexanone	9.536	43	465791	209.46	ug/L		93
55) Chlorobenzene	9.815	112	562026	100.96	ug/L		95
56) Ethylbenzene	9.840	91	998471	101.75	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.876	131	173445	116.87	ug/L		99
58) m,p-Xylenes (2)	9.980	91	1552900	208.65	ug/L		98
59) o-Xylene	10.357	91	769633	101.87	ug/L		97
60) Styrene	10.405	104	596605	103.78	ug/L		93
61) Bromoform	10.436	173	87714	151.53	ug/L		99
62) Isopropylbenzene	10.624	105	881306	100.30	ug/L		98
65) Bromobenzene	10.953	156	220436	97.90	ug/L		89
66) n-Propylbenzene	10.971	91	1005628	97.72	ug/L		98
67) 1,1,2,2-Tetrachloroethane	11.038	83	239096	103.00	ug/L		98
68) 2-Chlorotoluene	11.099	126	202436	97.94	ug/L	#	81
69) 1,3,5-Trimethylbenzene	11.129	105	715623	96.67	ug/L		98
70) 1,2,3-Trichloropropane	11.141	110	88802	99.53	ug/L	#	76
71) t-1,4-Dichloro-2-butene	11.172	88	35867	110.34	ug/L	#	87
72) 4-Chlorotoluene	11.232	91	611670	97.34	ug/L		98
73) tert-Butylbenzene	11.378	91	391596	95.51	ug/L		90
74) 1,2,4-Trimethylbenzene	11.433	105	716264	97.76	ug/L		99
75) sec-Butylbenzene	11.518	105	796660	95.78	ug/L		98
76) 4-Isopropyltoluene	11.622	119	690102	96.92	ug/L		96
77) 1,3-Dichlorobenzene	11.689	146	369136	98.90	ug/L		97
78) 1,4-Dichlorobenzene	11.762	146	375539	98.60	ug/L		98
79) n-Butylbenzene	11.944	91	582209	94.64	ug/L		98
80) 1,2-Dichlorobenzene	12.078	146	346185	98.89	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.686	157	50830	133.65	ug/L		81
82) Hexachlorobutadiene	13.185	223	50479	94.12	ug/L		97
83) 1,2,4-Trichlorobenzene	13.221	180	211508	105.85	ug/L		96
84) Naphthalene	13.501	128	749752	110.77	ug/L		99
85) 1,2,3-Trichlorobenzene	13.659	180	203821	106.28	ug/L		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

pre Int

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.094	99	116111	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	246022	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	118989	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.601	111	88412	51.70	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	308703	50.33	ug/L		0.00
45) Toluene-d8 (S)	8.167	98	351875	49.55	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.868	174	95542	47.94	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.636	85	146344	98.25	ug/L		97
3) Chloromethane	1.843	50	231186	98.42	ug/L		97
4) Vinyl Chloride	1.940	62	234929	99.27	ug/L		96
5) Bromomethane	2.305	96	110498	85.33	ug/L		97
6) Chloroethane	2.427	64	21995	103.26	ug/L		90
7) Trichlorofluoromethane	2.554	101	33863	100.80	ug/L		97
8) Ethanol	3.248	45	290735	6050.18	ug/L		90
9) 1,1-Dichloroethene	3.126	61	324629	100.23	ug/L		78
10) Carbon Disulfide	3.138	76	510745	103.17	ug/L		98
11) Freon 113	3.175	101	190421	102.86	ug/L		83
12) Iodomethane	3.284	142	119699	148.77	ug/L		91
13) Methylene Chloride	3.771	84	203956	85.14	ug/L		84
14) Acetone	3.862	43	213843	197.24	ug/L		93
15) t-1,2-Dichloroethene	3.935	61	323601	100.09	ug/L		94
16) n-Hexane	4.014	86	45147	97.08	ug/L	#	83
17) Methyl-tert-butyl-ether	4.081	73	790700	100.00	ug/L		98
18) tert-Butanol (TBA)	4.245	59	2746175	6363.05	ug/L	#	85
19) Diisopropyl ether (DIPE)	4.470	45	213966	24.66	ug/L		95
20) 1,1-Dichloroethane	4.573	63	396629	98.77	ug/L		97
21) Acrylonitrile	4.646	53	124007	101.00	ug/L		100
22) Ethyl-tert-butyl ether...	4.841	59	201394	24.26	ug/L		96
23) c-1,2-Dichloroethene	5.133	61	329116	99.15	ug/L		91
24) 2,2-Dichloropropane	5.236	77	292574	97.31	ug/L		98
25) Bromochloromethane	5.334	49	194164	98.07	ug/L		84
26) Chloroform	5.419	83	389180	100.27	ug/L		96
27) Carbon Tetrachloride	5.546	117	254013	115.92	ug/L		97
28) Tetrahydrofuran	5.589	42	125137	98.67	ug/L		95
29) 1,1,1-Trichloroethane	5.613	97	340907	103.37	ug/L		96
31) 1,1-Dichloropropene	5.741	75	330948	102.14	ug/L		98
32) 2-Butanone (MEK)	5.741	43	345218	204.12	ug/L		99
33) Benzene	6.002	78	952806	100.77	ug/L		97
34) tert-Amyl methyl ether...	6.130	73	180880	24.28	ug/L		92
35) 1,2-Dichloroethane (EDC)	6.215	62	338120	98.72	ug/L		98
36) iso-Butyl Alcohol	6.276	43	455649	2653.33	ug/L		92
38) Trichloroethene (TCE)	6.617	130	238722	102.17	ug/L		92
39) tert-Amyl ethyl ether ...	6.878	59	150632	23.99	ug/L		91
40) Dibromomethane	7.073	93	138625	103.32	ug/L		87
41) 1,2-Dichloropropane	7.176	63	245133	99.47	ug/L		98
42) Bromodichloromethane	7.255	83	242658	116.55	ug/L		98
44) c-1,3-Dichloropropene	7.955	75	344050	108.12	ug/L		86
46) Toluene	8.222	91	929375	100.56	ug/L		99
47) Tetrachloroethene (PCE)	8.666	166	218946	103.45	ug/L		91
48) 4-Methyl-2-Pentanone (...	8.666	43	659850	205.28	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

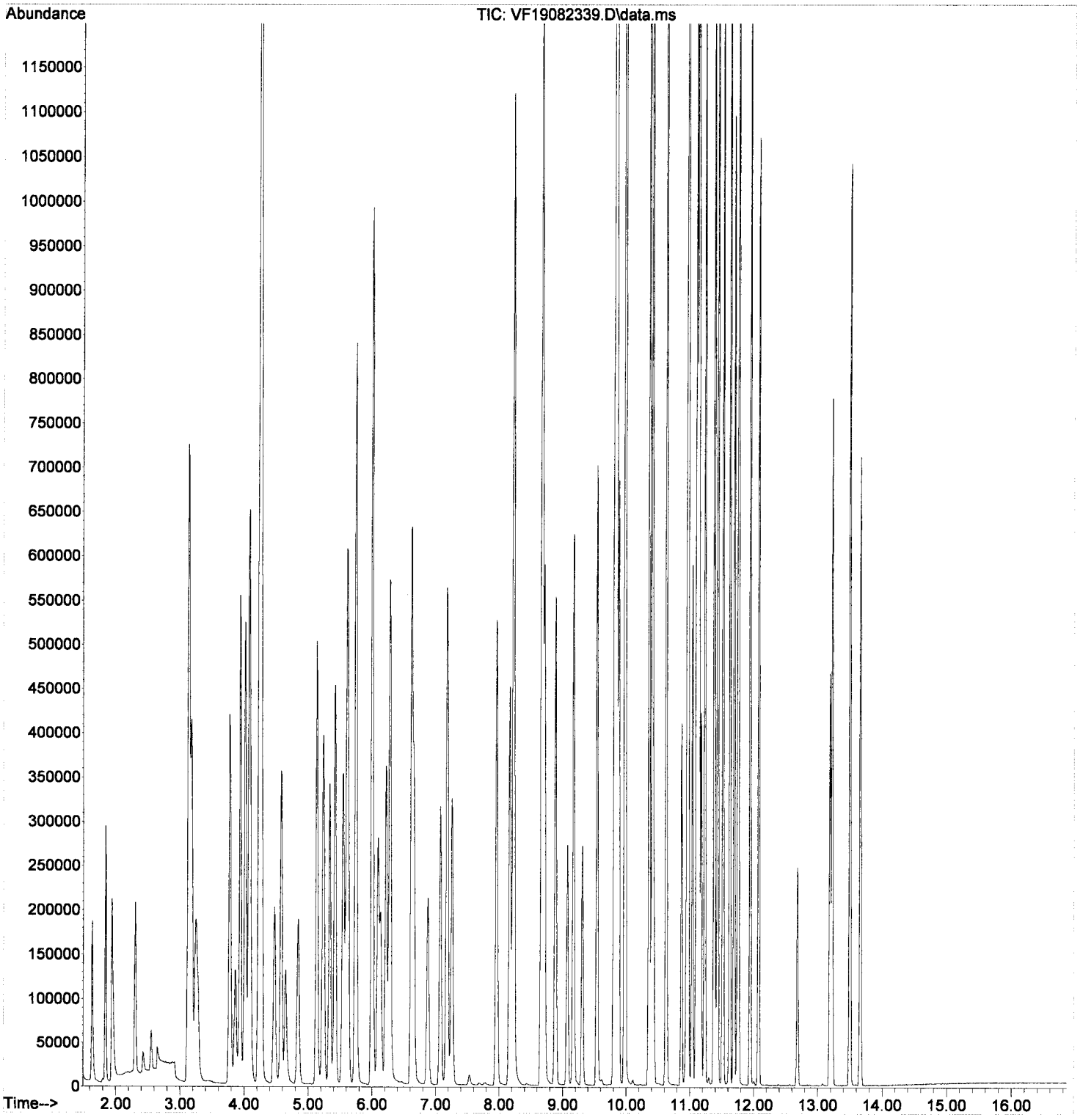
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.709	75	322508	109.49	ug/L		95
50) 1,1,2-Trichloroethane	8.885	97	188025	101.80	ug/L		93
51) Dibromochloromethane	9.074	129	148219	135.39	ug/L		96
52) 1,3-Dichloropropane	9.171	76	364850	101.69	ug/L		89
53) 1,2-Dibromoethane (EDB)	9.311	107	199000	105.45	ug/L		100
54) 2-Hexanone	9.536	43	465791	209.46	ug/L		93
55) Chlorobenzene	9.815	112	562026	100.96	ug/L		95
56) Ethylbenzene	9.840	91	998471	101.75	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.876	131	173445	116.87	ug/L		99
58) m,p-Xylenes (2)	9.980	91	1552900	208.65	ug/L		98
59) o-Xylene	10.357	91	769633	101.87	ug/L		97
60) Styrene	10.405	104	596605	103.78	ug/L		93
61) Bromoform	10.436	173	87714	151.53	ug/L		99
62) Isopropylbenzene	10.624	105	881306	100.30	ug/L		98
65) Bromobenzene	10.953	156	220436	97.90	ug/L		89
66) n-Propylbenzene	10.971	91	1005628	97.72	ug/L		98
67) 1,1,2,2-Tetrachloroethane	11.038	83	239096	103.00	ug/L		98
68) 2-Chlorotoluene	11.099	126	202436	97.94	ug/L	#	81
69) 1,3,5-Trimethylbenzene	11.129	105	715623	96.67	ug/L		98
70) 1,2,3-Trichloropropane	11.141	110	88802	99.53	ug/L	#	76
71) t-1,4-Dichloro-2-butene	11.172	88	35867	110.34	ug/L	#	87
72) 4-Chlorotoluene	11.232	91	611670	97.34	ug/L		98
73) tert-Butylbenzene	11.378	91	391596	95.51	ug/L		90
74) 1,2,4-Trimethylbenzene	11.433	105	716264	97.76	ug/L		99
75) sec-Butylbenzene	11.518	105	796660	95.78	ug/L		98
76) 4-Isopropyltoluene	11.622	119	690102	96.92	ug/L		96
77) 1,3-Dichlorobenzene	11.689	146	369136	98.90	ug/L		97
78) 1,4-Dichlorobenzene	11.762	146	375539	98.60	ug/L		98
79) n-Butylbenzene	11.944	91	582209	94.64	ug/L		98
80) 1,2-Dichlorobenzene	12.078	146	346185	98.89	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.686	157	50830	133.65	ug/L		81
82) Hexachlorobutadiene	13.185	223	50479	94.12	ug/L		97
83) 1,2,4-Trichlorobenzene	13.221	180	211508	105.85	ug/L		96
84) Naphthalene	13.501	128	749752	110.77	ug/L		99
85) 1,2,3-Trichlorobenzene	13.659	180	203821	106.28	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082339.D
Acq On : 24 Aug 2019 1:43 am
Operator : TB
Sample : 9H23046-CALA
Misc : 1X 5mL 100ppb VOCO DI+MeOH
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:01 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082340.D
Acq On : 24 Aug 2019 2:10 am
Operator : TB
Sample : 9H23046-IBLC
Misc : 1X 5mL DI+MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.085	99	116362	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	252031	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	113965	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.599	111	85048	50.89 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.651	114	307836	50.55 ug/L		0.00
45) Toluene-d8 (S)	8.165	98	363893	49.95 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	95933	50.54 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.622	85	493	0.33 ug/L		83
3) Chloromethane	1.829	50	797	0.32 ug/L		90
4) Vinyl Chloride	1.926	62	226	0.10 ug/L		56
5) Bromomethane	2.291	96	2196	1.79 ug/L		82
6) Chloroethane	2.388	64	233	1.03 ug/L	#	1
8) Ethanol	3.221	45	2253	19.54 ug/L		80
9) 1,1-Dichloroethene	3.124	61	439	0.13 ug/L		97
10) Carbon Disulfide	3.130	76	3020	0.58 ug/L		88
11) Freon 113	3.166	101	770	0.43 ug/L		71
12) Iodomethane	3.276	142	609	1.17 ug/L	#	69
13) Methylene Chloride	3.762	84	4813	Below Cal		88
14) Acetone	3.854	43	787	0.72 ug/L	#	42
15) t-1,2-Dichloroethene	3.933	61	773	0.25 ug/L		96
18) tert-Butanol (TBA)	4.243	59	1831	3.95 ug/L	#	92
23) c-1,2-Dichloroethene	5.125	61	386	0.12 ug/L		95
26) Chloroform	5.404	83	584	0.14 ug/L		79
28) Tetrahydrofuran	5.617	42	180	0.14 ug/L	#	1
31) 1,1-Dichloropropene	5.745	75	787	0.25 ug/L		86
32) 2-Butanone (MEK)	5.757	43	562	0.33 ug/L		54
33) Benzene	6.006	78	937	0.10 ug/L		73
36) iso-Butyl Alcohol	6.292	43	115	0.67 ug/L	#	54
38) Trichloroethene (TCE)	6.621	130	425	0.19 ug/L		92
46) Toluene	8.226	91	1733	0.17 ug/L		87
47) Tetrachloroethene (PCE)	8.664	166	776	0.37 ug/L		83
55) Chlorobenzene	9.813	112	988	0.17 ug/L	#	1
56) Ethylbenzene	9.850	91	2296	0.22 ug/L		94
58) m,p-Xylenes (2)	9.984	91	3891	0.51 ug/L		89
59) o-Xylene	10.367	91	1548	0.20 ug/L		80
60) Styrene	10.415	104	813	0.15 ug/L		65
62) Isopropylbenzene	10.628	105	3216	0.35 ug/L		97
65) Bromobenzene	10.951	156	355	0.17 ug/L	#	75
66) n-Propylbenzene	10.975	91	5079	0.52 ug/L		94
68) 2-Chlorotoluene	11.103	126	519	0.27 ug/L	#	41
69) 1,3,5-Trimethylbenzene	11.127	105	3461	0.47 ug/L		99
72) 4-Chlorotoluene	11.236	91	2151	0.36 ug/L		94
73) tert-Butylbenzene	11.376	91	2916	0.72 ug/L		80
74) 1,2,4-Trimethylbenzene	11.437	105	3325	0.45 ug/L		96
75) sec-Butylbenzene	11.516	105	7948	0.96 ug/L		96
76) 4-Isopropyltoluene	11.626	119	6563	0.97 ug/L		93
77) 1,3-Dichlorobenzene	11.692	146	1640	0.47 ug/L		96
78) 1,4-Dichlorobenzene	11.759	146	1859	0.51 ug/L		77
79) n-Butylbenzene	11.942	91	7729	1.33 ug/L		96
80) 1,2-Dichlorobenzene	12.082	146	1215	0.38 ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082340.D
Acq On : 24 Aug 2019 2:10 am
Operator : TB
Sample : 9H23046-IBLC
Misc : 1X 5mL DI+MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

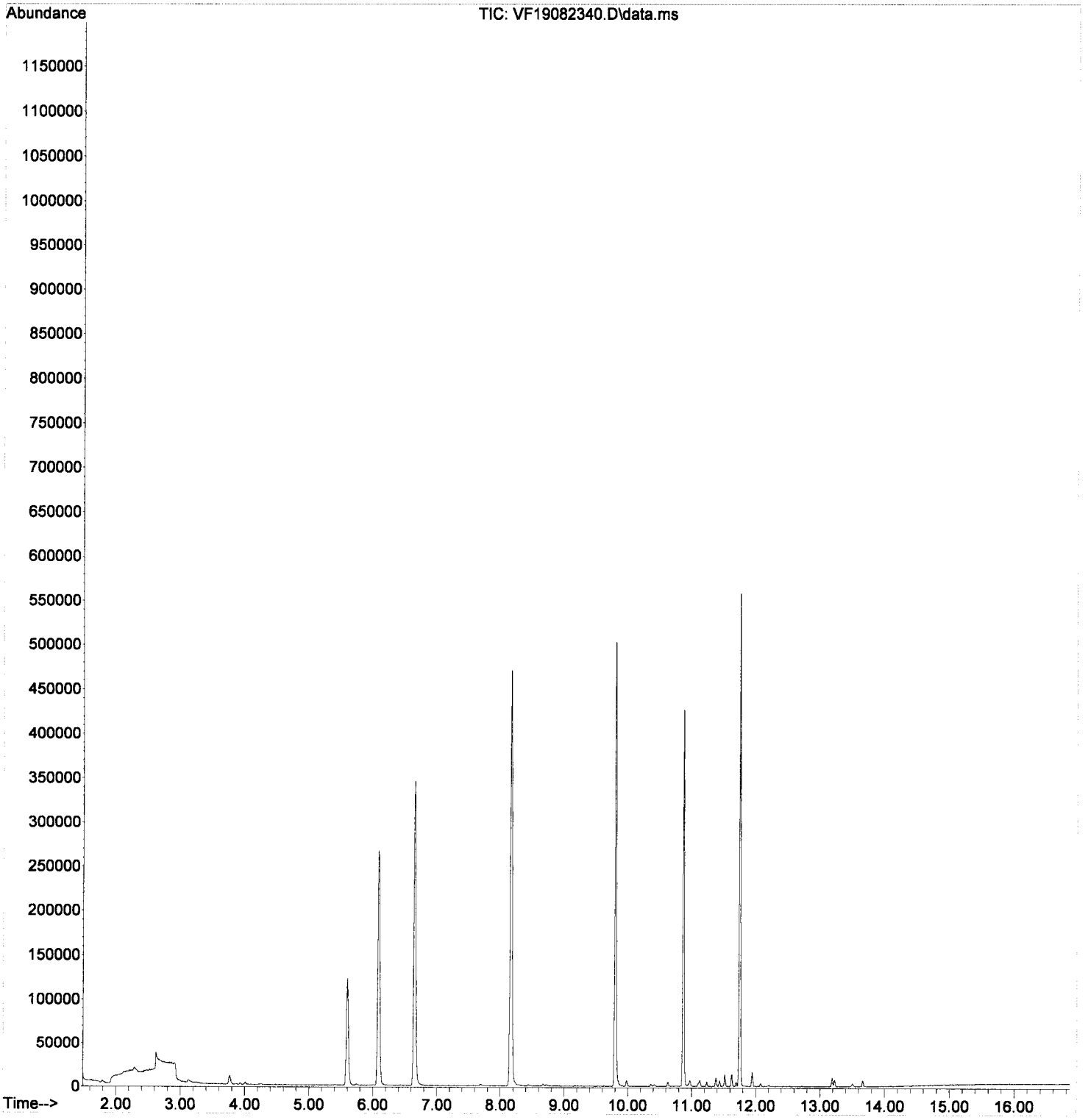
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
82) Hexachlorobutadiene	13.188	223	1180	2.41 ug/L	94
83) 1,2,4-Trichlorobenzene	13.225	180	2365	1.28 ug/L	97
84) Naphthalene	13.505	128	2520	0.41 ug/L	94
85) 1,2,3-Trichlorobenzene	13.663	180	2018	1.12 ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082340.D
Acq On : 24 Aug 2019 2:10 am
Operator : TB
Sample : 9H23046-IBLC
Misc : 1X 5mL DI+MeOH
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:09:12 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.089	99	117913	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.804	117	256238	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	125008	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.596	111	89496	51.53	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.654	114	316612	50.83	ug/L	0.00
45) Toluene-d8 (S)	8.162	98	363189	49.11	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.869	174	98121	46.86	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.625	85	322318	213.08	ug/L	97
3) Chloromethane	1.832	50	483897	202.86	ug/L	97
4) Vinyl Chloride	1.935	62	493406	205.30	ug/L	97
5) Bromomethane	2.294	96	227738	173.17	ug/L	97
6) Chloroethane	2.416	64	44883	207.49	ug/L	94
7) Trichlorofluoromethane	2.549	101	68558	200.96	ug/L	97
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	3.121	61	639235	194.36	ug/L	79
10) Carbon Disulfide	3.133	76	1041607	207.18	ug/L	99
11) Freon 113	3.170	101	377105	200.59	ug/L	83
12) Iodomethane	3.273	142	289644	354.50	ug/L	91
13) Methylene Chloride	3.766	84	400388	164.58	ug/L	85
14) Acetone	3.851	43	427262	388.06	ug/L	92
15) t-1,2-Dichloroethene	3.930	61	640984	195.22	ug/L	95
16) n-Hexane	4.009	86	90732	192.11	ug/L #	83
17) Methyl-tert-butyl-ether	4.070	73	1583383	197.19	ug/L	97
18) tert-Butanol (TBA)	0.000		0	N.D.	d	
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d	
20) 1,1-Dichloroethane	4.568	63	765936	187.82	ug/L	97
21) Acrylonitrile	4.641	53	248703	199.46	ug/L	98
22) Ethyl-tert-butyl ether...	0.000		0	N.D.	d	
23) c-1,2-Dichloroethene	5.128	61	639266	189.65	ug/L	91
24) 2,2-Dichloropropane	5.231	77	569255	186.44	ug/L	96
25) Bromochloromethane	5.329	49	377595	187.81	ug/L	85
26) Chloroform	5.414	83	769881	195.32	ug/L	96
27) Carbon Tetrachloride	5.541	117	528368	237.44	ug/L	96
28) Tetrahydrofuran	5.584	42	249141	193.43	ug/L	94
29) 1,1,1-Trichloroethane	5.614	97	677513	202.29	ug/L	97
31) 1,1-Dichloropropene	5.742	75	654294	198.85	ug/L	98
32) 2-Butanone (MEK)	5.736	43	689742	401.60	ug/L	99
33) Benzene	5.998	78	1902472	198.14	ug/L	97
34) tert-Amyl methyl ether...	0.000		0	N.D.	d	
35) 1,2-Dichloroethane (EDC)	6.216	62	670626	192.81	ug/L	98
36) iso-Butyl Alcohol	6.277	43	879121	5041.05	ug/L	91
38) Trichloroethene (TCE)	6.618	130	469542	197.89	ug/L	94
39) tert-Amyl ethyl ether ...	0.000		0	N.D.	d	
40) Dibromomethane	7.068	93	278311	204.27	ug/L	86
41) 1,2-Dichloropropane	7.177	63	489814	195.72	ug/L	98
42) Bromodichloromethane	7.256	83	515355	243.75	ug/L	98
44) c-1,3-Dichloropropene	7.956	75	701320	211.60	ug/L	88
46) Toluene	8.223	91	1846035	191.79	ug/L	99
47) Tetrachloroethene (PCE)	8.667	166	439874	199.55	ug/L	92
48) 4-Methyl-2-Pentanone (...	8.667	43	1300769	388.54	ug/L	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

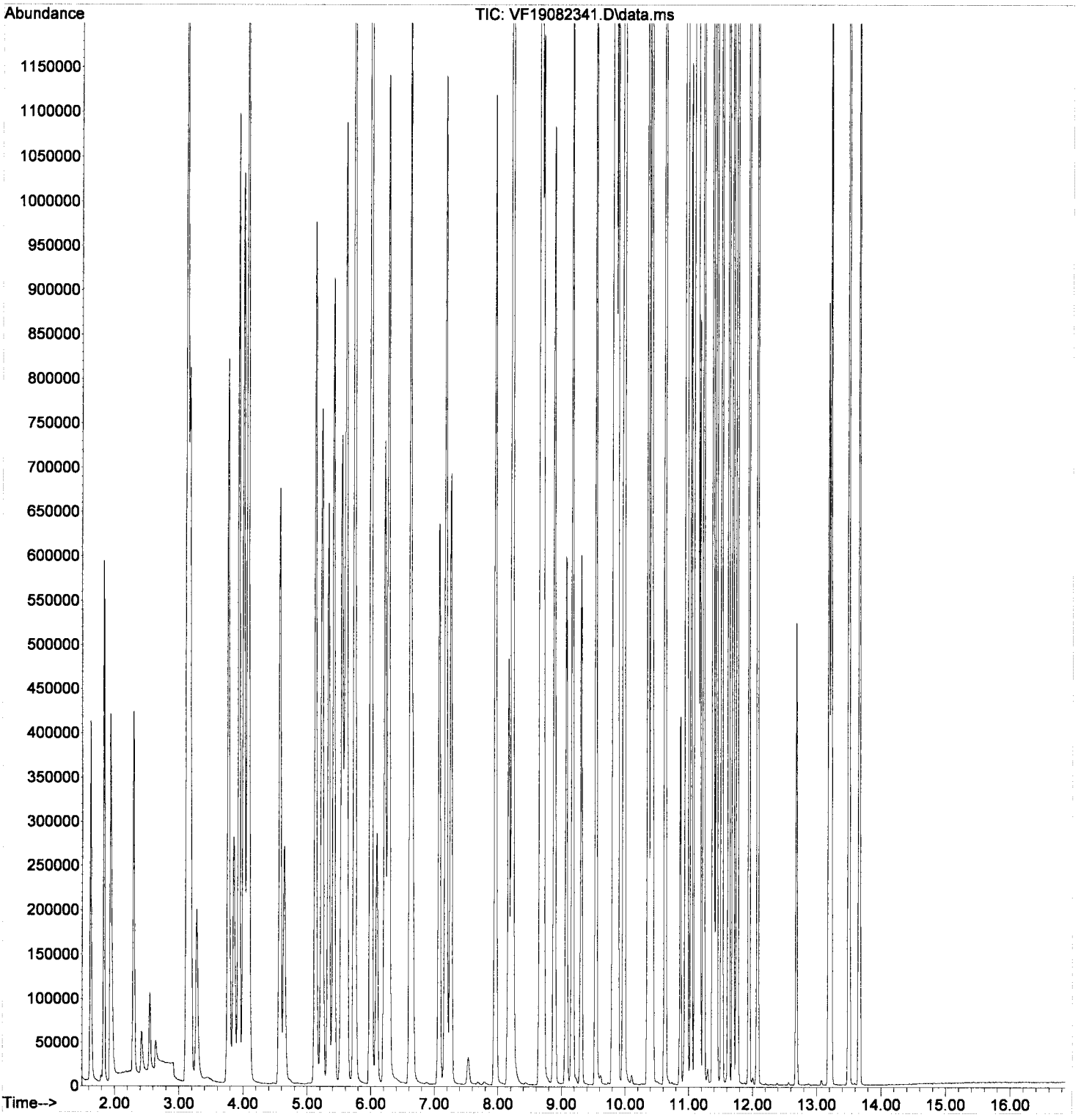
Quant Time: Aug 27 13:09:12 2019
Quant Method : C:\msdchem\1\METHODS\V~~F190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) t-1,3-Dichloropropene	8.710	75	667262	217.51	ug/L	95
50) 1,1,2-Trichloroethane	8.886	97	377668	196.32	ug/L	93
51) Dibromochloromethane	9.075	129	334043	292.96	ug/L	95
52) 1,3-Dichloropropane	9.166	76	731023	195.63	ug/L	88
53) 1,2-Dibromoethane (EDB)	9.306	107	406149	206.63	ug/L	99
54) 2-Hexanone	9.537	43	910126	392.96	ug/L	94
55) Chlorobenzene	9.817	112	1121901	193.49	ug/L	95
56) Ethylbenzene	9.841	91	1986216	194.33	ug/L	98
57) 1,1,1,2-Tetrachloroethane	9.877	131	367035	237.45	ug/L	99
58) m,p-Xylenes (2)	9.975	91	3151231	406.53	ug/L	98
59) o-Xylene	10.358	91	1538116	195.48	ug/L	98
60) Styrene	10.406	104	1215067	202.94	ug/L	94
61) Bromoform	10.431	173	209437	347.38	ug/L	98
62) Isopropylbenzene	10.625	105	1750073	191.23	ug/L	99
65) Bromobenzene	10.954	156	444948	188.09	ug/L	92
66) n-Propylbenzene	10.972	91	1996842	184.70	ug/L	99
67) 1,1,2,2-Tetrachloroethane	11.039	83	478407	196.16	ug/L	99
68) 2-Chlorotoluene	11.100	126	405687	186.82	ug/L	86
69) 1,3,5-Trimethylbenzene	11.124	105	1423457	183.02	ug/L	98
70) 1,2,3-Trichloropropane	11.142	110	175677	187.42	ug/L #	77
71) t-1,4-Dichloro-2-butene	11.173	88	73225	214.41	ug/L #	87
72) 4-Chlorotoluene	11.234	91	1224134	185.42	ug/L	99
73) tert-Butylbenzene	11.380	91	777765	180.57	ug/L	90
74) 1,2,4-Trimethylbenzene	11.434	105	1418079	184.22	ug/L	100
75) sec-Butylbenzene	11.519	105	1567956	179.43	ug/L	99
76) 4-Isopropyltoluene	11.623	119	1350695	180.56	ug/L	97
77) 1,3-Dichlorobenzene	11.690	146	735052	187.45	ug/L	97
78) 1,4-Dichlorobenzene	11.757	146	751486	187.81	ug/L	97
79) n-Butylbenzene	11.945	91	1123539	173.85	ug/L	99
80) 1,2-Dichlorobenzene	12.079	146	688526	187.20	ug/L	99
81) 1,2-Dibromo-3-Chloropr...	12.681	157	109077	272.99	ug/L	73
82) Hexachlorobutadiene	13.186	223	97175	172.47	ug/L	98
83) 1,2,4-Trichlorobenzene	13.222	180	418966	199.58	ug/L	97
84) Naphthalene	13.496	128	1492009	209.82	ug/L	99
85) 1,2,3-Trichlorobenzene	13.660	180	401725	199.39	ug/L	96

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

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 13:09:12 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

pre INT

Quant Time: Aug 27 12:31:03 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823S.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.089	99	117913	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.804	117	256238	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.750	152	125008	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.596	111	89496	51.53	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.654	114	316612	50.83	ug/L	0.00
45) Toluene-d8 (S)	8.162	98	363189	49.11	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.869	174	98121	46.86	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.625	85	322318	213.08	ug/L	97
3) Chloromethane	1.832	50	483897	202.86	ug/L	97
4) Vinyl Chloride	1.935	62	493406	205.30	ug/L	97
5) Bromomethane	2.294	96	227738	173.17	ug/L	97
6) Chloroethane	2.416	64	44883	207.49	ug/L	94
7) Trichlorofluoromethane	2.549	101	68558	200.96	ug/L	97
8) Ethanol	3.249	45	1960	40.16	ug/L #	73
9) 1,1-Dichloroethene	3.121	61	639235	194.36	ug/L	79
10) Carbon Disulfide	3.133	76	1041607	207.18	ug/L	99
11) Freon 113	3.170	101	377105	200.59	ug/L	83
12) Iodomethane	3.273	142	289644	354.50	ug/L	91
13) Methylene Chloride	3.766	84	400388	164.58	ug/L	85
14) Acetone	3.851	43	427262	388.06	ug/L	92
15) t-1,2-Dichloroethene	3.930	61	640984	195.22	ug/L	95
16) n-Hexane	4.009	86	90732	192.11	ug/L #	83
17) Methyl-tert-butyl-ether	4.070	73	1583383	197.19	ug/L	97
18) tert-Butanol (TBA)	4.246	59	852	1.94	ug/L #	79
19) Diisopropyl ether (DIPE)	4.465	45	1575	0.18	ug/L #	56
20) 1,1-Dichloroethane	4.568	63	765936	187.82	ug/L	97
21) Acrylonitrile	4.641	53	248703	199.46	ug/L	98
22) Ethyl-tert-butyl ether...	4.836	59	1085	0.13	ug/L	76
23) c-1,2-Dichloroethene	5.128	61	639266	189.65	ug/L	91
24) 2,2-Dichloropropane	5.231	77	569255	186.44	ug/L	96
25) Bromochloromethane	5.329	49	377595	187.81	ug/L	85
26) Chloroform	5.414	83	769881	195.32	ug/L	96
27) Carbon Tetrachloride	5.541	117	528368	237.44	ug/L	96
28) Tetrahydrofuran	5.584	42	249141	193.43	ug/L	94
29) 1,1,1-Trichloroethane	5.614	97	677513	202.29	ug/L	97
31) 1,1-Dichloropropene	5.742	75	654294	198.85	ug/L	98
32) 2-Butanone (MEK)	5.736	43	689742	401.60	ug/L	99
33) Benzene	5.998	78	1902472	198.14	ug/L	97
34) tert-Amyl methyl ether...	6.137	73	764	0.10	ug/L #	19
35) 1,2-Dichloroethane (EDC)	6.216	62	670626	192.81	ug/L	98
36) iso-Butyl Alcohol	6.277	43	879121	5041.05	ug/L	91
38) Trichloroethene (TCE)	6.618	130	469542	197.89	ug/L	94
39) tert-Amyl ethyl ether ...	6.873	59	997	0.16	ug/L	93
40) Dibromomethane	7.068	93	278311	204.27	ug/L	86
41) 1,2-Dichloropropane	7.177	63	489814	195.72	ug/L	98
42) Bromodichloromethane	7.256	83	515355	243.75	ug/L	98
44) c-1,3-Dichloropropene	7.956	75	701320	211.60	ug/L	88
46) Toluene	8.223	91	1846035	191.79	ug/L	99
47) Tetrachloroethene (PCE)	8.667	166	439874	199.55	ug/L	92
48) 4-Methyl-2-Pentanone (...	8.667	43	1300769	388.54	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:03 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration

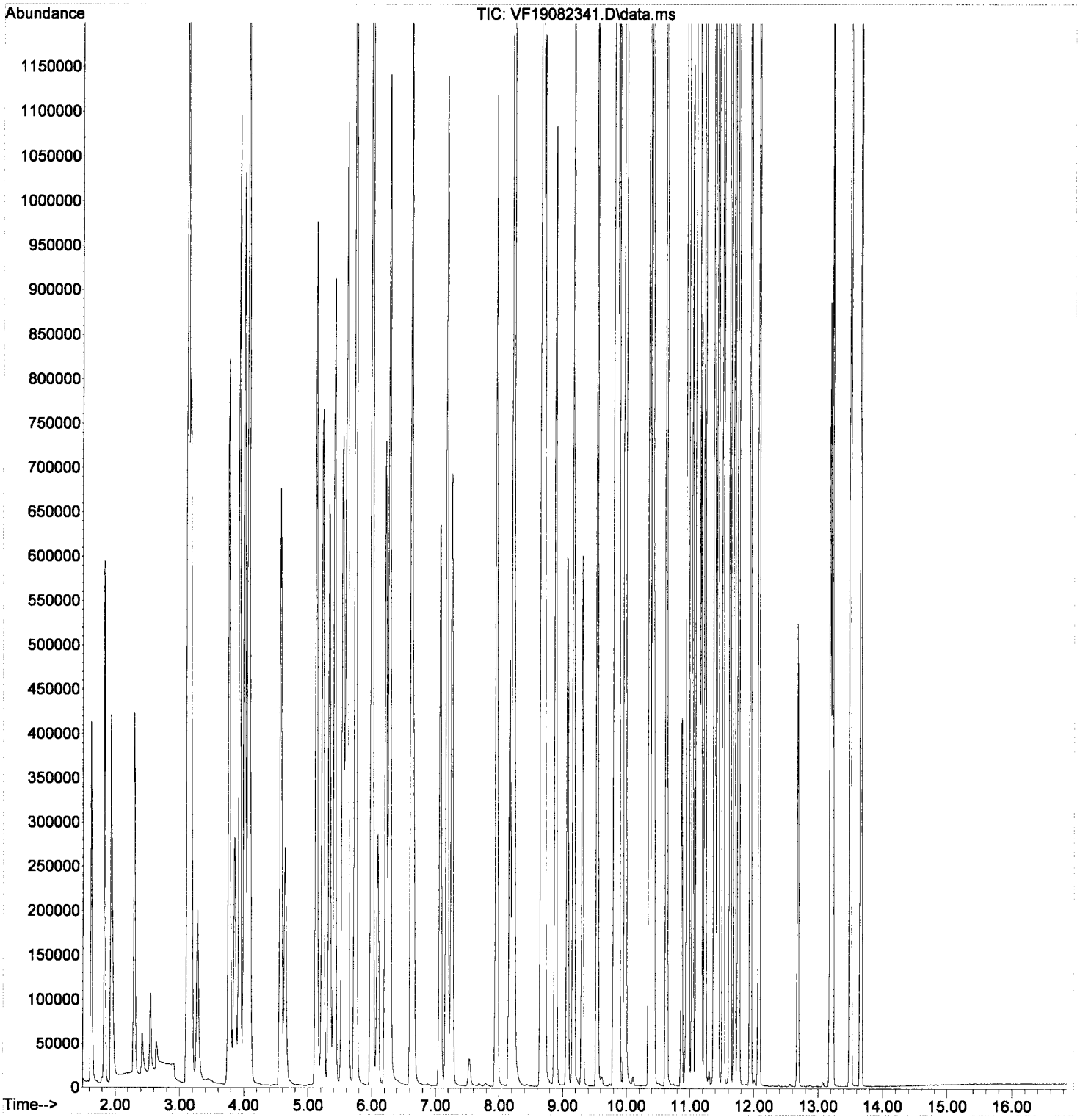
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.710	75	667262	217.51	ug/L		95
50) 1,1,2-Trichloroethane	8.886	97	377668	196.32	ug/L		93
51) Dibromochloromethane	9.075	129	334043	292.96	ug/L		95
52) 1,3-Dichloropropane	9.166	76	731023	195.63	ug/L		88
53) 1,2-Dibromoethane (EDB)	9.306	107	406149	206.63	ug/L		99
54) 2-Hexanone	9.537	43	910126	392.96	ug/L		94
55) Chlorobenzene	9.817	112	1121901	193.49	ug/L		95
56) Ethylbenzene	9.841	91	1986216	194.33	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.877	131	367035	237.45	ug/L		99
58) m,p-Xylenes (2)	9.975	91	3151231	406.53	ug/L		98
59) o-Xylene	10.358	91	1538116	195.48	ug/L		98
60) Styrene	10.406	104	1215067	202.94	ug/L		94
61) Bromoform	10.431	173	209437	347.38	ug/L		98
62) Isopropylbenzene	10.625	105	1750073	191.23	ug/L		99
65) Bromobenzene	10.954	156	444948	188.09	ug/L		92
66) n-Propylbenzene	10.972	91	1996842	184.70	ug/L		99
67) 1,1,2,2-Tetrachloroethane	11.039	83	478407	196.16	ug/L		99
68) 2-Chlorotoluene	11.100	126	405687	186.82	ug/L		86
69) 1,3,5-Trimethylbenzene	11.124	105	1423457	183.02	ug/L		98
70) 1,2,3-Trichloropropane	11.142	110	175677	187.42	ug/L	#	77
71) t-1,4-Dichloro-2-butene	11.173	88	73225	214.41	ug/L	#	87
72) 4-Chlorotoluene	11.234	91	1224134	185.42	ug/L		99
73) tert-Butylbenzene	11.380	91	777765	180.57	ug/L		90
74) 1,2,4-Trimethylbenzene	11.434	105	1418079	184.22	ug/L		100
75) sec-Butylbenzene	11.519	105	1567956	179.43	ug/L		99
76) 4-Isopropyltoluene	11.623	119	1350695	180.56	ug/L		97
77) 1,3-Dichlorobenzene	11.690	146	735052	187.45	ug/L		97
78) 1,4-Dichlorobenzene	11.757	146	751486	187.81	ug/L		97
79) n-Butylbenzene	11.945	91	1123539	173.85	ug/L		99
80) 1,2-Dichlorobenzene	12.079	146	688526	187.20	ug/L		99
81) 1,2-Dibromo-3-Chloropr...	12.681	157	109077	272.99	ug/L		73
82) Hexachlorobutadiene	13.186	223	97175	172.47	ug/L		98
83) 1,2,4-Trichlorobenzene	13.222	180	418966	199.58	ug/L		97
84) Naphthalene	13.496	128	1492009	209.82	ug/L		99
85) 1,2,3-Trichlorobenzene	13.660	180	401725	199.39	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082341.D
Acq On : 24 Aug 2019 2:37 am
Operator : TB
Sample : 9H23046-CALB
Misc : 1X 5mL 200ppb VOCO DI+MeOH
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 12:31:03 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 12:29:57 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082342.D
Acq On : 24 Aug 2019 3:04 am
Operator : TB
Sample : 9H23046-IBLD
Misc : 1X 5mL DI+MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

NR

Quant Time: Aug 27 14:53:46 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.088	99	118351	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.803	117	268175	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.749	152	120921	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.595	111	90237	53.09	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.653	114	319276	51.55	ug/L		0.00
45) Toluene-d8 (S)	8.161	98	380713	49.11	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.867	174	101924	50.60	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.618	85	1053	0.70	ug/L		82
3) Chloromethane	1.831	50	1171	0.47	ug/L		89
4) Vinyl Chloride	1.928	62	510	0.21	ug/L		66
5) Bromomethane	2.293	96	2983	2.39	ug/L		95
6) Chloroethane	2.408	64	378	1.65	ug/L	#	1
8) Ethanol	3.235	45	1650	6.82	ug/L	#	29
9) 1,1-Dichloroethene	3.114	61	880	0.27	ug/L		91
10) Carbon Disulfide	3.132	76	6138	1.17	ug/L		95
11) Freon 113	3.168	101	1359	0.74	ug/L		85
12) Iodomethane	3.284	142	687	1.26	ug/L	#	75
13) Methylene Chloride	3.764	84	5063	Below Cal			86
14) Acetone	3.856	43	834	0.75	ug/L		79
15) t-1,2-Dichloroethene	3.935	61	1511	0.48	ug/L		96
16) n-Hexane	4.008	86	280	Below Cal		#	67
21) Acrylonitrile	4.652	53	317	0.24	ug/L	#	14
23) c-1,2-Dichloroethene	5.127	61	711	0.22	ug/L		86
24) 2,2-Dichloropropane	5.236	77	347	0.11	ug/L	#	1
25) Bromochloromethane	5.327	49	242	0.12	ug/L		92
26) Chloroform	5.412	83	910	0.22	ug/L		76
27) Carbon Tetrachloride	5.534	117	554	0.48	ug/L		85
28) Tetrahydrofuran	5.607	42	654	0.51	ug/L	#	3
29) 1,1,1-Trichloroethane	5.607	97	482	0.14	ug/L		74
31) 1,1-Dichloropropene	5.741	75	1544	0.48	ug/L		89
32) 2-Butanone (MEK)	5.747	43	562	0.33	ug/L		47
33) Benzene	5.996	78	1723	0.18	ug/L		70
35) 1,2-Dichloroethane (EDC)	6.215	62	422	0.12	ug/L	#	48
36) iso-Butyl Alcohol	6.288	43	253	1.46	ug/L		67
38) Trichloroethene (TCE)	6.623	130	909	0.39	ug/L		81
40) Dibromomethane	7.067	93	144	0.11	ug/L	#	67
41) 1,2-Dichloropropane	7.170	63	217	0.09	ug/L	#	37
42) Bromodichloromethane	7.255	83	337	0.15	ug/L	#	26
44) c-1,3-Dichloropropene	7.961	75	400	0.12	ug/L	#	2
46) Toluene	8.228	91	2582	0.24	ug/L		92
47) Tetrachloroethene (PCE)	8.666	166	1577	0.70	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.666	43	284	0.08	ug/L	#	41
49) t-1,3-Dichloropropene	8.715	75	464	0.15	ug/L	#	40
52) 1,3-Dichloropropane	9.183	76	303	0.08	ug/L	#	1
53) 1,2-Dibromoethane (EDB)	9.311	107	166	0.08	ug/L		84
54) 2-Hexanone	9.548	43	199	0.08	ug/L	#	34
55) Chlorobenzene	9.815	112	2017	0.33	ug/L	#	42
56) Ethylbenzene	9.846	91	4174	0.37	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.882	131	129	0.08	ug/L	#	54
58) m,p-Xylenes (2)	9.980	91	7205	0.88	ug/L		90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082342.D
Acq On : 24 Aug 2019 3:04 am
Operator : TB
Sample : 9H23046-IBLD
Misc : 1X 5mL DI+MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:46 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

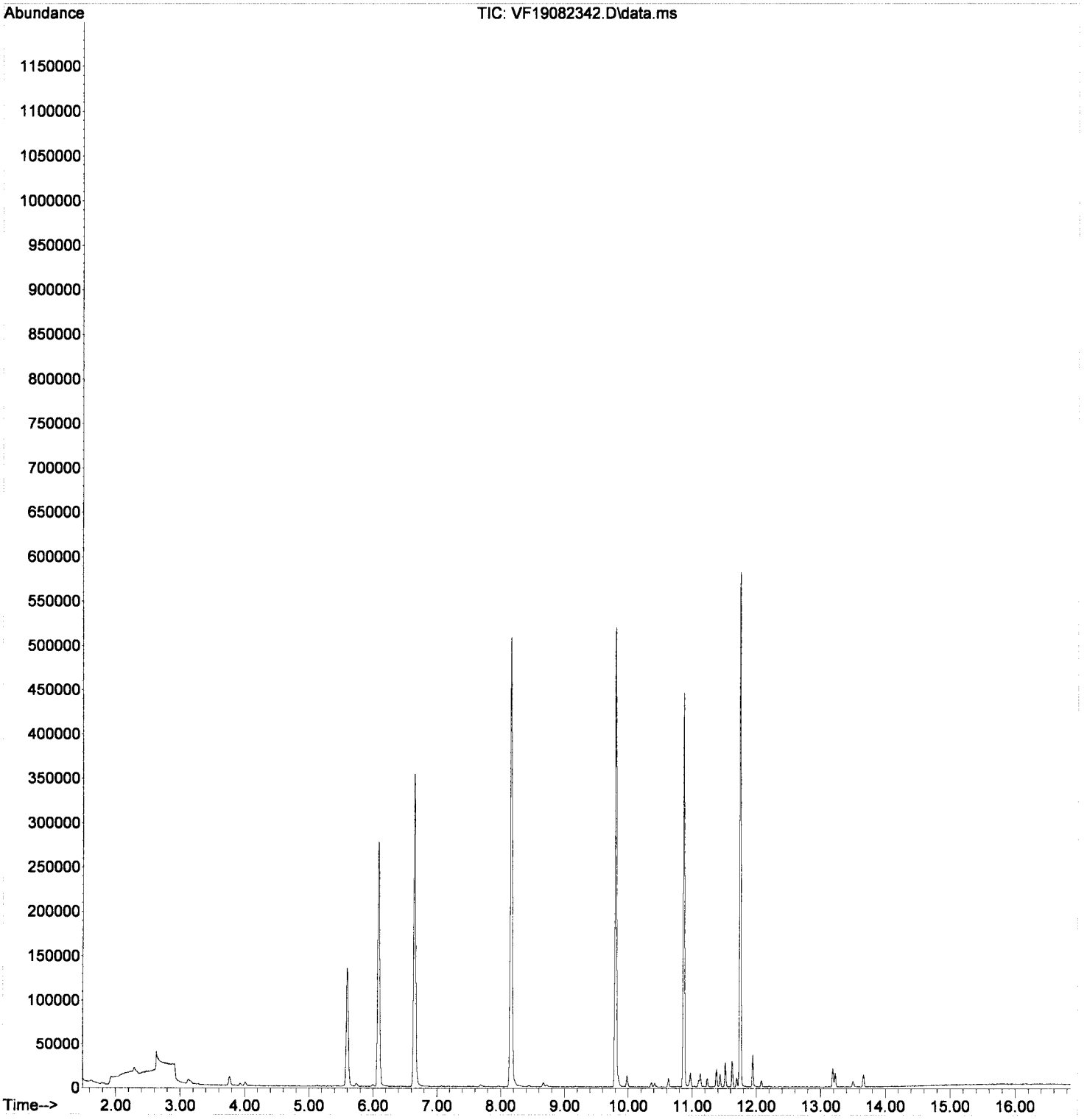
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
59) o-Xylene	10.363	91	2854	0.34 ug/L	90
60) Styrene	10.411	104	1852	0.31 ug/L	95
62) Isopropylbenzene	10.624	105	5941	0.62 ug/L	95
65) Bromobenzene	10.953	156	814	0.36 ug/L #	78
66) n-Propylbenzene	10.971	91	9742	0.94 ug/L	94
67) 1,1,2,2-Tetrachloroethane	11.038	83	323	0.13 ug/L	87
68) 2-Chlorotoluene	11.105	126	1161	0.57 ug/L	86
69) 1,3,5-Trimethylbenzene	11.129	105	6874	0.87 ug/L	96
72) 4-Chlorotoluene	11.232	91	4652	0.72 ug/L	91
73) tert-Butylbenzene	11.378	91	5446	1.28 ug/L	82
74) 1,2,4-Trimethylbenzene	11.433	105	6747	0.87 ug/L	94
75) sec-Butylbenzene	11.518	105	15778	1.80 ug/L	98
76) 4-Isopropyltoluene	11.622	119	13217	1.84 ug/L	94
77) 1,3-Dichlorobenzene	11.694	146	3279	0.89 ug/L	93
78) 1,4-Dichlorobenzene	11.761	146	3561	0.92 ug/L	91
79) n-Butylbenzene	11.944	91	15899	2.58 ug/L	95
80) 1,2-Dichlorobenzene	12.078	146	2406	0.71 ug/L	97
82) Hexachlorobutadiene	13.191	223	2465	4.74 ug/L	98
83) 1,2,4-Trichlorobenzene	13.227	180	4620	2.35 ug/L	95
84) Naphthalene	13.501	128	5070	0.77 ug/L	98
85) 1,2,3-Trichlorobenzene	13.665	180	4352	2.28 ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082342.D
Acq On : 24 Aug 2019 3:04 am
Operator : TB
Sample : 9H23046-IBLD
Misc : 1X 5mL DI+MeOH
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:46 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082343.D
Acq On : 24 Aug 2019 3:31 am
Operator : TB
Sample : 9H23046-IBLE
Misc : 1X 5mL DI+MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:48 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.086	99	110640	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	238556	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	107212	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	80301	50.53	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	290879	50.23	ug/L		0.00
45) Toluene-d8 (S)	8.160	98	345233	50.06	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	90728	50.81	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.628	85	463	0.33	ug/L		88
3) Chloromethane	1.835	50	856	0.37	ug/L		90
5) Bromomethane	2.297	96	2798	2.40	ug/L		95
6) Chloroethane	2.389	64	143	0.67	ug/L	#	1
8) Ethanol	3.228	45	1421	4.24	ug/L		87
9) 1,1-Dichloroethene	3.118	61	348	0.11	ug/L	#	64
10) Carbon Disulfide	3.137	76	2448	0.50	ug/L		89
11) Freon 113	3.173	101	672	0.39	ug/L		71
12) Iodomethane	3.282	142	523	1.09	ug/L	#	77
13) Methylene Chloride	3.769	84	8174	Below Cal			84
14) Acetone	3.860	43	824	0.79	ug/L	#	42
15) t-1,2-Dichloroethene	3.933	61	495	0.17	ug/L		95
26) Chloroform	5.429	83	402	0.10	ug/L	#	28
28) Tetrahydrofuran	5.557	42	279	0.23	ug/L	#	1
31) 1,1-Dichloropropene	5.739	75	507	0.17	ug/L	#	60
32) 2-Butanone (MEK)	5.752	43	300	0.19	ug/L		54
36) iso-Butyl Alcohol	6.335	43	146	0.90	ug/L		73
38) Trichloroethene (TCE)	6.627	130	226	0.10	ug/L	#	68
46) Toluene	8.227	91	1363	0.14	ug/L		80
47) Tetrachloroethene (PCE)	8.677	166	595	0.30	ug/L		93
55) Chlorobenzene	9.820	112	727	0.13	ug/L	#	47
56) Ethylbenzene	9.844	91	1621	0.16	ug/L		96
58) m,p-Xylenes (2)	9.984	91	2531	0.35	ug/L		90
59) o-Xylene	10.361	91	1453	0.19	ug/L		92
60) Styrene	10.416	104	554	0.11	ug/L		83
62) Isopropylbenzene	10.629	105	1593	0.19	ug/L		90
65) Bromobenzene	10.951	156	213	0.11	ug/L	#	69
66) n-Propylbenzene	10.975	91	2832	0.31	ug/L		95
68) 2-Chlorotoluene	11.103	126	283	0.16	ug/L	#	68
69) 1,3,5-Trimethylbenzene	11.127	105	1778	0.25	ug/L		93
72) 4-Chlorotoluene	11.237	91	1421	0.25	ug/L		82
73) tert-Butylbenzene	11.377	91	1113	0.29	ug/L		80
74) 1,2,4-Trimethylbenzene	11.438	105	1876	0.27	ug/L		91
75) sec-Butylbenzene	11.517	105	3624	0.47	ug/L		94
76) 4-Isopropyltoluene	11.626	119	3072	0.48	ug/L		86
77) 1,3-Dichlorobenzene	11.693	146	922	0.28	ug/L		85
78) 1,4-Dichlorobenzene	11.760	146	1173	0.34	ug/L	#	72
79) n-Butylbenzene	11.942	91	4340	0.79	ug/L		94
80) 1,2-Dichlorobenzene	12.076	146	518	0.17	ug/L		88
82) Hexachlorobutadiene	13.189	223	933	2.02	ug/L		94
83) 1,2,4-Trichlorobenzene	13.225	180	1170	0.67	ug/L		85
84) Naphthalene	13.505	128	1123	0.19	ug/L		74
85) 1,2,3-Trichlorobenzene	13.663	180	977	0.58	ug/L		88

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082343.D
Acq On : 24 Aug 2019 3:31 am
Operator : TB
Sample : 9H23046-IBLE
Misc : 1X 5mL DI+MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:48 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

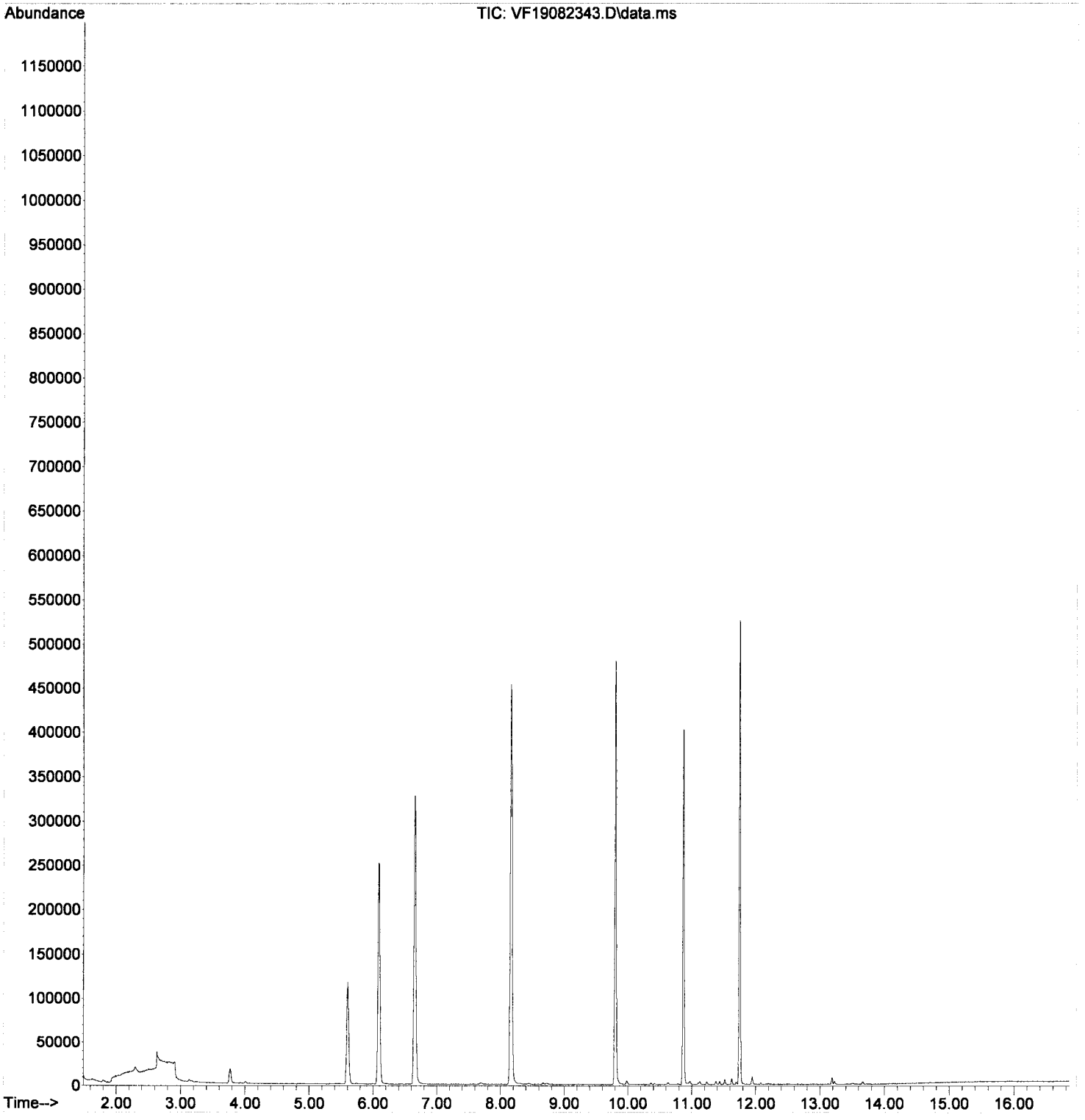
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082343.D
Acq On : 24 Aug 2019 3:31 am
Operator : TB
Sample : 9H23046-IBLE
Misc : 1X 5mL DI+MeOH
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:48 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082344.D
Acq On : 24 Aug 2019 3:58 am
Operator : TB
Sample : 9H23046-ICV1
Misc : 1X 5mL 20ppb VOC/OXY DI+MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 14:53:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.091	99	112996	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.801	117	243556	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.747	152	110917	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.599	111	83655	51.55	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.657	114	297887	50.37	ug/L		0.00
45) Toluene-d8 (S)	8.165	98	349518	49.64	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.865	174	92555	50.10	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.634	85	38091	26.61	ug/L		98
3) Chloromethane	1.840	50	54324	~~22.70~~	ug/L		98
4) Vinyl Chloride	1.938	62	50461	22.05	ug/L		95
5) Bromomethane	2.296	96	29774	25.01	ug/L		98
6) Chloroethane	2.424	64	5397	24.63	ug/L	#	67
7) Trichlorofluoromethane	2.552	101	6932	21.00	ug/L		97
8) Ethanol	3.245	45	60586	1180.95	ug/L		90
9) 1,1-Dichloroethene	3.124	61	64119	20.30	ug/L		77
10) Carbon Disulfide	3.136	76	105918	21.06	ug/L		99
11) Freon 113	3.172	101	36749	20.97	ug/L		84
12) Iodomethane	3.276	142	17472	22.25	ug/L	#	88
13) Methylene Chloride	3.768	84	46051	19.58	ug/L		84
14) Acetone	3.859	43	41722	39.36	ug/L		91
15) t-1,2-Dichloroethene	3.932	61	65478	21.91	ug/L		95
16) n-Hexane	4.011	86	8846	18.70	ug/L	#	78
17) Methyl-tert-butyl-ether	4.078	73	146142	19.15	ug/L		96
18) tert-Butanol (TBA)	4.249	59	544209	1209.48	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.468	45	42427	4.62	ug/L		95
20) 1,1-Dichloroethane	4.577	63	83609	21.51	ug/L		96
21) Acrylonitrile	4.650	53	23198	18.74	ug/L		97
22) Ethyl-tert-butyl ether...	4.838	59	40161	4.72	ug/L		96
23) c-1,2-Dichloroethene	5.130	61	63321	20.69	ug/L		90
24) 2,2-Dichloropropane	5.234	77	54221	17.95	ug/L		98
25) Bromochloromethane	5.331	49	37694	19.75	ug/L		84
26) Chloroform	5.416	83	74819	18.91	ug/L		93
27) Carbon Tetrachloride	5.544	117	44785	21.65	ug/L		94
28) Tetrahydrofuran	5.593	42	23714	19.25	ug/L		94
29) 1,1,1-Trichloroethane	5.611	97	67508	20.18	ug/L		96
31) 1,1-Dichloropropene	5.745	75	63330	20.55	ug/L		98
32) 2-Butanone (MEK)	5.745	43	62924	38.32	ug/L		97
33) Benzene	6.000	78	182262	19.42	ug/L		97
34) tert-Amyl methyl ether...	6.134	73	35968	4.53	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.219	62	66149	20.52	ug/L		98
36) iso-Butyl Alcohol	6.280	43	84032	506.31	ug/L		93
38) Trichloroethene (TCE)	6.620	130	45085	20.31	ug/L		92
39) tert-Amyl ethyl ether ...	6.876	59	29832	4.64	ug/L		87
40) Dibromomethane	7.076	93	25438	20.07	ug/L		89
41) 1,2-Dichloropropane	7.180	63	46592	19.75	ug/L		100
42) Bromodichloromethane	7.259	83	42928	20.66	ug/L		98
44) c-1,3-Dichloropropene	7.958	75	62471	20.93	ug/L		84
46) Toluene	8.220	91	182599	18.96	ug/L		99
47) Tetrachloroethene (PCE)	8.670	166	42323	20.65	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.670	43	122763	38.53	ug/L		92

#16tt

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082344.D
Acq On : 24 Aug 2019 3:58 am
Operator : TB
Sample : 9H23046-ICV1
Misc : 1X 5mL 20ppb VOC/OXY DI+MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

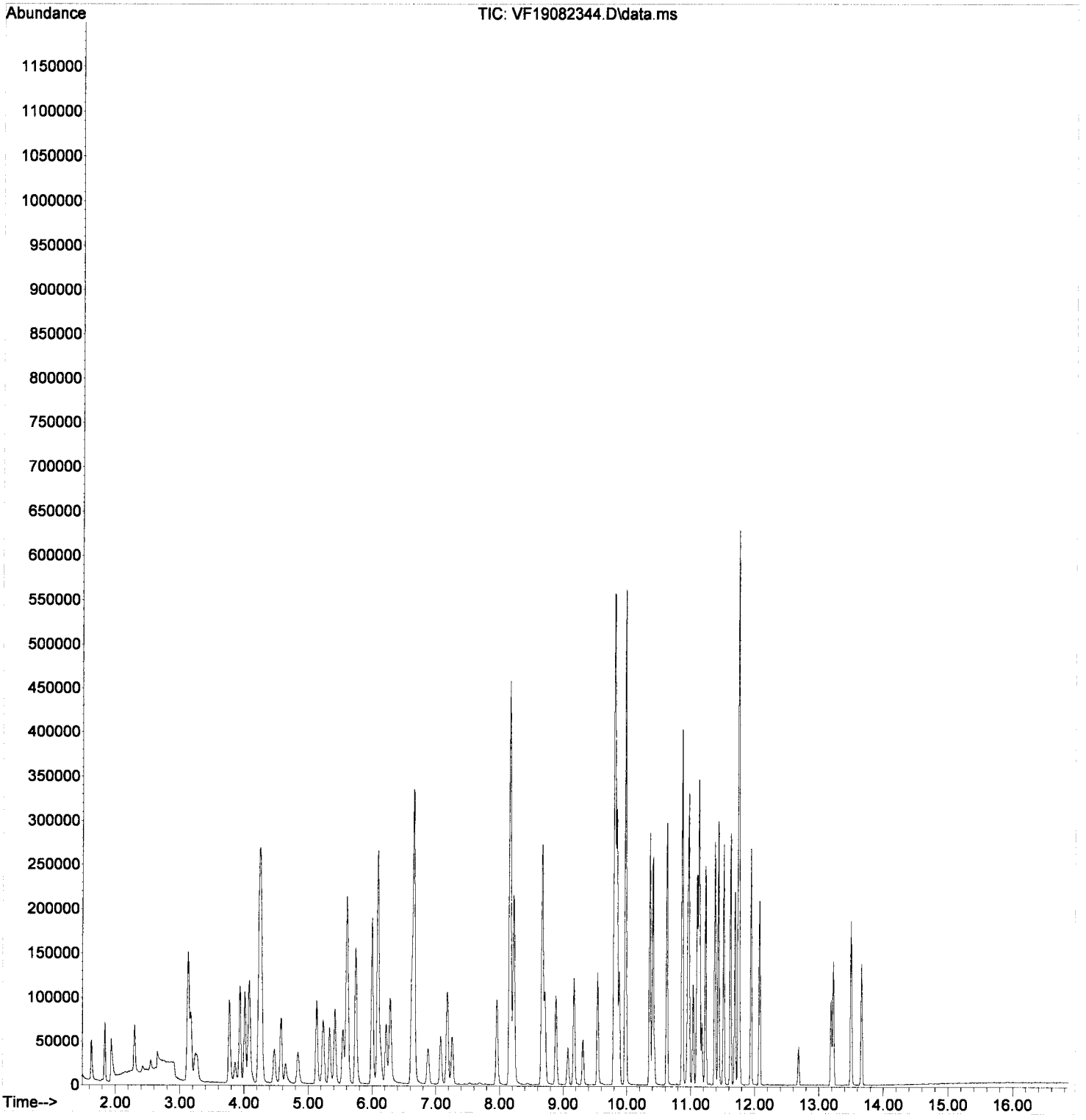
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.712	75	57941	20.46	ug/L		95
50) 1,1,2-Trichloroethane	8.883	97	35898	19.33	ug/L		90
51) Dibromochloromethane	9.071	129	24206	22.63	ug/L		95
52) 1,3-Dichloropropane	9.168	76	68994	20.18	ug/L		86
53) 1,2-Dibromoethane (EDB)	9.308	107	37073	20.43	ug/L		99
54) 2-Hexanone	9.539	43	86064	38.80	ug/L		92
55) Chlorobenzene	9.819	112	109863	19.51	ug/L		95
56) Ethylbenzene	9.843	91	195241	19.18	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.880	131	30450	21.01	ug/L		99
58) m,p-Xylenes (2)	9.977	91	292019	39.48	ug/L		97
59) o-Xylene	10.360	91	147183	19.20	ug/L		97
60) Styrene	10.409	104	111627	20.74	ug/L		94
61) Bromoform	10.433	173	13389	22.72	ug/L		99
62) Isopropylbenzene	10.628	105	171634	19.59	ug/L		98
65) Bromobenzene	10.950	156	41991	20.51	ug/L	#	84
66) n-Propylbenzene	10.968	91	191540	20.14	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.035	83	45617	20.13	ug/L		99
68) 2-Chlorotoluene	11.102	126	38815	20.67	ug/L		84
69) 1,3,5-Trimethylbenzene	11.127	105	137790	19.05	ug/L		98
70) 1,2,3-Trichloropropane	11.145	110	16667	20.45	ug/L	#	79
71) t-1,4-Dichloro-2-butene	11.175	88	5559	18.79	ug/L		96
72) 4-Chlorotoluene	11.230	91	118240	20.06	ug/L		96
73) tert-Butylbenzene	11.376	91	77513	19.80	ug/L		86
74) 1,2,4-Trimethylbenzene	11.431	105	137188	19.25	ug/L		99
75) sec-Butylbenzene	11.516	105	157336	19.62	ug/L		98
76) 4-Isopropyltoluene	11.625	119	135112	20.48	ug/L		97
77) 1,3-Dichlorobenzene	11.692	146	70579	20.88	ug/L		97
78) 1,4-Dichlorobenzene	11.759	146	71995	20.26	ug/L		96
79) n-Butylbenzene	11.941	91	117824	20.83	ug/L		96
80) 1,2-Dichlorobenzene	12.075	146	66034	21.12	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.683	157	8284	22.31	ug/L	#	58
82) Hexachlorobutadiene	13.188	223	10523	22.04	ug/L		99
83) 1,2,4-Trichlorobenzene	13.225	180	39095	21.72	ug/L		95
84) Naphthalene	13.498	128	133681	22.22	ug/L		100
85) 1,2,3-Trichlorobenzene	13.662	180	37705	21.52	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082344.D
Acq On : 24 Aug 2019 3:58 am
Operator : TB
Sample : 9H23046-ICV1
Misc : 1X 5mL 20ppb VOC/OXY DI+MeOH
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082345.D
Acq On : 24 Aug 2019 4:25 am
Operator : TB
Sample : 9H23046-IBLF
Misc : 1X 5mL DI+MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:52 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.086	99	113369	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.802	117	245114	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.748	152	110245	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.600	111	82280	50.53 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.652	114	297167	50.08 ug/L		0.00
45) Toluene-d8 (S)	8.160	98	352888	49.80 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.866	174	93812	51.09 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.628	85	253	0.18 ug/L	#	50
3) Chloromethane	1.835	50	578	0.24 ug/L		94
5) Bromomethane	2.297	96	2243	1.88 ug/L		91
6) Chloroethane	2.437	64	127	0.58 ug/L	#	1
8) Ethanol	3.234	45	1529	5.75 ug/L	#	71
10) Carbon Disulfide	3.137	76	1628	0.32 ug/L		87
11) Freon 113	3.167	101	362	0.21 ug/L		71
12) Iodomethane	3.276	142	511	1.06 ug/L	#	47
13) Methylene Chloride	3.763	84	8557	Below Cal		87
14) Acetone	3.860	43	834	0.78 ug/L		74
15) t-1,2-Dichloroethene	3.927	61	354	0.12 ug/L	#	73
18) tert-Butanol (TBA)	4.231	59	131	0.29 ug/L	#	1
26) Chloroform	5.423	83	347	0.09 ug/L	#	28
28) Tetrahydrofuran	5.551	42	210	0.17 ug/L	#	1
31) 1,1-Dichloropropene	5.745	75	300	0.10 ug/L	#	34
32) 2-Butanone (MEK)	5.758	43	223	0.14 ug/L	#	37
36) iso-Butyl Alcohol	6.287	43	170	1.02 ug/L		93
42) Bromodichloromethane	7.284	83	173	0.08 ug/L	#	26
46) Toluene	8.227	91	1251	0.13 ug/L		73
47) Tetrachloroethene (PCE)	8.677	166	460	0.22 ug/L		80
55) Chlorobenzene	9.820	112	550	0.10 ug/L	#	32
56) Ethylbenzene	9.850	91	1335	0.13 ug/L		88
58) m,p-Xylenes (2)	9.984	91	2216	0.30 ug/L		94
59) o-Xylene	10.361	91	919	0.12 ug/L		81
62) Isopropylbenzene	10.629	105	1234	0.14 ug/L		93
66) n-Propylbenzene	10.969	91	2569	0.27 ug/L		91
68) 2-Chlorotoluene	11.103	126	205	0.11 ug/L	#	34
69) 1,3,5-Trimethylbenzene	11.127	105	1436	0.20 ug/L		99
72) 4-Chlorotoluene	11.237	91	1086	0.19 ug/L		83
73) tert-Butylbenzene	11.383	91	957	0.25 ug/L	#	69
74) 1,2,4-Trimethylbenzene	11.438	105	1458	0.21 ug/L		91
75) sec-Butylbenzene	11.517	105	2664	0.33 ug/L		91
76) 4-Isopropyltoluene	11.626	119	2265	0.35 ug/L		93
77) 1,3-Dichlorobenzene	11.699	146	638	0.19 ug/L		92
78) 1,4-Dichlorobenzene	11.760	146	800	0.23 ug/L	#	50
79) n-Butylbenzene	11.948	91	2928	0.52 ug/L		98
80) 1,2-Dichlorobenzene	12.076	146	451	0.15 ug/L		96
82) Hexachlorobutadiene	13.189	223	502	1.06 ug/L		96
83) 1,2,4-Trichlorobenzene	13.226	180	749	0.42 ug/L		85
84) Naphthalene	13.499	128	975	0.16 ug/L		75
85) 1,2,3-Trichlorobenzene	13.663	180	648	0.37 ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082345.D
Acq On : 24 Aug 2019 4:25 am
Operator : TB
Sample : 9H23046-IBLF
Misc : 1X 5mL DI+MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:52 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

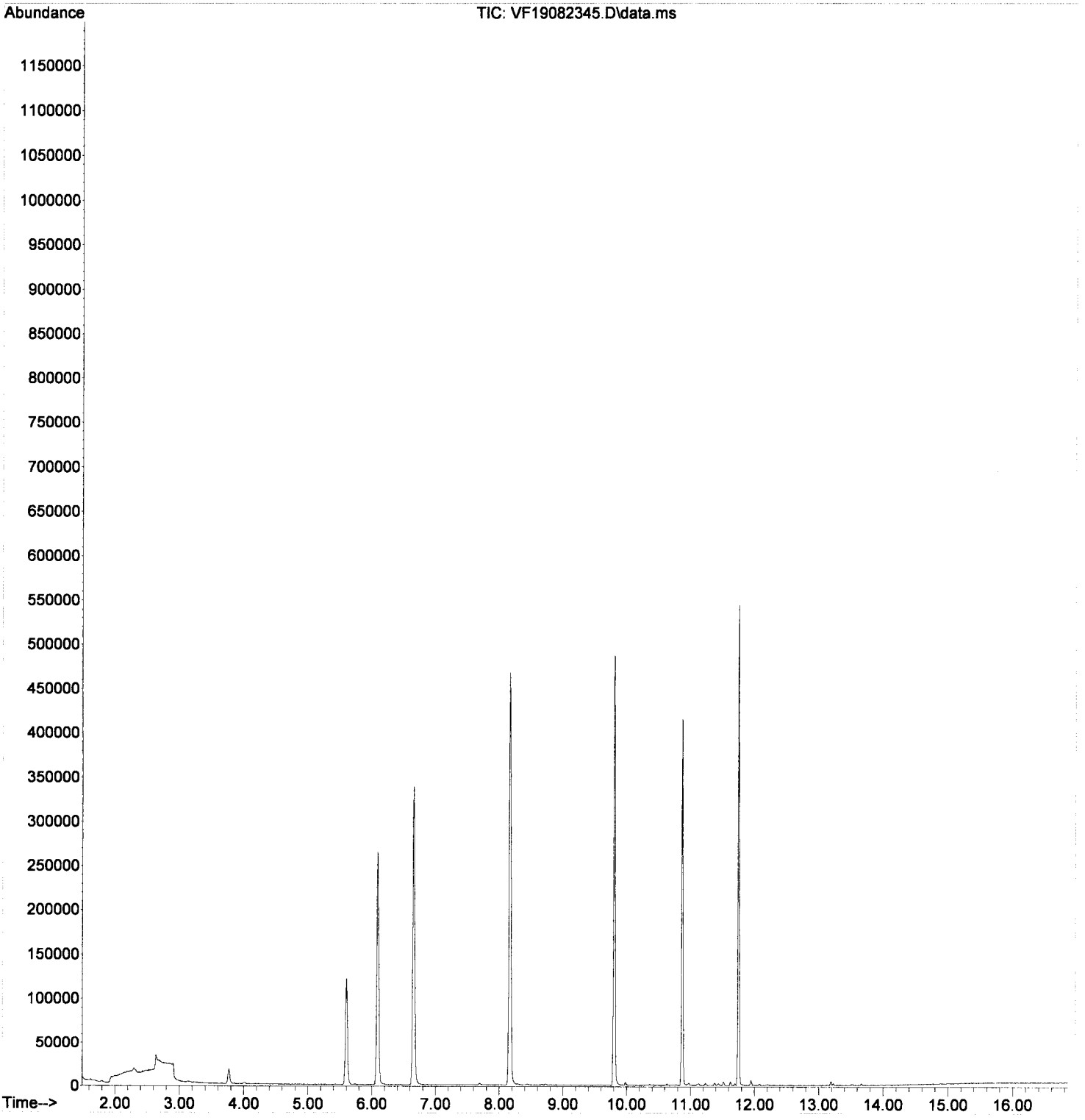
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082345.D
Acq On : 24 Aug 2019 4:25 am
Operator : TB
Sample : 9H23046-IBLF
Misc : 1X 5mL DI+MeOH
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 14:53:52 2019
Quant Method : C:\msdchem\1\METHODS\VF190823S.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:36:40 2019
Response via : Initial Calibration

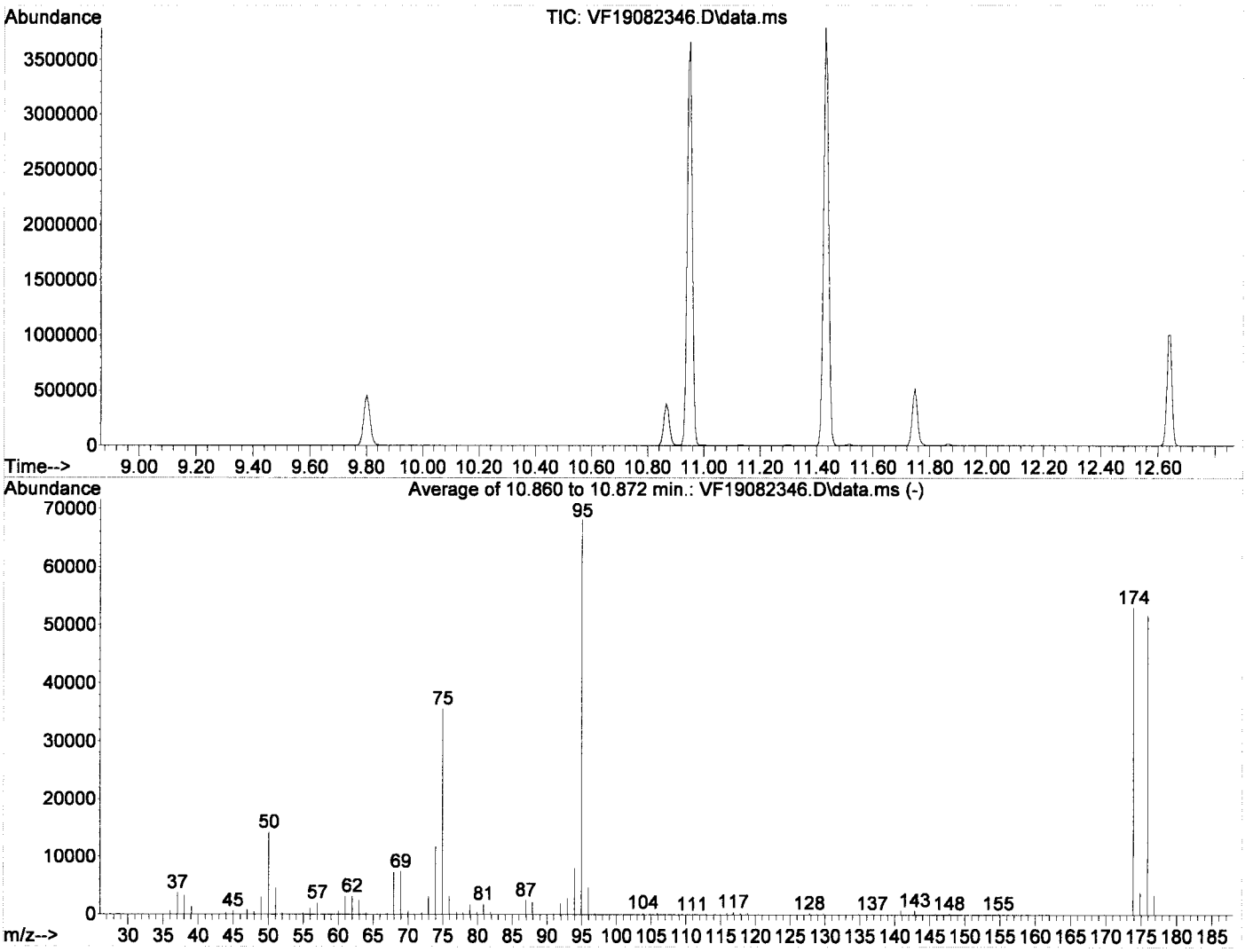


Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082346.D
Acq On : 24 Aug 2019 4:52 am
Operator : TB
Sample : 9H23046-TUN2 RT
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 30 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\METHODS\VF190823G.M
Title : NWTPH-Gx by GC/MS
Last Update : Tue Aug 27 15:24:35 2019

TB 8/27/19



AutoFind: Scans 1541, 1542, 1543; Background Corrected with Scan 1535

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	128.5	68162	PASS
96	95	5	9	6.9	4680	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	77.8	53048	PASS
175	174	5	9	7.3	3874	PASS
176	174	95	105	97.5	51746	PASS
177	176	5	10	6.5	3378	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082346.D
Acq On : 24 Aug 2019 4:52 am
Operator : TB
Sample : 9H23046-TUN2 RT
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 15:31:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

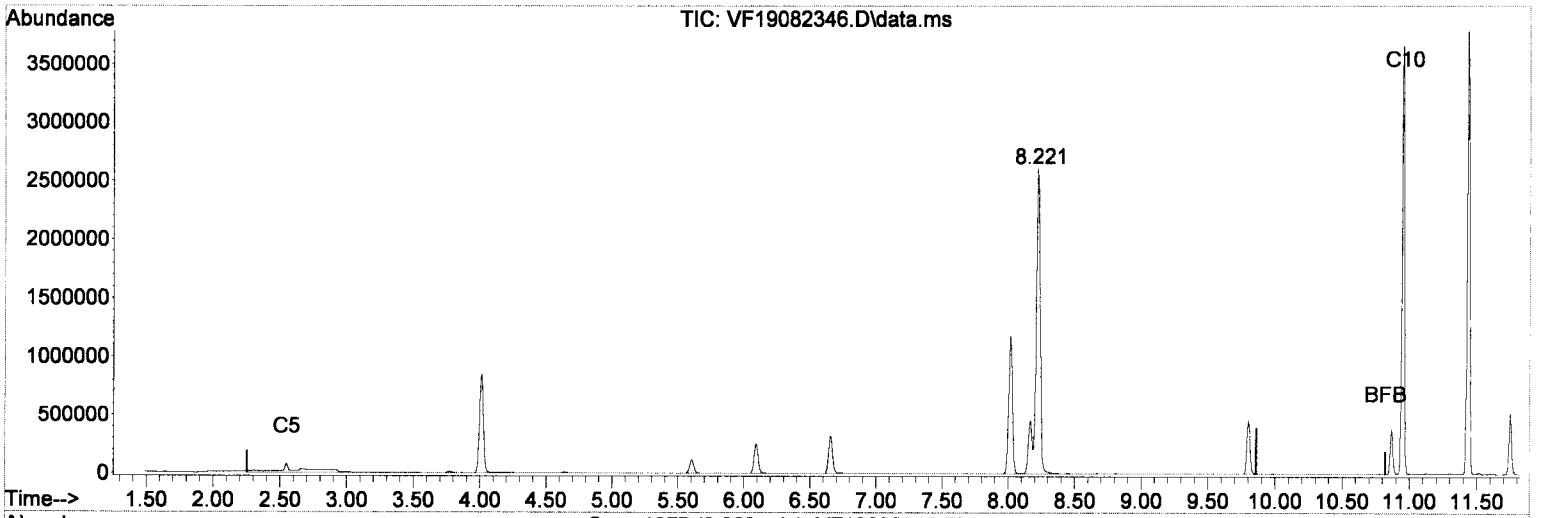
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	192162	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.658	TIC	686863	45.88	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	525328	49.78	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	731358	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	891071	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	679153	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	9938870m	1120.83	ug/L	
6) TPHg (C6-C10)	9.860	TIC	9735893m	1351.78	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	20659995m	1970.72	ug/L	
8) NWTPH-Gx	9.870	TIC	22723548m	3483.89	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082346.D
Acq On : 24 Aug 2019 4:52 am
Operator : TB
Sample : 9H23046-TUN2 RT
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



TIC: VF19082346.D\data.ms

(5) TPHg (C5-C9) (H)

9.860min (0.000) 1120.83 ug/L m

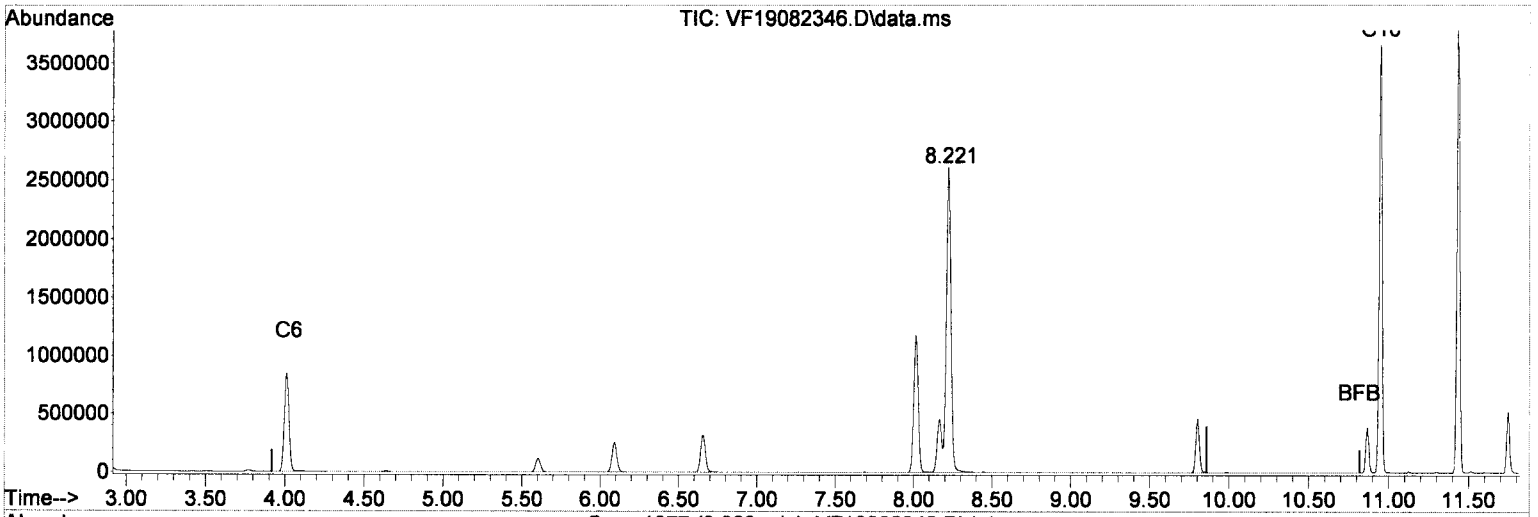
response 9938870

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.89#
0.00	0.00	1.31#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082346.D
Acq On : 24 Aug 2019 4:52 am
Operator : TB
Sample : 9H23046-TUN2 RT
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



TIC: VF19082346.D\data.ms

(6) TPHg (C6-C10) (H)

9.860min (0.000) 1351.78 ug/L m

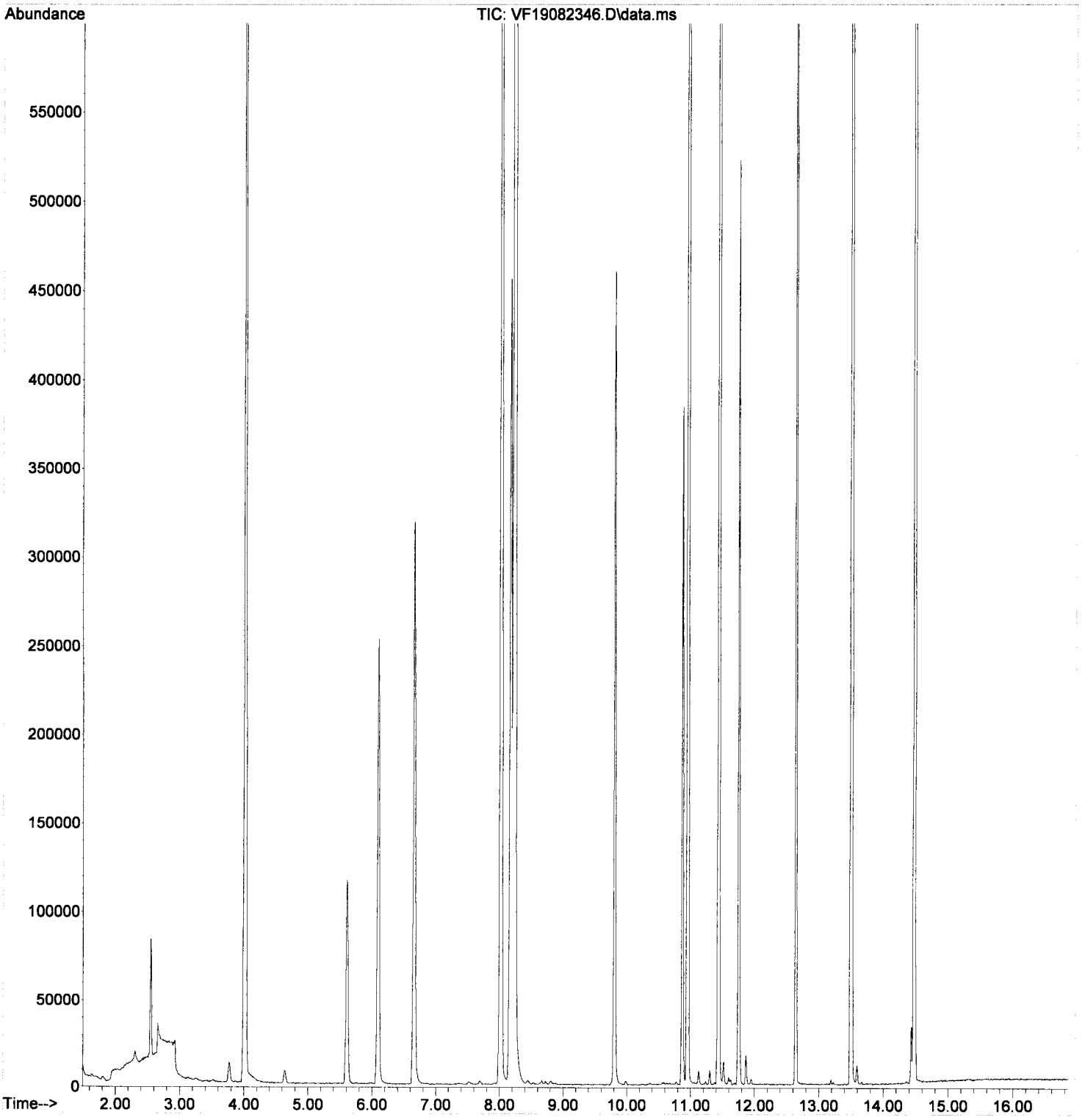
response 9735893

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	1.93#
0.00	0.00	1.34#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082346.D
Acq On : 24 Aug 2019 4:52 am
Operator : TB
Sample : 9H23046-TUN2 RT
Misc : 1X 5mL A19D196 IS SUR
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:31 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082347.D
Acq On : 24 Aug 2019 5:19 am
Operator : TB
Sample : 9H23046-IBLG
Misc : 1X 5mL DI+MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:34 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

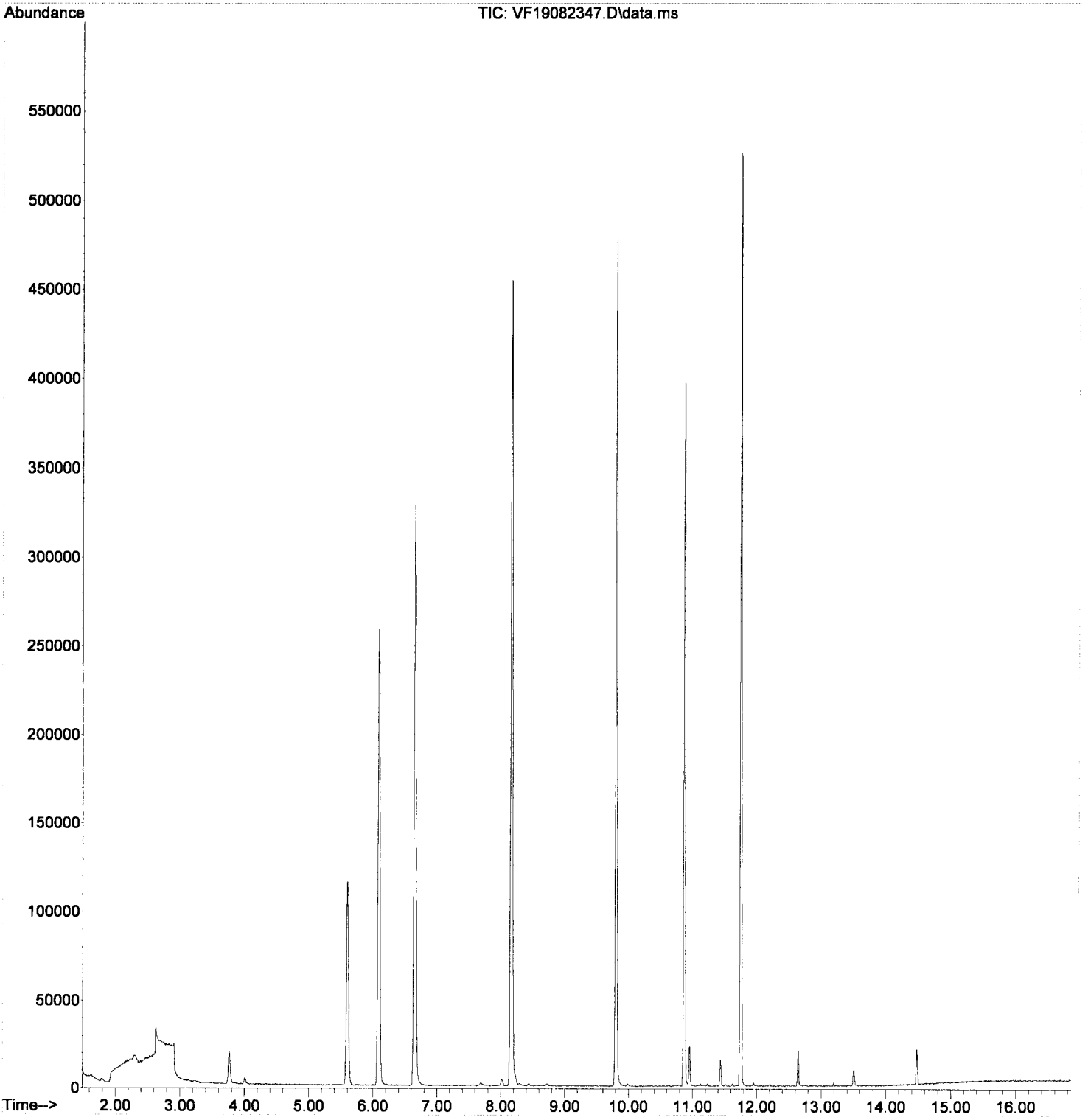
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.086	168	194731	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.652	TIC	705354	46.49	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	563692	52.71	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.802	TIC	766102	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.160	TIC	959470	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	685683	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	354785m	16.99	ug/L	
6) TPHg (C6-C10)	9.860	TIC	270829m	17.92	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	436280m	26.43	ug/L	
8) NWTPH-Gx	9.870	TIC	103188m	31.23	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082347.D
Acq On : 24 Aug 2019 5:19 am
Operator : TB
Sample : 9H23046-IBLG
Misc : 1X 5mL DI+MeOH
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:34 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

8/27/19

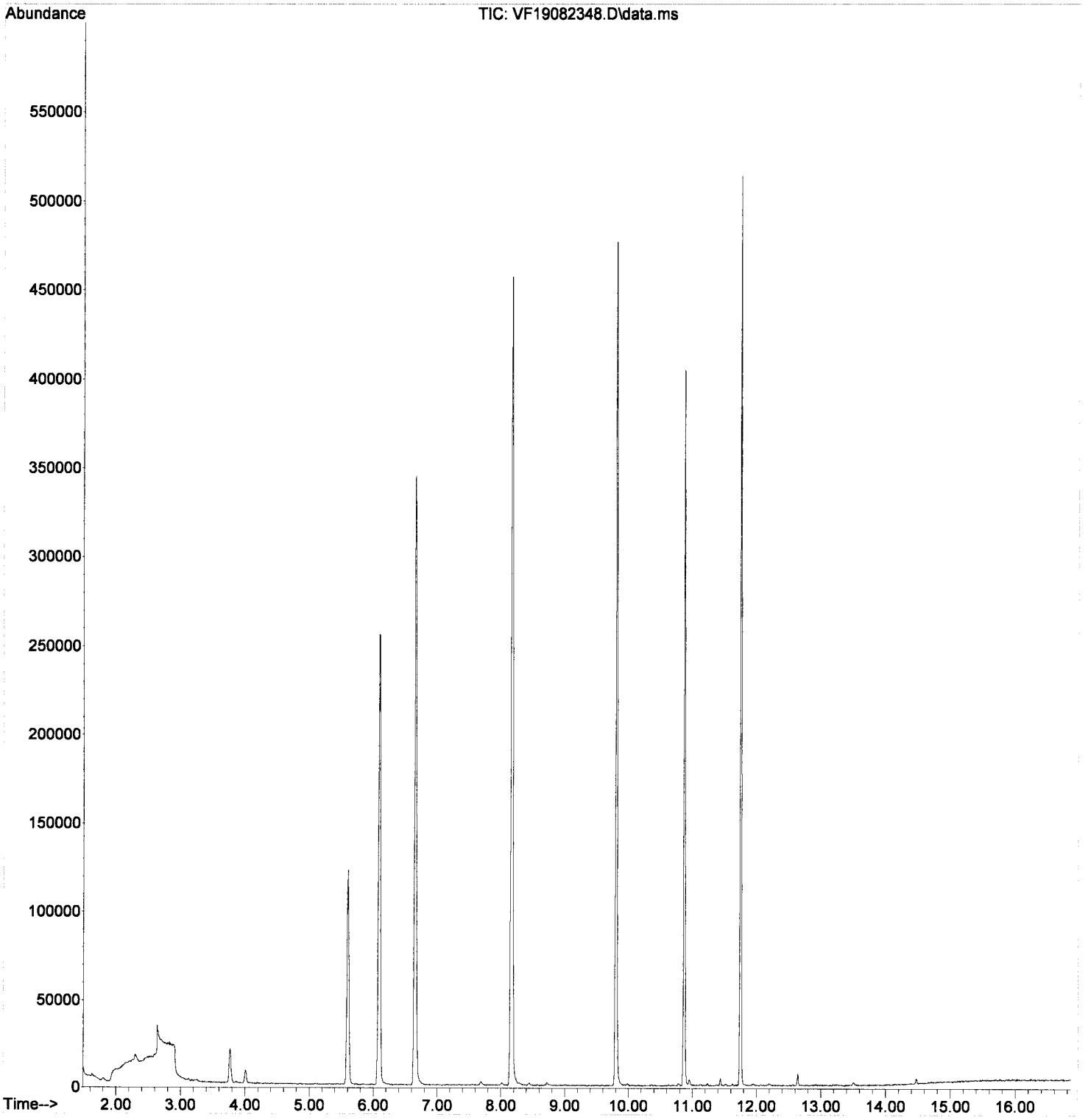
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	196784	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	717488	46.80	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.865	TIC	553198	51.19	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	766664	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.159	TIC	968561	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	662108	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	401467m	21.86	ug/L	CMPL
6) TPHg (C6-C10)	9.860	TIC	293749m	20.72	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	421170m	24.54	ug/L	
8) NWTPH-Gx	9.870	TIC	33837m	20.30	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082348.D
Acq On : 24 Aug 2019 5:46 am
Operator : TB
Sample : 9H23046-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:36 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082349.D
Acq On : 24 Aug 2019 6:13 am
Operator : TB
Sample : 9H23046-CALC
Misc : 1X 5mL 50ppb GX DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:40 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

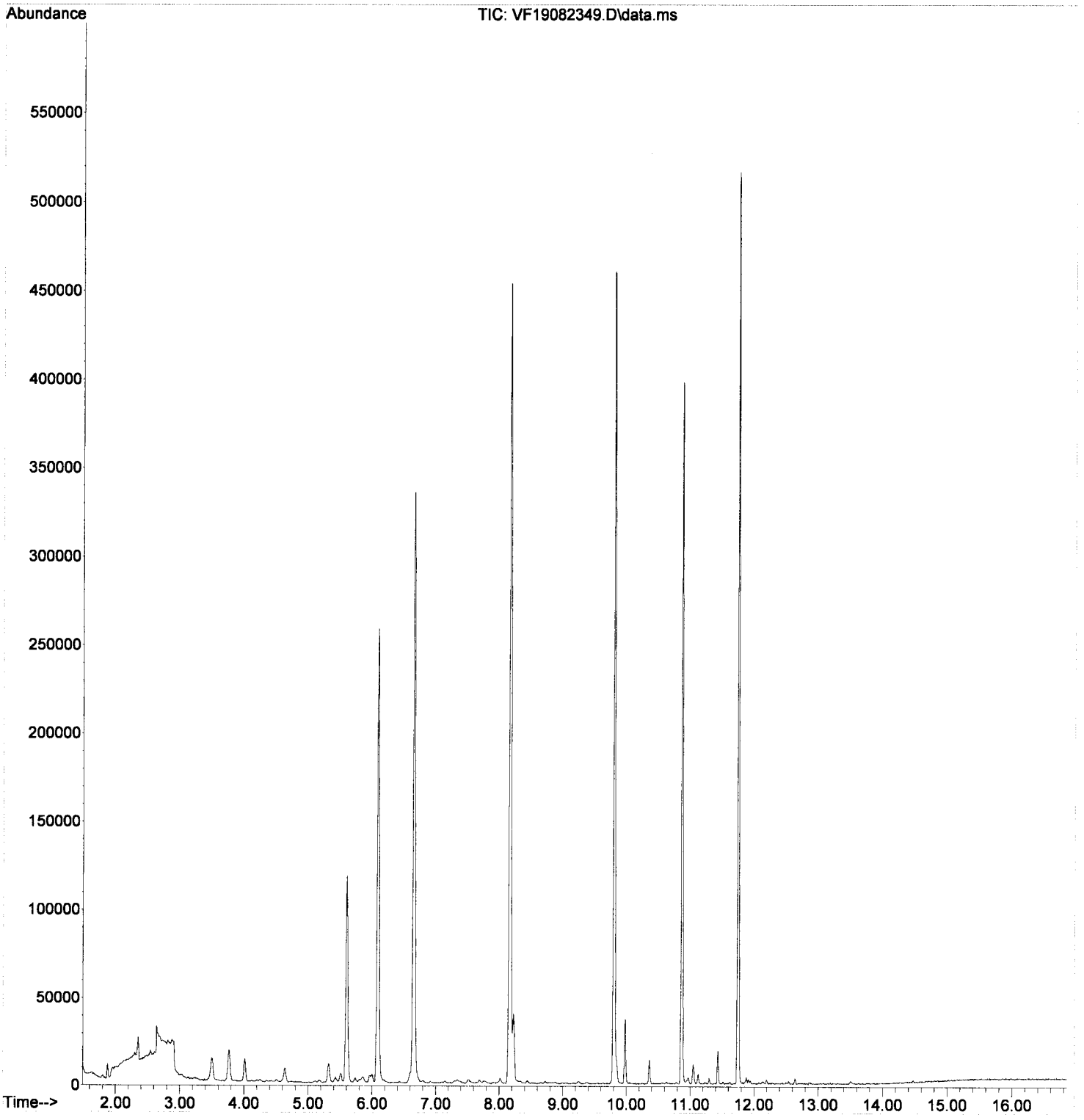
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.088	168	195889	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.653	TIC	708890	46.31	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	560956	52.17	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.797	TIC	778122	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.161	TIC	958942	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	684349	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	727426m	59.19	ug/L	
6) TPHg (C6-C10)	9.860	TIC	568425m	59.40	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	797249m	60.83	ug/L	
8) NWTPH-Gx	9.870	TIC	270537m	59.65	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082349.D
Acq On : 24 Aug 2019 6:13 am
Operator : TB
Sample : 9H23046-CALC
Misc : 1X 5mL 50ppb GX DI+MeOH
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:00 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082350.D
Acq On : 24 Aug 2019 6:40 am
Operator : TB
Sample : 9H23046-CALD
Misc : 1X 5mL 100ppb GX DI+MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

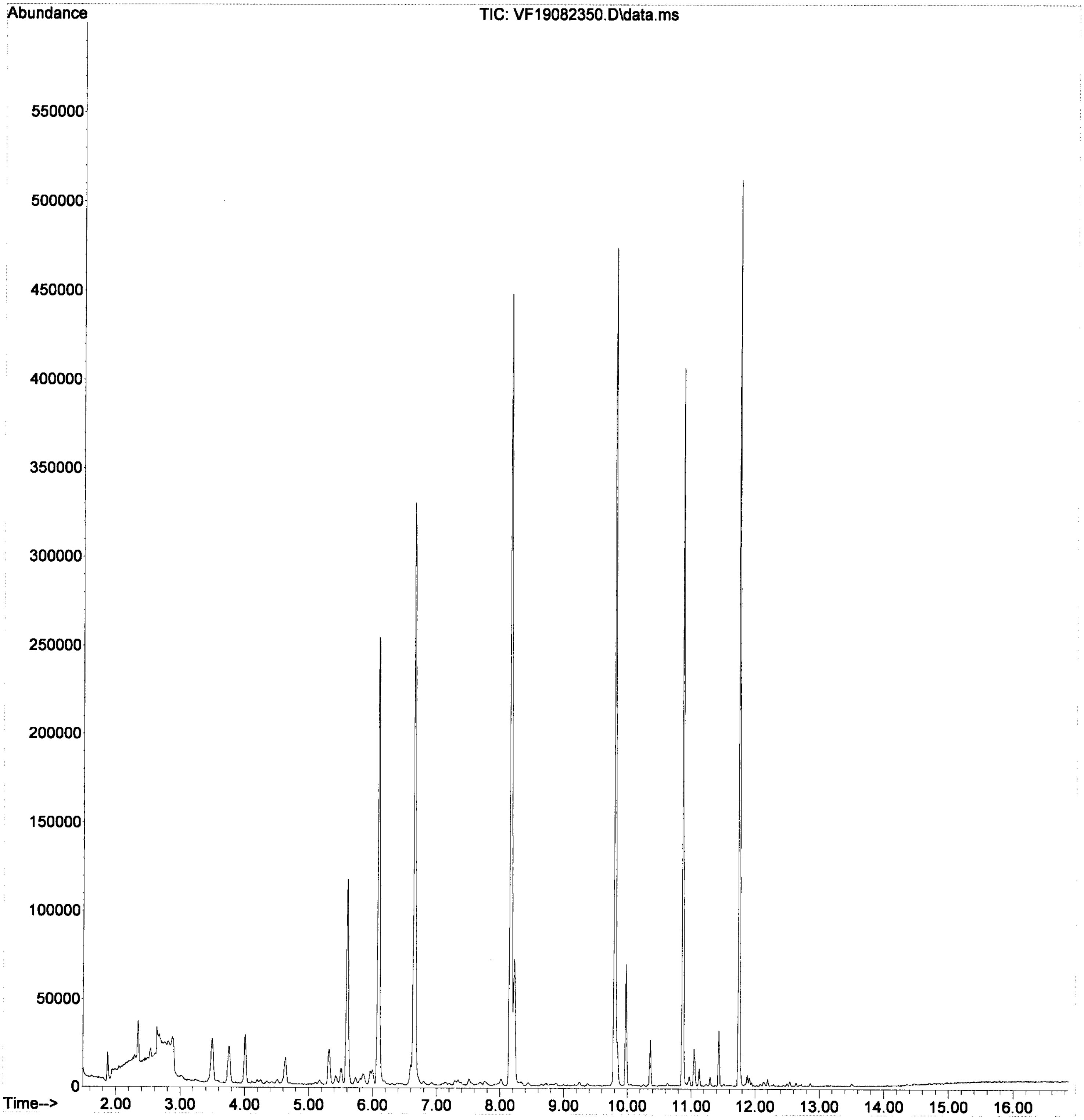
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.092	168	196284	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	737743	48.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.866	TIC	548939	50.95	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	782741	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.166	TIC	952630	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.748	TIC	673576	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	1043916m	94.97	ug/L	
6) TPHg (C6-C10)	9.860	TIC	847597m	98.25	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	1164980m	95.87	ug/L	
8) NWTPH-Gx	9.870	TIC	490705m	93.68	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082350.D
Acq On : 24 Aug 2019 6:40 am
Operator : TB
Sample : 9H23046-CALD
Misc : 1X 5mL 100ppb GX DI+MeOH
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:02 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082351.D
Acq On : 24 Aug 2019 7:07 am
Operator : TB
Sample : 9H23046-CALE
Misc : 1X 5mL 250ppb GX DI+MeOH
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.091	168	197859	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	727034	47.02	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	563653	51.90	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	779036	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	963345	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	704714	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	2498985m	257.73	ug/L	
6) TPHg (C6-C10)	9.860	TIC	1968990m	252.42	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	2866360m	256.21	ug/L	
8) NWTPH-Gx	9.870	TIC	1452983m	240.69	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082352.D
Acq On : 24 Aug 2019 7:34 am
Operator : TB
Sample : 9H23046-CALF
Misc : 1X 5mL 500ppb GX DI+MeOH
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:46 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

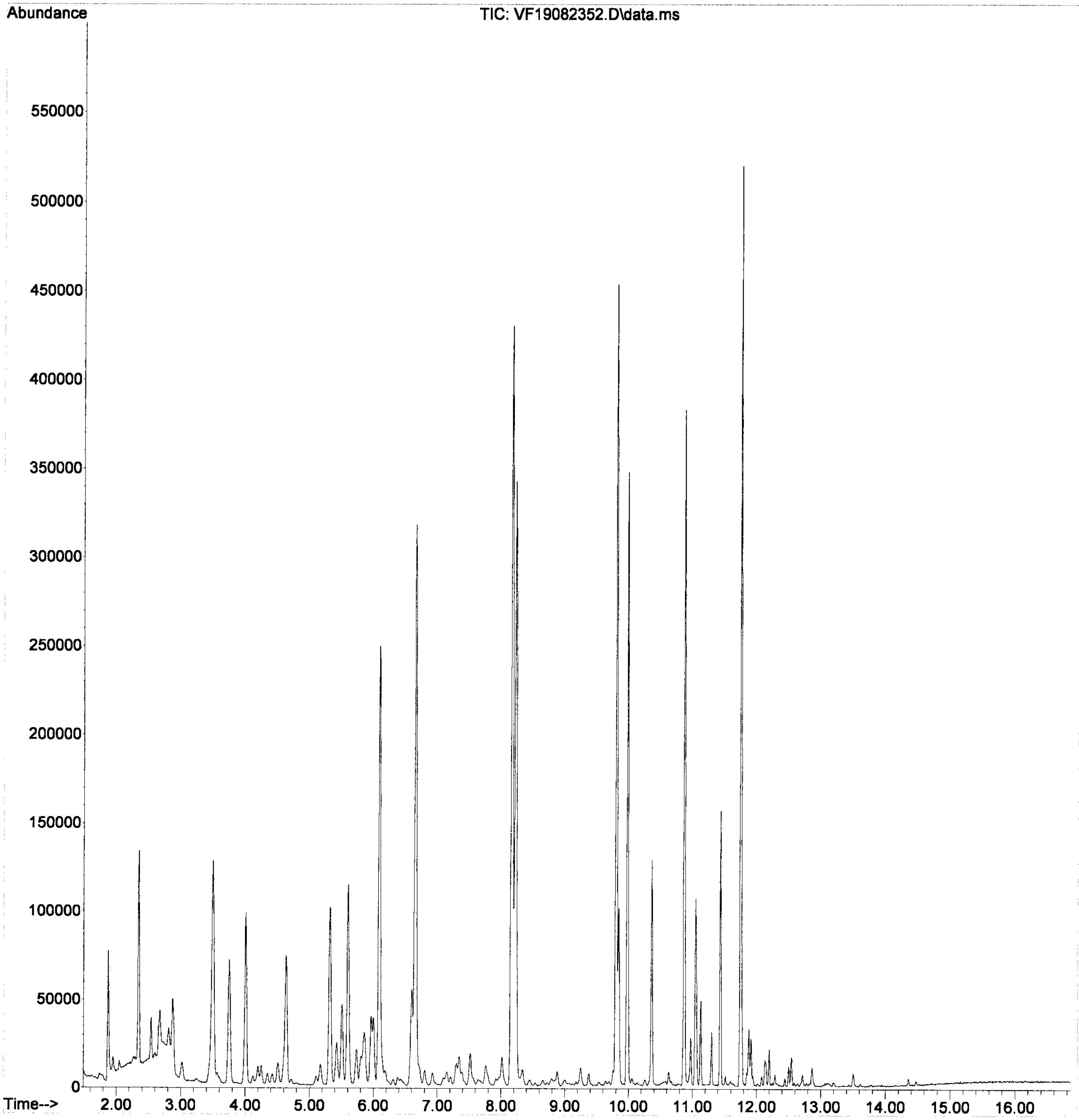
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.085	168	192785	50.00	ug/L	-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	721102	47.87	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	526341	49.74	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	733563	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	910560	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	685126	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	4607793m	507.80	ug/L	
6) TPHg (C6-C10)	9.860	TIC	3692052m	503.10	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	5360108m	504.96	ug/L	
8) NWTPH-Gx	9.870	TIC	2986086m	486.81	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082352.D
Acq On : 24 Aug 2019 7:34 am
Operator : TB
Sample : 9H23046-CALF
Misc : 1X 5mL 500ppb GX DI+MeOH
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:06 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082353.D
Acq On : 24 Aug 2019 8:01 am
Operator : TB
Sample : 9H23046-CALG
Misc : 1X 5mL 1000ppb GX DI+MeOH
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:48 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

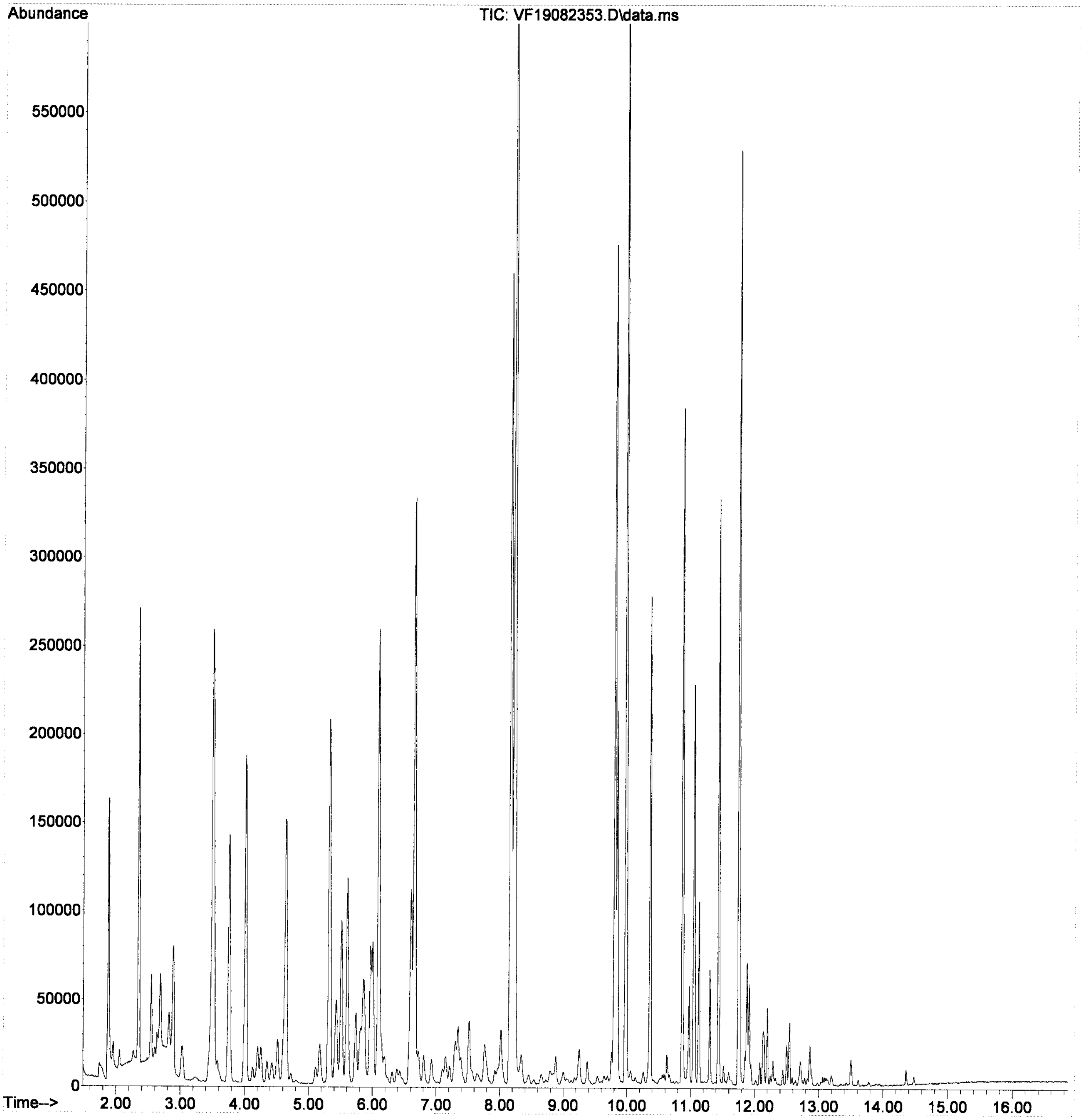
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.090	168	196063	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.656	TIC	738538	48.21	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.870	TIC	558533	51.90	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.800	TIC	758353	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.164	TIC	942862	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.746	TIC	772899	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	9222502m	1018.06	ug/L	
6) TPHg (C6-C10)	9.860	TIC	7433650m	1010.25	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	10881063m	1018.64	ug/L	
8) NWTPH-Gx	9.870	TIC	6457995m	1009.42	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082353.D
Acq On : 24 Aug 2019 8:01 am
Operator : TB
Sample : 9H23046-CALG
Misc : 1X 5mL 1000ppb GX DI+MeOH
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:08 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082354.D
Acq On : 24 Aug 2019 8:28 am
Operator : TB
Sample : 9H23046-CALH
Misc : 1X 5mL 2500ppb GX DI+MeOH
ALS Vial : 38 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 15:11:50 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

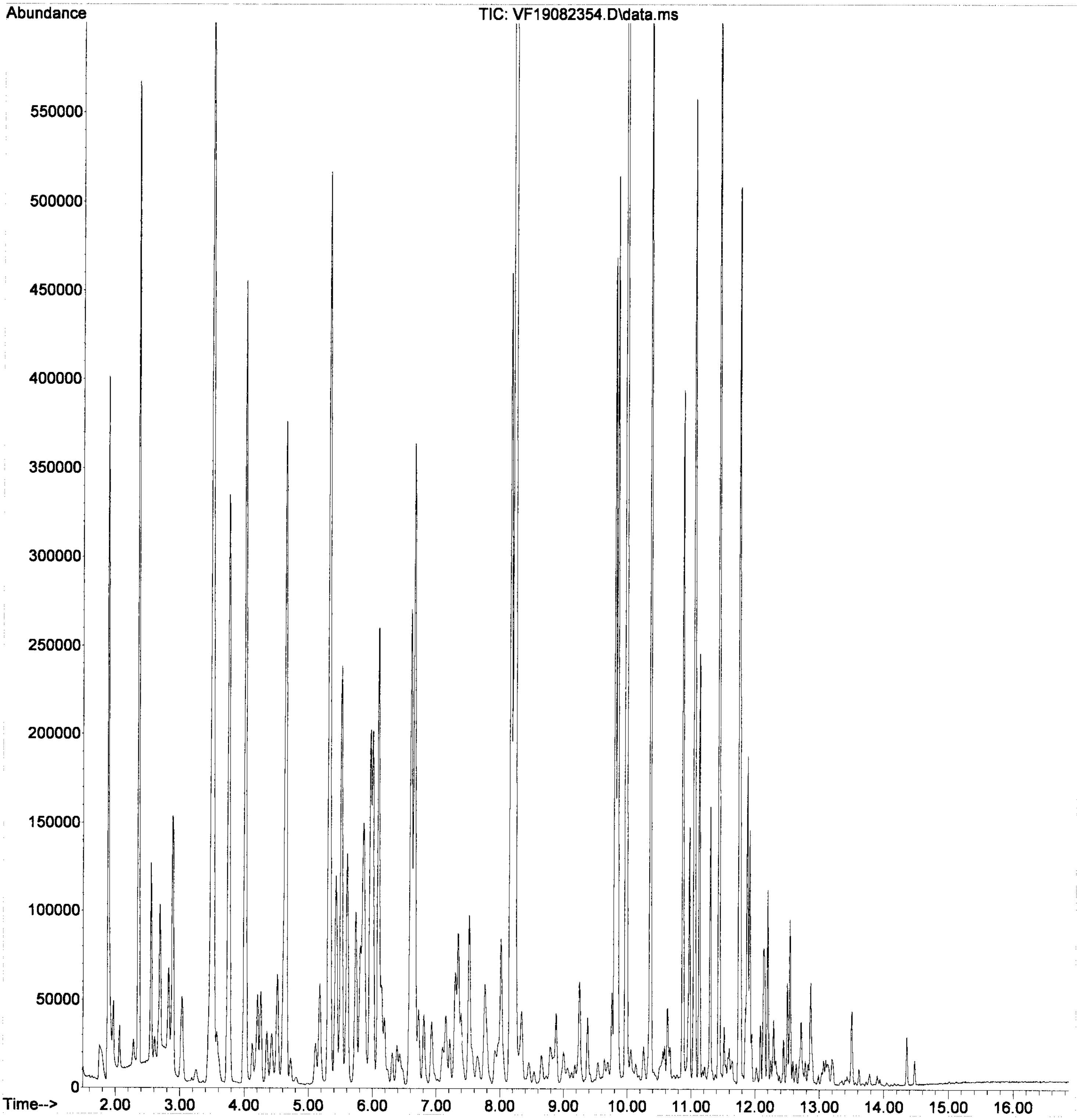
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	197636	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.654	TIC	752257	48.71	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	551101	50.80	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.804	TIC	774376	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.162	TIC	963130	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	909251	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	22398524m	2457.82	ug/L	
6) TPHg (C6-C10)	9.860	TIC	18386432m	2469.34	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	26678099m	2466.90	ug/L	
8) NWTPH-Gx	9.870	TIC	16638421m	2509.78	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082354.D
Acq On : 24 Aug 2019 8:28 am
Operator : TB
Sample : 9H23046-CALH
Misc : 1X 5mL 2500ppb GX DI+MeOH
ALS Vial : 38 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:10 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082355.D
Acq On : 24 Aug 2019 8:55 am
Operator : TB
Sample : 9H23046-CALI
Misc : 1X 5mL 5000ppb GX DI+MeOH
ALS Vial : 39 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:23:00 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.089	168	201012	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.654	TIC	813479	51.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.869	TIC	530299	48.06	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.804	TIC	733689	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.162	TIC	944634	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.744	TIC	821141m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	47155223m	5011.69	ug/L	
6) TPHg (C6-C10)	9.860	TIC	38882587m	5020.21	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	56125213m	5003.45	ug/L	
8) NWTPH-Gx	9.870	TIC	34854544m	5010.09	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082355.D
Acq On : 24 Aug 2019 8:55 am
Operator : TB
Sample : 9H23046-CALI
Misc : 1X 5mL 5000ppb GX DI+MeOH
ALS Vial : 39 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

8/27/19

Quant Time: Aug 27 15:11:52 2019
Quant Method : C:\msdchem\1\METHODS\~~VF190823G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

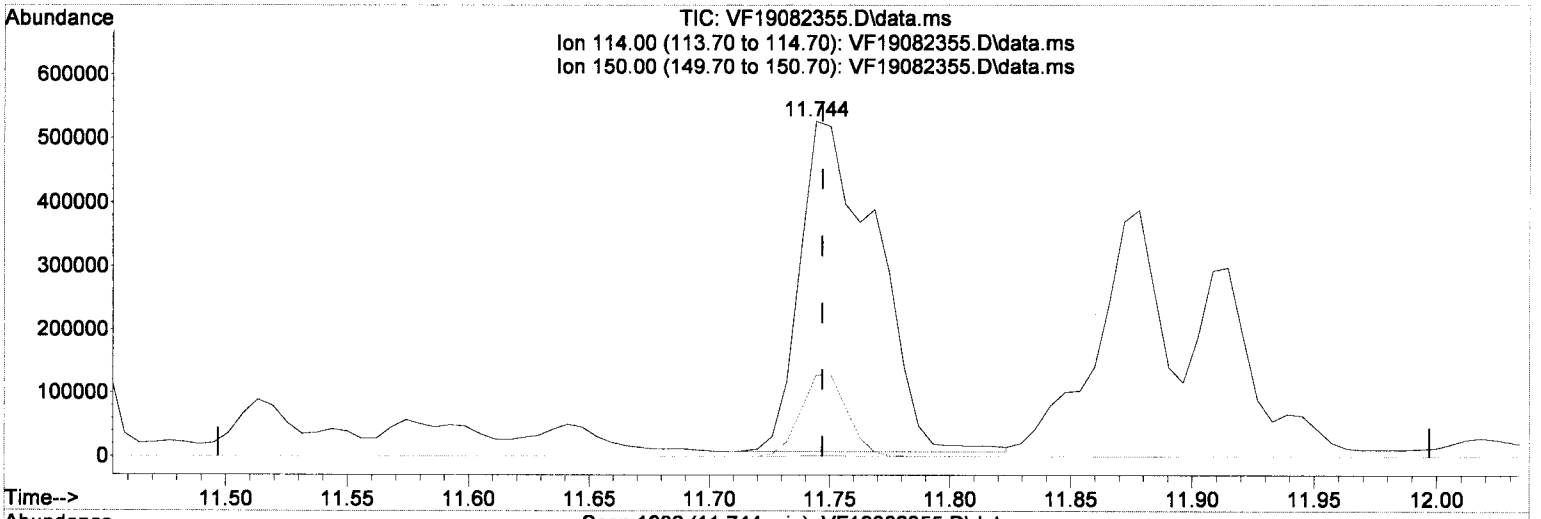
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.089	168	201012	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.654	TIC	813479	51.79	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.869	TIC	530299	48.06	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.804	TIC	733689	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.162	TIC	944634	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	~~11.744~~	~~TIC~~	~~1143401~~	~~0.00~~	~~ug/L~~	~~0.00~~ MT
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	47155223m	5011.69	ug/L	
6) TPHg (C6-C10)	9.860	TIC	38882587m	5020.21	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	55802953m	4975.86	ug/L	
8) NWTPH-Gx	9.870	TIC	34532284m	4966.31	ug/L	

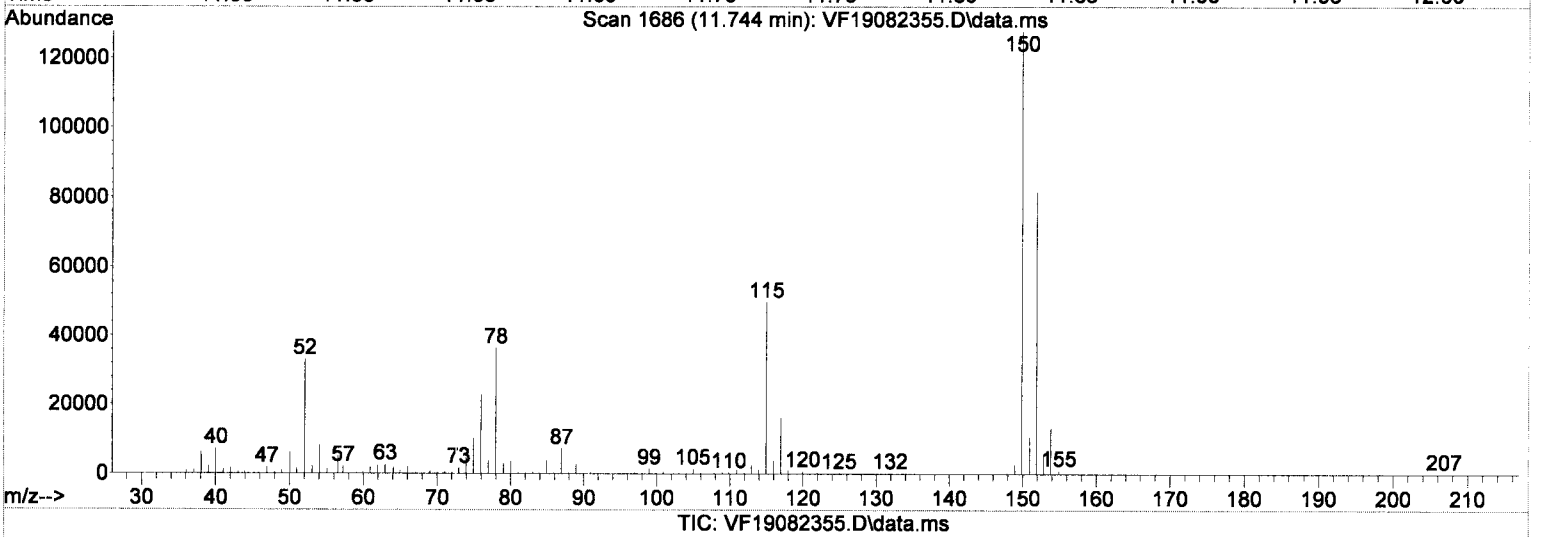
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082355.D
Acq On : 24 Aug 2019 8:55 am
Operator : TB
Sample : 9H23046-CALI
Misc : 1X 5mL 5000ppb GX DI+MeOH
ALS Vial : 39 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:52 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration





TIC: VF19082355.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.744min (-0.003) 0.00 ug/L

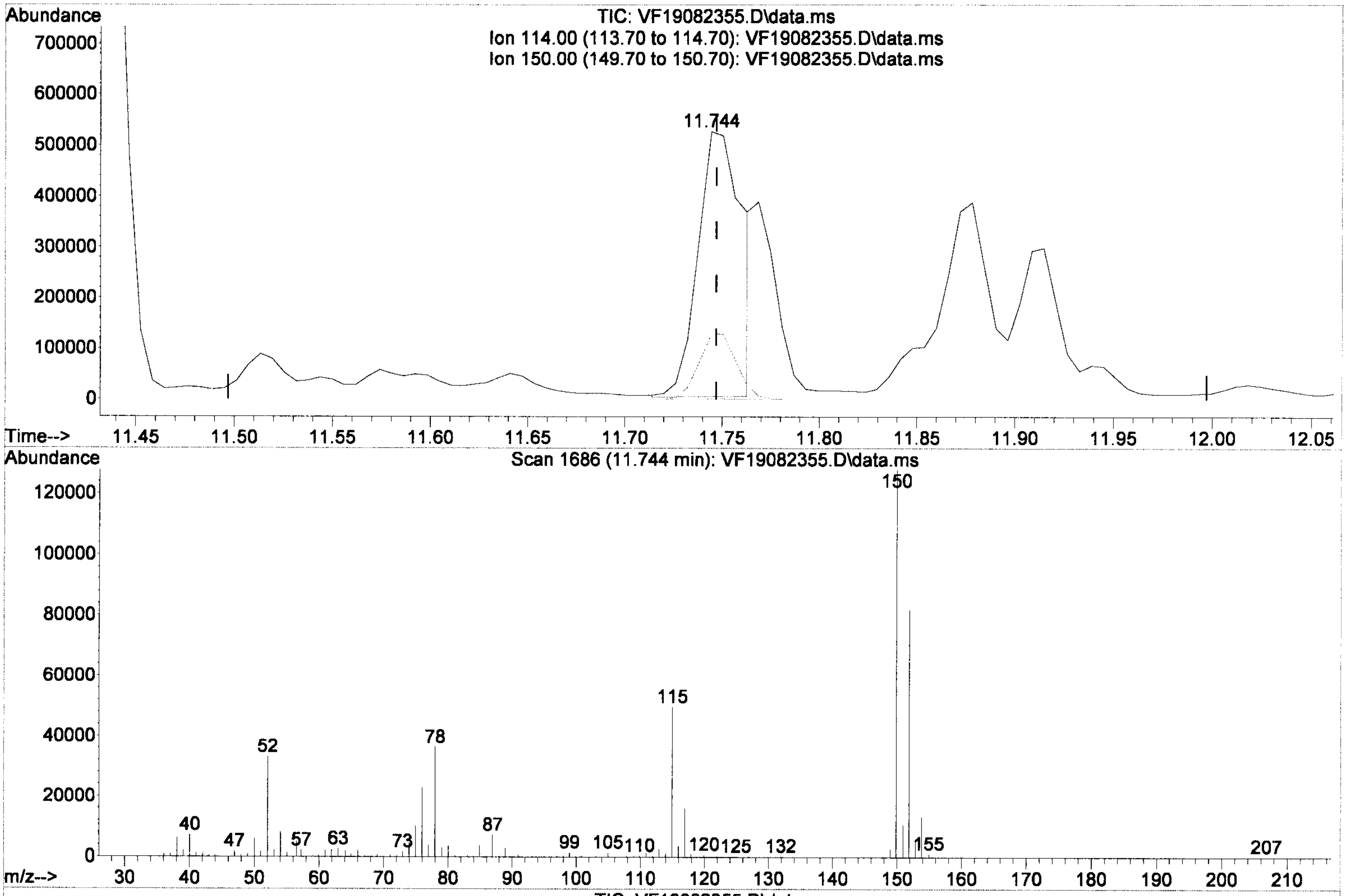
response 1143401

Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	15.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082355.D
Acq On : 24 Aug 2019 8:55 am
Operator : TB
Sample : 9H23046-CALI
Misc : 1X 5mL 5000ppb GX DI+MeOH
ALS Vial : 39 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:52 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration



TIC: VF19082355.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.744min (-0.003) 0.00 ug/L m

response 821141

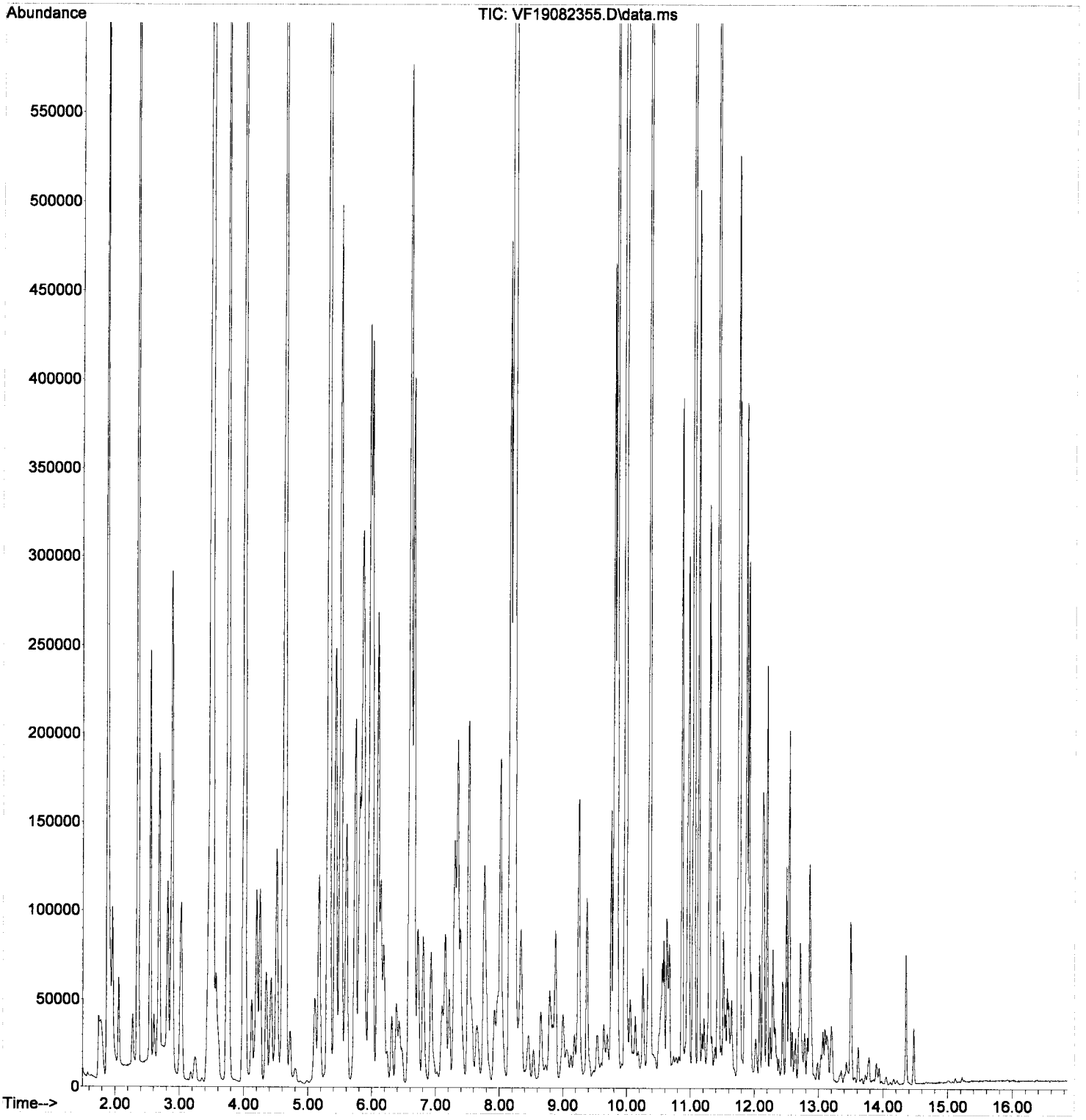
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	21.20
0.00	0.00	0.00

TB 8/27/19 TB 8/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082355.D
Acq On : 24 Aug 2019 8:55 am
Operator : TB
Sample : 9H23046-CALI
Misc : 1X 5mL 5000ppb GX DI+MeOH
ALS Vial : 39 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:03:12 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082356.D
Acq On : 24 Aug 2019 9:22 am
Operator : TB
Sample : 9H23046-CALJ
Misc : 1X 5mL 10000ppb GX DI+MeOH
ALS Vial : 40 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:23:43 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.091	168	207556	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	986674	60.84	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	509335	44.71	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	743583	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.159	TIC	1002731	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	649051m	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	100674855m	10001.96	ug/L	
6) TPHg (C6-C10)	9.860	TIC	83873539m	9996.41	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	120836152m	10003.54	ug/L	
8) NWTPH-Gx	9.870	TIC	75831193m	9992.90	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082356.D
Acq On : 24 Aug 2019 9:22 am
Operator : TB
Sample : 9H23046-CALJ
Misc : 1X 5mL 10000ppb GX DI+MeOH
ALS Vial : 40 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:54 2019
Quant Method : C:\msdchem\1\METHODS\VF~~190823G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration

8/27/19

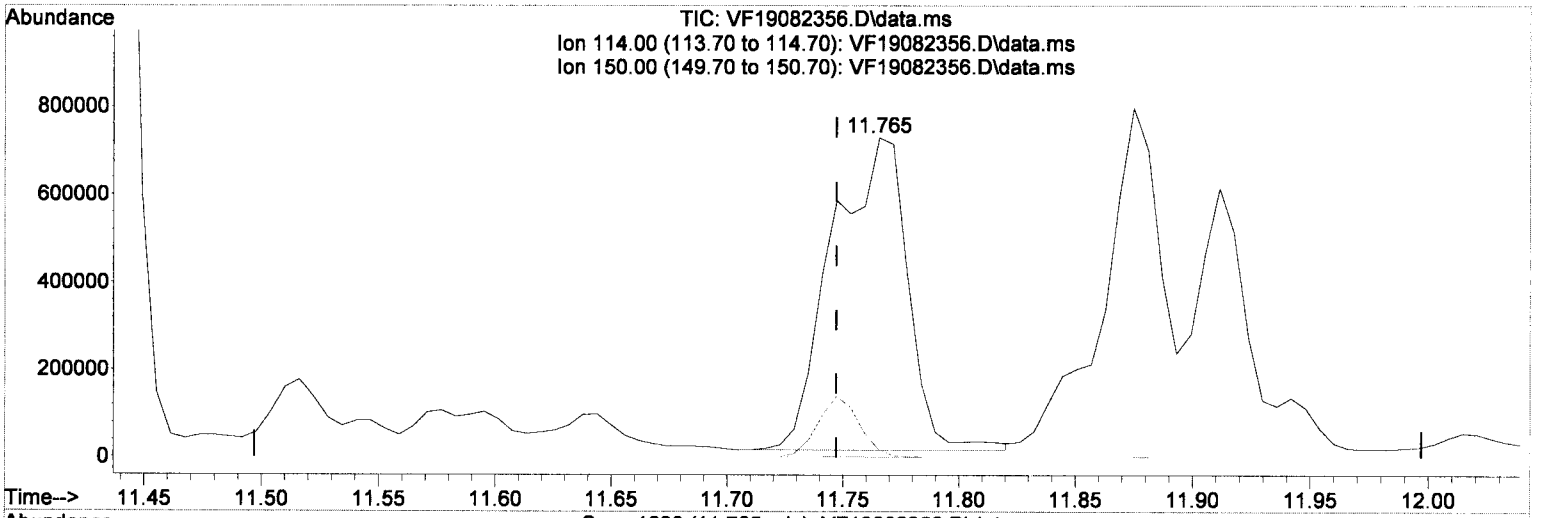
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.091	168	207556	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	986674	60.84	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	509335	44.71	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	743583	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.159	TIC	1002731	0.00	ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.765	~~TIC~~	~~1610453~~	0.00	ug/L	0.02
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	100674855m	10001.96	ug/L	
6) TPHg (C6-C10)	9.860	TIC	83873539m	9996.41	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	119874750m	9930.05	ug/L	
8) NWTPH-Gx	9.870	TIC	74869791m	9878.17	ug/L	

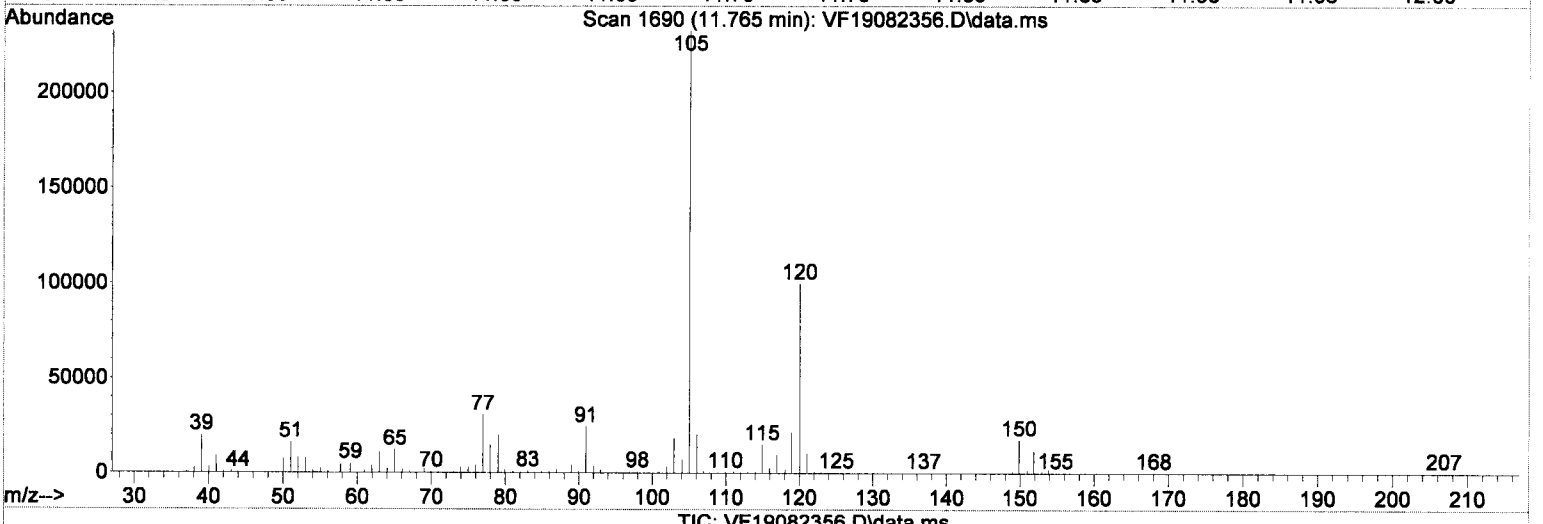
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082356.D
Acq On : 24 Aug 2019 9:22 am
Operator : TB
Sample : 9H23046-CALJ
Misc : 1X 5mL 10000ppb GX DI+MeOH
ALS Vial : 40 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:54 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration





TIC: VF19082356.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.765min (+0.018) 0.00 ug/L

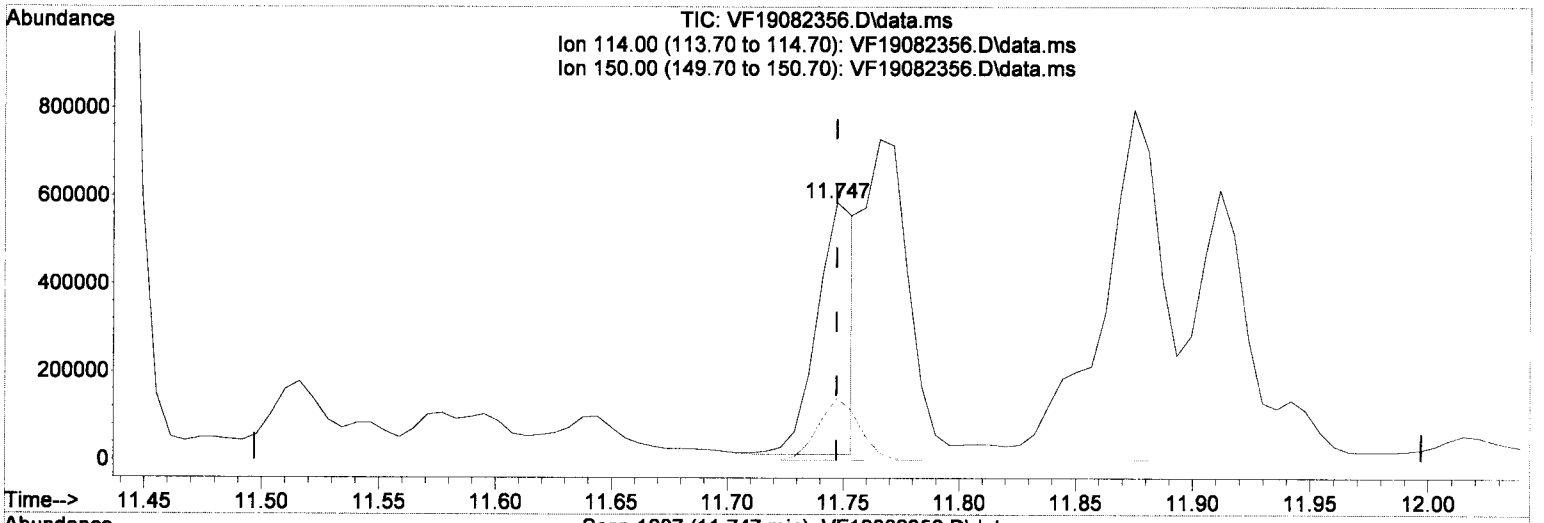
response 1610453

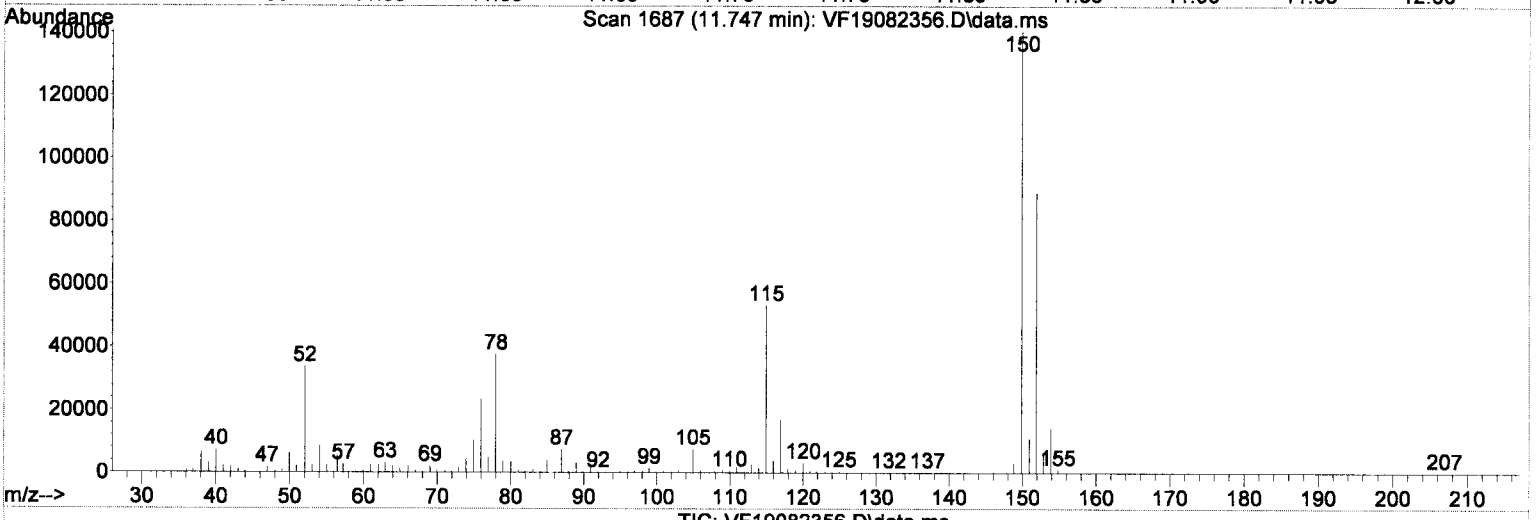
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	10.88
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082356.D
Acq On : 24 Aug 2019 9:22 am
Operator : TB
Sample : 9H23046-CALJ
Misc : 1X 5mL 10000ppb GX DI+MeOH
ALS Vial : 40 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:11:54 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:10:10 2019
Response via : Initial Calibration





TIC: VF19082356.D\data.ms

(12) 1,4-Dichlorobenzene-d4 (NR) (S)

11.747min (+0.000) 0.00 ug/L m

response 649051

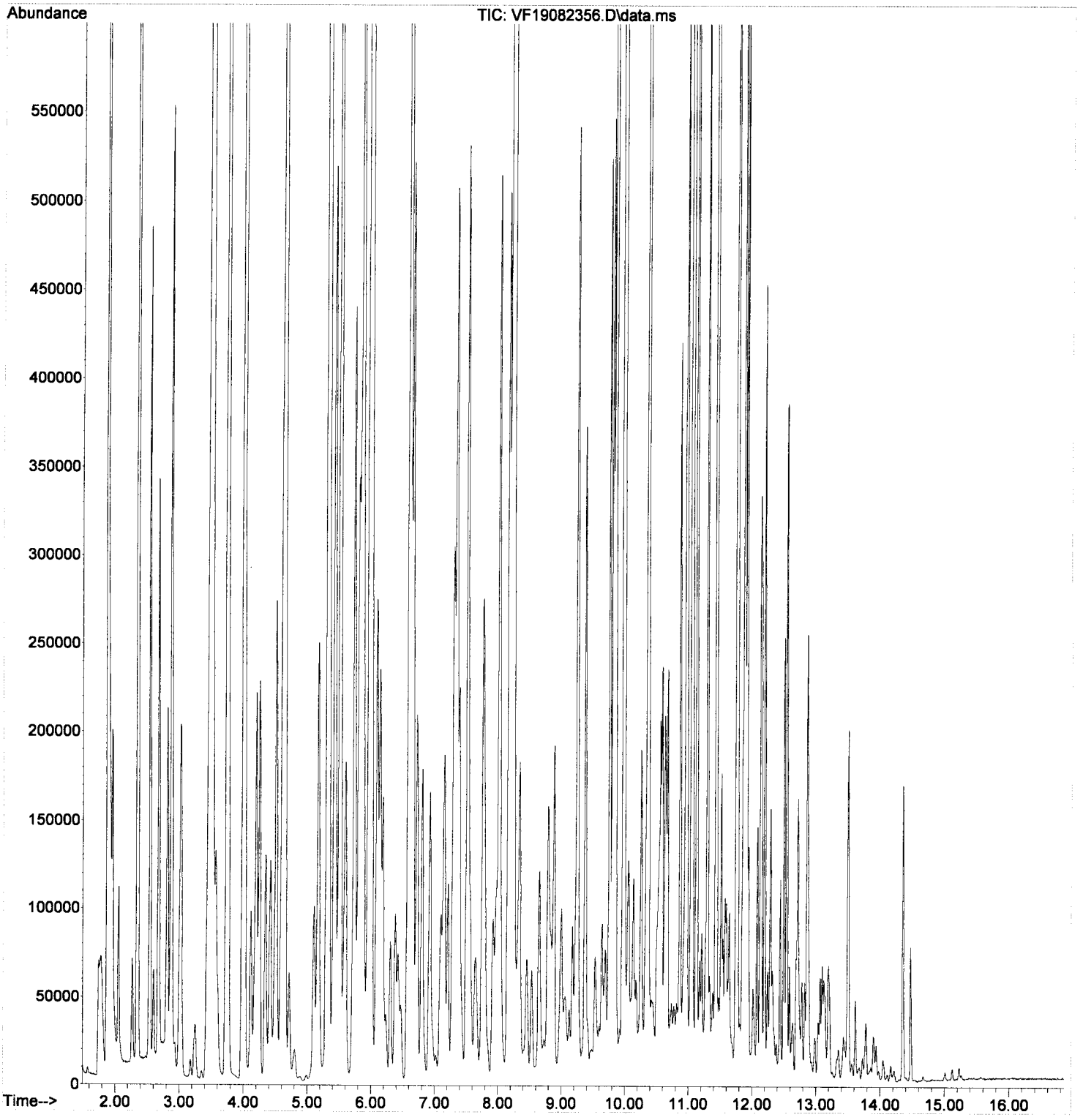
Signal	Exp%	Act%
TIC	100	100
114.00	0.20	0.00
150.00	24.00	27.01
0.00	0.00	0.00

8/27/19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082356.D
Acq On : 24 Aug 2019 9:22 am
Operator : TB
Sample : 9H23046-CALJ
Misc : 1X 5mL 10000ppb GX DI+MeOH
ALS Vial : 40 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:08:04 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:01:08 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082357.D
Acq On : 24 Aug 2019 9:49 am
Operator : TB
Sample : 9H23046-IBLH
Misc : 1X 5mL DI+MeOH
ALS Vial : 41 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

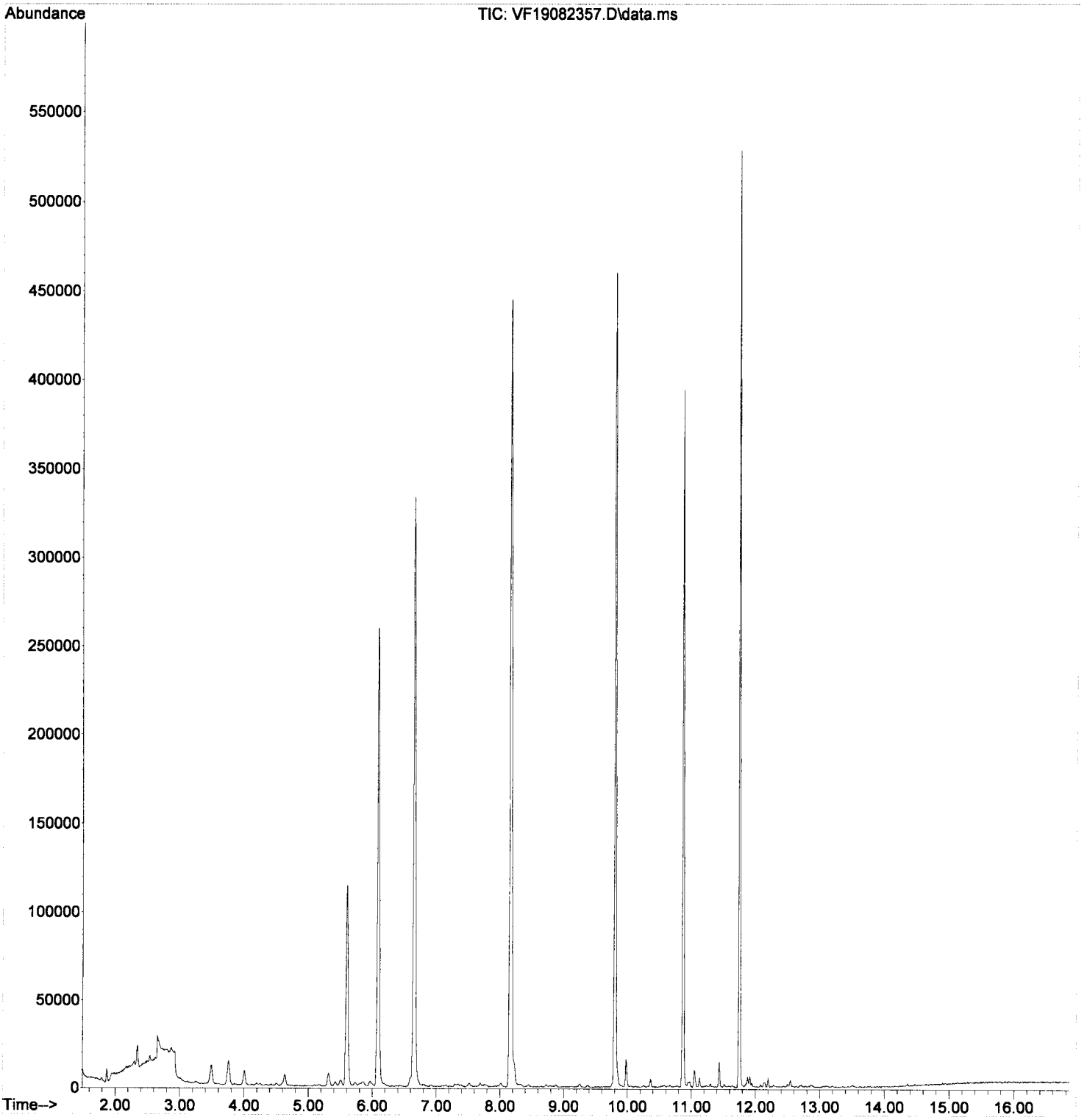
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.085	168	201234	50.00	ug/L	-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.651	TIC	728017	46.43	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.865	TIC	544019	49.22	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.801	TIC	763970	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.165	TIC	971848	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.747	TIC	664134	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	501154m	31.91	ug/L	
6) TPHg (C6-C10)	9.860	TIC	378558m	31.39	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	577136m	38.23	ug/L	
8) NWTPH-Gx	9.870	TIC	123330m	33.76	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082357.D
Acq On : 24 Aug 2019 9:49 am
Operator : TB
Sample : 9H23046-IBLH
Misc : 1X 5mL DI+MeOH
ALS Vial : 41 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:38 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082358.D
Acq On : 24 Aug 2019 10:16 am
Operator : TB
Sample : 9H23046-IBLI
Misc : 1X 5mL DI+MeOH
ALS Vial : 42 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:40 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

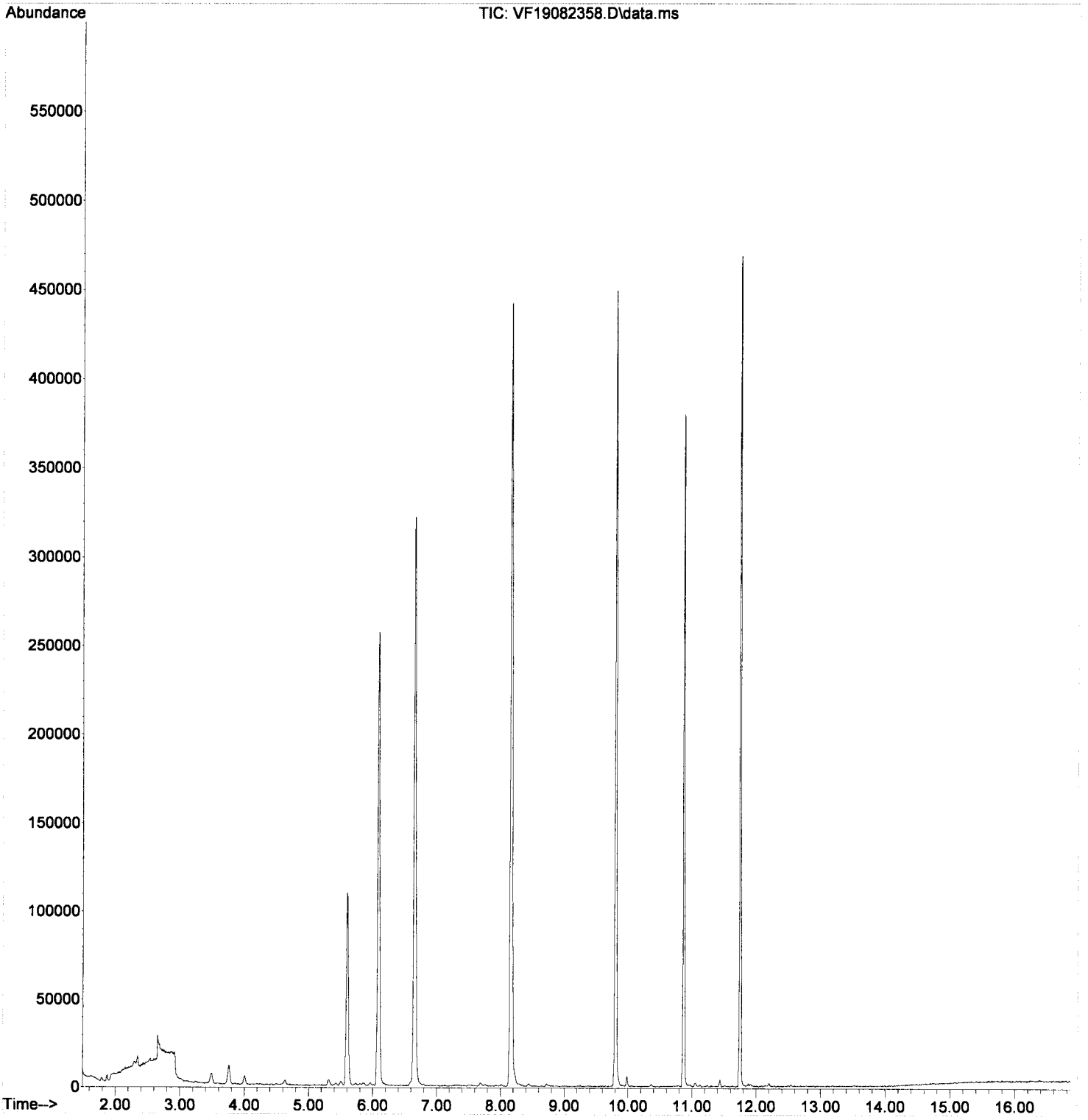
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.088	168	195047	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.654	TIC	697086	45.87	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.868	TIC	531702	49.63	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.798	TIC	734675	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.162	TIC	935495	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.750	TIC	643491	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	377406m	19.51	ug/L	
6) TPHg (C6-C10)	9.860	TIC	295429m	21.32	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	383529m	21.27	ug/L	
8) NWTPH-Gx	9.870	TIC	23745m	18.77	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082358.D
Acq On : 24 Aug 2019 10:16 am
Operator : TB
Sample : 9H23046-IBLI
Misc : 1X 5mL DI+MeOH
ALS Vial : 42 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:40 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082359.D
Acq On : 24 Aug 2019 10:43 am
Operator : TB
Sample : 9H23046-ICV2
Misc : 1X 5mL 500ppb GX DI+MeOH
ALS Vial : 43 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

8/27/19

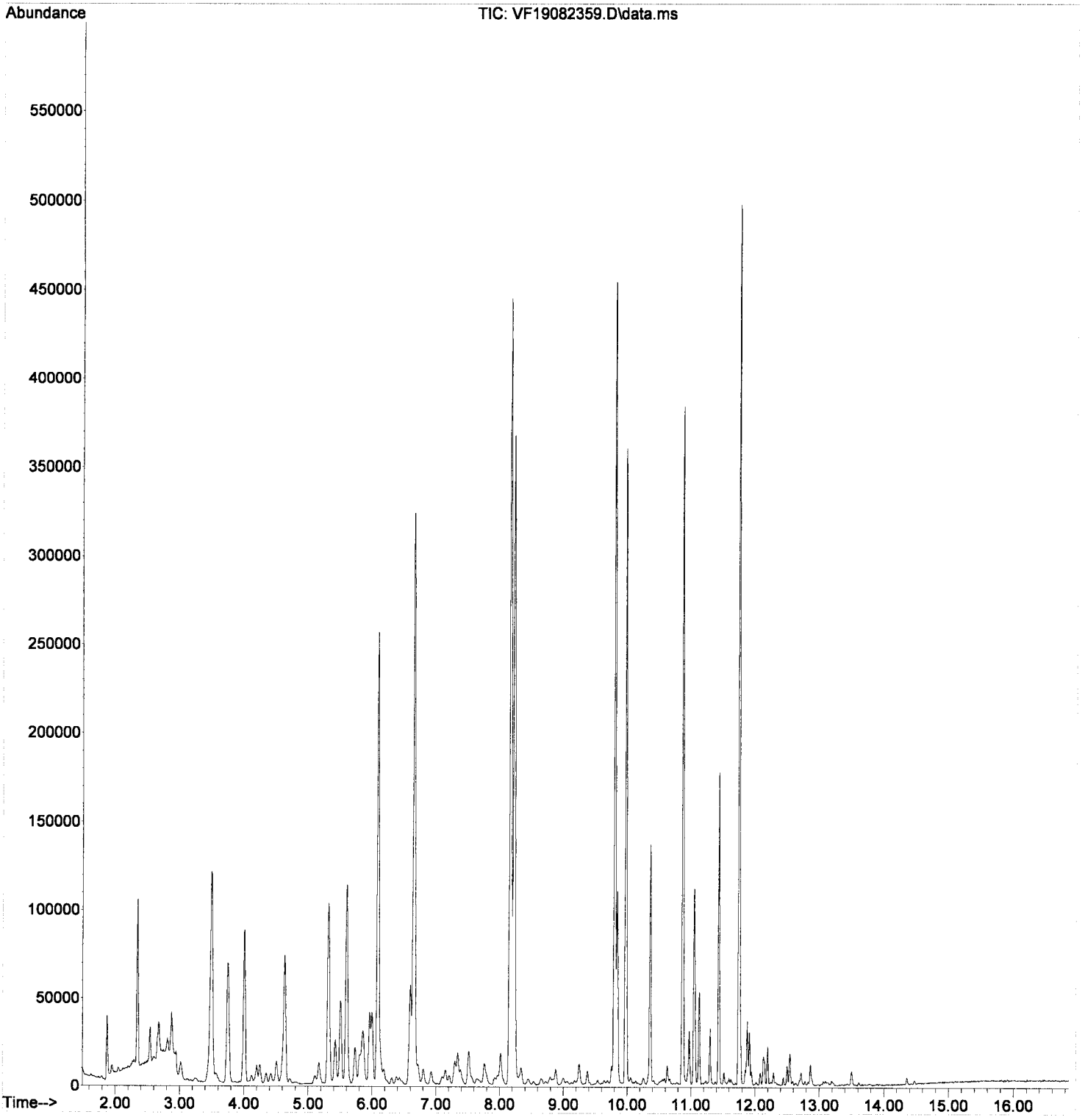
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.087	168	192643	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.653	TIC	706920	47.10	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.867	TIC	539940	51.03	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.803	TIC	759087	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.161	TIC	929972	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.749	TIC	698858	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	4669355m	515.27	ug/L	
6) TPHg (C6-C10)	9.860	TIC	3885319m	530.74	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	5494098m	518.32	ug/L	
8) NWTPH-Gx	9.870	TIC	3265587m	529.67	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082359.D
Acq On : 24 Aug 2019 10:43 am
Operator : TB
Sample : 9H23046-ICV2
Misc : 1X 5mL 500ppb GX DI+MeOH
ALS Vial : 43 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:42 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082360.D
Acq On : 24 Aug 2019 11:10 am
Operator : TB
Sample : 9H23046-IBLJ
Misc : 1X 5mL DI+MeOH
ALS Vial : 44 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration

NR

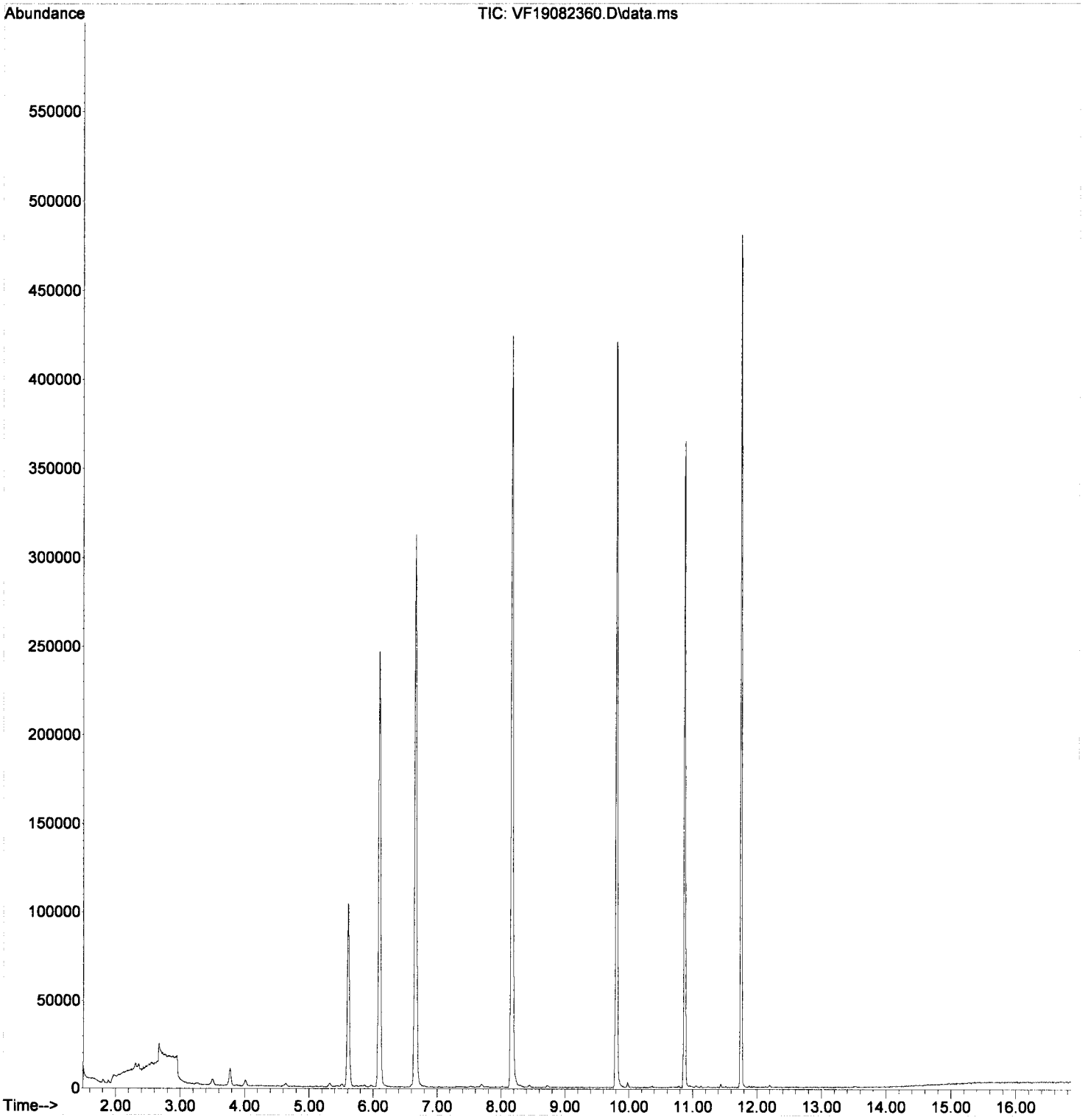
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	191265	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.654	TIC	678057	45.50	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.869	TIC	522205	49.71	ug/L	0.00
4) Chlorobenzene-d5 (NR)	9.798	TIC	707851	0.00	ug/L	0.00
10) Toluene-d8 (NR)	8.162	TIC	902388	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.744	TIC	638306	0.00	ug/L	0.00
Target Compounds						Qvalue
5) TPHg (C5-C9)	9.860	TIC	327022m	14.49	ug/L	
6) TPHg (C6-C10)	9.860	TIC	267006m	18.07	ug/L	
7) CA-LUFT (C5-C12)	9.860	TIC	327022m	16.45	ug/L	
8) NWTPH-Gx	9.870	TIC	6160m	16.03	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-08\9H23046\
Data File : VF19082360.D
Acq On : 24 Aug 2019 11:10 am
Operator : TB
Sample : 9H23046-IBLJ
Misc : 1X 5mL DI+MeOH
ALS Vial : 44 Sample Multiplier: 1
DataAcq Meth:VF1906RUN.M

Quant Time: Aug 27 15:31:44 2019
Quant Method : C:\msdchem\1\METHODS\VF190823G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 27 15:24:35 2019
Response via : Initial Calibration



Selected Volatile Organic Compounds by EPA 8260C
Calibration Data

Sequence 9I26050 (Cal ID A9I3003) VOA-GCMS7 (Water)

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9I26050**	Instrument:	**VOA-GCMS7**
Date:	**09/26/19 17:20**	Calibration:	**A9I3003**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I26050-IBL1	Water	QC	QC			A19F381	
2	9I26050-TUN1	Water	QC	QC			A19F381	
3	9I26050-ICB1	Water	QC	QC			A19F381	
4	9I26050-CAL1	Water	QC	QC			A19F381	A19I319
5	9I26050-CAL2	Water	QC	QC			A19F381	A19I320
6	9I26050-CAL3	Water	QC	QC			A19F381	A19I321
7	9I26050-CAL4	Water	QC	QC			A19F381	A19I322
8	9I26050-CAL5	Water	QC	QC			A19F381	A19I323
9	9I26050-CAL6	Water	QC	QC			A19F381	A19I324
10	9I26050-CAL7	Water	QC	QC			A19F381	A19I325
11	9I26050-CAL8	Water	QC	QC			A19F381	A19I326
12	9I26050-CAL9	Water	QC	QC			A19F381	A19I327
13	9I26050-IBL2	Water	QC	QC			A19F381	
14	9I26050-CALA	Water	QC	QC			A19F381	A19I328
15	9I26050-IBL3	Water	QC	QC			A19F381	
16	9I26050-CALB	Water	QC	QC			A19F381	A19I329
17	9I26050-IBL4	Water	QC	QC			A19F381	
18	9I26050-IBL5	Water	QC	QC			A19F381	
19	9I26050-ICV1	Water	QC	QC			A19F381	A19I330
20	9I26050-ICV2	Water	QC	QC			A19F381	A19H365
21	9I26050-IBL6	Water	QC	QC			A19F381	
22	9I26050-TUN2	Water	QC	QC			A19F381	
23	9I26050-IBL7	Water	QC	QC			A19F381	
24	9I26050-ICB2	Water	QC	QC			A19F381	
25	9I26050-CALC	Water	QC	QC			A19F381	A19I331
26	9I26050-CALD	Water	QC	QC			A19F381	A19I332
27	9I26050-CALE	Water	QC	QC			A19F381	A19I333
28	9I26050-CALF	Water	QC	QC			A19F381	A19I334
29	9I26050-CALG	Water	QC	QC			A19F381	A19H370
30	9I26050-CALH	Water	QC	QC			A19F381	A19H371
31	9I26050-CALI	Water	QC	QC			A19F381	A19H372
32	9I26050-CALJ	Water	QC	QC			A19F381	A19H373
33	9I26050-IBL8	Water	QC	QC			A19F381	
34	9I26050-IBL9	Water	QC	QC			A19F381	
35	9I26050-ICV3	Water	QC	QC			A19F381	A19G350
36	9I26050-IBLA	Water	QC	QC			A19F381	

Data Entered By: 9/30/19 tnl

Comments:

Data Reviewed By: 10/1/19

Calibration Status Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\data\2019-09\9I26050\VG19092621.D
2	2	0	50	C:\msdchem\1\data\2019-09\9I26050\VG19092622.D
3	3	0	50	C:\msdchem\1\data\2019-09\9I26050\VG19092623.D
4	4	1	50	C:\msdchem\1\data\2019-09\9I26050\VG19092624.D
5	5	2	50	C:\msdchem\1\data\2019-09\9I26050\VG19092625.D
6	6	5	50	C:\msdchem\1\data\2019-09\9I26050\VG19092626.D
7	7	10	50	C:\msdchem\1\data\2019-09\9I26050\VG19092627.D
8	8	20	50	C:\msdchem\1\data\2019-09\9I26050\VG19092628.D
9	9	50	50	C:\msdchem\1\data\2019-09\9I26050\VG19092629.D
10	10	100	50	C:\msdchem\1\data\2019-09\9I26050\VG19092631.D
11	1a	200	50	C:\msdchem\1\data\2019-09\9I26050\VG19092633.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Sep 30 14:12 2019	Sep 30 14:12 2019	26 Sep 2019 6:57 pm
2	2	Sep 30 14:12 2019	Sep 30 13:31 2019	26 Sep 2019 7:24 pm
3	3	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 7:52 pm
4	4	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 8:19 pm
5	5	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 8:46 pm
6	6	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 9:13 pm
7	7	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 9:40 pm
8	8	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 10:07 pm
9	9	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 10:34 pm
10	10	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 11:28 pm
11	1a	Sep 30 14:12 2019	Sep 30 13:08 2019	27 Sep 2019 12:22 am

VG190930W+.M Mon Sep 30 20:32:19 2019

Response Factor Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

Calibration Files
1 =VG19092621.D 2 =VG19092622.D 3 =VG19092623.D 4 =VG19092624.D 5 =VG19092625.D 6 =VG19092626.D
7 =VG19092627.D 8 =VG19092628.D 9 =VG19092629.D 10 =VG19092631.D 1a =VG19092633.D

		Compound	1	2	3	4	5	6	7	8	9	10	1a	Avg	%RSD
1)	I	Pentafluorobenzene...	----------	----------	ISTD	----------	----------	----------	----------	----------	----------	----------	----------	----------	
2)		Dichlorodifluo...		0.558	0.430	0.500	0.470	0.552	0.695	0.682	0.698	0.613	0.706	0.590	17.47
3)	P	Chloromethane			1.075	0.938	0.845	0.830	0.938	0.898	0.898	0.818	0.887	0.903	8.58
4)	C	Vinyl Chloride	0.953	0.950	0.853	0.861	0.820	0.840	1.007	0.993	0.970	0.863	0.952	0.915	7.38
5)		Bromomethane					0.391	0.377	0.382	0.380	0.355	0.346	0.399	0.376	5.03
6)		Chloroethane			0.370	0.253	0.171	0.229	0.187	0.157	0.154	0.130	0.123	0.197	39.50
7)		Trichlorofluor...	0.809	0.947	0.853	0.950	0.896	0.854	1.051	1.034	0.960	0.827	0.798	0.907	9.68
8)		Ethanol	0.032	0.028	0.027	0.027	0.025	0.026	0.029	0.028	0.027	0.025		0.027	7.19
9)	C	1,1-Dichloroet...	1.424	1.272	1.274	1.275	1.270	1.203	1.427	1.442	1.249	1.283	1.333	1.314	6.18
10)		Carbon Disulfide			1.600	1.377	1.345	1.391	1.724	1.823	1.763	1.846		1.609	13.09
11)		Freon 113	1.045	0.972	0.786	0.851	0.838	0.746	0.929	0.931	0.800	0.819	0.928	0.877	10.37
12)		Iodomethane	1.229	0.852	0.698	0.522	0.495	0.435	0.534	0.580	0.663	0.679	0.743	0.675	32.64
13)		Acrolein			0.195	0.208	0.206	0.210	0.236	0.219	0.231	0.230	0.231	0.219	6.58
14)		Methylene Chlo...						1.215	1.117	1.029	0.906	0.893	0.911	1.012	13.13
15)		Acetone					0.715	0.563	0.587	0.587	0.547	0.527	0.527	0.579	11.23
16)		t-1,2-Dichloro...	1.255	1.527	1.340	1.285	1.280	1.238	1.407	1.402	1.244	1.255	1.359	1.327	6.84
17)		n-Hexane			0.141	0.140	0.133	0.123	0.146	0.151	0.132	0.132	0.158	0.140	7.80
18)		Methyl-tert-bu...	2.305	2.609	2.439	2.570	2.406	2.446	2.730	2.764	2.708	2.718	2.864	2.596	6.83
19)		tert-Butanol (...	0.164	0.170	0.170	0.180	0.170	0.182	0.208	0.208	0.213	0.190		0.185	9.90
20)		Diisopropyl et...		2.881	2.812	2.859	2.902	2.851	3.157	3.153	3.056	2.904		2.953	4.50
21)	P	1,1-Dichloroet...	1.419	1.844	1.590	1.637	1.611	1.616	1.812	1.820	1.632	1.647	1.763	1.672	7.58
22)		Acrylonitrile		0.608	0.700	0.645	0.645	0.617	0.685	0.682	0.659	0.639	0.648	0.653	4.50
23)		Vinyl Acetate				0.805	0.885	1.302	1.546	1.039	1.014	1.250	0.983	1.103	22.21
24)		Ethyl-tert-but...			2.185	2.398	2.203	2.270	2.529	2.539	2.536	2.473		2.392	6.35
25)		c-1,2-Dichloro...	1.270	1.496	1.339	1.454	1.373	1.357	1.515	1.501	1.345	1.350	1.432	1.403	5.76
26)		2,2-Dichloropr...		0.754	0.698	0.744	0.735	0.739	0.877	0.919	0.868	0.914	1.019	0.827	12.87
27)		Bromochloromet...	0.947	0.855	0.832	0.852	0.838	0.847	0.930	0.897	0.824	0.736	0.724	0.844	8.17
28)	C	Chloroform	1.639	1.687	1.660	1.676	1.644	1.626	1.811	1.821	1.663	1.667	1.772	1.697	4.14
29)		Carbon Tetrach...			0.659	0.724	0.693	0.700	0.895	0.961	0.924	1.029	1.201	0.865	21.32
30)		Tetrahydrofuran			0.570	0.603	0.576	0.585	0.649	0.663	0.650	0.636	0.649	0.620	5.89
31)		1,1,1-Trichlor...	0.937	1.065	1.097	1.134	1.086	1.092	1.310	1.339	1.229	1.281	1.420	1.181	12.28
32)	S	Dibromofluorom...	0.958	0.967	0.973	0.951	0.947	0.980	1.000	1.010	1.043	1.029	1.022	0.989	3.38
33)		1,1-Dichloropr...	1.403	1.390	1.207	1.251	1.255	1.207	1.411	1.408	1.228	1.261	1.375	1.309	6.67
34)		2-Butanone (MEK)	0.927	0.947	0.919	0.902	0.859	0.853	0.954	0.953	0.938	0.901	0.882	0.912	3.96
35)		Benzene	4.968	4.739	4.262	4.210	4.144	3.992	4.421	4.387	3.945	3.972	4.193	4.294	7.49
36)		tert-Amyl meth...				2.328	1.996	1.986	2.173	2.158	2.175	2.135		2.136	5.48
37)		1,2-Dichloroet...	1.193	1.295	1.293	1.373	1.322	1.311	1.417	1.409	1.292	1.276	1.336	1.320	4.83
38)		iso-Butyl Alcohol		0.076	0.082	0.085	0.080	0.092	0.108	0.103	0.108	0.093	0.077	0.090	13.66
39)	S	1,4-Difluorobe...	3.281	3.270	3.261	3.243	3.202	3.254	3.258	3.226	3.309	3.287	3.303	3.263	0.98
40)		Trichloroethen...	1.270	1.087	1.073	1.123	1.065	1.024	1.150	1.185	1.091	1.098	1.206	1.125	6.39
41)		tert-Amyl ethy...			1.222	1.468	1.406	1.462	1.614	1.637	1.640	1.593		1.505	9.67

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds

42)		Dibromomethane			0.634	0.618	0.597	0.621	0.695	0.702	0.686	0.687	0.724	0.663	6.83	
43)	C	1,2-Dichloropr...	0.814	1.157	0.998	1.081	1.050	1.056	1.154	1.161	1.054	1.069	1.122	1.065	9.25	
44)		Bromodichlorom...			0.836	0.864	0.829	0.856	1.017	1.098	1.117	1.173		0.974	14.71	
45)		Chlorobenzene-d5 (I)	----------	ISTD	----------											
46)		2-Chloroethyl ...			0.243	0.243	0.257	0.296	0.309	0.300	0.301	0.327	0.285		11.31	
47)		c-1,3-Dichloro...		0.375	0.342	0.376	0.364	0.407	0.486	0.528	0.526	0.547	0.622	0.457	21.08	&
48)	S	Toluene-d8 (S)	1.384	1.387	1.382	1.376	1.369	1.377	1.373	1.367	1.360	1.357	1.423	1.378	1.27	
49)	C	Toluene	1.856	1.783	1.569	1.599	1.569	1.481	1.633	1.625	1.427	1.448	1.603	1.599	8.15	
50)		Tetrachloroeth...		0.495	0.384	0.404	0.378	0.360	0.411	0.408	0.360	0.369	0.420	0.399	10.05	
51)		4-Methyl-2-Pen...		0.503	0.475	0.540	0.531	0.550	0.625	0.625	0.586	0.530	0.479	0.544	9.88	
52)		t-1,3-Dichloro...		0.285	0.267	0.303	0.295	0.347	0.418	0.463	0.479	0.505	0.573	0.394	27.47	&
53)		1,1,2-Trichlor...	0.328	0.379	0.360	0.383	0.353	0.361	0.394	0.391	0.371	0.369	0.400	0.372	5.62	
54)		Dibromochlorom...				0.202	0.195	0.223	0.275	0.308	0.341	0.372	0.433	0.294	29.22	&
55)		1,3-Dichloropr...	0.544	0.628	0.614	0.643	0.602	0.608	0.667	0.659	0.614	0.608	0.659	0.622	5.62	
56)		1,2-Dibromoeth...		0.302	0.305	0.358	0.351	0.361	0.408	0.419	0.407	0.407	0.445	0.376	12.87	
57)		2-Hexanone				0.359	0.362	0.380	0.458	0.458	0.443	0.398	0.363	0.403	10.86	
58)	P	Chlorobenzene	1.131	1.121	1.010	1.037	0.988	0.953	1.024	1.023	0.922	0.923	0.975	1.010	6.89	
59)	C	Ethylbenzene	1.617	1.655	1.456	1.640	1.588	1.475	1.643	1.645	1.451	1.481	1.584	1.567	5.34	
60)		1,1,1,2-Tetrac...		0.222	0.214	0.232	0.224	0.245	0.294	0.314	0.313	0.328	0.369	0.276	19.76	&
61)		m,p-Xylenes (2)	1.236	1.160	1.030	1.062	1.067	1.032	1.168	1.170	1.040	1.076	1.113	1.105	6.25	
62)		o-Xylene	1.122	1.101	1.044	1.077	1.069	1.051	1.189	1.209	1.098	1.150	1.215	1.120	5.54	
63)		Styrene	0.692	0.717	0.700	0.753	0.791	0.797	0.936	0.946	0.894	0.917	0.954	0.827	12.62	
64)	P	Bromoform			0.102	0.126	0.121	0.136	0.169	0.195	0.243	0.268	0.289	0.183	37.75	&
65)		Isopropylbenzene	1.253	1.267	1.163	1.235	1.304	1.236	1.438	1.468	1.311	1.352	1.435	1.315	7.46	
66)	I	1,4-Dichlorobenzen...	----------	ISTD	----------											
67)	S	4-Bromofluorob...	0.920	0.905	0.894	0.897	0.895	0.907	0.881	0.891	0.879	0.878	0.902	0.895	1.46	
68)		Bromobenzene	0.998	0.986	0.913	0.926	0.888	0.894	0.927	0.939	0.835	0.840	0.910	0.914	5.56	
69)		n-Propylbenzene	3.609	3.424	3.068	3.136	3.208	3.081	3.430	3.492	2.904	3.028	3.445	3.257	7.09	
70)	P	1,1,2,2-Tetrac...	1.119	1.192	1.081	1.158	1.104	1.176	1.270	1.212	1.106	0.999	0.951	1.124	8.23	
71)		2-Chlorotoluene	0.773	0.695	0.693	0.715	0.727	0.705	0.758	0.773	0.674	0.701	0.787	0.727	5.36	
72)		1,3,5-Trimethy...	2.377	2.307	2.048	2.160	2.196	2.124	2.336	2.376	2.030	2.101	2.396	2.223	6.27	
73)		1,2,3-Trichlor...	0.301	0.296	0.339	0.364	0.357	0.366	0.390	0.384	0.348	0.318	0.311	0.343	9.56	
74)		t-1,4-Dichloro...				0.055	0.068	0.080	0.098	0.117	0.125	0.127	0.135	0.101	30.02	&
75)		4-Chlorotoluene	2.593	2.200	2.010	2.071	2.045	2.027	2.128	2.176	1.878	1.946	2.209	2.117	8.94	
76)		tert-Butylbenzene		1.269	1.157	1.207	1.239	1.160	1.307	1.332	1.124	1.163	1.335	1.229	6.39	
77)		1,2,4-Trimethy...			2.207	2.349	2.279	2.186	2.388	2.404	2.061	2.104	2.382	2.262	5.69	
78)		sec-Butylbenzene		2.461	2.259	2.468	2.545	2.368	2.765	2.850	2.389	2.469	2.840	2.541	8.14	
79)		4-Isopropyltol...		2.083	1.862	2.053	2.049	1.930	2.215	2.280	1.975	2.042	2.341	2.083	7.34	
80)		1,3-Dichlorobe...	1.744	1.500	1.436	1.377	1.368	1.370	1.448	1.469	1.324	1.330	1.459	1.439	8.13	
81)		1,4-Dichlorobe...		1.972	1.603	1.517	1.414	1.382	1.460	1.478	1.323	1.324	1.443	1.491	12.68	
82)		n-Butylbenzene	2.278	1.825	1.698	1.791	1.817	1.614	1.841	1.884	1.586	1.603	1.858	1.800	10.72	
83)		1,2-Dichlorobe...	1.371	1.478	1.242	1.378	1.304	1.314	1.411	1.419	1.295	1.264	1.337	1.347	5.33	
84)		1,2-Dibromo-3-...				0.134	0.129	0.160	0.196	0.216	0.251	0.237	0.251	0.197	25.61	&
85)		Hexachlorobuta...			0.163	0.199	0.200	0.172	0.205	0.215	0.186	0.173	0.183	0.189	9.14	
86)		1,2,4-Trichlor...	1.101	0.817	0.719	0.768	0.782	0.752	0.843	0.849	0.773	0.701	0.755	0.805	13.47	
87)		Naphthalene				1.917	1.879	2.129	2.602	2.660	2.565	2.302	2.486	2.318	13.41	
88)		1,2,3-Trichlor...	0.638	0.670	0.648	0.704	0.655	0.685	0.785	0.787	0.730	0.652	0.713	0.697	7.55	

(#) = Out of Range

Compound List Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

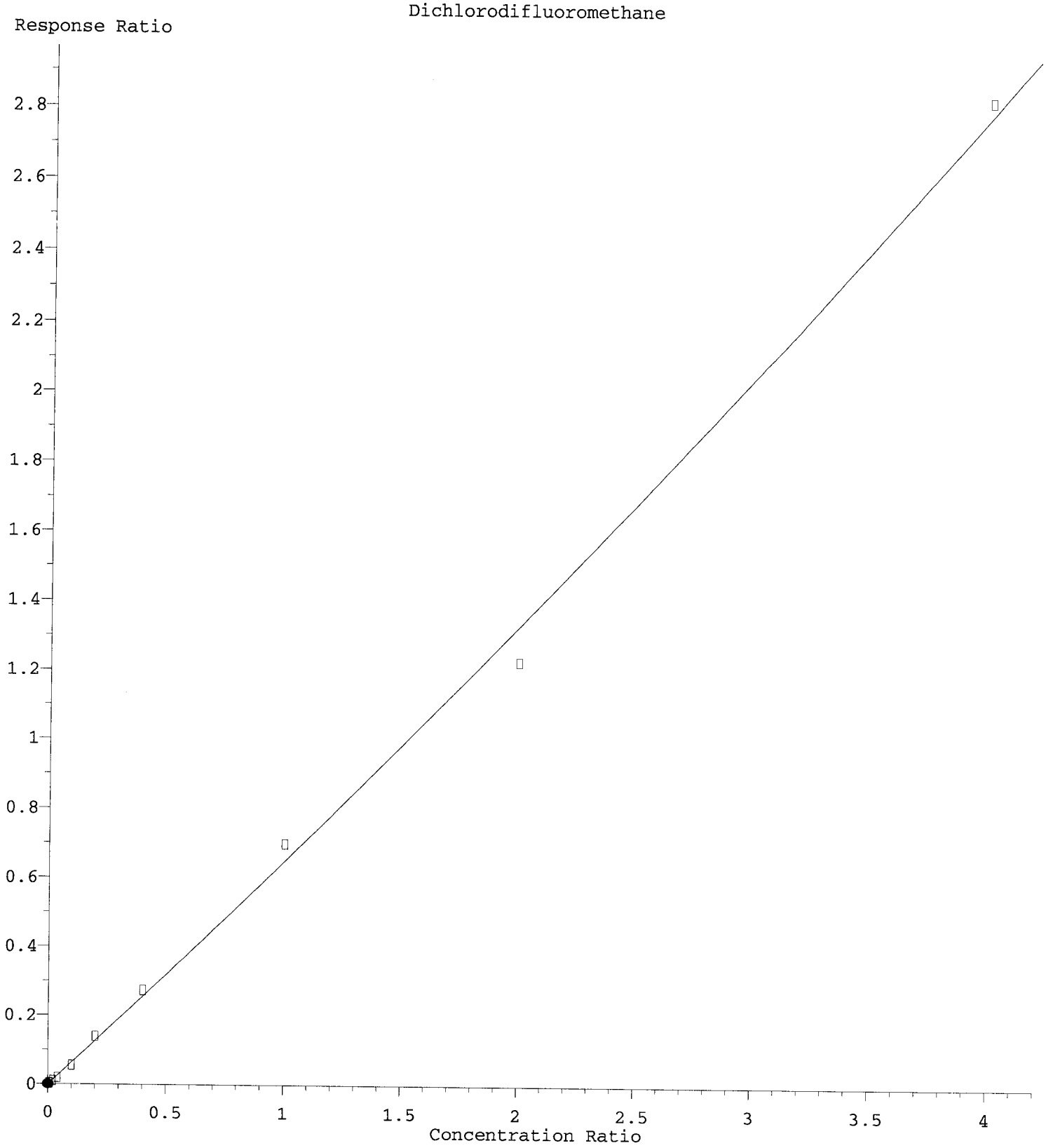
Total Cpnds : 88

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID	
1	I	Pentafluorobenzene (I)	99	6.868	1.000	A	2	A	R	
2		Dichlorodifluoromethane	85	1.734	0.252	Q	2	A	R	1/a
3	P	Chloromethane	50	1.996	0.291	A	2	A	R	
4	C	Vinyl Chloride	62	2.118	0.308	A	2	A	R	
5		Bromomethane	96	2.557	0.372	A	2	A	R	
6		Chloroethane	64	2.734	0.398	Q	2	A	R	Equal weighting
7		Trichlorofluoromethane	101	2.935	0.427	A	2	A	R	
8		Ethanol	45	3.636	0.530	A	1	A	R	
9	C	1,1-Dichloroethene	61	3.600	0.524	A	2	A	R	
10		Carbon Disulfide	76	3.593	0.523	A	2	A	R	
11		Freon 113	101	3.661	0.533	A	2	A	R	
12		Iodomethane	142	3.764	0.548	Q	2	A	R	1/a
13		Acrolein	56	4.038	0.588	A	2	A	R	
14		Methylene Chloride	84	4.325	0.630	A	2	A	R	
15		Acetone	43	4.410	0.642	A	1	A	R	
16		t-1,2-Dichloroethene	61	4.514	0.657	A	2	A	R	
17		n-Hexane	86	4.612	0.672	A	3	A	R	
18		Methyl-tert-butyl-ether	73	4.673	0.680	A	3	A	R	
19		tert-Butanol (TBA)	59	4.831	0.704	A	1	A	R	
20		Diisopropyl ether (DIPE)	45	5.118	0.745	A	2	A	R	
21	P	1,1-Dichloroethane	63	5.228	0.761	A	2	A	R	
22		Acrylonitrile	53	5.288	0.770	A	2	A	R	
23		Vinyl Acetate	43	5.550	0.808	Q	2	A	R	Equal weighting
24		Ethyl-tert-butyl ether (ETBE)	59	5.514	0.803	A	2	A	R	
25		c-1,2-Dichloroethene	61	5.825	0.848	A	2	A	R	
26		2,2-Dichloropropane	77	5.941	0.865	A	2	A	R	
27		Bromochloromethane	49	6.045	0.880	A	2	A	R	
28	C	Chloroform	83	6.142	0.894	A	2	A	R	
29		Carbon Tetrachloride	117	6.282	0.915	Q	2	A	R	1/a
30		Tetrahydrofuran	42	6.325	0.921	A	2	A	R	
31		1,1,1-Trichloroethane	97	6.349	0.925	A	2	A	R	
32	S	Dibromofluoromethane (S)	111	6.337	0.923	A	2	A	R	
33		1,1-Dichloropropene	75	6.490	0.945	A	2	A	R	
34		2-Butanone (MEK)	43	6.501	0.947	A	2	A	R	
35		Benzene	78	6.770	0.986	A	2	A	R	
36		tert-Amyl methyl ether (TAME)	73	6.874	1.001	A	2	A	R	
37		1,2-Dichloroethane (EDC)	62	6.989	1.018	A	2	A	R	
38		iso-Butyl Alcohol	43	7.063	1.028	A	2	A	R	
39	S	1,4-Difluorobenzene (S)	114	7.459	1.086	A	2	A	R	
40		Trichloroethene (TCE)	130	7.416	1.080	A	2	A	R	
41		tert-Amyl ethyl ether (TAEE)	59	7.709	1.123	A	2	A	R	
42		Dibromomethane	93	7.885	1.148	A	2	A	R	
43	C	1,2-Dichloropropane	63	8.007	1.166	A	2	A	R	
44		Bromodichloromethane	83	8.068	1.175	A	2	A	R	
45	I	Chlorobenzene-d5 (I)	117	10.458	1.000	A	2	A	R	
46		2-Chloroethyl Vinyl Ether	63	8.751	0.837	A	2	A	R	
47		c-1,3-Dichloropropene	75	8.806	0.842	Q	2	A	R	1/a
48	S	Toluene-d8 (S)	98	8.995	0.860	A	2	A	R	
49	C	Toluene	91	9.050	0.865	A	2	A	R	
50		Tetrachloroethene (PCE)	166	9.446	0.903	A	2	A	R	
51		4-Methyl-2-Pentanone (MIBK)	43	9.452	0.904	A	2	A	R	
52		t-1,3-Dichloropropene	75	9.489	0.907	Q	2	A	R	1/a
53		1,1,2-Trichloroethane	97	9.629	0.921	A	2	A	R	
54		Dibromochloromethane	129	9.805	0.938	Q	2	A	R	1/a
55		1,3-Dichloropropane	76	9.891	0.946	A	2	A	R	

56		1,2-Dibromoethane (EDB)	107	10.013	0.957	A	2	A	R	
57		2-Hexanone	43	10.221	0.977	A	2	A	R	
58	P	Chlorobenzene	112	10.470	1.001	A	2	A	R	
59	C	Ethylbenzene	91	10.495	1.003	A	2	A	R	1/a
60		1,1,1,2-Tetrachloroethane	131	10.525	1.006	Q	2	A	R	
61		m,p-Xylenes (2)	91	10.622	1.016	A	2	A	R	
62		o-Xylene	91	10.976	1.050	A	2	A	R	
63		Styrene	104	11.025	1.054	A	2	A	R	
64	P	Bromoform	173	11.037	1.055	Q	2	A	R	1/a
65		Isopropylbenzene	105	11.220	1.073	A	2	A	R	
66	I	1,4-Dichlorobenzene-d4 (I)	152	12.293	1.000	A	2	A	R	
67	S	4-Bromofluorobenzene (S)	174	11.452	0.932	A	2	A	R	
68		Bromobenzene	156	11.531	0.938	A	2	A	R	
69		n-Propylbenzene	91	11.550	0.939	A	2	A	R	
70	P	1,1,2,2-Tetrachloroethane	83	11.604	0.944	A	2	A	R	
71		2-Chlorotoluene	126	11.671	0.949	A	2	A	R	
72		1,3,5-Trimethylbenzene	105	11.696	0.951	A	2	A	R	
73		1,2,3-Trichloropropane	110	11.720	0.953	A	2	A	R	
74		t-1,4-Dichloro-2-butene	88	11.738	0.955	Q	3	A	R	1/a
75		4-Chlorotoluene	91	11.800	0.960	A	2	A	R	
76		tert-Butylbenzene	91	11.934	0.971	A	2	A	R	
77		1,2,4-Trimethylbenzene	105	11.988	0.975	A	2	A	R	
78		sec-Butylbenzene	105	12.067	0.982	A	2	A	R	
79		4-Isopropyltoluene	119	12.165	0.990	A	2	A	R	
80		1,3-Dichlorobenzene	146	12.245	0.996	A	2	A	R	
81		1,4-Dichlorobenzene	146	12.306	1.001	A	2	A	R	
82		n-Butylbenzene	91	12.488	1.016	A	2	A	R	
83		1,2-Dichlorobenzene	146	12.641	1.028	A	2	A	R	
84		1,2-Dibromo-3-Chloropropane	157	13.280	1.080	Q	2	A	R	Equal weighting
85		Hexachlorobutadiene	223	13.836	1.125	A	3	A	R	
86		1,2,4-Trichlorobenzene	180	13.878	1.129	A	2	A	R	
87		Naphthalene	128	14.207	1.156	A	2	A	R	
88		1,2,3-Trichlorobenzene	180	14.403	1.172	A	2	A	R	

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VG190930W+.M Mon Sep 30 20:32:10 2019



Intercept < MDL

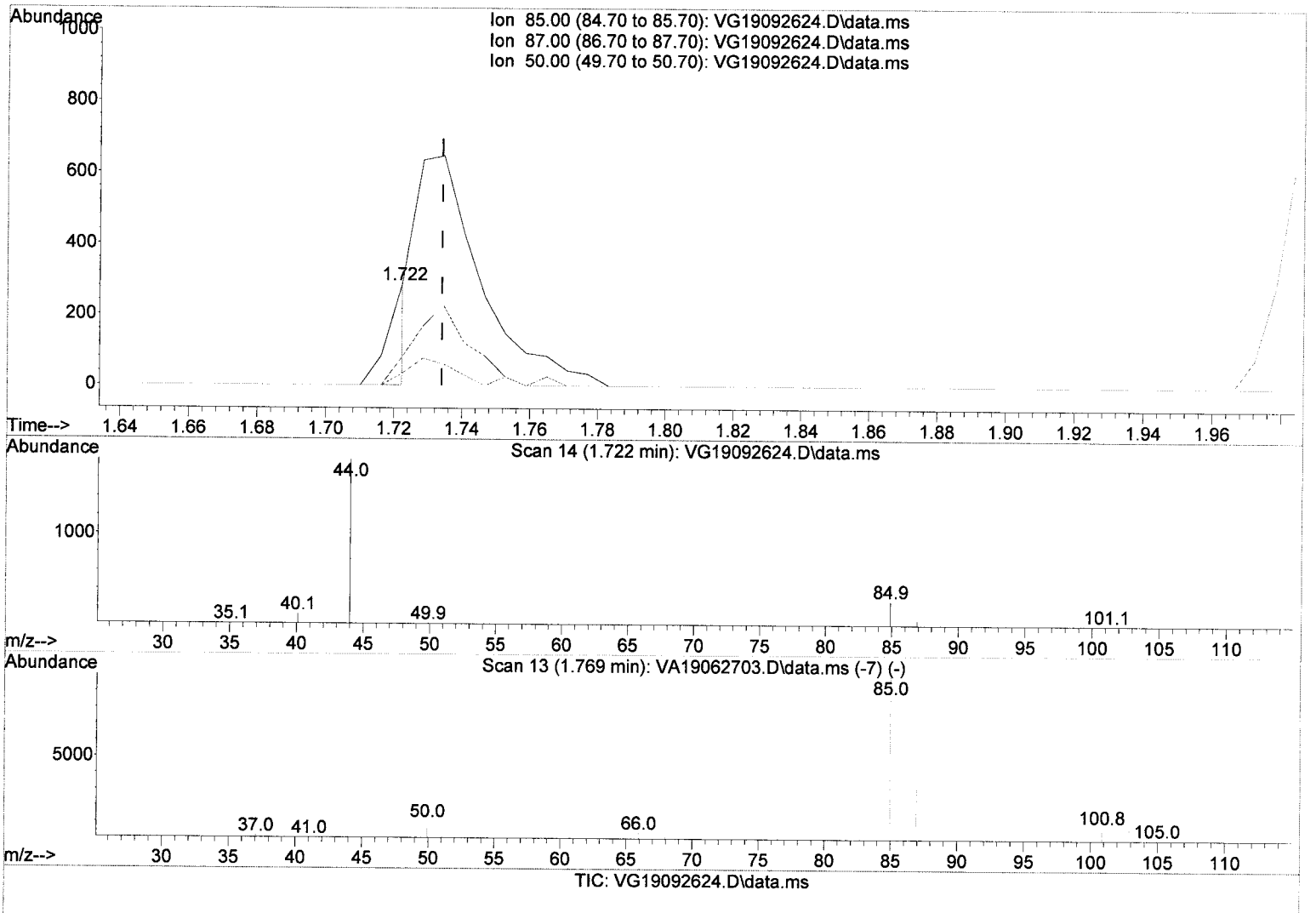
9/30/19 RM

R = 1.56e-002 A*A + 6.34e-001 A - 1.20e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w/(1/a)
Method Name: C:\msdchem\1\methods\VGI90930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



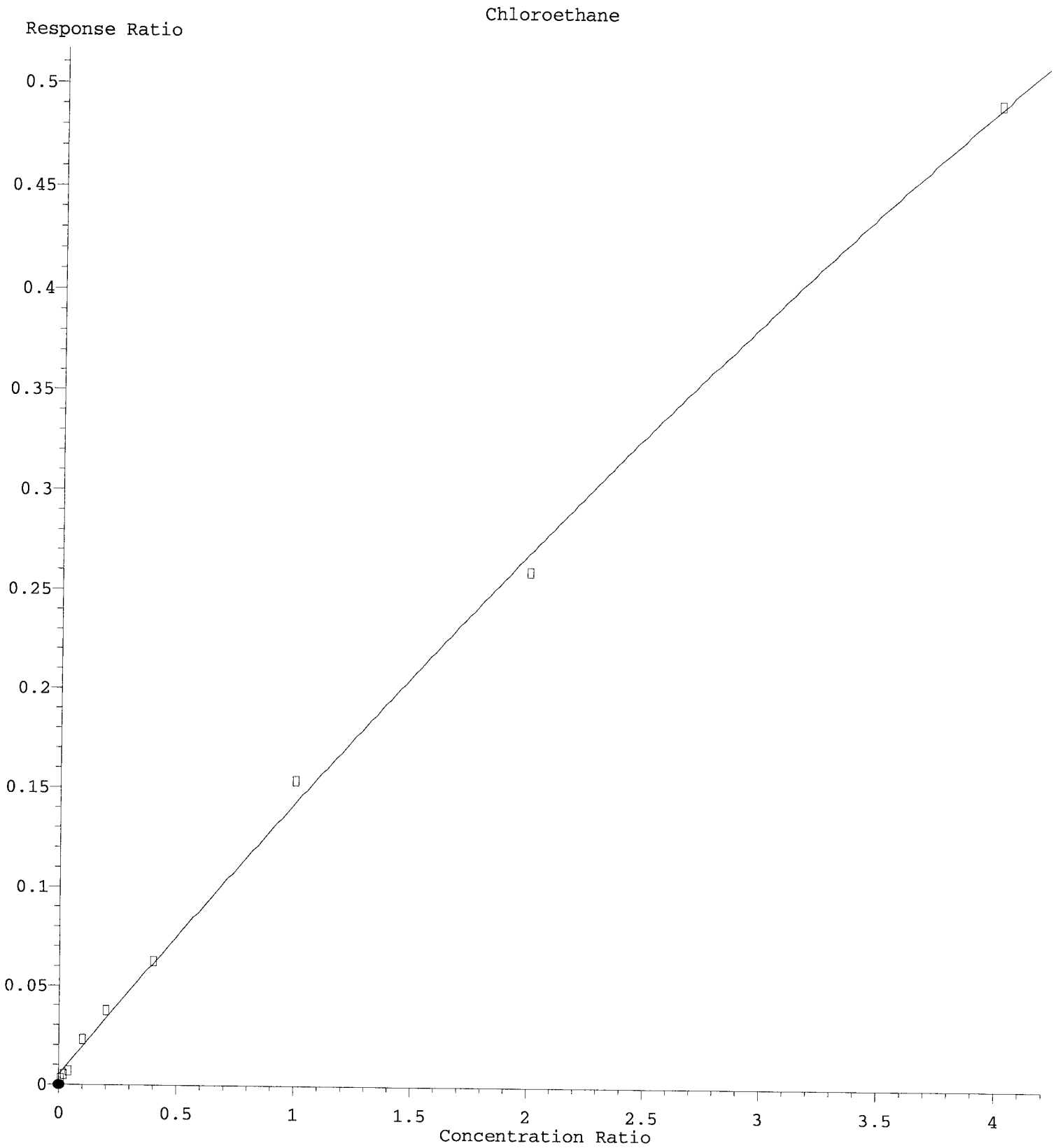
TIC: VG19092624.D\data.ms

(2) Dichlorodifluoromethane

1.722min (-0.012) 0.20 ug/L m

response 135

Ion	Exp%	Act%
85.00	100.00	100.00
87.00	31.10	27.72
50.00	11.20	11.58
0.00	0.00	0.00



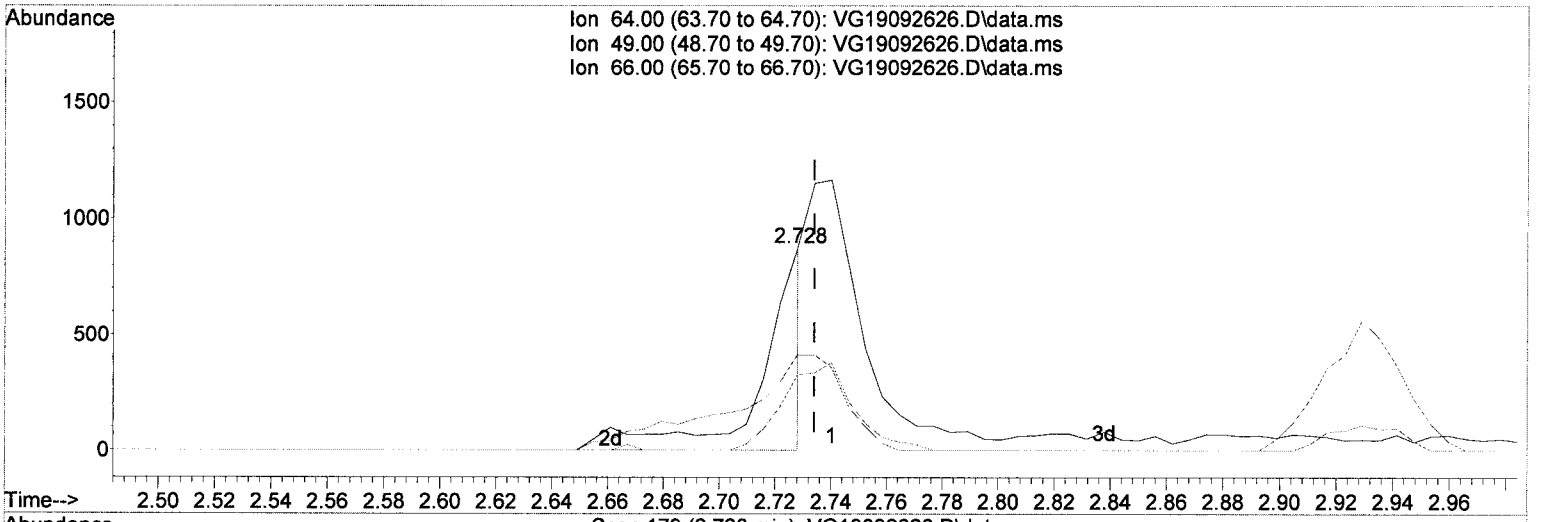
Intercept MDL / 9/30/19 hl

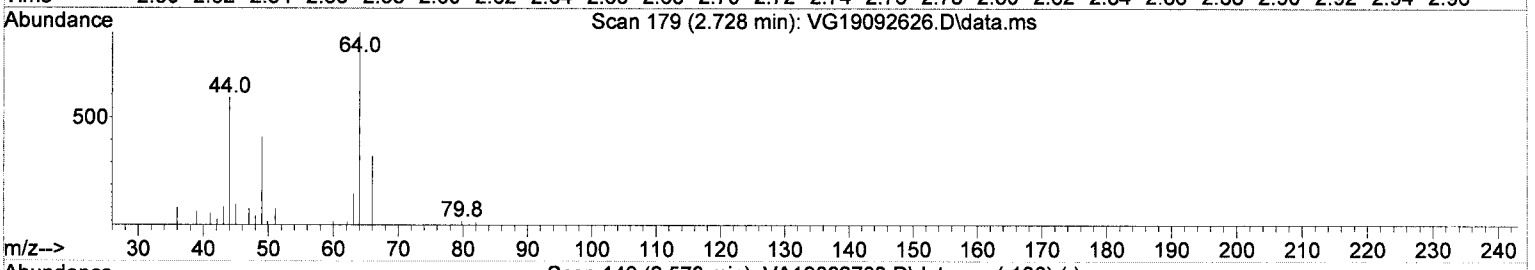
R = -5.34e-003 A*A + 1.43e-001 A + 5.45e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

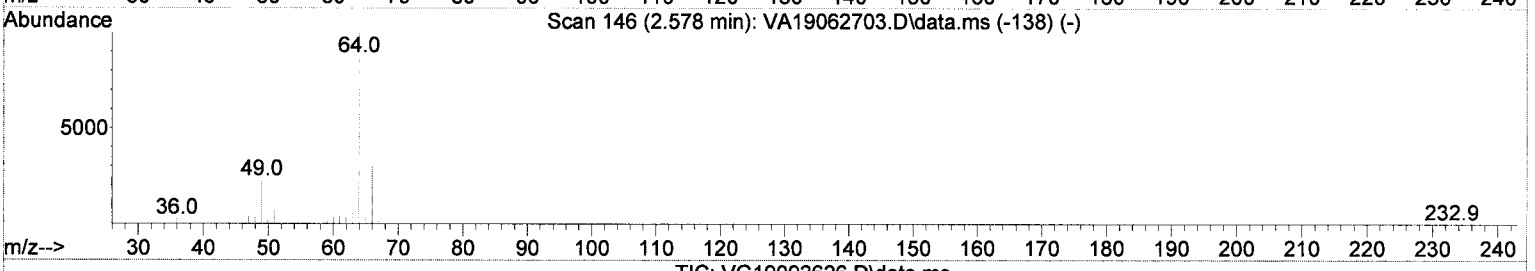
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







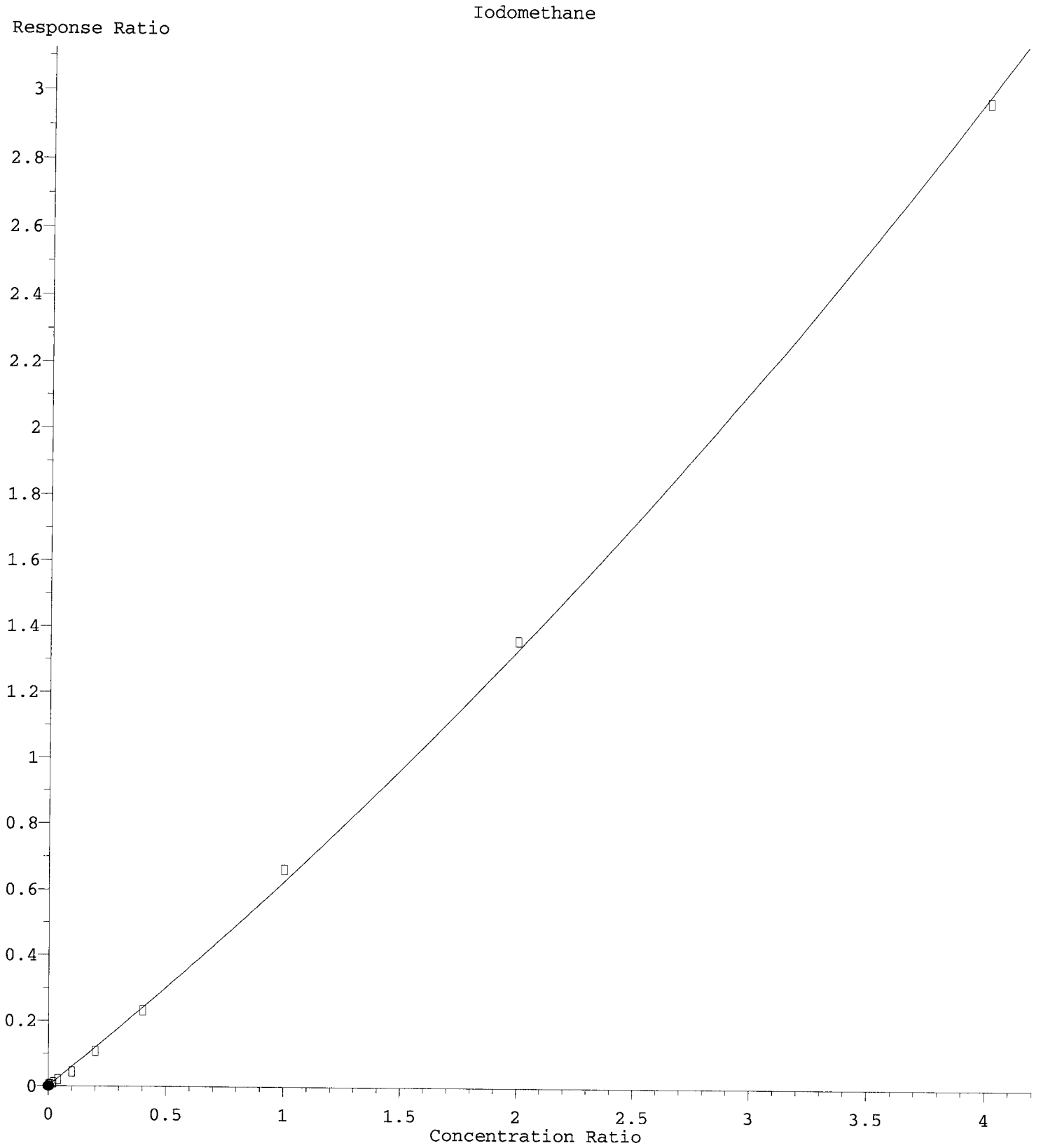
TIC: VG19092626.D\data.ms

(6) Chloroethane

2.728min (-0.006) 1.38 ug/L m

response 943

Ion	Exp%	Act%
64.00	100.00	100.00
49.00	24.30	47.20
66.00	31.30	37.37
0.00	0.00	0.00



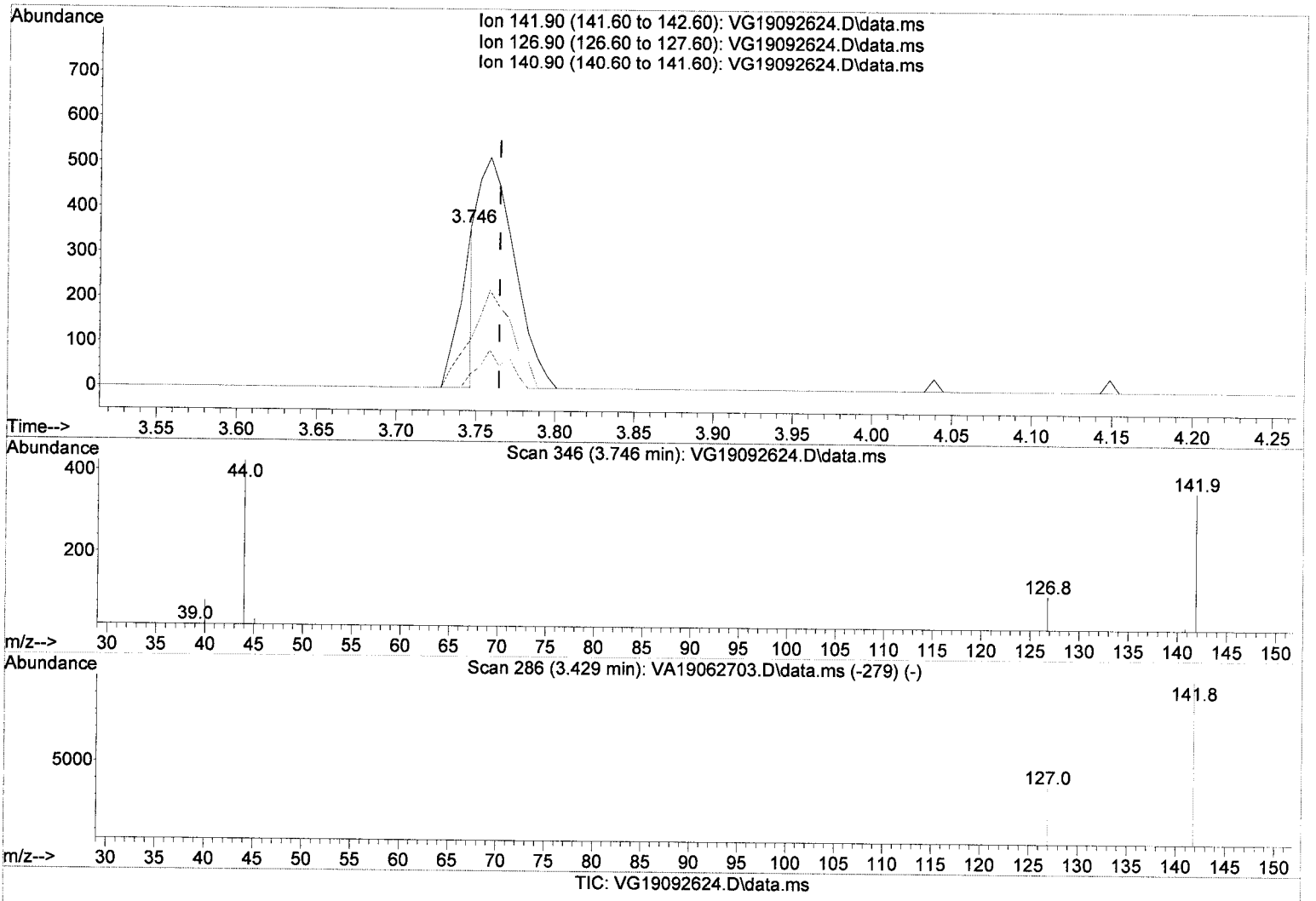
Intercept < MDL
9/30/19 MM

R = 4.09e-002 A*A + 5.84e-001 A + 7.07e-004
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\vG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



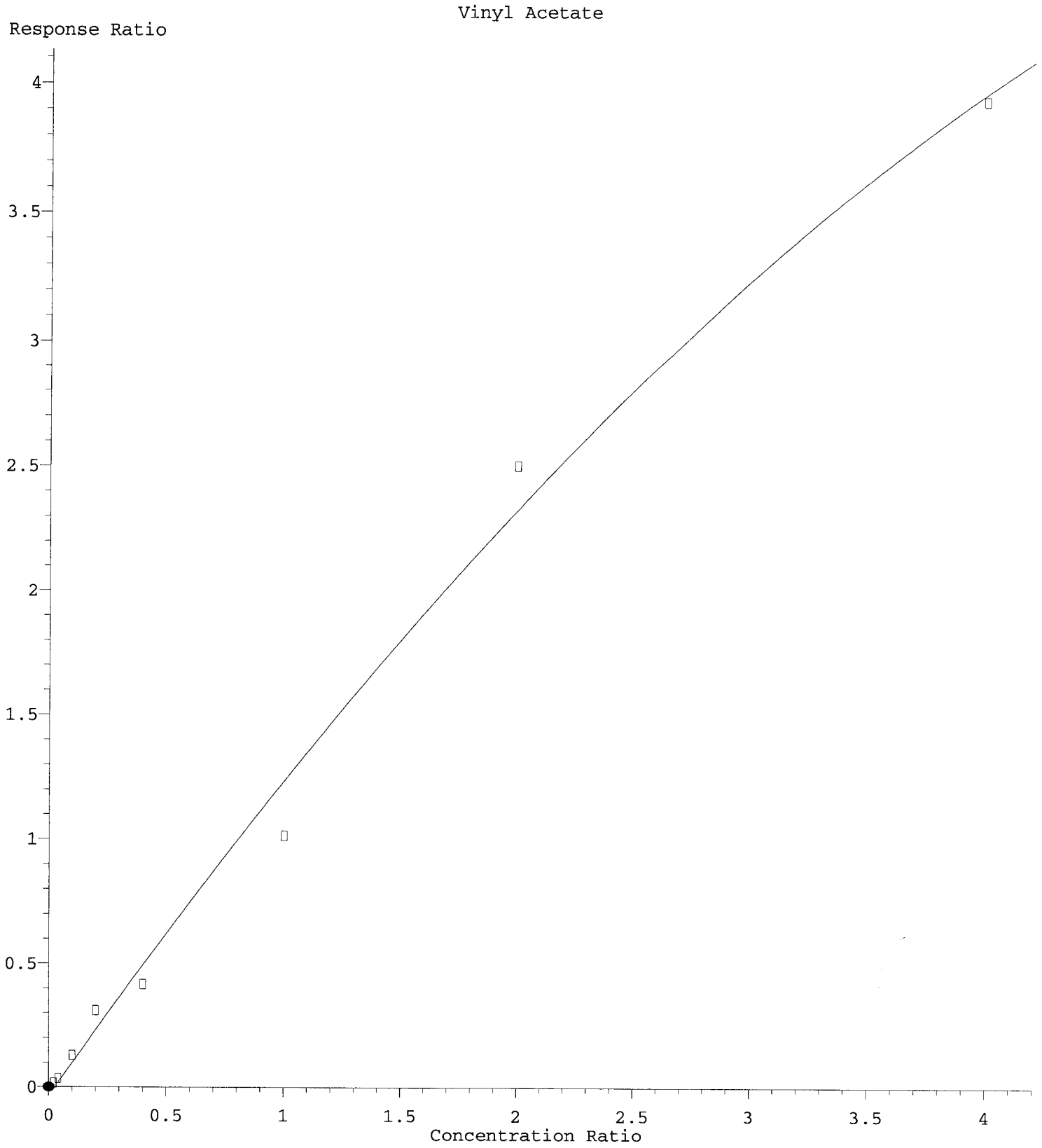
TIC: VG19092624.D\data.ms

(12) Iodomethane

3.746min (-0.018) 0.14 ug/L m

response 233

Ion	Exp%	Act%
141.90	100.00	100.00
126.90	34.80	29.53
140.90	15.30	8.64
0.00	0.00	0.00



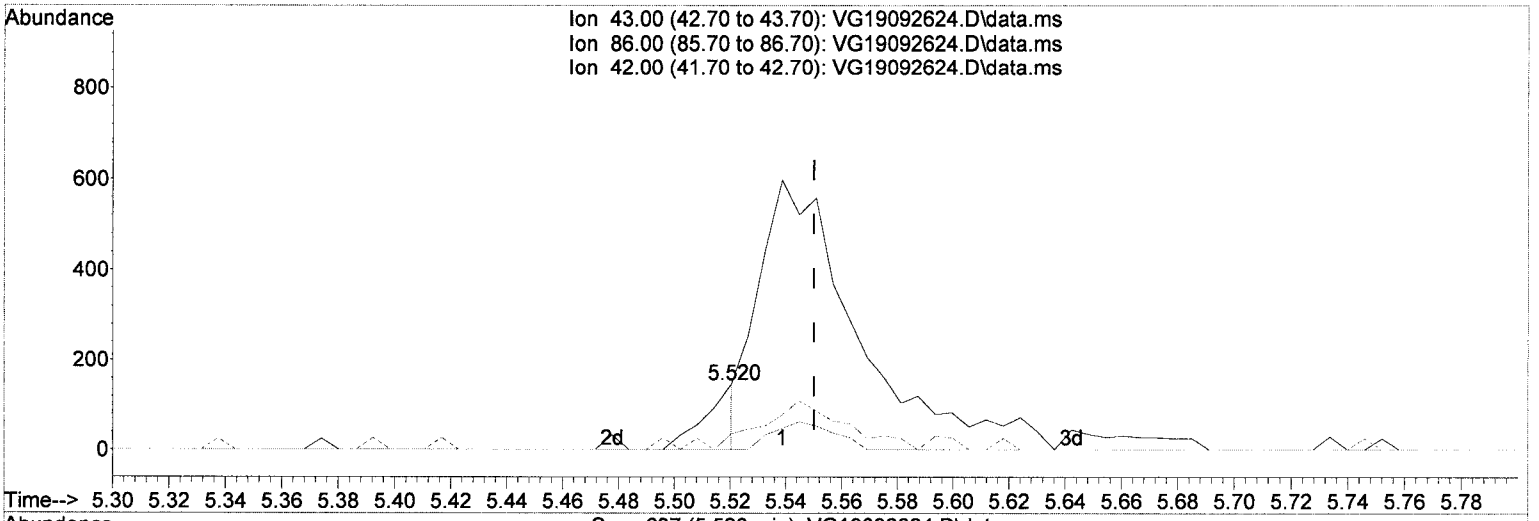
Intercept < MDL
9/30/19 MM

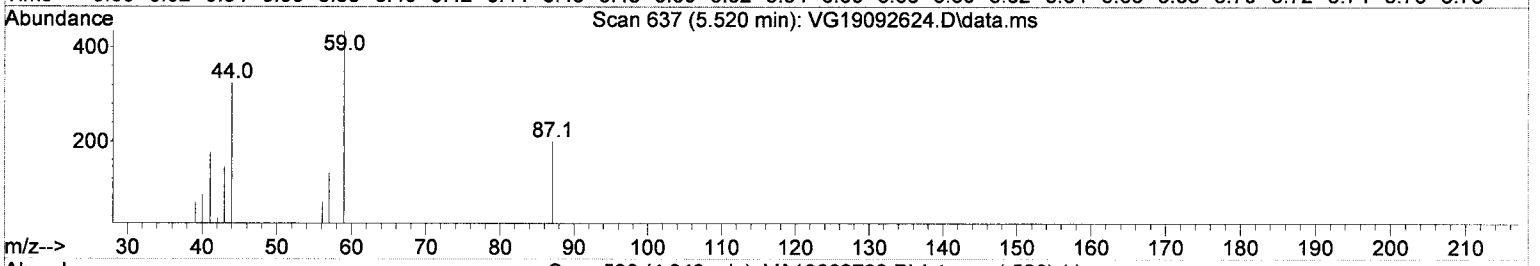
R = -9.08e-002 A*A + 1.36e+000 A - 3.70e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VC190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

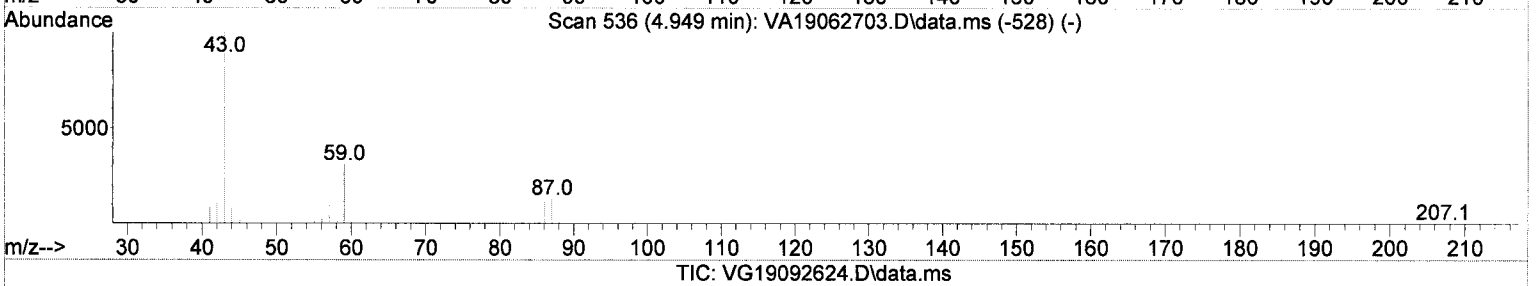
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







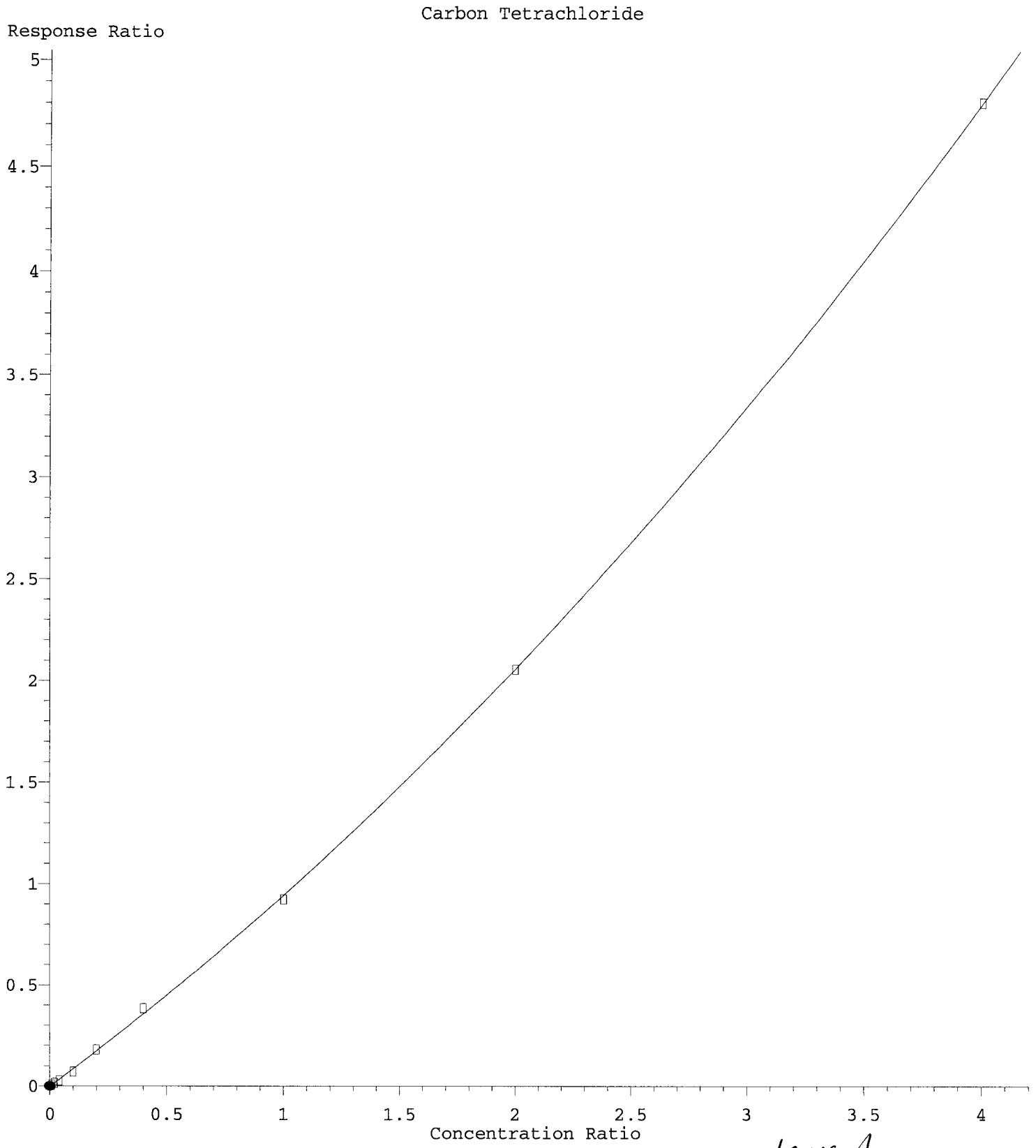
TIC: VG19092624.D\data.ms

(23) Vinyl Acetate

5.520min (-0.030) 1.41 ug/L m

response 119

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	10.60	0.00
42.00	8.70	24.14
0.00	0.00	0.00



Intercept <
MDL

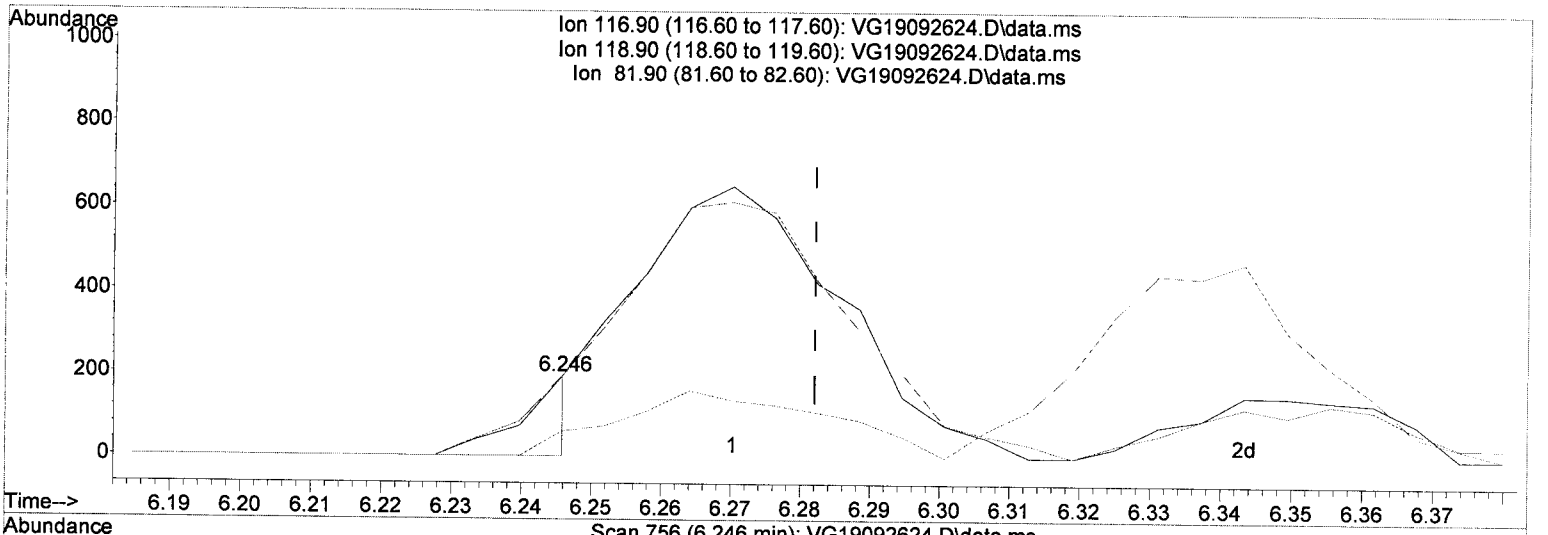
9/30/19 hm

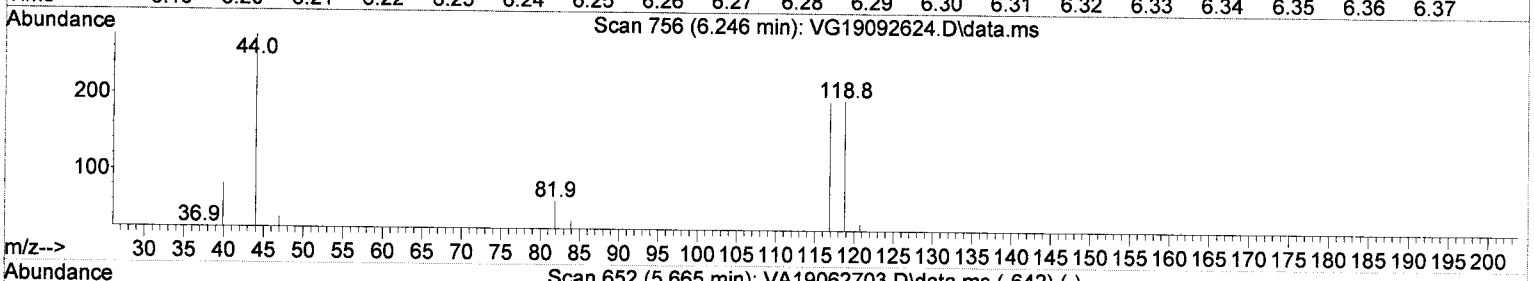
R = 8.48e-002 A*A + 8.61e-001 A - 2.85e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930w+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

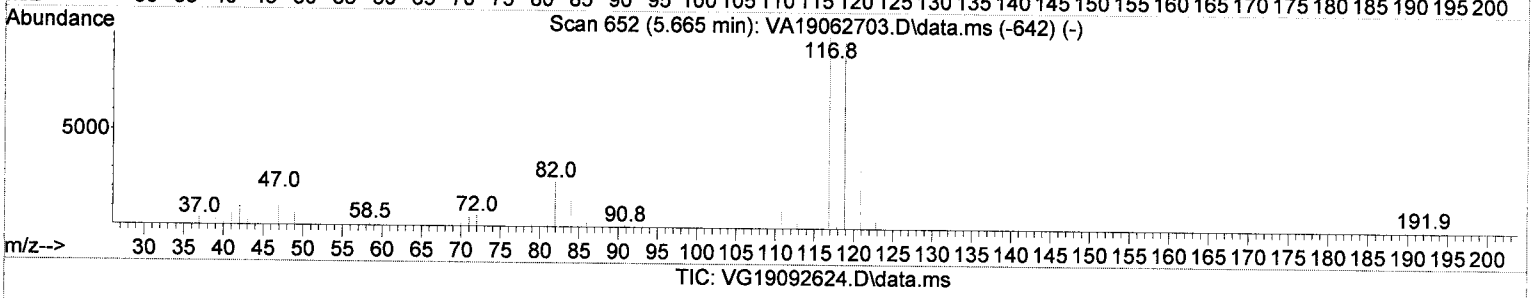
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







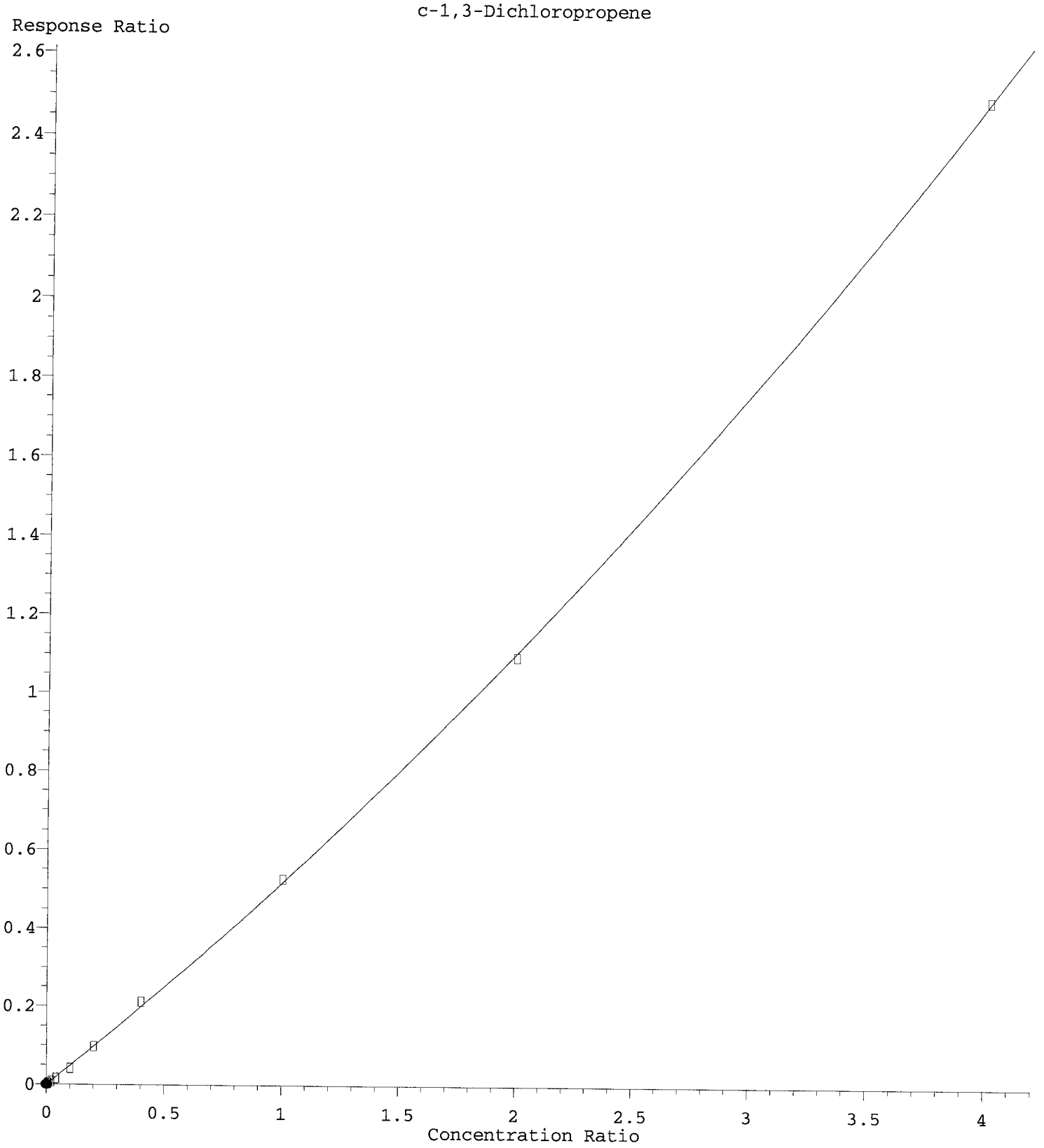
TIC: VG19092624.D\data.ms

(29) Carbon Tetrachloride

6.246min (-0.036) 0.23 ug/L m

response 112

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	91.90	100.52
81.90	22.60	31.61
0.00	0.00	0.00



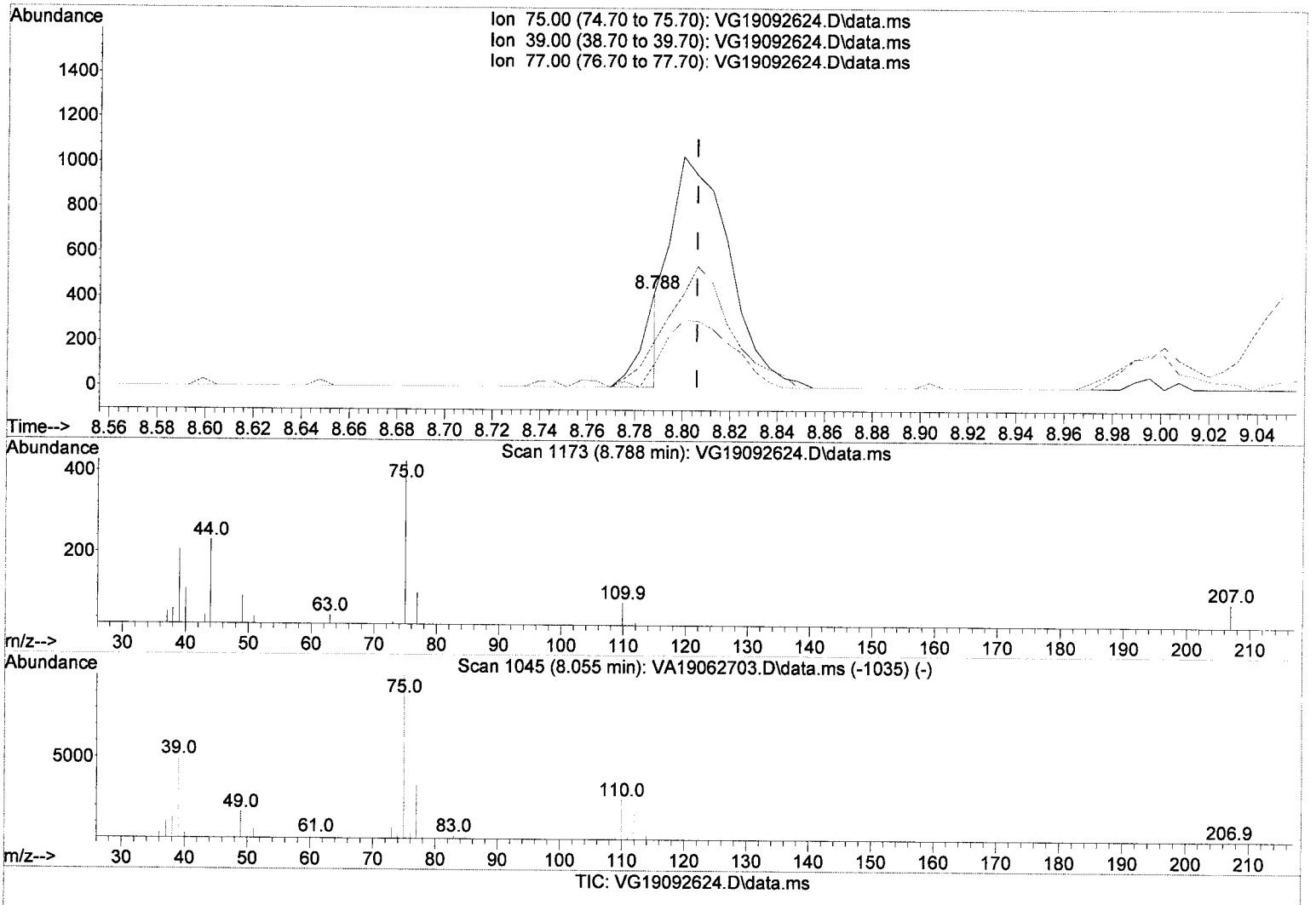
Intercept < MDL
9/30/19 mj

R = 3.41e-002 A*A + 4.85e-001 A - 1.16e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VGI90930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

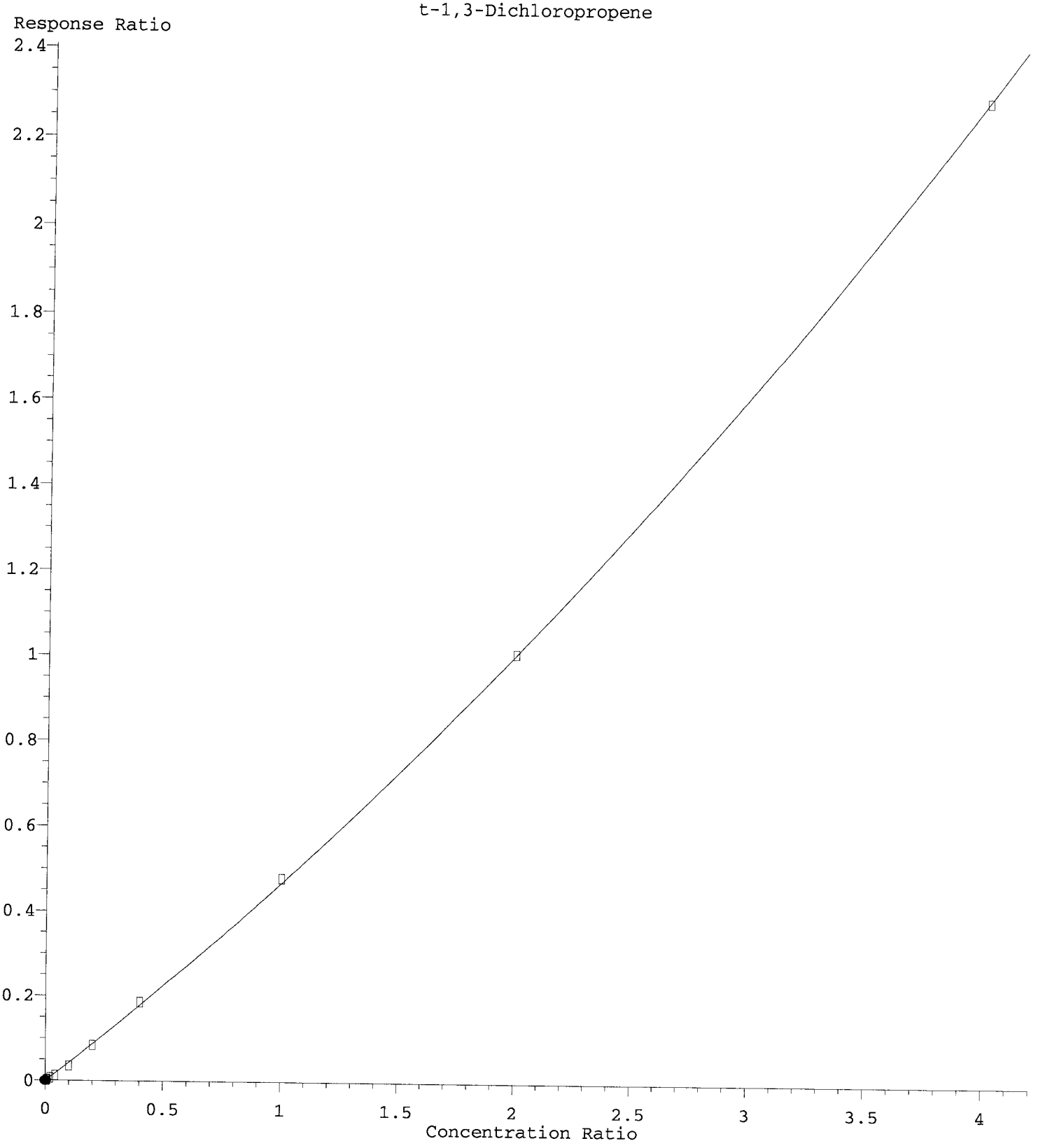


(47) c-1,3-Dichloropropene

8.788min (-0.018) 0.21 ug/L m

response 235

Ion	Exp%	Act%
75.00	100.00	100.00
39.00	50.30	48.24
77.00	31.90	24.00
0.00	0.00	0.00



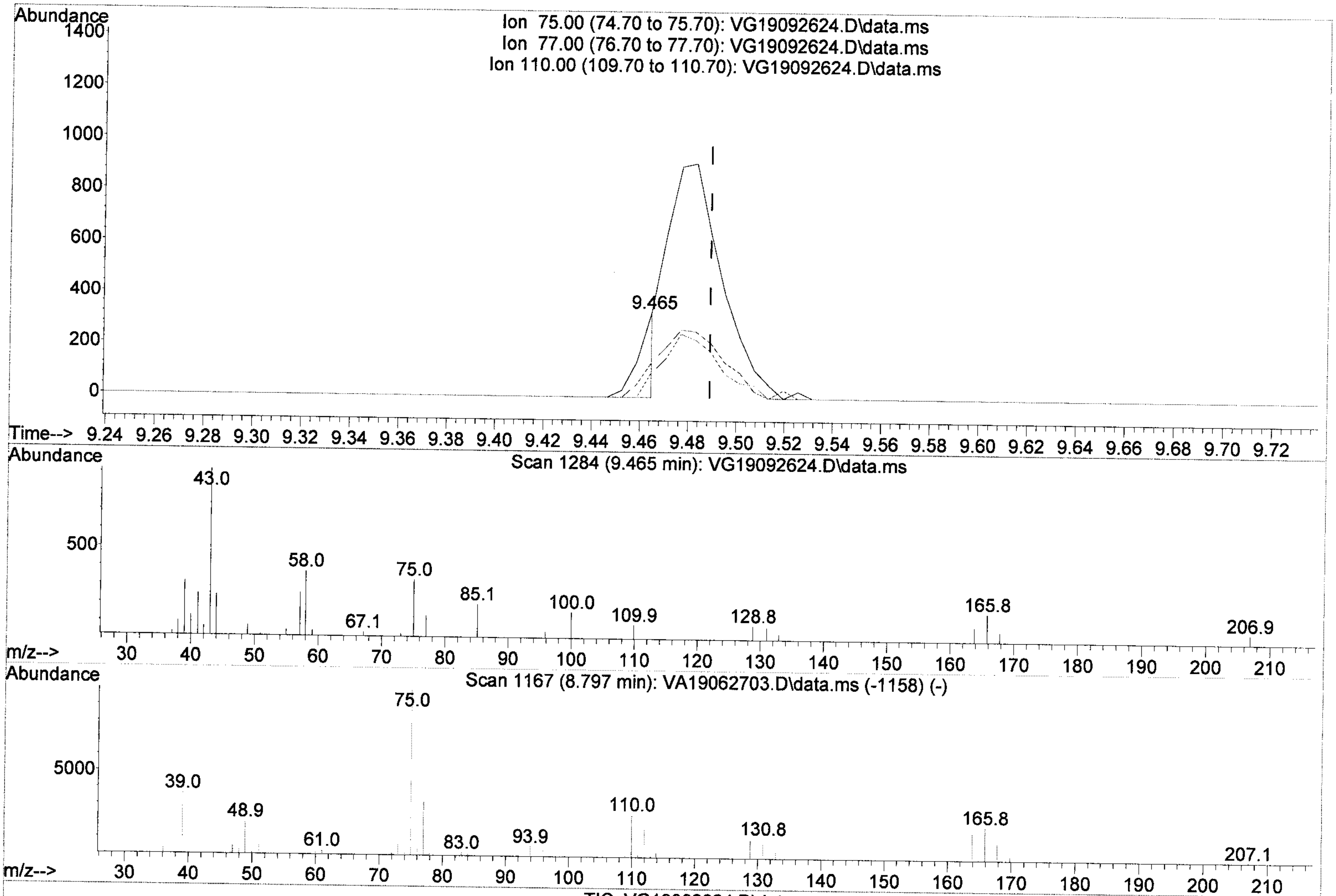
Intercept < MDL
9/30/19 bm

R = 3.48e-002 A*A + 4.35e-001 A - 1.46e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w/(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

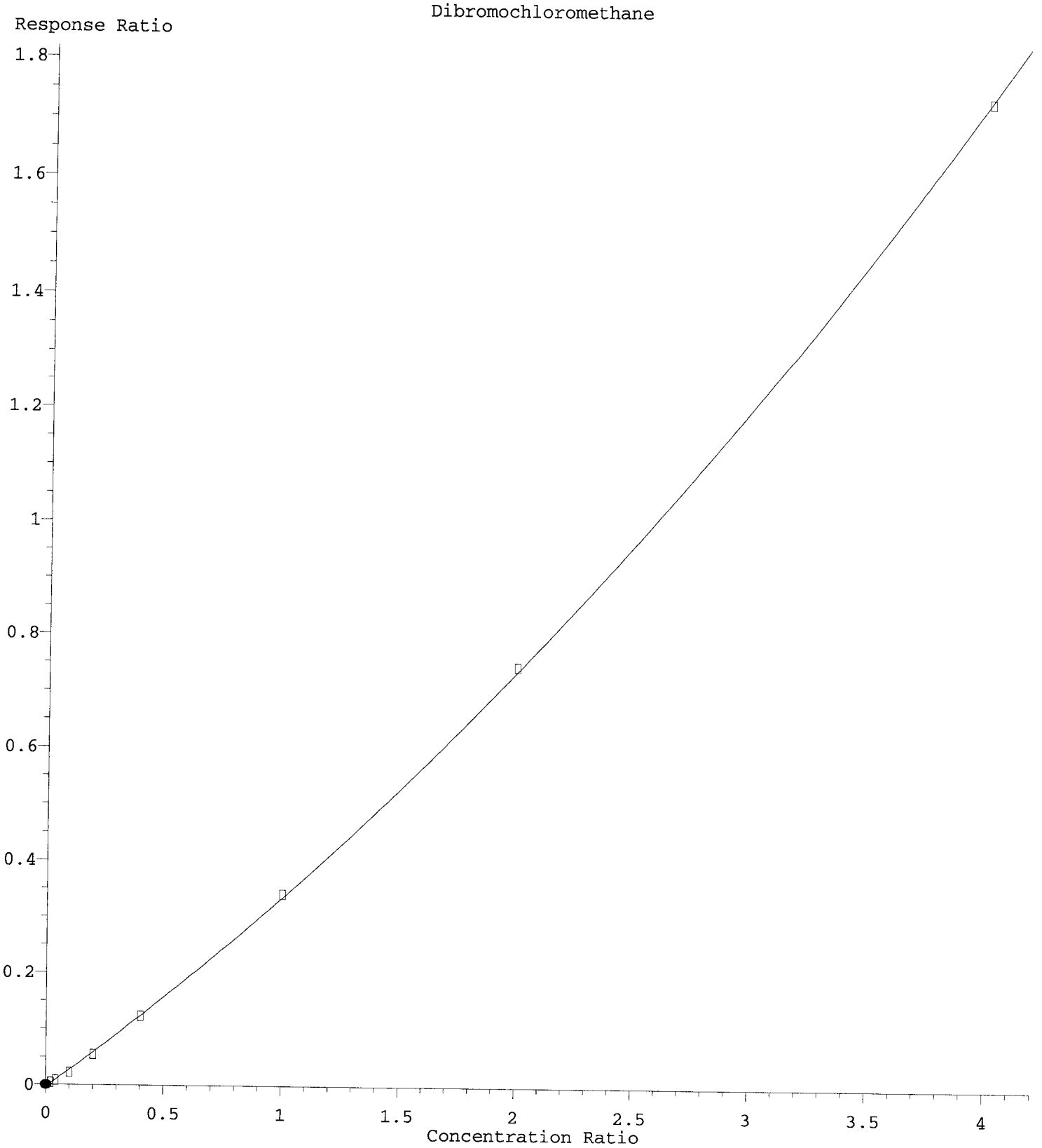


(52) t-1,3-Dichloropropene

9.465min (-0.024) 0.25 ug/L m

response 181

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	33.20	41.09
110.00	25.60	29.31
0.00	0.00	0.00



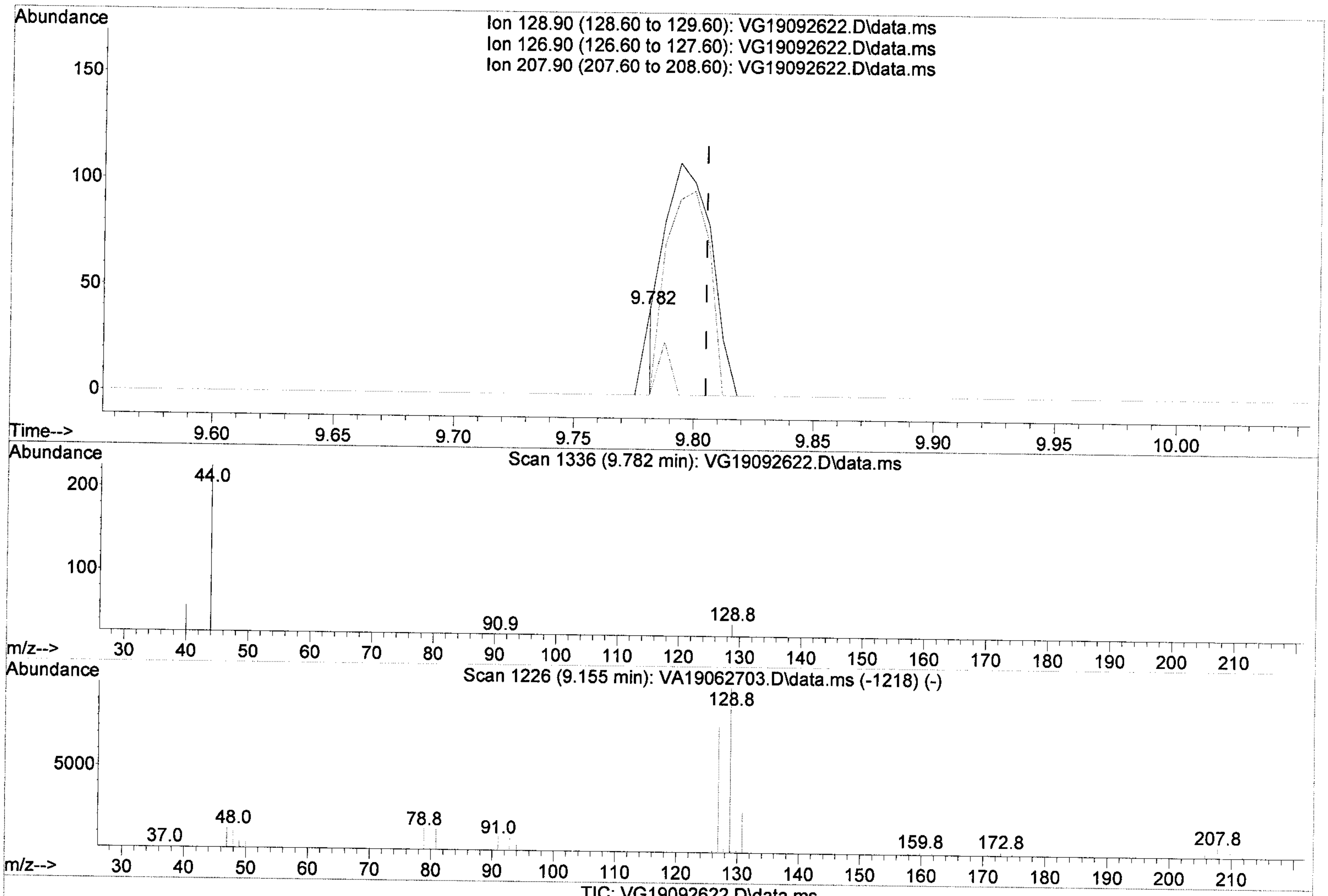
Intercept < MDL
9/30/19 RL

R = 3.23e-002 A*A + 3.06e-001 A - 3.71e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:35 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

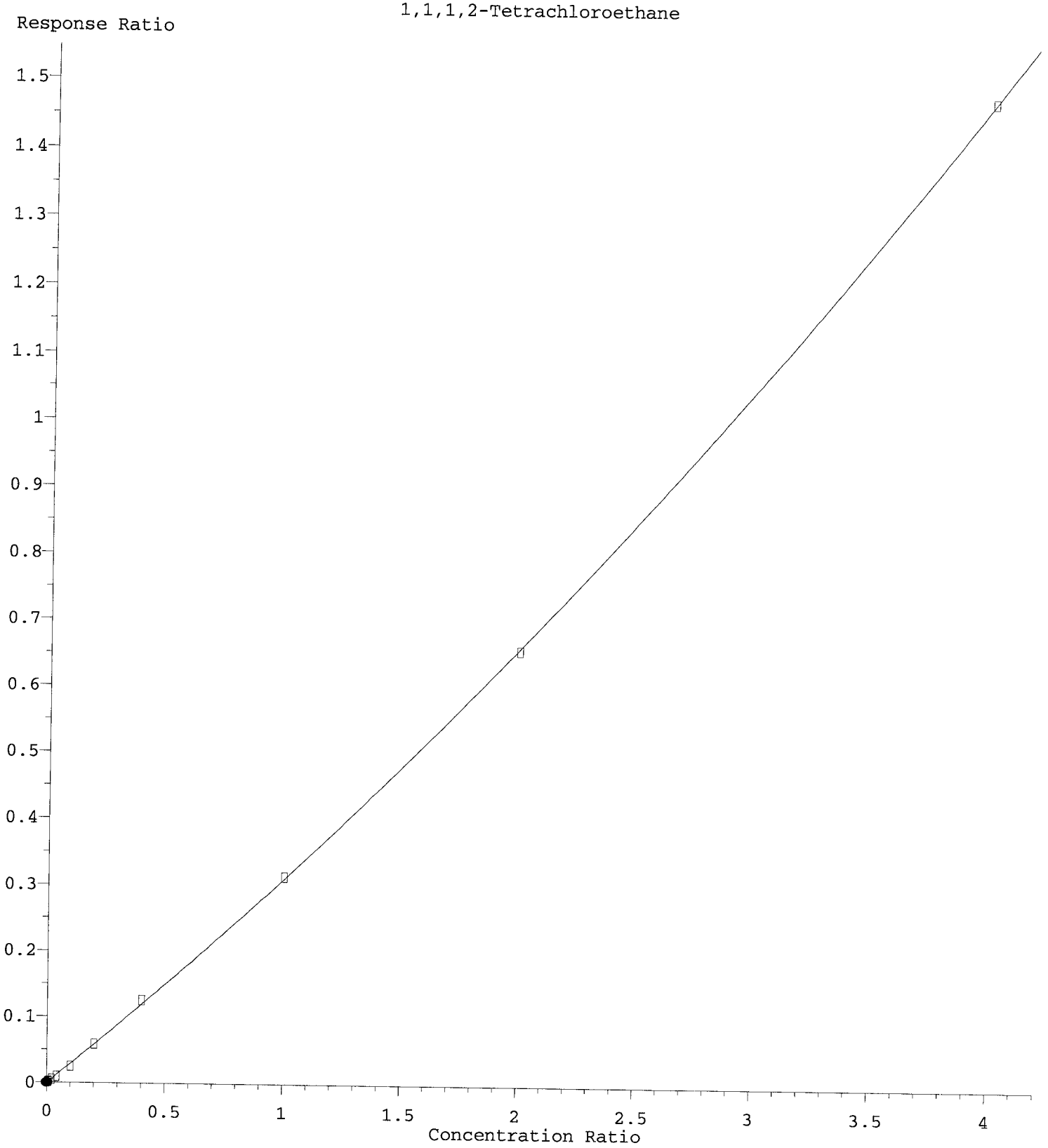


(54) Dibromochloromethane

9.782min (-0.023) 0.62 ug/L m

response 15

Ion	Exp%	Act%
128.90	100.00	100.00
126.90	77.40	0.00#
207.90	7.30	0.00
0.00	0.00	0.00



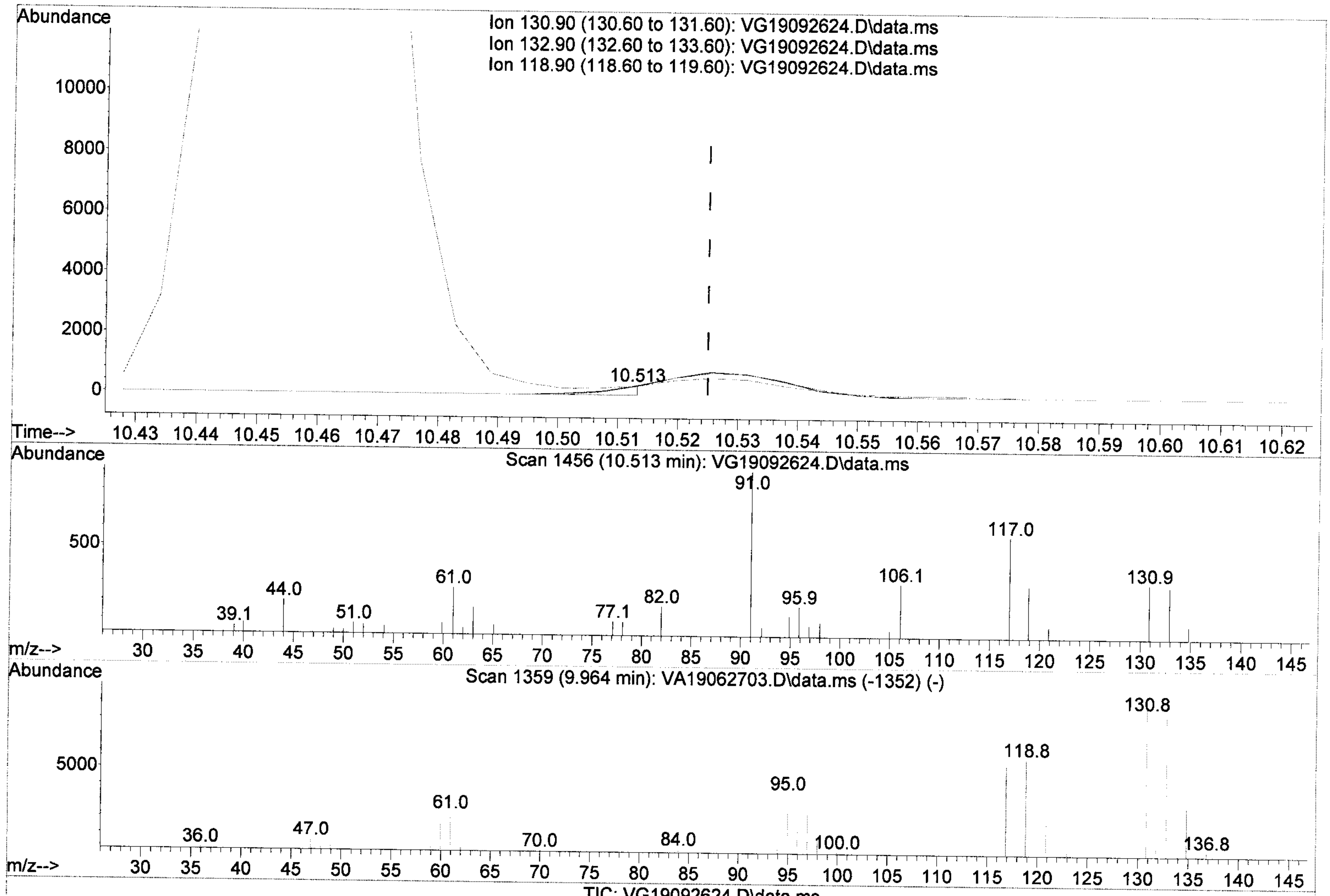
Intercept < MDL
9/30/19 KY

R = 1.91e-002 A*A + 2.92e-001 A - 6.67e-004
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\vg190930w1.m
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

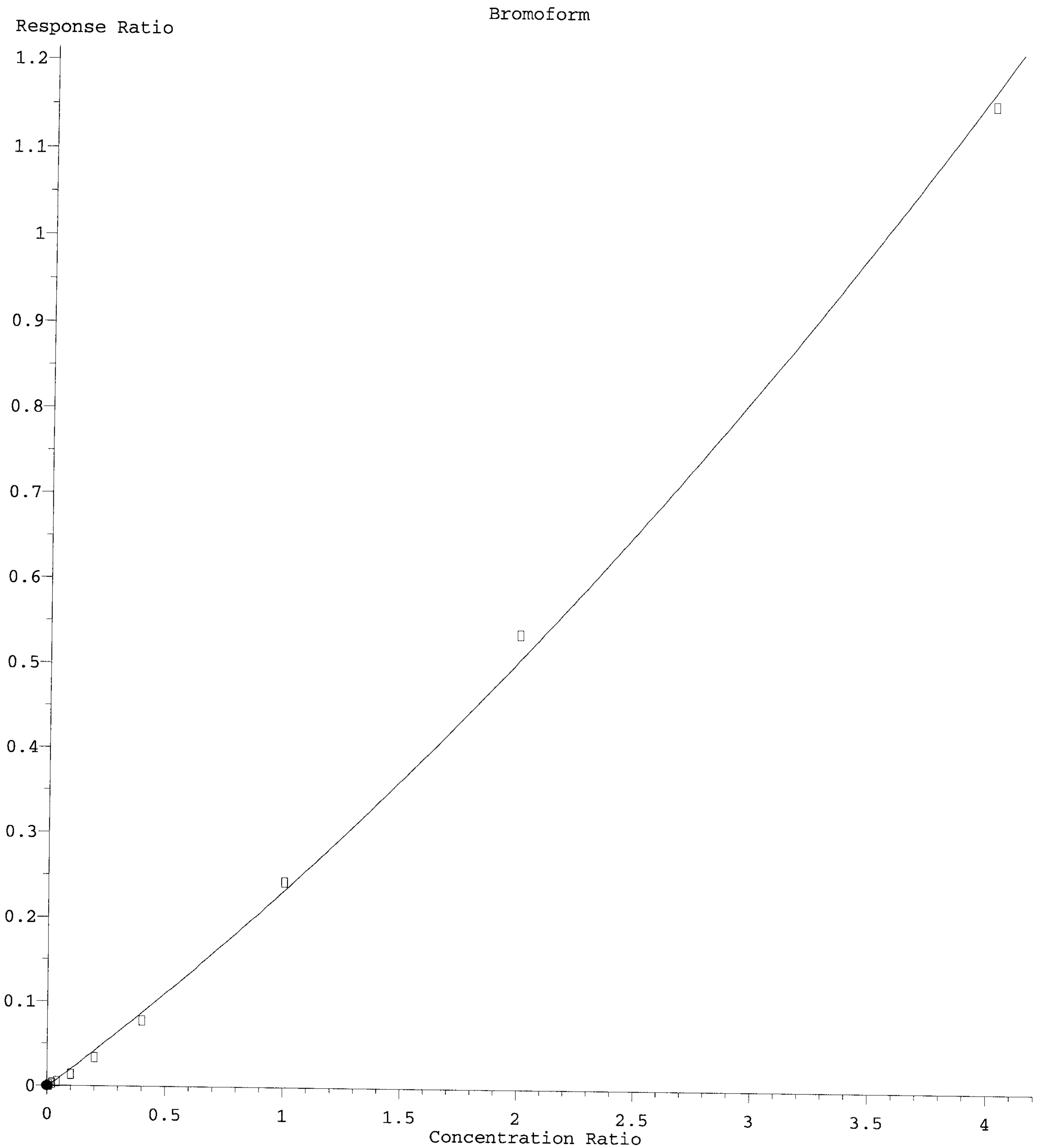


(60) 1,1,1,2-Tetrachloroethane

10.513min (-0.012) 0.22 ug/L m

response 162

Ion	Exp%	Act%
130.90	100.00	100.00
132.90	94.90	95.96
118.90	63.20	95.65#
0.00	0.00	0.00



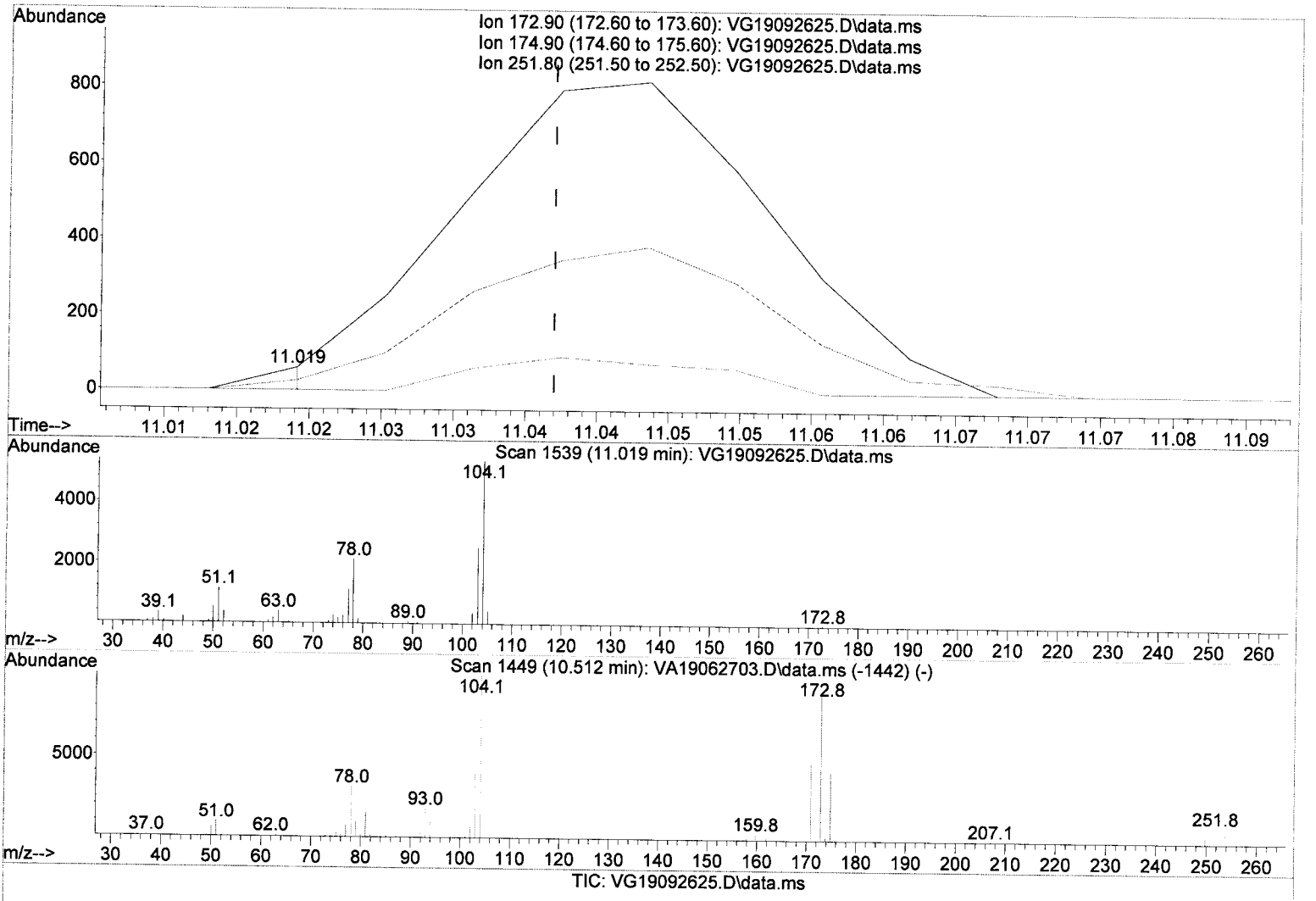
Intercept < MR
9/30/19 [illegible]

R = 1.95e-002 A*A + 2.15e-001 A - 2.01e-003
Coef of Det (r^2) = 0.997   Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W1_M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

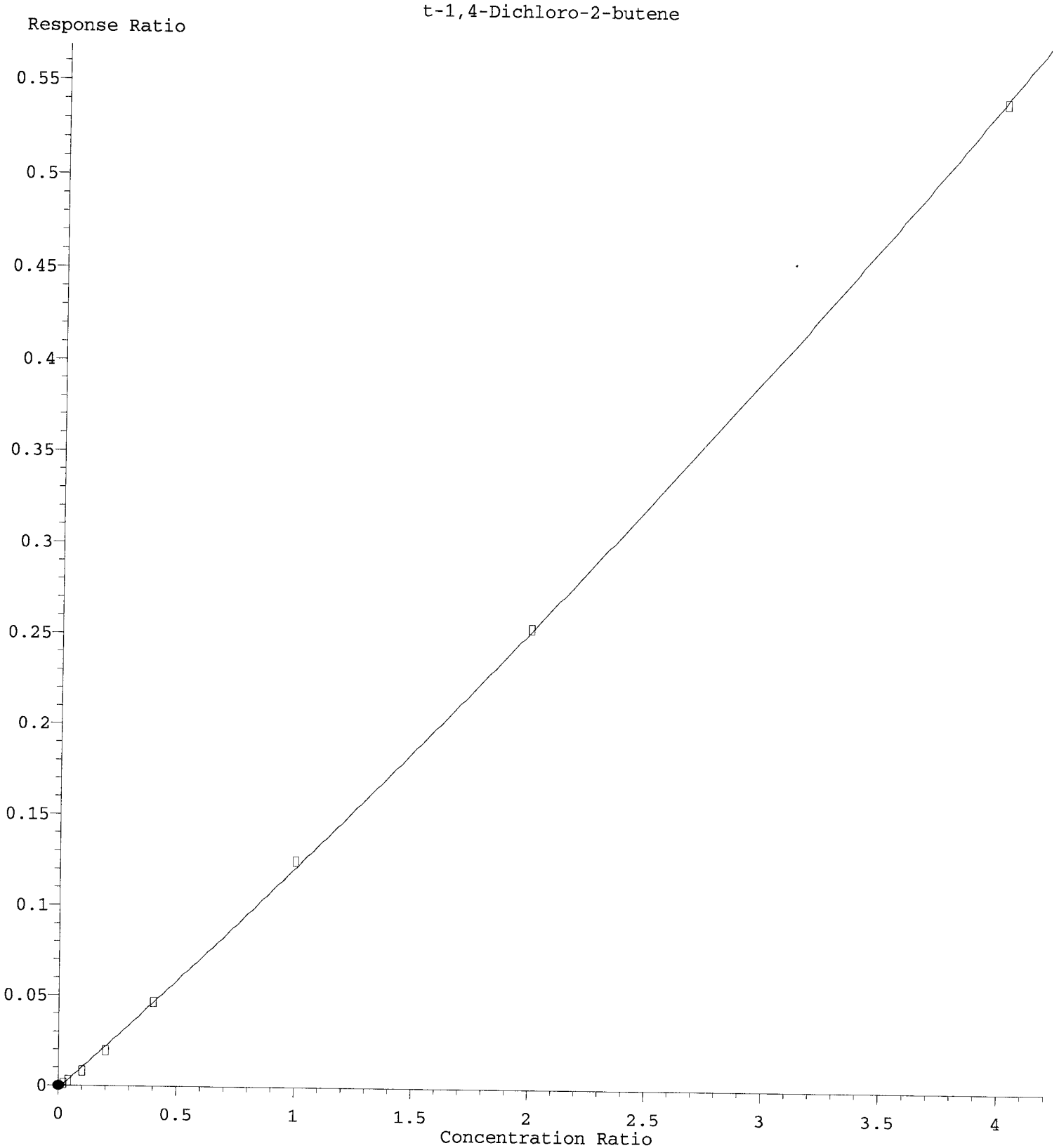


(64) Bromoform (P)

11.019min (-0.018) 0.49 ug/L m

response 22

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	48.50	43.33
251.80	13.90	0.00
0.00	0.00	0.00



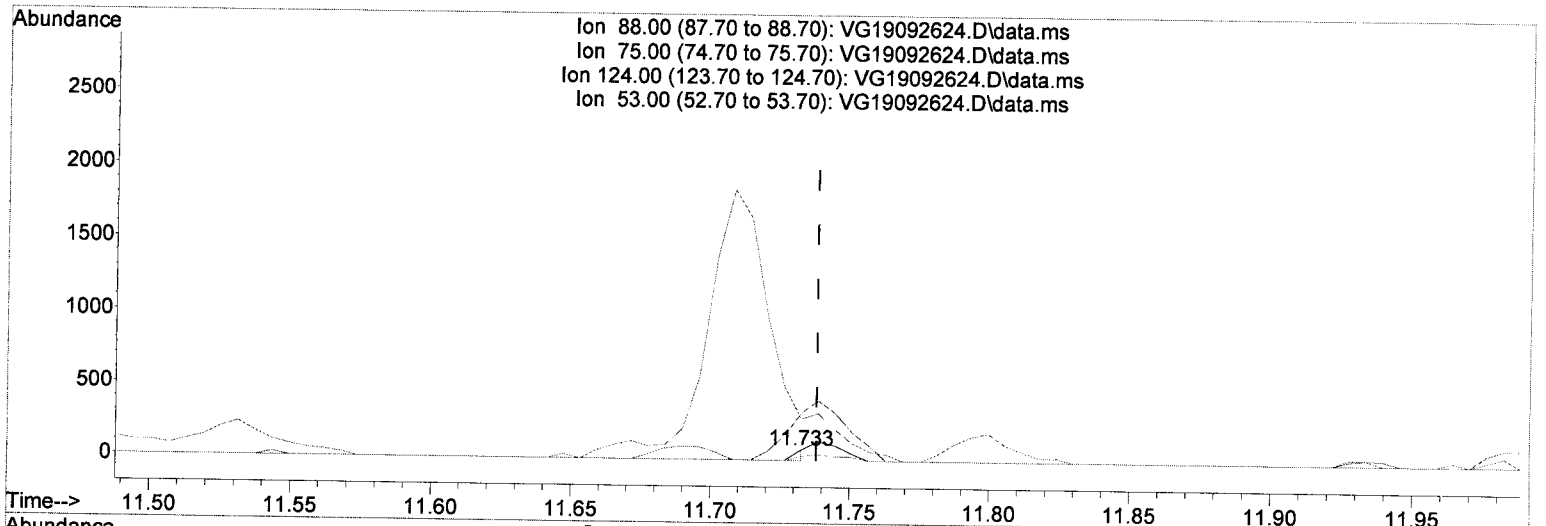
Intercept CMDR
9/30/19 hm

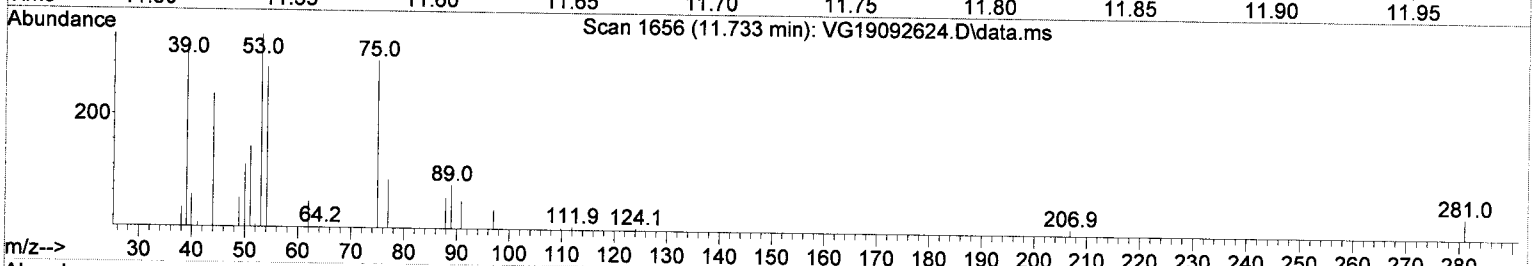
R = 4.38e-003 A*A + 1.19e-001 A - 1.90e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VOA190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

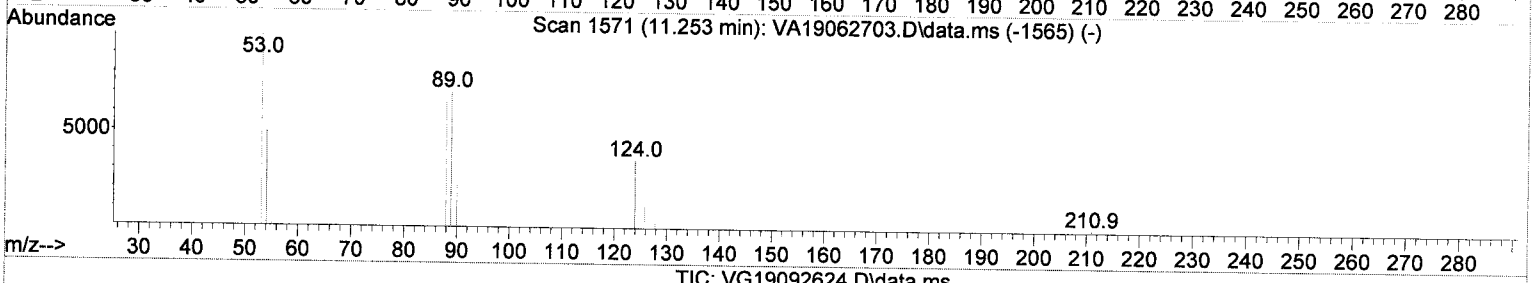
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







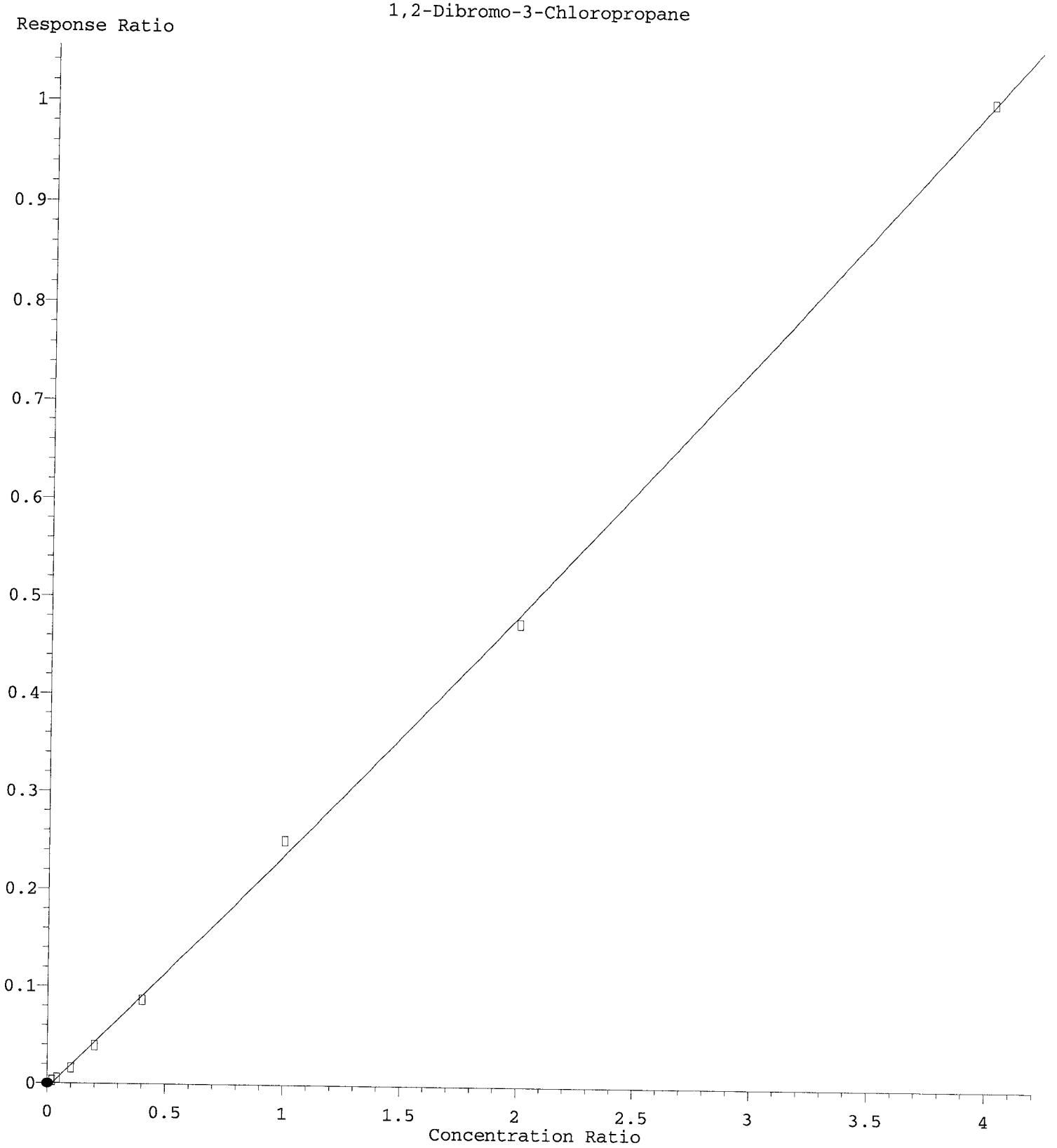
TIC: VG19092624.D\data.ms

(74) t-1,4-Dichloro-2-butene

11.733min (-0.005) 0.89 ug/L m

response 26

Ion	Exp%	Act%
88.00	100.00	100.00
75.00	263.20	395.83#
124.00	63.30	38.89#
53.00	196.80	451.39#



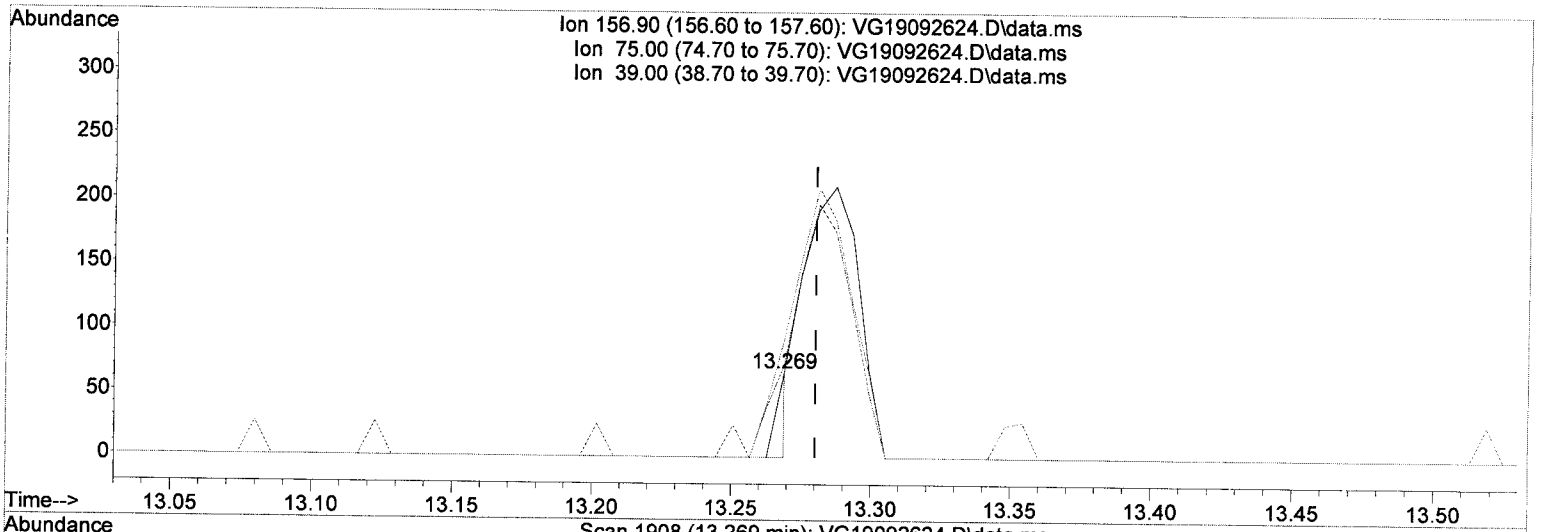
Intercept CMDR
9/30/19 hm

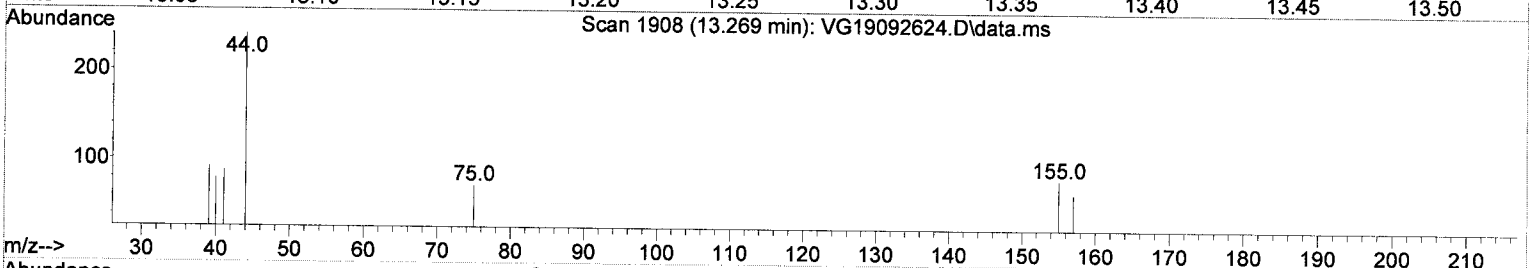
R = 3.82e-003 A*A + 2.37e-001 A - 4.76e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VG190930W1.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

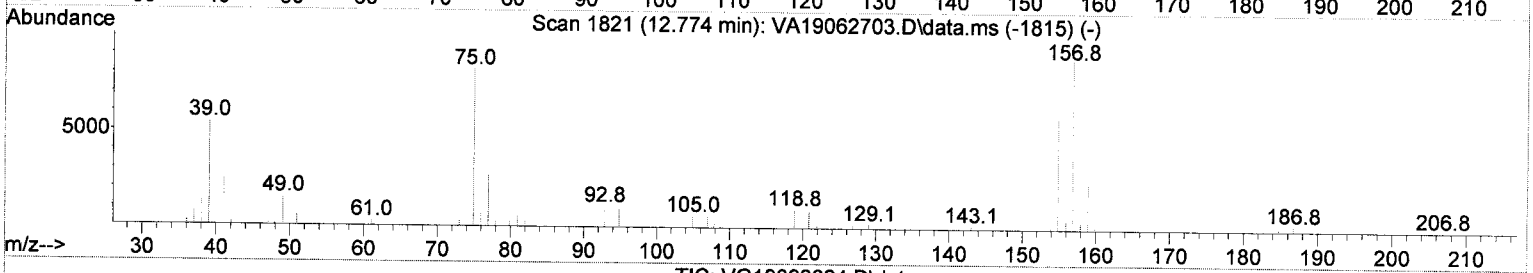
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







TIC: VG19092624.D\data.ms

(84) 1,2-Dibromo-3-Chloropropane

13.269min (-0.011) 1.05 ug/L m

response 24

Ion	Exp%	Act%
156.90	100.00	100.00
75.00	73.10	109.09#
39.00	54.70	139.39#
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	106	0.00
2		Dichlorodifluoromethane	20.000	15.600	22.0#	77	0.00
3	P	Chloromethane	20.000	17.682	11.6	94	0.00
4	C	Vinyl Chloride	20.000	18.735	6.3	91	0.00
5		Bromomethane	20.000	22.355	-11.8	117	0.00
6		Chloroethane	20.000	20.904	-4.5	108	0.00
7		Trichlorofluoromethane	20.000	18.699	6.5	87	-0.02
8		~~Ethanol~~	~~1250.000~~	~~3.390~~	~~99.7#~~	~~0~~	~~0.03~~
9	C	1,1-Dichloroethene	20.000	19.322	3.4	93	-0.01
10		Carbon Disulfide	20.000	21.244	-6.2	99	0.00
11		Freon 113	20.000	17.311	13.4	86	0.00
12		Iodomethane	20.000	15.093	24.5#	83	0.00
13		Acrolein	20.000	20.274	-1.4	107	0.00
14		Methylene Chloride	20.000	19.657	1.7	102	0.00
15		Acetone	40.000	39.228	1.9	103	0.00
16		t-1,2-Dichloroethene	20.000	19.998	0.0	100	0.00
17		n-Hexane	20.000	15.437	22.8#	76	0.00
18		Methyl-tert-butyl-ether	20.000	20.273	-1.4	101	0.00
19		~~tert-Butanol (TBA)~~	~~1250.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-4.83#~~
20		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-5.12#~~
21	P	1,1-Dichloroethane	20.000	21.763	-8.8	106	0.00
22		Acrylonitrile	20.000	20.025	-0.1	102	0.00
23		Vinyl Acetate	20.000	21.312	-6.6	134	-0.01
24		~~Ethyl tert-butyl ether (ETB~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-5.51#~~
25		c-1,2-Dichloroethene	20.000	19.908	0.5	99	0.00
26		2,2-Dichloropropane	20.000	18.322	8.4	87	0.00
27		Bromochloromethane	20.000	20.316	-1.6	101	0.00
28	C	Chloroform	20.000	20.290	-1.4	100	0.00
29		Carbon Tetrachloride	20.000	19.366	3.2	95	-0.01
30		Tetrahydrofuran	20.000	20.699	-3.5	102	-0.01
31		1,1,1-Trichloroethane	20.000	21.565	-7.8	101	0.00
32	S	Dibromofluoromethane (S)	50.000	51.639	-3.3	107	0.00
33		1,1-Dichloropropene	20.000	18.781	6.1	92	0.00
34		2-Butanone (MEK)	40.000	40.411	-1.0	102	-0.02
35		Benzene	20.000	18.950	5.3	98	-0.01
36		~~tert-Amyl methyl ether (TAM~~	~~5.000~~	~~0.035~~	~~99.3#~~	~~1~~	~~0.00~~
37		1,2-Dichloroethane (EDC)	20.000	20.529	-2.6	102	0.00
38		iso-Butyl Alcohol	500.000	610.149	-22.0#	113	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	50.130	-0.3	107	0.00
40		Trichloroethene (TCE)	20.000	18.813	5.9	95	0.00
41		~~tert-Amyl ethyl ether (TAEE~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-7.71#~~
42		Dibromomethane	20.000	20.205	-1.0	101	0.00
43	C	1,2-Dichloropropane	20.000	20.554	-2.8	100	0.00
44		Bromodichloromethane	20.000	21.713	-8.6	102	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	108	0.00
46		2-Chloroethyl Vinyl Ether	20.000	19.879	0.6	98	0.00
47		c-1,3-Dichloropropene	20.000	19.821	0.9	100	0.00
48	S	Toluene-d8 (S)	50.000	49.694	0.6	108	0.00
49	C	Toluene	20.000	18.235	8.8	96	0.00
50		Tetrachloroethene (PCE)	20.000	17.160	14.2	90	0.00

9/30/2019

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	43.771	-9.4	103	-0.01
52		t-1,3-Dichloropropene	20.000	19.742	1.3	102	-0.01
53		1,1,2-Trichloroethane	20.000	20.299	-1.5	104	0.00
54		Dibromochloromethane	20.000	19.446	2.8	105	-0.01
55		1,3-Dichloropropane	20.000	20.032	-0.2	102	0.00
56		1,2-Dibromoethane (EDB)	20.000	20.848	-4.2	101	0.00
57		2-Hexanone	40.000	43.831	-9.6	104	0.00
58	P	Chlorobenzene	20.000	18.336	8.3	97	0.00
59	C	Ethylbenzene	20.000	18.244	8.8	93	0.00
60		1,1,1,2-Tetrachloroethane	20.000	19.809	1.0	101	0.00
61		m,p-Xylenes (2)	40.000	36.906	7.7	94	0.00
62		o-Xylene	20.000	19.287	3.6	96	0.00
63		Styrene	20.000	20.725	-3.6	97	-0.01
64	P	Bromoform	20.000	18.523	7.4	111	0.00
65		Isopropylbenzene	20.000	18.924	5.4	91	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	108	0.00
67	S	4-Bromofluorobenzene (S)	50.000	49.341	1.3	107	0.00
68		Bromobenzene	20.000	18.770	6.2	98	0.00
69		n-Propylbenzene	20.000	17.884	10.6	90	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	22.067	-10.3	110	0.00
71		2-Chlorotoluene	20.000	18.855	5.7	95	0.00
72		1,3,5-Trimethylbenzene	20.000	18.475	7.6	93	0.00
73		1,2,3-Trichloropropane	20.000	21.928	-9.6	105	-0.01
74		t-1,4-Dichloro-2-butene	20.000	17.477	12.6	93	0.00
75		4-Chlorotoluene	20.000	17.959	10.2	94	0.00
76		tert-Butylbenzene	20.000	18.516	7.4	92	0.00
77		1,2,4-Trimethylbenzene	20.000	18.576	7.1	94	0.00
78		sec-Butylbenzene	20.000	18.595	7.0	89	0.00
79		4-Isopropyltoluene	20.000	18.397	8.0	90	0.00
80		1,3-Dichlorobenzene	20.000	18.338	8.3	97	0.00
81		1,4-Dichlorobenzene	20.000	17.695	11.5	96	0.00
82		n-Butylbenzene	20.000	17.334	13.3	89	0.00
83		1,2-Dichlorobenzene	20.000	19.505	2.5	100	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.211	-1.1	114	0.00
85		Hexachlorobutadiene	20.000	18.636	6.8	88	0.00
86		1,2,4-Trichlorobenzene	20.000	19.202	4.0	98	0.00
87		Naphthalene	20.000	22.106	-10.5	104	0.00
88		1,2,3-Trichlorobenzene	20.000	21.125	-5.6	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	103	0.00
2		Dichlorodifluoromethane	20.000	0.210	98.9#	1	0.00
3	P	Chloromethane	20.000	0.323	98.4#	2	0.00
4	C	Vinyl Chloride	20.000	0.168	99.2#	1	0.00
5		Bromomethane	20.000	0.427	97.9#	2	0.00
6		Chloroethane	20.000	-1.000	105.0#	3	0.01
7		Trichlorofluoromethane	20.000	0.118	99.4#	1	0.00
8		Ethanol	1250.000	1370.489	-9.6	112	0.00
9	C	1,1-Dichloroethene	20.000	0.192	99.0#	1	0.00
10		Carbon Disulfide	20.000	0.487	97.6#	2	0.00
11		Freon 113	20.000	0.212	98.9#	1	0.01
12		Iodomethane	20.000	0.244	98.8#	2	0.00
13		Acrolein	20.000	0.024	99.9#	0	0.01
14		Methylene Chloride	20.000	1.477	92.6#	7	0.00
15		Acetone	40.000	1.168	97.1#	3	0.00
16		t-1,2-Dichloroethene	20.000	0.280	98.6#	1	0.00
17		n-Hexane	20.000	0.118	99.4#	1	0.01
18		Methyl-tert-butyl-ether	20.000	0.010	99.9#	0	0.01
19		tert-Butanol (TBA)	1250.000	1448.367	-15.9	106	0.00
20		Diisopropyl ether (DIPE)	5.000	5.342	-6.8	103	0.00
21	P	1,1-Dichloroethane	20.000	0.157	99.2#	1	0.00
22		Acrylonitrile	20.000	0.109	99.5#	1	0.01
23		Vinyl Acetate	20.000	2.344	88.3#	7	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	5.275	-5.5	102	0.01
25		c-1,2-Dichloroethene	20.000	0.170	99.1#	1	0.00
26		2,2-Dichloropropane	20.000	0.095	99.5#	0	0.00
27		Bromochloromethane	20.000	0.068	99.7#	0	0.00
28	C	Chloroform	20.000	0.139	99.3#	1	0.00
29		Carbon Tetrachloride	20.000	0.261	98.7#	0	-0.01
30		Tetrahydrofuran	20.000	0.026	99.9#	0	0.00
31		1,1,1-Trichloroethane	20.000	0.123	99.4#	1	0.00
32	S	Dibromofluoromethane (S)	50.000	49.053	1.9	99	0.00
33		1,1-Dichloropropene	20.000	0.231	98.8#	1	0.00
34		2-Butanone (MEK)	40.000	0.032	99.9#	0	0.00
35		Benzene	20.000	0.174	99.1#	1	0.00
36		tert-Amyl methyl ether (TAM	5.000	4.882	2.4	100	0.03
37		1,2-Dichloroethane (EDC)	20.000	0.045	99.8#	0	0.00
38		iso-Butyl Alcohol	500.000	0.428	99.9#	0	0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.818	0.4	104	0.00
40		Trichloroethene (TCE)	20.000	0.224	98.9#	1	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	5.151	-3.0	98	-0.01
42		Dibromomethane	20.000	0.038	99.8#	0	0.00
43	C	1,2-Dichloropropane	20.000	0.083	99.6#	0	0.00
44		Bromodichloromethane	20.000	0.051	99.7#	0	0.02
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	103	0.00
46		2-Chloroethyl Vinyl Ether	20.000	0.000	100.0#	0	-8.75#
47		c-1,3-Dichloropropene	20.000	0.187	99.1#	0	0.00
48	S	Toluene-d8 (S)	50.000	49.807	0.4	103	0.00
49	C	Toluene	20.000	0.192	99.0#	1	0.00
50		Tetrachloroethene (PCE)	20.000	0.288	98.6#	1	0.00

9/30/19 MM

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	0.049	99.9#	0	0.00
52		t-1,3-Dichloropropene	20.000	0.208	99.0#	0	0.00
53		1,1,2-Trichloroethane	20.000	0.031	99.8#	0	0.00
54		Dibromochloromethane	20.000	0.617	96.9#	0	0.00
55		1,3-Dichloropropane	20.000	0.036	99.8#	0	0.00
56		1,2-Dibromoethane (EDB)	20.000	0.036	99.8#	0	0.00
57		2-Hexanone	40.000	0.058	99.9#	0	0.01
58	P	Chlorobenzene	20.000	0.186	99.1#	1	0.00
59	C	Ethylbenzene	20.000	0.204	99.0#	1	0.00
60		1,1,1,2-Tetrachloroethane	20.000	0.178	99.1#	0	0.00
61		m,p-Xylenes (2)	40.000	0.432	98.9#	1	0.00
62		o-Xylene	20.000	0.158	99.2#	1	0.00
63		Styrene	20.000	0.153	99.2#	1	0.00
64	P	Bromoform	20.000	0.475	97.6#	0	0.00
65		Isopropylbenzene	20.000	0.186	99.1#	1	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	100	0.00
67	S	4-Bromofluorobenzene (S)	50.000	50.073	-0.1	101	0.00
68		Bromobenzene	20.000	0.163	99.2#	1	0.00
69		n-Propylbenzene	20.000	0.262	98.7#	1	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	0.024	99.9#	0	0.00
71		2-Chlorotoluene	20.000	0.218	98.9#	1	0.00
72		1,3,5-Trimethylbenzene	20.000	0.228	98.9#	1	0.00
73		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.72#
74		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.74#
75		4-Chlorotoluene	20.000	0.266	98.7#	1	0.00
76		tert-Butylbenzene	20.000	0.194	99.0#	1	0.00
77		1,2,4-Trimethylbenzene	20.000	0.228	98.9#	1	0.00
78		sec-Butylbenzene	20.000	0.219	98.9#	1	0.00
79		4-Isopropyltoluene	20.000	0.267	98.7#	1	0.00
80		1,3-Dichlorobenzene	20.000	0.280	98.6#	1	0.00
81		1,4-Dichlorobenzene	20.000	0.326	98.4#	2	0.00
82		n-Butylbenzene	20.000	0.369	98.2#	2	0.00
83		1,2-Dichlorobenzene	20.000	0.194	99.0#	1	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-13.28#
85		Hexachlorobutadiene	20.000	0.441	97.8#	2	0.00
86		1,2,4-Trichlorobenzene	20.000	0.344	98.3#	2	0.00
87		Naphthalene	20.000	0.174	99.1#	1	0.00
88		1,2,3-Trichlorobenzene	20.000	0.291	98.5#	1	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analysis Included
8260C Full List
8260C Additional Cpds
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9I26050-TUN1	MS Tune	Water		A19F381	9/26/2019 6:03:00PM
9I26050-ICB1	Initial Cal Blank	Water		A19F381	9/26/2019 6:30:00PM
9I26050-CAL1	Cal Standard	Water	A19I319	"	9/26/2019 6:57:00PM
9I26050-CAL2	Cal Standard	Water	A19I320	"	9/26/2019 7:24:00PM
9I26050-CAL3	Cal Standard	Water	A19I321	"	9/26/2019 7:52:00PM
9I26050-CAL4	Cal Standard	Water	A19I322	"	9/26/2019 8:19:00PM
9I26050-CAL5	Cal Standard	Water	A19I323	"	9/26/2019 8:46:00PM
9I26050-CAL6	Cal Standard	Water	A19I324	"	9/26/2019 9:13:00PM
9I26050-CAL7	Cal Standard	Water	A19I325	"	9/26/2019 9:40:00PM
9I26050-CAL8	Cal Standard	Water	A19I326	"	9/26/2019 10:07:00PM
9I26050-CAL9	Cal Standard	Water	A19I327	"	9/26/2019 10:34:00PM
9I26050-CALA	Cal Standard	Water	A19I328	"	9/26/2019 11:28:00PM
9I26050-CALB	Cal Standard	Water	A19I329	"	9/27/2019 12:22:00AM
9I26050-ICV1	Initial Cal Check	Water	A19I330	"	9/27/2019 1:44:00AM
9I26050-ICV2	Initial Cal Check	Water	A19H365	"	9/27/2019 2:11:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9I3003 Instrument: VOA-GCMS7

8260C Full List Sequence: 9I26050 Matrix: Water

9I26050-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I3003** Instrument: **VOA-GCMS7**

8260C Full List Sequence: **9I26050** Matrix: **Water**

9I26050-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9I26050-ICV2	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

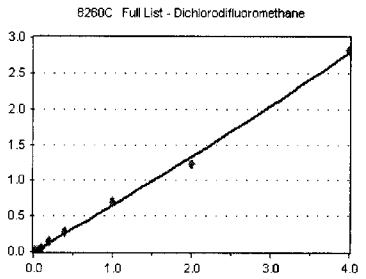
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Dichlorodifluoromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

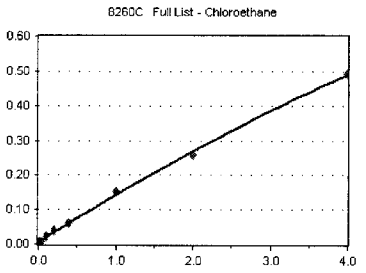


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~118~~	~~0.604~~	~~0.00~~
9I26050-CAL2	0.2	199	0.558	1.73
9I26050-CAL3	0.4	332	0.430	1.73
9I26050-CAL4	1	997	0.500	1.73
9I26050-CAL5	2	1819	0.470	1.73
9I26050-CAL6	5	5552	0.552	1.73
9I26050-CAL7	10	13110	0.695	1.73
9I26050-CAL8	20	25646	0.682	1.73
9I26050-CAL9	50	68608	0.698	1.73
9I26050-CALA	100	127237	0.613	1.73
9I26050-CALB	200	278761	0.706	1.73

AVE RF **0.590** RF RSD **17.47** AVE RT **1.73**

Chloroethane

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**

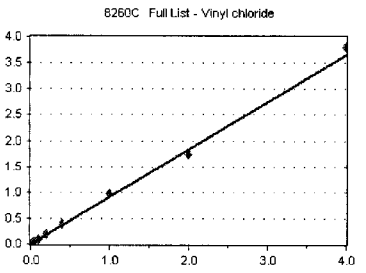


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~138~~	~~0.707~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	286	0.370	0.00
9I26050-CAL4	1	505	0.253	0.00
9I26050-CAL5	2	661	0.171	0.00
9I26050-CAL6	5	2298	0.229	2.74
9I26050-CAL7	10	3523	0.187	2.73
9I26050-CAL8	20	5888	0.157	2.73
9I26050-CAL9	50	15125	0.154	2.73
9I26050-CALA	100	26943	0.130	2.73
9I26050-CALB	200	48587	0.123	2.73

AVE RF **0.197** RF RSD **39.50** AVE RT **1.82**

Vinyl chloride

Curve Fit: **AVERAGE RF**

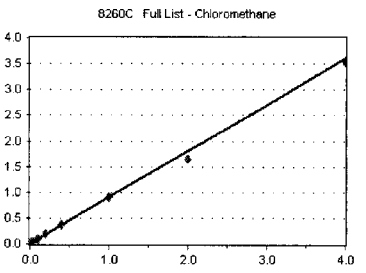


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	186	0.953	0.00
9I26050-CAL2	0.2	339	0.950	2.12
9I26050-CAL3	0.4	659	0.853	2.12
9I26050-CAL4	1	1718	0.861	2.12
9I26050-CAL5	2	3174	0.820	2.12
9I26050-CAL6	5	8444	0.840	2.12
9I26050-CAL7	10	18988	1.007	2.12
9I26050-CAL8	20	37326	0.993	2.12
9I26050-CAL9	50	95342	0.970	2.12
9I26050-CALA	100	178987	0.863	2.12
9I26050-CALB	200	376148	0.952	2.12

AVE RF **0.915** RF RSD **7.38** AVE RT **1.93**

Chloromethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~348~~	~~1.782~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~558~~	~~1.564~~	~~2.00~~
9I26050-CAL3	0.4	830	1.075	2.00
9I26050-CAL4	1	1871	0.938	2.00
9I26050-CAL5	2	3271	0.845	2.00
9I26050-CAL6	5	8350	0.830	2.00
9I26050-CAL7	10	17690	0.938	2.00
9I26050-CAL8	20	33757	0.898	2.00
9I26050-CAL9	50	88312	0.898	2.00
9I26050-CALA	100	169626	0.818	2.00
9I26050-CALB	200	350425	0.887	2.00

AVE RF **0.903** RF RSD **8.58** AVE RT **2.00**

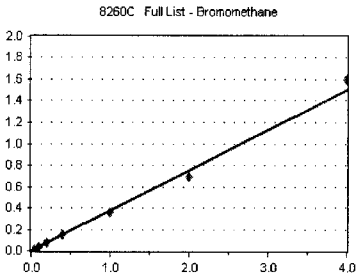
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Bromomethane

Curve Fit: **AVERAGE RF**

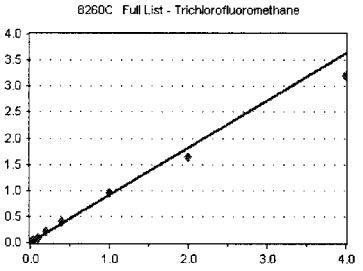


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~151~~	~~0.773~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~214~~	~~0.600~~	~~2.55~~
~~9I26050-CAL3~~	~~0.4~~	~~398~~	~~0.515~~	~~2.56~~
~~9I26050-CAL4~~	~~1~~	~~820~~	~~0.411~~	~~2.55~~
9I26050-CAL5	2	1514	0.391	2.56
9I26050-CAL6	5	3788	0.377	2.56
9I26050-CAL7	10	7207	0.382	2.56
9I26050-CAL8	20	14292	0.380	2.56
9I26050-CAL9	50	34844	0.355	2.56
9I26050-CALA	100	71878	0.346	2.56
9I26050-CALB	200	157531	0.399	2.56

AVE RF **0.376** RF RSD **5.03** AVE RT **2.56**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

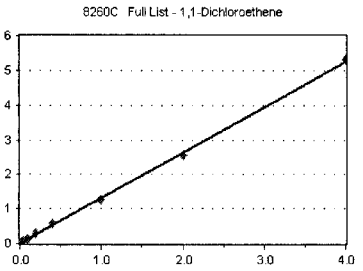


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	158	0.809	0.00
9I26050-CAL2	0.2	338	0.947	2.92
9I26050-CAL3	0.4	659	0.853	2.93
9I26050-CAL4	1	1896	0.950	2.92
9I26050-CAL5	2	3468	0.896	2.92
9I26050-CAL6	5	8591	0.854	2.93
9I26050-CAL7	10	19831	1.051	2.92
9I26050-CAL8	20	38898	1.034	2.92
9I26050-CAL9	50	94401	0.960	2.92
9I26050-CALA	100	171473	0.827	2.92
9I26050-CALB	200	315270	0.798	2.91

AVE RF **0.907** RF RSD **9.68** AVE RT **2.66**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

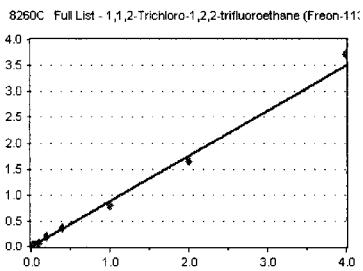


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	278	1.424	0.00
9I26050-CAL2	0.2	454	1.272	3.60
9I26050-CAL3	0.4	984	1.274	3.59
9I26050-CAL4	1	2543	1.275	3.59
9I26050-CAL5	2	4912	1.270	3.59
9I26050-CAL6	5	12096	1.203	3.59
9I26050-CAL7	10	26918	1.427	3.59
9I26050-CAL8	20	54233	1.442	3.59
9I26050-CAL9	50	122747	1.249	3.59
9I26050-CALA	100	266132	1.283	3.59
9I26050-CALB	200	526597	1.333	3.59

AVE RF **1.314** RF RSD **6.18** AVE RT **3.27**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	204	1.045	0.00
9I26050-CAL2	0.2	347	0.972	3.67
9I26050-CAL3	0.4	607	0.786	3.67
9I26050-CAL4	1	1697	0.851	3.67
9I26050-CAL5	2	3243	0.838	3.66
9I26050-CAL6	5	7496	0.746	3.67
9I26050-CAL7	10	17532	0.929	3.67
9I26050-CAL8	20	34995	0.931	3.67
9I26050-CAL9	50	78614	0.800	3.67
9I26050-CALA	100	169878	0.819	3.66
9I26050-CALB	200	366447	0.928	3.66

AVE RF **0.877** RF RSD **10.37** AVE RT **3.33**

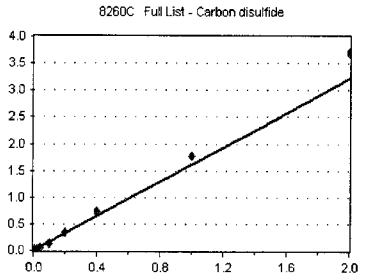
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Carbon disulfide

Curve Fit: **AVERAGE RF**

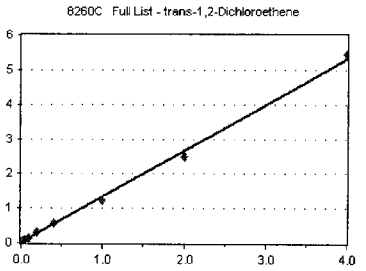


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~521~~	~~2.668~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~701~~	~~1.964~~	~~3.59~~
9I26050-CAL3	0.4	1236	1.600	3.59
9I26050-CAL4	1	2746	1.377	3.59
9I26050-CAL5	2	5204	1.345	3.59
9I26050-CAL6	5	13988	1.391	3.59
9I26050-CAL7	10	32528	1.724	3.59
9I26050-CAL8	20	68545	1.823	3.59
9I26050-CAL9	50	173305	1.763	3.59
9I26050-CALA	100	383024	1.846	3.59
~~9I26050-CALB~~	~~200~~	~~815367~~	~~2.064~~	~~3.58~~

AVE RF **1.609** RF RSD **13.09** AVE RT **3.59**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

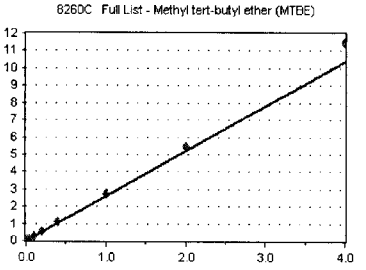


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	245	1.255	0.00
9I26050-CAL2	0.2	545	1.527	4.51
9I26050-CAL3	0.4	1035	1.340	4.51
9I26050-CAL4	1	2564	1.285	4.51
9I26050-CAL5	2	4953	1.280	4.51
9I26050-CAL6	5	12446	1.238	4.51
9I26050-CAL7	10	26538	1.407	4.51
9I26050-CAL8	20	52709	1.402	4.51
9I26050-CAL9	50	122320	1.244	4.51
9I26050-CALA	100	260343	1.255	4.51
9I26050-CALB	200	536785	1.359	4.51

AVE RF **1.327** RF RSD **6.84** AVE RT **4.10**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

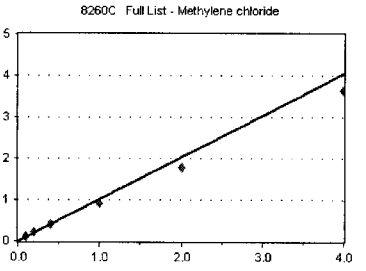


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	450	2.305	0.00
9I26050-CAL2	0.2	931	2.609	4.67
9I26050-CAL3	0.4	1884	2.439	4.67
9I26050-CAL4	1	5127	2.570	4.67
9I26050-CAL5	2	9311	2.406	4.67
9I26050-CAL6	5	24595	2.446	4.67
9I26050-CAL7	10	51504	2.730	4.67
9I26050-CAL8	20	103936	2.764	4.67
9I26050-CAL9	50	266202	2.708	4.67
9I26050-CALA	100	563807	2.718	4.67
9I26050-CALB	200	1131518	2.864	4.67

AVE RF **2.596** RF RSD **6.83** AVE RT **4.25**

Methylene chloride

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~5037~~	~~25.797~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~4360~~	~~12.218~~	~~4.33~~
~~9I26050-CAL3~~	~~0.4~~	~~3654~~	~~4.730~~	~~0.00~~
~~9I26050-CAL4~~	~~1~~	~~4845~~	~~2.429~~	~~4.33~~
~~9I26050-CAL5~~	~~2~~	~~6326~~	~~1.635~~	~~4.33~~
9I26050-CAL6	5	12220	1.215	4.33
9I26050-CAL7	10	21075	1.117	4.33
9I26050-CAL8	20	38696	1.029	4.33
9I26050-CAL9	50	89091	0.906	4.33
9I26050-CALA	100	185242	0.893	4.33
9I26050-CALB	200	359775	0.911	4.33

AVE RF **1.012** RF RSD **13.13** AVE RT **4.33**

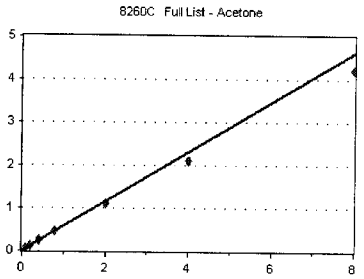
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Acetone

Curve Fit: **AVERAGE RF**

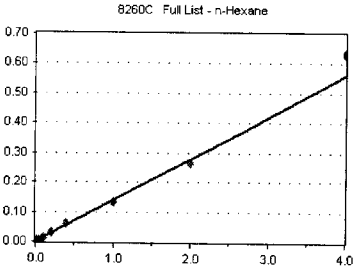


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~1919~~	~~4.914~~	~~0.00~~
~~9I26050-CAL2~~	~~0.4~~	~~1975~~	~~2.767~~	~~4.41~~
~~9I26050-CAL3~~	~~0.8~~	~~2004~~	~~1.297~~	~~4.41~~
~~9I26050-CAL4~~	~~2~~	~~3337~~	~~0.836~~	~~4.41~~
9I26050-CAL5	4	5535	0.715	4.41
9I26050-CAL6	10	11329	0.563	4.41
9I26050-CAL7	20	22156	0.587	4.41
9I26050-CAL8	40	44126	0.587	4.41
9I26050-CAL9	100	107597	0.547	4.41
9I26050-CALA	200	218701	0.527	4.41
9I26050-CALB	400	416008	0.527	4.41

AVE RF **0.579** RF RSD **11.23** AVE RT **4.41**

n-Hexane

Curve Fit: **AVERAGE RF**

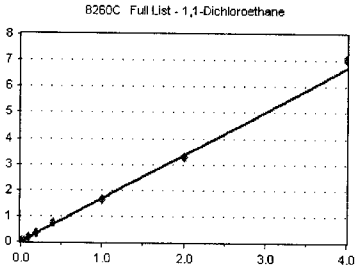


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~23~~	~~0.118~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~10~~	~~2.802~~	~~0.00~~
9I26050-CAL3	0.4	109	0.141	4.62
9I26050-CAL4	1	279	0.140	4.62
9I26050-CAL5	2	515	0.133	4.62
9I26050-CAL6	5	1240	0.123	4.62
9I26050-CAL7	10	2758	0.146	4.62
9I26050-CAL8	20	5672	0.151	4.61
9I26050-CAL9	50	12933	0.132	4.62
9I26050-CALA	100	27462	0.132	4.61
9I26050-CALB	200	62588	0.158	4.61

AVE RF **0.140** RF RSD **7.80** AVE RT **4.62**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

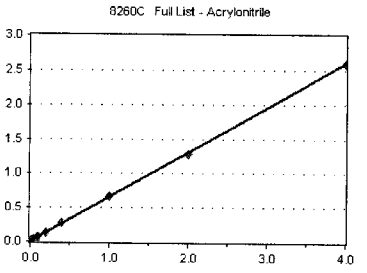


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	277	1.419	0.00
9I26050-CAL2	0.2	658	1.844	5.23
9I26050-CAL3	0.4	1228	1.590	5.22
9I26050-CAL4	1	3266	1.637	5.22
9I26050-CAL5	2	6235	1.611	5.22
9I26050-CAL6	5	16248	1.616	5.22
9I26050-CAL7	10	34182	1.812	5.22
9I26050-CAL8	20	68425	1.820	5.22
9I26050-CAL9	50	160396	1.632	5.22
9I26050-CALA	100	341680	1.647	5.22
9I26050-CALB	200	696479	1.763	5.22

AVE RF **1.672** RF RSD **7.58** AVE RT **4.75**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~5.121~~	~~0.00~~
9I26050-CAL2	0.2	217	0.608	5.30
9I26050-CAL3	0.4	541	0.700	5.30
9I26050-CAL4	1	1287	0.645	5.30
9I26050-CAL5	2	2497	0.645	5.30
9I26050-CAL6	5	6207	0.617	5.30
9I26050-CAL7	10	12922	0.685	5.30
9I26050-CAL8	20	25652	0.682	5.30
9I26050-CAL9	50	64736	0.659	5.30
9I26050-CALA	100	132559	0.639	5.30
9I26050-CALB	200	256006	0.648	5.30

AVE RF **0.653** RF RSD **4.50** AVE RT **5.30**

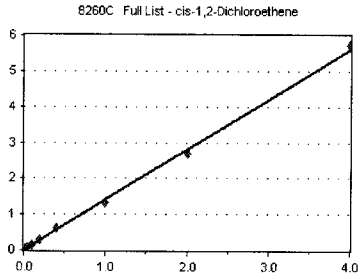
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

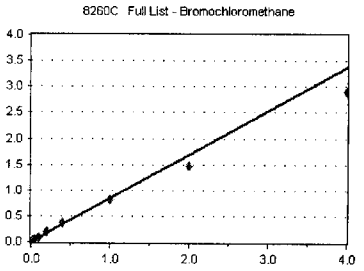


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	248	1.270	0.00
9I26050-CAL2	0.2	534	1.496	5.84
9I26050-CAL3	0.4	1034	1.339	5.83
9I26050-CAL4	1	2900	1.454	5.83
9I26050-CAL5	2	5314	1.373	5.83
9I26050-CAL6	5	13649	1.357	5.83
9I26050-CAL7	10	28583	1.515	5.83
9I26050-CAL8	20	56457	1.501	5.83
9I26050-CAL9	50	132230	1.345	5.83
9I26050-CALA	100	280134	1.350	5.83
9I26050-CALB	200	565657	1.432	5.83

AVE RF **1.403** RF RSD **5.76** AVE RT **5.30**

Bromochloromethane

Curve Fit: **AVERAGE RF**

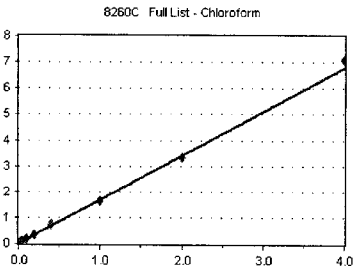


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	185	0.947	0.00
9I26050-CAL2	0.2	305	0.855	6.05
9I26050-CAL3	0.4	643	0.832	6.05
9I26050-CAL4	1	1700	0.852	6.05
9I26050-CAL5	2	3244	0.838	6.05
9I26050-CAL6	5	8514	0.847	6.04
9I26050-CAL7	10	17537	0.930	6.05
9I26050-CAL8	20	33748	0.897	6.04
9I26050-CAL9	50	80963	0.824	6.05
9I26050-CALA	100	152774	0.736	6.05
9I26050-CALB	200	286180	0.724	6.04

AVE RF **0.844** RF RSD **8.17** AVE RT **5.50**

Chloroform

Curve Fit: **AVERAGE RF**

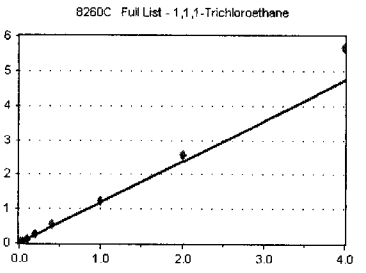


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	320	1.639	0.00
9I26050-CAL2	0.2	602	1.687	6.14
9I26050-CAL3	0.4	1282	1.660	6.14
9I26050-CAL4	1	3343	1.676	6.14
9I26050-CAL5	2	6362	1.644	6.14
9I26050-CAL6	5	16345	1.626	6.14
9I26050-CAL7	10	34166	1.811	6.14
9I26050-CAL8	20	68468	1.821	6.14
9I26050-CAL9	50	163489	1.663	6.14
9I26050-CALA	100	345779	1.667	6.14
9I26050-CALB	200	700225	1.772	6.14

AVE RF **1.697** RF RSD **4.14** AVE RT **5.58**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	183	0.937	0.00
9I26050-CAL2	0.2	380	1.065	6.35
9I26050-CAL3	0.4	847	1.097	6.35
9I26050-CAL4	1	2262	1.134	6.35
9I26050-CAL5	2	4202	1.086	6.34
9I26050-CAL6	5	10978	1.092	6.35
9I26050-CAL7	10	24708	1.310	6.35
9I26050-CAL8	20	50360	1.339	6.35
9I26050-CAL9	50	120842	1.229	6.35
9I26050-CALA	100	265702	1.281	6.35
9I26050-CALB	200	561072	1.420	6.35

AVE RF **1.181** RF RSD **12.28** AVE RT **5.77**

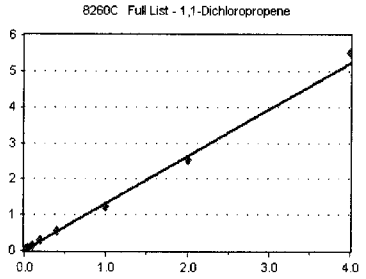
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

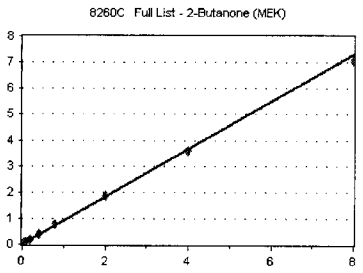


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	274	1.403	0.00
9I26050-CAL2	0.2	496	1.390	6.48
9I26050-CAL3	0.4	932	1.207	6.49
9I26050-CAL4	1	2496	1.251	6.49
9I26050-CAL5	2	4855	1.255	6.49
9I26050-CAL6	5	12139	1.207	6.49
9I26050-CAL7	10	26617	1.411	6.49
9I26050-CAL8	20	52962	1.408	6.48
9I26050-CAL9	50	120698	1.228	6.48
9I26050-CALA	100	261531	1.261	6.48
9I26050-CALB	200	543147	1.375	6.48

AVE RF **1.309** RF RSD **6.67** AVE RT **5.90**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**

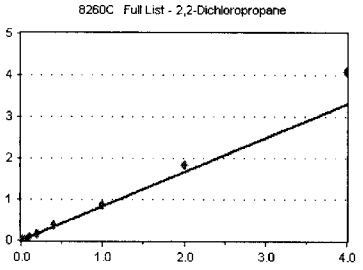


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.2	362	0.927	0.00
9I26050-CAL2	0.4	676	0.947	6.50
9I26050-CAL3	0.8	1419	0.919	6.50
9I26050-CAL4	2	3599	0.902	6.49
9I26050-CAL5	4	6651	0.859	6.49
9I26050-CAL6	10	17146	0.853	6.48
9I26050-CAL7	20	36000	0.954	6.48
9I26050-CAL8	40	71673	0.953	6.48
9I26050-CAL9	100	184368	0.938	6.48
9I26050-CALA	200	373834	0.901	6.48
9I26050-CALB	400	696929	0.882	6.48

AVE RF **0.912** RF RSD **3.96** AVE RT **5.90**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

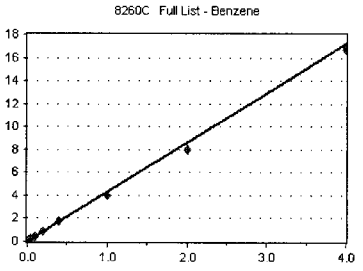


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~98~~	~~0.502~~	~~0.00~~
9I26050-CAL2	0.2	269	0.754	5.94
9I26050-CAL3	0.4	539	0.698	5.94
9I26050-CAL4	1	1485	0.744	5.94
9I26050-CAL5	2	2845	0.735	5.94
9I26050-CAL6	5	7434	0.739	5.94
9I26050-CAL7	10	16550	0.877	5.94
9I26050-CAL8	20	34568	0.919	5.94
9I26050-CAL9	50	85291	0.868	5.94
9I26050-CALA	100	189553	0.914	5.94
9I26050-CALB	200	402432	1.019	5.94

AVE RF **0.827** RF RSD **12.87** AVE RT **5.94**

Benzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	970	4.968	0.00
9I26050-CAL2	0.2	1691	4.739	6.76
9I26050-CAL3	0.4	3292	4.262	6.76
9I26050-CAL4	1	8398	4.210	6.76
9I26050-CAL5	2	16033	4.144	6.76
9I26050-CAL6	5	40141	3.992	6.76
9I26050-CAL7	10	83394	4.421	6.76
9I26050-CAL8	20	164958	4.387	6.76
9I26050-CAL9	50	387766	3.945	6.76
9I26050-CALA	100	823975	3.972	6.76
9I26050-CALB	200	1656328	4.193	6.76

AVE RF **4.294** RF RSD **7.49** AVE RT **6.15**

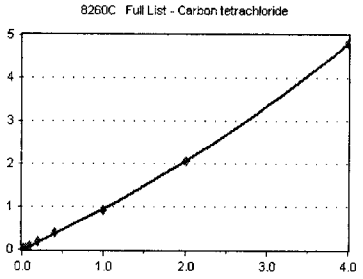
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Carbon tetrachloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

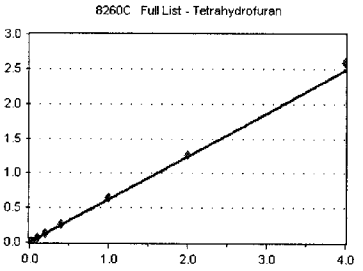


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~140~~	~~0.717~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~191~~	~~0.535~~	~~6.28~~
9I26050-CAL3	0.4	509	0.659	6.27
9I26050-CAL4	1	1445	0.724	6.27
9I26050-CAL5	2	2683	0.693	6.27
9I26050-CAL6	5	7037	0.700	6.27
9I26050-CAL7	10	16875	0.895	6.27
9I26050-CAL8	20	36147	0.961	6.27
9I26050-CAL9	50	90796	0.924	6.27
9I26050-CALA	100	213422	1.029	6.27
9I26050-CALB	200	474389	1.201	6.27

AVE RF **0.865** RF RSD **21.32** AVE RT **6.27**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

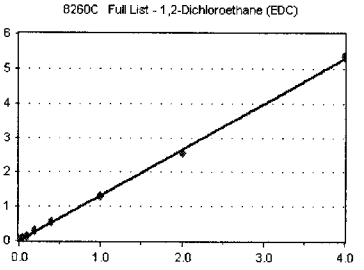


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~130~~	~~0.666~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~235~~	~~0.659~~	~~6.32~~
9I26050-CAL3	0.4	440	0.570	6.33
9I26050-CAL4	1	1203	0.603	6.32
9I26050-CAL5	2	2230	0.576	6.32
9I26050-CAL6	5	5884	0.585	6.31
9I26050-CAL7	10	12243	0.649	6.31
9I26050-CAL8	20	24948	0.663	6.31
9I26050-CAL9	50	63890	0.650	6.31
9I26050-CALA	100	131959	0.636	6.31
9I26050-CALB	200	256364	0.649	6.31

AVE RF **0.620** RF RSD **5.89** AVE RT **6.31**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

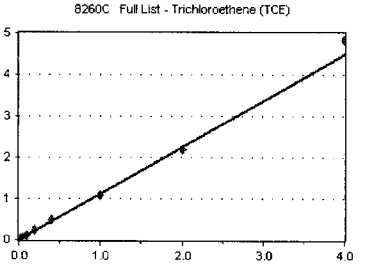


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	233	1.193	0.00
9I26050-CAL2	0.2	462	1.295	7.00
9I26050-CAL3	0.4	999	1.293	7.00
9I26050-CAL4	1	2739	1.373	6.99
9I26050-CAL5	2	5115	1.322	6.99
9I26050-CAL6	5	13178	1.311	6.99
9I26050-CAL7	10	26732	1.417	6.99
9I26050-CAL8	20	53000	1.409	6.99
9I26050-CAL9	50	126976	1.292	6.99
9I26050-CALA	100	264813	1.276	6.99
9I26050-CALB	200	527985	1.336	6.99

AVE RF **1.320** RF RSD **4.83** AVE RT **6.36**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	248	1.270	0.00
9I26050-CAL2	0.2	388	1.087	7.42
9I26050-CAL3	0.4	829	1.073	7.42
9I26050-CAL4	1	2241	1.123	7.42
9I26050-CAL5	2	4121	1.065	7.42
9I26050-CAL6	5	10301	1.024	7.42
9I26050-CAL7	10	21700	1.150	7.42
9I26050-CAL8	20	44576	1.185	7.42
9I26050-CAL9	50	107241	1.091	7.41
9I26050-CALA	100	227764	1.098	7.41
9I26050-CALB	200	476552	1.206	7.41

AVE RF **1.125** RF RSD **6.39** AVE RT **6.74**

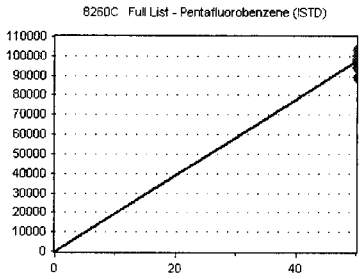
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

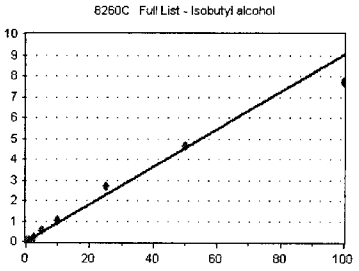


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

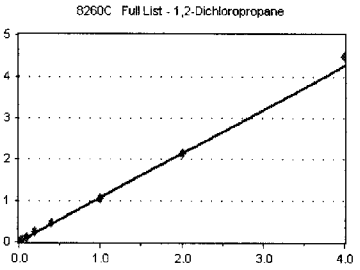


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~2.5~~	~~342~~	~~7.006~~	~~0.00~~
9I26050-CAL2	5	680	7.622	7.06
9I26050-CAL3	10	1591	8.239	7.06
9I26050-CAL4	25	4224	8.470	7.06
9I26050-CAL5	50	7745	8.007	7.05
9I26050-CAL6	125	23235	9.243	7.05
9I26050-CAL7	250	50963	0.108	7.04
9I26050-CAL8	500	96936	0.103	7.05
9I26050-CAL9	1250	265347	0.108	7.04
9I26050-CALA	2500	480675	9.268	7.05
9I26050-CALB	5000	760941	7.705	7.06

AVE RF **9.047** RF RSD **13.66** AVE RT **7.05**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

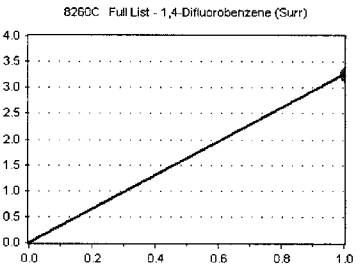


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	159	0.814	0.00
9I26050-CAL2	0.2	413	1.157	8.00
9I26050-CAL3	0.4	771	0.998	8.00
9I26050-CAL4	1	2157	1.081	8.00
9I26050-CAL5	2	4061	1.050	8.00
9I26050-CAL6	5	10615	1.056	8.00
9I26050-CAL7	10	21773	1.154	8.00
9I26050-CAL8	20	43677	1.161	8.00
9I26050-CAL9	50	103633	1.054	8.00
9I26050-CALA	100	221724	1.069	8.00
9I26050-CALB	200	443103	1.122	8.00

AVE RF **1.065** RF RSD **9.25** AVE RT **7.27**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	320302	3.281	7.46
9I26050-CAL2	50	291734	3.270	7.46
9I26050-CAL3	50	314912	3.261	7.46
9I26050-CAL4	50	323481	3.243	7.46
9I26050-CAL5	50	309764	3.202	7.46
9I26050-CAL6	50	327177	3.254	7.46
9I26050-CAL7	50	307261	3.258	7.46
9I26050-CAL8	50	303280	3.226	7.46
9I26050-CAL9	50	325260	3.309	7.46
9I26050-CALA	50	340927	3.287	7.46
9I26050-CALB	50	326203	3.303	7.46

AVE RF **3.263** RF RSD **0.98** AVE RT **7.46**

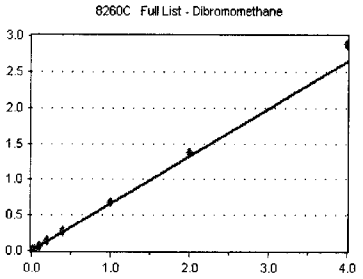
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Dibromomethane

Curve Fit: **AVERAGE RF**

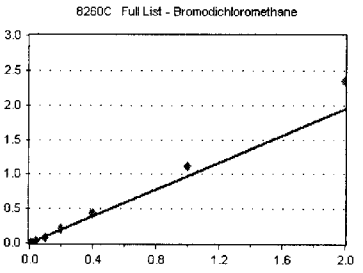


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~156~~	~~0.437~~	~~7.90~~
9I26050-CAL3	0.4	490	0.634	7.89
9I26050-CAL4	1	1232	0.618	7.89
9I26050-CAL5	2	2308	0.597	7.89
9I26050-CAL6	5	6245	0.621	7.89
9I26050-CAL7	10	13106	0.695	7.89
9I26050-CAL8	20	26409	0.702	7.89
9I26050-CAL9	50	67393	0.686	7.89
9I26050-CALA	100	142561	0.687	7.89
9I26050-CALB	200	285855	0.724	7.89

AVE RF **0.663** RF RSD **6.83** AVE RT **7.89**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

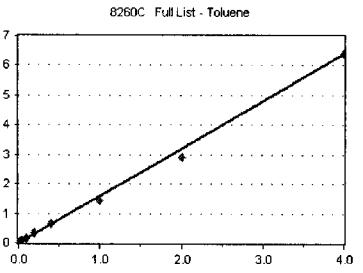


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~28~~	~~0.143~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~272~~	~~0.762~~	~~8.09~~
9I26050-CAL3	0.4	646	0.836	8.08
9I26050-CAL4	1	1723	0.864	8.09
9I26050-CAL5	2	3209	0.829	8.08
9I26050-CAL6	5	8604	0.856	8.08
9I26050-CAL7	10	19192	1.017	8.08
9I26050-CAL8	20	41298	1.098	8.08
9I26050-CAL9	50	109811	1.117	8.08
9I26050-CALA	100	243451	1.173	8.08
~~9I26050-CALB~~	~~200~~	~~511867~~	~~1.296~~	~~8.08~~

AVE RF **0.974** RF RSD **14.71** AVE RT **8.08**

Toluene

Curve Fit: **AVERAGE RF**

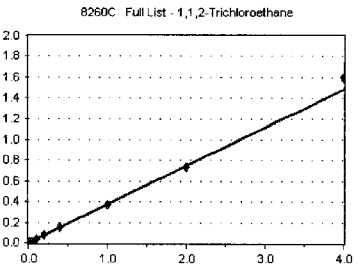


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	963	1.856	0.00
9I26050-CAL2	0.2	1693	1.783	9.05
9I26050-CAL3	0.4	3217	1.569	9.05
9I26050-CAL4	1	8510	1.599	9.05
9I26050-CAL5	2	16301	1.569	9.05
9I26050-CAL6	5	39843	1.481	9.05
9I26050-CAL7	10	82464	1.633	9.05
9I26050-CAL8	20	164491	1.625	9.05
9I26050-CAL9	50	383687	1.427	9.05
9I26050-CALA	100	822891	1.448	9.05
9I26050-CALB	200	1646511	1.603	9.05

AVE RF **1.599** RF RSD **8.15** AVE RT **8.23**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	170	0.328	0.00
9I26050-CAL2	0.2	360	0.379	9.63
9I26050-CAL3	0.4	739	0.360	9.63
9I26050-CAL4	1	2038	0.383	9.63
9I26050-CAL5	2	3670	0.353	9.63
9I26050-CAL6	5	9710	0.361	9.63
9I26050-CAL7	10	19896	0.394	9.63
9I26050-CAL8	20	39556	0.391	9.63
9I26050-CAL9	50	99796	0.371	9.63
9I26050-CALA	100	209430	0.369	9.63
9I26050-CALB	200	410673	0.400	9.63

AVE RF **0.372** RF RSD **5.62** AVE RT **8.75**

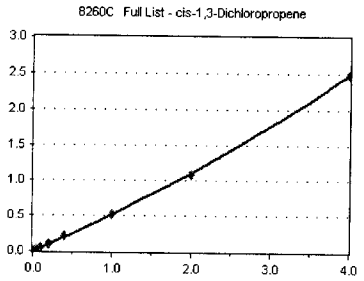
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

cis-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

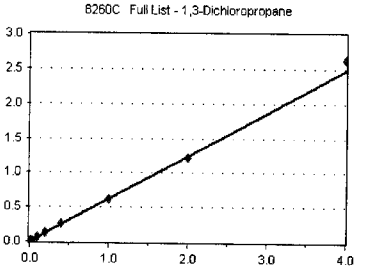


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~171~~	~~0.330~~	~~0.00~~
9I26050-CAL2	0.2	356	0.375	8.81
9I26050-CAL3	0.4	702	0.342	8.81
9I26050-CAL4	1	2001	0.376	8.80
9I26050-CAL5	2	3781	0.364	8.81
9I26050-CAL6	5	10945	0.407	8.81
9I26050-CAL7	10	24537	0.486	8.80
9I26050-CAL8	20	53435	0.528	8.80
9I26050-CAL9	50	141358	0.526	8.80
9I26050-CALA	100	310792	0.547	8.80
9I26050-CALB	200	639187	0.622	8.80

AVE RF **0.457** RF RSD **21.08** AVE RT **8.80**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

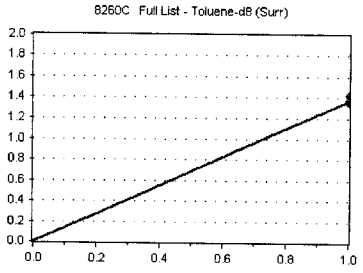


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	282	0.544	0.00
9I26050-CAL2	0.2	596	0.628	9.89
9I26050-CAL3	0.4	1260	0.614	9.89
9I26050-CAL4	1	3424	0.643	9.89
9I26050-CAL5	2	6255	0.602	9.89
9I26050-CAL6	5	16370	0.608	9.89
9I26050-CAL7	10	33668	0.667	9.88
9I26050-CAL8	20	66687	0.659	9.88
9I26050-CAL9	50	165027	0.614	9.88
9I26050-CALA	100	345330	0.608	9.88
9I26050-CALB	200	676588	0.659	9.88

AVE RF **0.622** RF RSD **5.62** AVE RT **8.98**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

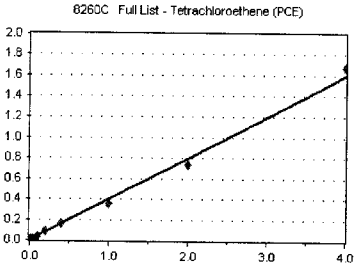


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	358933	1.384	9.00
9I26050-CAL2	50	329271	1.387	9.00
9I26050-CAL3	50	354137	1.382	9.00
9I26050-CAL4	50	366312	1.376	9.00
9I26050-CAL5	50	355642	1.369	9.00
9I26050-CAL6	50	370481	1.377	9.00
9I26050-CAL7	50	346726	1.373	9.00
9I26050-CAL8	50	346044	1.367	9.00
9I26050-CAL9	50	365802	1.360	9.00
9I26050-CALA	50	385560	1.357	9.00
9I26050-CALB	50	365376	1.423	9.00

AVE RF **1.378** RF RSD **1.27** AVE RT **9.00**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~310~~	~~0.598~~	~~0.00~~
9I26050-CAL2	0.2	470	0.495	9.45
9I26050-CAL3	0.4	787	0.384	9.44
9I26050-CAL4	1	2152	0.404	9.44
9I26050-CAL5	2	3931	0.378	9.43
9I26050-CAL6	5	9681	0.360	9.43
9I26050-CAL7	10	20775	0.411	9.43
9I26050-CAL8	20	41350	0.409	9.44
9I26050-CAL9	50	96836	0.360	9.44
9I26050-CALA	100	209940	0.369	9.43
9I26050-CALB	200	431076	0.420	9.43

AVE RF **0.399** RF RSD **10.05** AVE RT **9.44**

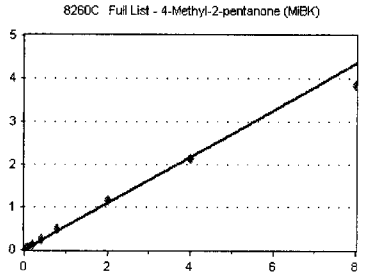
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

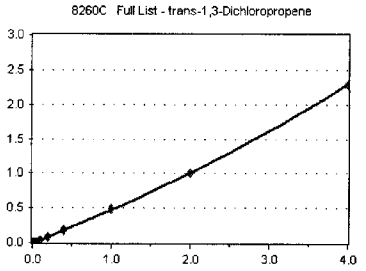


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~436~~	~~0.420~~	~~0.00~~
9I26050-CAL2	0.4	955	0.503	9.45
9I26050-CAL3	0.8	1948	0.475	9.45
9I26050-CAL4	2	5746	0.540	9.45
9I26050-CAL5	4	11030	0.531	9.45
9I26050-CAL6	10	29627	0.550	9.44
9I26050-CAL7	20	63160	0.625	9.44
9I26050-CAL8	40	126474	0.625	9.44
9I26050-CAL9	100	315362	0.586	9.44
9I26050-CALA	200	602850	0.530	9.44
9I26050-CALB	400	983725	0.479	9.44

AVE RF **0.544** RF RSD **9.88** AVE RT **9.44**

trans-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

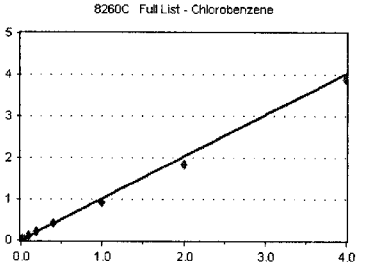


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~107~~	~~0.206~~	~~0.00~~
9I26050-CAL2	0.2	271	0.285	9.48
9I26050-CAL3	0.4	547	0.267	9.48
9I26050-CAL4	1	1611	0.303	9.48
9I26050-CAL5	2	3064	0.295	9.48
9I26050-CAL6	5	9350	0.347	9.48
9I26050-CAL7	10	21132	0.418	9.48
9I26050-CAL8	20	46862	0.463	9.48
9I26050-CAL9	50	128835	0.479	9.48
9I26050-CALA	100	286723	0.505	9.48
9I26050-CALB	200	588613	0.573	9.48

AVE RF **0.394** RF RSD **27.47** AVE RT **9.48**

Chlorobenzene

Curve Fit: **AVERAGE RF**

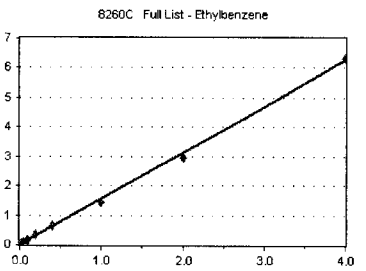


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	587	1.131	0.00
9I26050-CAL2	0.2	1065	1.121	10.47
9I26050-CAL3	0.4	2071	1.010	10.47
9I26050-CAL4	1	5519	1.037	10.47
9I26050-CAL5	2	10263	0.988	10.47
9I26050-CAL6	5	25651	0.953	10.47
9I26050-CAL7	10	51726	1.024	10.47
9I26050-CAL8	20	103573	1.023	10.47
9I26050-CAL9	50	247943	0.922	10.47
9I26050-CALA	100	524646	0.923	10.47
9I26050-CALB	200	1002146	0.975	10.47

AVE RF **1.010** RF RSD **6.89** AVE RT **9.52**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	839	1.617	0.00
9I26050-CAL2	0.2	1572	1.655	10.50
9I26050-CAL3	0.4	2986	1.456	10.50
9I26050-CAL4	1	8732	1.640	10.50
9I26050-CAL5	2	16502	1.588	10.50
9I26050-CAL6	5	39695	1.475	10.50
9I26050-CAL7	10	82999	1.643	10.49
9I26050-CAL8	20	166521	1.645	10.50
9I26050-CAL9	50	390083	1.451	10.50
9I26050-CALA	100	841526	1.481	10.50
9I26050-CALB	200	1627490	1.584	10.50

AVE RF **1.567** RF RSD **5.34** AVE RT **9.54**

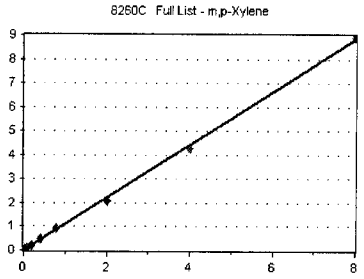
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

m,p-Xylene

Curve Fit: **AVERAGE RF**

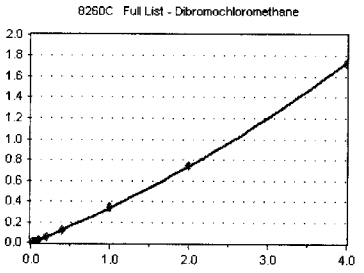


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.2	1282	1.236	0.00
9I26050-CAL2	0.4	2204	1.160	10.62
9I26050-CAL3	0.8	4223	1.030	10.62
9I26050-CAL4	2	11304	1.062	10.62
9I26050-CAL5	4	22167	1.067	10.62
9I26050-CAL6	10	55541	1.032	10.62
9I26050-CAL7	20	117930	1.168	10.62
9I26050-CAL8	40	236854	1.170	10.62
9I26050-CAL9	100	559567	1.040	10.62
9I26050-CALA	200	1222357	1.076	10.62
9I26050-CALB	400	2286592	1.113	10.62

AVE RF **1.105** RF RSD **6.25** AVE RT **9.65**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

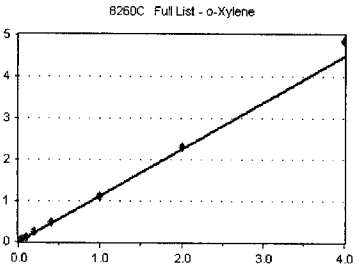


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~52~~	~~0.100~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~160~~	~~0.168~~	~~9.79~~
~~9I26050-CAL3~~	~~0.4~~	~~417~~	~~0.203~~	~~9.79~~
9I26050-CAL4	1	1077	0.202	9.79
9I26050-CAL5	2	2025	0.195	9.79
9I26050-CAL6	5	5996	0.223	9.79
9I26050-CAL7	10	13869	0.275	9.79
9I26050-CAL8	20	31158	0.308	9.79
9I26050-CAL9	50	91580	0.341	9.79
9I26050-CALA	100	211601	0.372	9.79
9I26050-CALB	200	444877	0.433	9.79

AVE RF **0.294** RF RSD **29.22** AVE RT **9.79**

o-Xylene

Curve Fit: **AVERAGE RF**

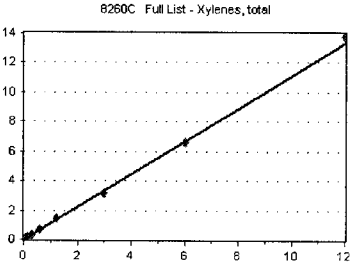


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	582	1.122	0.00
9I26050-CAL2	0.2	1046	1.101	10.98
9I26050-CAL3	0.4	2140	1.044	10.97
9I26050-CAL4	1	5733	1.077	10.97
9I26050-CAL5	2	11104	1.069	10.97
9I26050-CAL6	5	28275	1.051	10.97
9I26050-CAL7	10	60046	1.189	10.97
9I26050-CAL8	20	122339	1.209	10.97
9I26050-CAL9	50	295347	1.098	10.97
9I26050-CALA	100	653239	1.150	10.97
9I26050-CALB	200	1248565	1.215	10.97

AVE RF **1.120** RF RSD **5.54** AVE RT **9.97**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.3	1864	1.198	0.00
9I26050-CAL2	0.6	3250	1.141	10.98
9I26050-CAL3	1.2	6363	1.034	10.97
9I26050-CAL4	3	17037	1.067	10.97
9I26050-CAL5	6	33271	1.068	10.97
9I26050-CAL6	15	83816	1.038	10.97
9I26050-CAL7	30	177976	1.175	10.97
9I26050-CAL8	60	359193	1.183	10.97
9I26050-CAL9	150	854914	1.060	10.97
9I26050-CALA	300	1875596	1.100	10.97
9I26050-CALB	600	3535157	1.147	10.97

AVE RF **1.110** RF RSD **5.45** AVE RT **9.97**

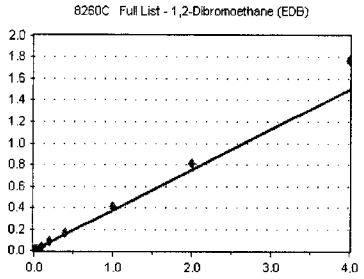
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**

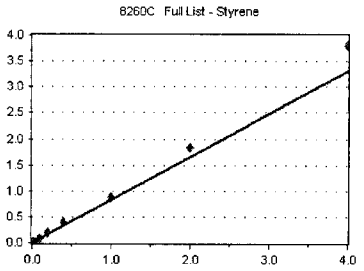


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~150~~	~~0.289~~	~~0.00~~
9I26050-CAL2	0.2	287	0.302	10.01
9I26050-CAL3	0.4	626	0.305	10.01
9I26050-CAL4	1	1907	0.358	10.01
9I26050-CAL5	2	3645	0.351	10.01
9I26050-CAL6	5	9704	0.361	10.01
9I26050-CAL7	10	20603	0.408	10.01
9I26050-CAL8	20	42383	0.419	10.01
9I26050-CAL9	50	109366	0.407	10.01
9I26050-CALA	100	231270	0.407	10.01
9I26050-CALB	200	456747	0.445	10.01

AVE RF **0.376** RF RSD **12.87** AVE RT **10.01**

Styrene

Curve Fit: **AVERAGE RF**

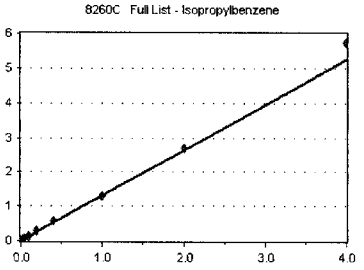


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	359	0.692	0.00
9I26050-CAL2	0.2	681	0.717	11.02
9I26050-CAL3	0.4	1435	0.700	11.02
9I26050-CAL4	1	4008	0.753	11.02
9I26050-CAL5	2	8216	0.791	11.01
9I26050-CAL6	5	21446	0.797	11.01
9I26050-CAL7	10	47265	0.936	11.01
9I26050-CAL8	20	95775	0.946	11.01
9I26050-CAL9	50	240354	0.894	11.01
9I26050-CALA	100	520960	0.917	11.01
9I26050-CALB	200	980108	0.954	11.01

AVE RF **0.827** RF RSD **12.62** AVE RT **10.01**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

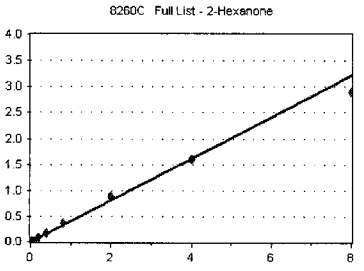


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	650	1.253	0.00
9I26050-CAL2	0.2	1203	1.267	11.23
9I26050-CAL3	0.4	2385	1.163	11.22
9I26050-CAL4	1	6575	1.235	11.22
9I26050-CAL5	2	13548	1.304	11.22
9I26050-CAL6	5	33272	1.236	11.22
9I26050-CAL7	10	72608	1.438	11.22
9I26050-CAL8	20	148612	1.468	11.22
9I26050-CAL9	50	352540	1.311	11.22
9I26050-CALA	100	768012	1.352	11.22
9I26050-CALB	200	1473949	1.435	11.22

AVE RF **1.315** RF RSD **7.46** AVE RT **10.20**

2-Hexanone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~257~~	~~0.248~~	~~0.00~~
~~9I26050-CAL2~~	~~0.4~~	~~619~~	~~0.326~~	~~10.22~~
~~9I26050-CAL3~~	~~0.8~~	~~1224~~	~~0.298~~	~~10.22~~
9I26050-CAL4	2	3818	0.359	10.22
9I26050-CAL5	4	7520	0.362	10.21
9I26050-CAL6	10	20475	0.380	10.21
9I26050-CAL7	20	46260	0.458	10.22
9I26050-CAL8	40	92625	0.458	10.21
9I26050-CAL9	100	238194	0.443	10.22
9I26050-CALA	200	452638	0.398	10.21
9I26050-CALB	400	745676	0.363	10.21

AVE RF **0.403** RF RSD **10.86** AVE RT **10.22**

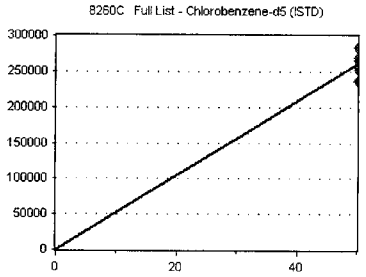
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

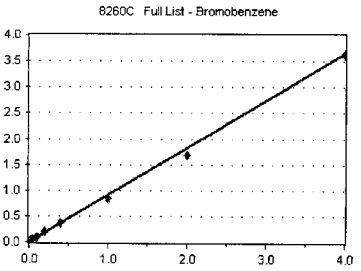


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

Bromobenzene

Curve Fit: **AVERAGE RF**

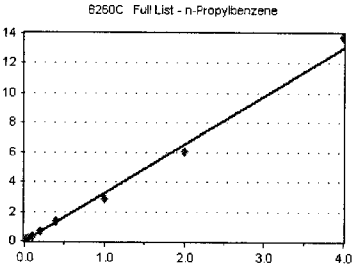


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	222	0.998	0.00
9I26050-CAL2	0.2	397	0.986	11.53
9I26050-CAL3	0.4	815	0.913	11.53
9I26050-CAL4	1	2151	0.926	11.53
9I26050-CAL5	2	4051	0.888	11.53
9I26050-CAL6	5	10396	0.894	11.53
9I26050-CAL7	10	21154	0.927	11.53
9I26050-CAL8	20	42680	0.939	11.53
9I26050-CAL9	50	107397	0.835	11.53
9I26050-CALA	100	227105	0.840	11.53
9I26050-CALB	200	411473	0.910	11.53

AVE RF **0.914** RF RSD **5.56** AVE RT **10.48**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

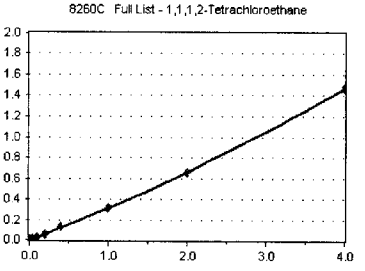


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	803	3.609	0.00
9I26050-CAL2	0.2	1379	3.424	11.55
9I26050-CAL3	0.4	2740	3.068	11.54
9I26050-CAL4	1	7288	3.136	11.54
9I26050-CAL5	2	14638	3.208	11.54
9I26050-CAL6	5	35827	3.081	11.54
9I26050-CAL7	10	78221	3.430	11.54
9I26050-CAL8	20	158775	3.492	11.54
9I26050-CAL9	50	373433	2.904	11.54
9I26050-CALA	100	818291	3.028	11.54
9I26050-CALB	200	1558293	3.445	11.54

AVE RF **3.257** RF RSD **7.09** AVE RT **10.49**

1,1,1,2-Tetrachloroethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~74~~	~~0.143~~	~~0.00~~
9I26050-CAL2	0.2	211	0.222	10.53
9I26050-CAL3	0.4	439	0.214	10.53
9I26050-CAL4	1	1236	0.232	10.53
9I26050-CAL5	2	2330	0.224	10.53
9I26050-CAL6	5	6601	0.245	10.53
9I26050-CAL7	10	14854	0.294	10.53
9I26050-CAL8	20	31743	0.314	10.53
9I26050-CAL9	50	84255	0.313	10.53
9I26050-CALA	100	186458	0.328	10.53
9I26050-CALB	200	378602	0.369	10.53

AVE RF **0.276** RF RSD **19.76** AVE RT **10.53**

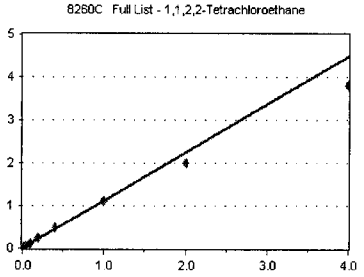
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

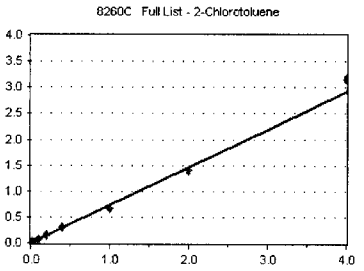


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	249	1.119	0.00
9I26050-CAL2	0.2	480	1.192	11.60
9I26050-CAL3	0.4	965	1.081	11.60
9I26050-CAL4	1	2692	1.158	11.60
9I26050-CAL5	2	5037	1.104	11.60
9I26050-CAL6	5	13680	1.176	11.60
9I26050-CAL7	10	28965	1.270	11.61
9I26050-CAL8	20	55114	1.212	11.60
9I26050-CAL9	50	142152	1.106	11.61
9I26050-CALA	100	270124	0.999	11.60
9I26050-CALB	200	430386	0.951	11.60

AVE RF **1.124** RF RSD **8.23** AVE RT **10.55**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

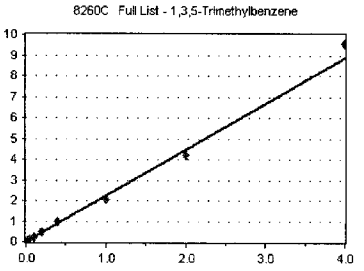


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	172	0.773	0.00
9I26050-CAL2	0.2	280	0.695	11.67
9I26050-CAL3	0.4	619	0.693	11.67
9I26050-CAL4	1	1662	0.715	11.67
9I26050-CAL5	2	3318	0.727	11.67
9I26050-CAL6	5	8197	0.705	11.67
9I26050-CAL7	10	17297	0.758	11.67
9I26050-CAL8	20	35153	0.773	11.67
9I26050-CAL9	50	86616	0.674	11.67
9I26050-CALA	100	189393	0.701	11.67
9I26050-CALB	200	356156	0.787	11.67

AVE RF **0.727** RF RSD **5.36** AVE RT **10.61**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

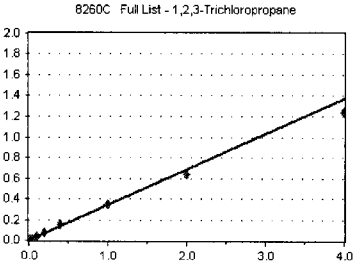


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	529	2.377	0.00
9I26050-CAL2	0.2	929	2.307	11.69
9I26050-CAL3	0.4	1829	2.048	11.69
9I26050-CAL4	1	5019	2.160	11.69
9I26050-CAL5	2	10019	2.196	11.69
9I26050-CAL6	5	24697	2.124	11.69
9I26050-CAL7	10	53273	2.336	11.69
9I26050-CAL8	20	108000	2.376	11.69
9I26050-CAL9	50	260970	2.030	11.69
9I26050-CALA	100	567837	2.101	11.69
9I26050-CALB	200	1084119	2.397	11.69

AVE RF **2.223** RF RSD **6.27** AVE RT **10.63**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	67	0.301	0.00
9I26050-CAL2	0.2	119	0.296	11.71
9I26050-CAL3	0.4	303	0.339	11.71
9I26050-CAL4	1	845	0.364	11.71
9I26050-CAL5	2	1630	0.357	11.71
9I26050-CAL6	5	4260	0.366	11.71
9I26050-CAL7	10	8901	0.390	11.71
9I26050-CAL8	20	17472	0.384	11.71
9I26050-CAL9	50	44728	0.348	11.71
9I26050-CALA	100	86038	0.318	11.71
9I26050-CALB	200	140832	0.311	11.71

AVE RF **0.343** RF RSD **9.56** AVE RT **10.64**

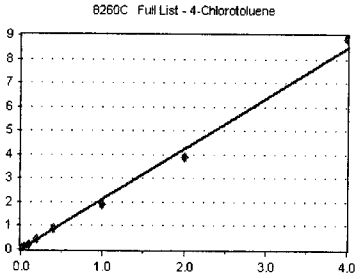
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

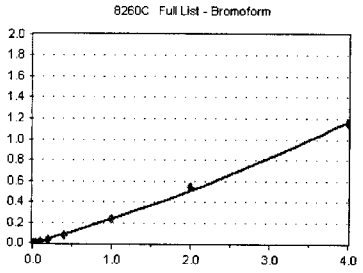


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	577	2.593	0.00
9I26050-CAL2	0.2	886	2.200	11.80
9I26050-CAL3	0.4	1795	2.010	11.80
9I26050-CAL4	1	4814	2.071	11.80
9I26050-CAL5	2	9331	2.045	11.79
9I26050-CAL6	5	23567	2.027	11.79
9I26050-CAL7	10	48533	2.128	11.79
9I26050-CAL8	20	98917	2.176	11.79
9I26050-CAL9	50	241498	1.878	11.79
9I26050-CALA	100	525963	1.946	11.79
9I26050-CALB	200	999096	2.209	11.79

AVE RF **2.117** RF RSD **8.94** AVE RT **10.72**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

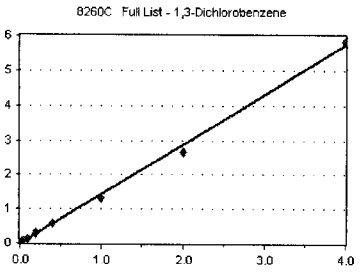


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	210	0.102	11.04
9I26050-CAL4	1	671	0.126	11.04
9I26050-CAL5	2	1255	0.121	11.04
9I26050-CAL6	5	3664	0.136	11.04
9I26050-CAL7	10	8520	0.169	11.04
9I26050-CAL8	20	19749	0.195	11.04
9I26050-CAL9	50	65348	0.243	11.04
9I26050-CALA	100	152546	0.268	11.04
9I26050-CALB	200	296965	0.289	11.04

AVE RF **0.183** RF RSD **37.75** AVE RT **11.04**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

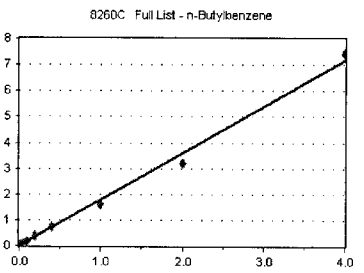


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	388	1.744	0.00
9I26050-CAL2	0.2	604	1.500	12.25
9I26050-CAL3	0.4	1282	1.436	12.25
9I26050-CAL4	1	3201	1.377	12.24
9I26050-CAL5	2	6241	1.368	12.24
9I26050-CAL6	5	15933	1.370	12.24
9I26050-CAL7	10	33016	1.448	12.24
9I26050-CAL8	20	66808	1.469	12.24
9I26050-CAL9	50	170199	1.324	12.24
9I26050-CALA	100	359335	1.330	12.24
9I26050-CALB	200	659898	1.459	12.24

AVE RF **1.439** RF RSD **8.13** AVE RT **11.13**

n-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	507	2.278	0.00
9I26050-CAL2	0.2	735	1.825	12.49
9I26050-CAL3	0.4	1516	1.698	12.49
9I26050-CAL4	1	4162	1.791	12.49
9I26050-CAL5	2	8292	1.817	12.49
9I26050-CAL6	5	18765	1.614	12.49
9I26050-CAL7	10	41997	1.841	12.49
9I26050-CAL8	20	85671	1.884	12.49
9I26050-CAL9	50	203872	1.586	12.49
9I26050-CALA	100	433224	1.603	12.49
9I26050-CALB	200	840655	1.858	12.49

AVE RF **1.800** RF RSD **10.72** AVE RT **11.35**

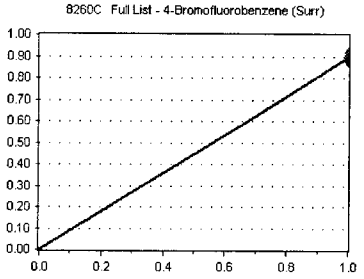
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

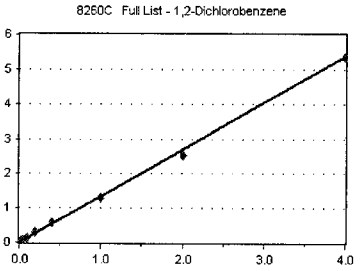


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	102373	0.920	11.45
9I26050-CAL2	50	91087	0.905	11.45
9I26050-CAL3	50	99765	0.894	11.45
9I26050-CAL4	50	104202	0.897	11.45
9I26050-CAL5	50	102067	0.895	11.45
9I26050-CAL6	50	105465	0.907	11.45
9I26050-CAL7	50	100472	0.881	11.45
9I26050-CAL8	50	101239	0.891	11.45
9I26050-CAL9	50	112962	0.879	11.45
9I26050-CALA	50	118613	0.878	11.45
9I26050-CALB	50	101968	0.902	11.45

AVE RF **0.895** RF RSD **1.46** AVE RT **11.45**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

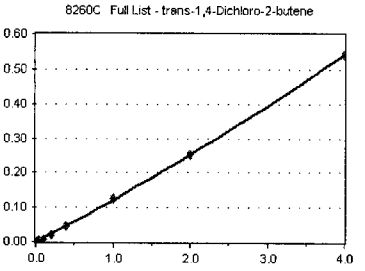


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	305	1.371	0.00
9I26050-CAL2	0.2	595	1.478	12.64
9I26050-CAL3	0.4	1109	1.242	12.64
9I26050-CAL4	1	3202	1.378	12.64
9I26050-CAL5	2	5948	1.304	12.64
9I26050-CAL6	5	15283	1.314	12.64
9I26050-CAL7	10	32172	1.411	12.64
9I26050-CAL8	20	64527	1.419	12.64
9I26050-CAL9	50	166516	1.295	12.64
9I26050-CALA	100	341621	1.264	12.64
9I26050-CALB	200	604858	1.337	12.64

AVE RF **1.347** RF RSD **5.33** AVE RT **11.49**

trans-1,4-Dichloro-2-butene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

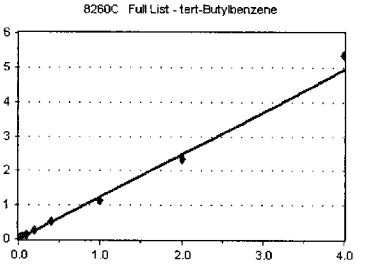


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~10~~	~~2.483~~	~~11.75~~
~~9I26050-CAL3~~	~~0.4~~	~~10~~	~~1.120~~	~~11.74~~
9I26050-CAL4	1	127	5.465	11.74
9I26050-CAL5	2	309	6.772	11.74
9I26050-CAL6	5	933	8.024	11.74
9I26050-CAL7	10	2230	9.777	11.74
9I26050-CAL8	20	5302	0.117	11.74
9I26050-CAL9	50	16073	0.125	11.74
9I26050-CALA	100	34347	0.127	11.74
9I26050-CALB	200	61240	0.135	11.74

AVE RF **0.101** RF RSD **30.02** AVE RT **11.74**

tert-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~299~~	~~1.344~~	~~0.00~~
9I26050-CAL2	0.2	511	1.269	11.93
9I26050-CAL3	0.4	1033	1.157	11.93
9I26050-CAL4	1	2804	1.207	11.93
9I26050-CAL5	2	5653	1.239	11.93
9I26050-CAL6	5	13488	1.160	11.93
9I26050-CAL7	10	29811	1.307	11.93
9I26050-CAL8	20	60557	1.332	11.93
9I26050-CAL9	50	144481	1.124	11.93
9I26050-CALA	100	314345	1.163	11.93
9I26050-CALB	200	603794	1.335	11.93

AVE RF **1.229** RF RSD **6.39** AVE RT **11.93**

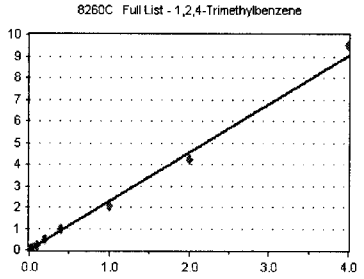
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**

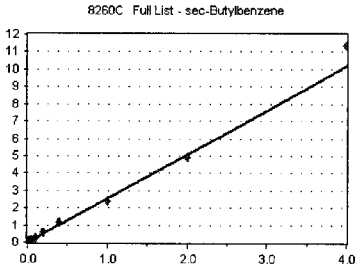


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~545~~	~~2.449~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~917~~	~~2.277~~	~~11.99~~
9I26050-CAL3	0.4	1971	2.207	11.99
9I26050-CAL4	1	5459	2.349	11.99
9I26050-CAL5	2	10397	2.279	11.98
9I26050-CAL6	5	25417	2.186	11.98
9I26050-CAL7	10	54454	2.388	11.98
9I26050-CAL8	20	109297	2.404	11.98
9I26050-CAL9	50	264950	2.061	11.98
9I26050-CALA	100	568689	2.104	11.98
9I26050-CALB	200	1077392	2.382	11.98

AVE RF **2.262** RF RSD **5.69** AVE RT **11.98**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

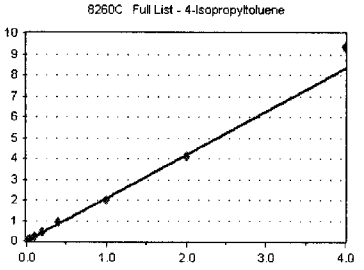


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~615~~	~~2.764~~	~~0.00~~
9I26050-CAL2	0.2	991	2.461	12.07
9I26050-CAL3	0.4	2017	2.259	12.07
9I26050-CAL4	1	5736	2.468	12.07
9I26050-CAL5	2	11614	2.545	12.07
9I26050-CAL6	5	27530	2.368	12.07
9I26050-CAL7	10	63068	2.765	12.06
9I26050-CAL8	20	129568	2.850	12.07
9I26050-CAL9	50	307160	2.389	12.06
9I26050-CALA	100	667202	2.469	12.06
9I26050-CALB	200	1284780	2.840	12.06

AVE RF **2.541** RF RSD **8.14** AVE RT **12.07**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

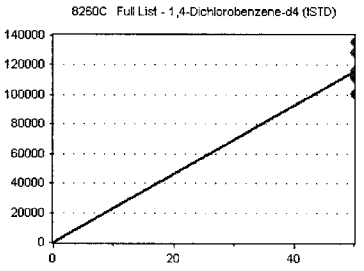


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~543~~	~~2.440~~	~~0.00~~
9I26050-CAL2	0.2	839	2.083	12.17
9I26050-CAL3	0.4	1663	1.862	12.17
9I26050-CAL4	1	4772	2.053	12.17
9I26050-CAL5	2	9351	2.049	12.17
9I26050-CAL6	5	22443	1.930	12.17
9I26050-CAL7	10	50508	2.215	12.17
9I26050-CAL8	20	103672	2.280	12.17
9I26050-CAL9	50	253892	1.975	12.17
9I26050-CALA	100	551870	2.042	12.17
9I26050-CALB	200	1059054	2.341	12.17

AVE RF **2.083** RF RSD **7.34** AVE RT **12.17**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	111263	2225.260	12.29
9I26050-CAL2	50	100676	2013.520	12.29
9I26050-CAL3	50	111622	2232.440	12.29
9I26050-CAL4	50	116197	2323.940	12.29
9I26050-CAL5	50	114070	2281.400	12.29
9I26050-CAL6	50	116280	2325.600	12.29
9I26050-CAL7	50	114038	2280.760	12.29
9I26050-CAL8	50	113658	2273.160	12.29
9I26050-CAL9	50	128582	2571.640	12.29
9I26050-CALA	50	135133	2702.660	12.29
9I26050-CALB	50	113094	2261.880	12.29

AVE RF **2317.478** RF RSD **7.83** AVE RT **12.29**

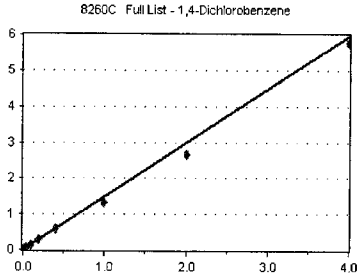
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

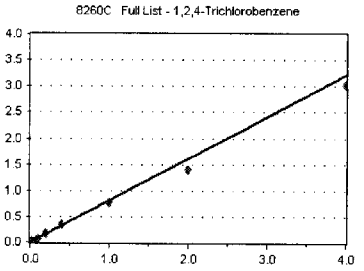


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~512~~	~~2.301~~	~~0.00~~
9I26050-CAL2	0.2	794	1.972	12.31
9I26050-CAL3	0.4	1431	1.603	12.31
9I26050-CAL4	1	3526	1.517	12.31
9I26050-CAL5	2	6450	1.414	12.31
9I26050-CAL6	5	16067	1.382	12.31
9I26050-CAL7	10	33297	1.460	12.31
9I26050-CAL8	20	67186	1.478	12.31
9I26050-CAL9	50	170066	1.323	12.31
9I26050-CALA	100	357713	1.324	12.31
9I26050-CALB	200	652930	1.443	12.31

AVE RF **1.491** RF RSD **12.68** AVE RT **12.31**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**

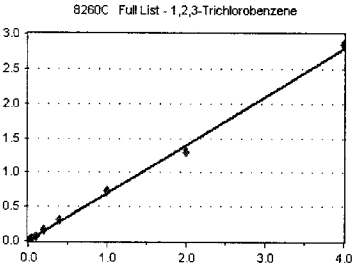


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	245	1.101	0.00
9I26050-CAL2	0.2	329	0.817	13.88
9I26050-CAL3	0.4	642	0.719	13.88
9I26050-CAL4	1	1785	0.768	13.88
9I26050-CAL5	2	3569	0.782	13.88
9I26050-CAL6	5	8740	0.752	13.88
9I26050-CAL7	10	19218	0.843	13.88
9I26050-CAL8	20	38616	0.849	13.88
9I26050-CAL9	50	99341	0.773	13.88
9I26050-CALA	100	189497	0.701	13.87
9I26050-CALB	200	341357	0.755	13.87

AVE RF **0.805** RF RSD **13.47** AVE RT **12.62**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**

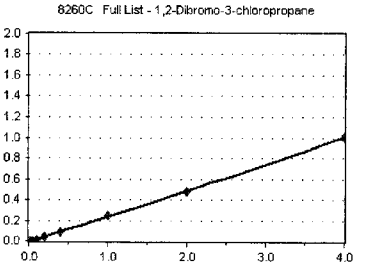


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	142	0.638	0.00
9I26050-CAL2	0.2	270	0.670	14.40
9I26050-CAL3	0.4	579	0.648	14.40
9I26050-CAL4	1	1637	0.704	14.40
9I26050-CAL5	2	2987	0.655	14.40
9I26050-CAL6	5	7964	0.685	14.40
9I26050-CAL7	10	17903	0.785	14.40
9I26050-CAL8	20	35770	0.787	14.40
9I26050-CAL9	50	93819	0.730	14.40
9I26050-CALA	100	176128	0.652	14.40
9I26050-CALB	200	322406	0.713	14.40

AVE RF **0.697** RF RSD **7.55** AVE RT **13.09**

1,2-Dibromo-3-chloropropane

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~4.494~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.4~~	~~71~~	~~7.951~~	~~13.29~~
9I26050-CAL4	1	312	0.134	13.29
9I26050-CAL5	2	589	0.129	13.28
9I26050-CAL6	5	1855	0.160	13.28
9I26050-CAL7	10	4459	0.196	13.28
9I26050-CAL8	20	9818	0.216	13.29
9I26050-CAL9	50	32261	0.251	13.28
9I26050-CALA	100	64148	0.237	13.28
9I26050-CALB	200	113563	0.251	13.28

AVE RF **0.197** RF RSD **25.61** AVE RT **13.28**

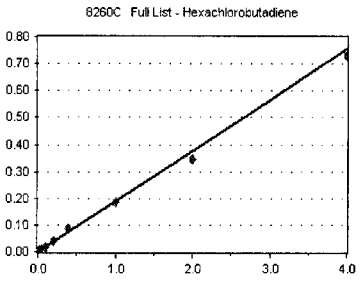
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

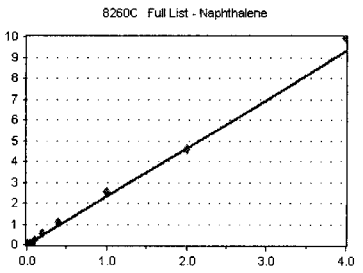


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	146	0.163	13.83
9I26050-CAL4	1	463	0.199	13.84
9I26050-CAL5	2	913	0.200	13.84
9I26050-CAL6	5	2004	0.172	13.84
9I26050-CAL7	10	4671	0.205	13.83
9I26050-CAL8	20	9787	0.215	13.84
9I26050-CAL9	50	23920	0.186	13.84
9I26050-CALA	100	46871	0.173	13.84
9I26050-CALB	200	82859	0.183	13.83

AVE RF **0.189** RF RSD **9.14** AVE RT **13.83**

Naphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~436~~	~~1.959~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.4~~	~~1468~~	~~1.644~~	~~14.20~~
9I26050-CAL4	1	4456	1.917	14.20
9I26050-CAL5	2	8574	1.879	14.20
9I26050-CAL6	5	24760	2.129	14.20
9I26050-CAL7	10	59341	2.602	14.20
9I26050-CAL8	20	120918	2.660	14.20
9I26050-CAL9	50	329843	2.565	14.20
9I26050-CALA	100	622135	2.302	14.20
9I26050-CALB	200	1124699	2.486	14.20

AVE RF **2.318** RF RSD **13.41** AVE RT **14.20**

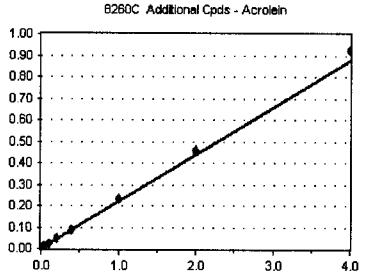
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **A9I3003**

Acrolein

Curve Fit: **AVERAGE RF**

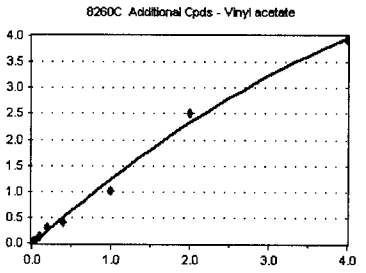


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~5.121~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	151	0.195	4.05
9I26050-CAL4	1	414	0.208	4.05
9I26050-CAL5	2	797	0.206	4.05
9I26050-CAL6	5	2111	0.210	4.05
9I26050-CAL7	10	4450	0.236	4.05
9I26050-CAL8	20	8246	0.219	4.05
9I26050-CAL9	50	22754	0.231	4.04
9I26050-CALA	100	47806	0.230	4.04
9I26050-CALB	200	91310	0.231	4.04

AVE RF **0.219** RF RSD **6.58** AVE RT **4.04**

Vinyl acetate

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**

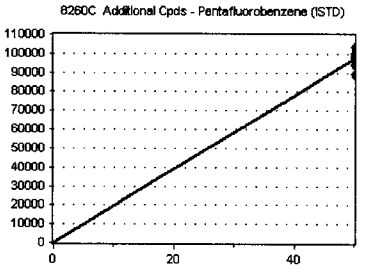


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~128~~	~~0.656~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~319~~	~~0.894~~	~~5.55~~
~~9I26050-CAL3~~	~~0.4~~	~~578~~	~~0.748~~	~~5.55~~
9I26050-CAL4	1	1605	0.805	5.54
9I26050-CAL5	2	3426	0.885	5.54
9I26050-CAL6	5	13087	1.302	5.54
9I26050-CAL7	10	29166	1.546	5.54
9I26050-CAL8	20	39086	1.039	5.53
9I26050-CAL9	50	99692	1.014	5.53
9I26050-CALA	100	259288	1.250	5.53
9I26050-CALB	200	388290	0.983	5.53

AVE RF **1.103** RF RSD **22.21** AVE RT **5.54**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

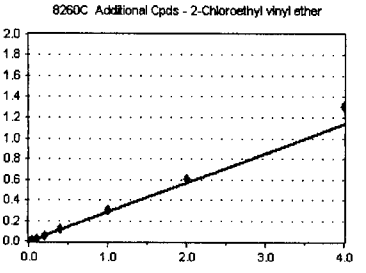


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

2-Chloroethyl vinyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~60~~	~~0.116~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~187~~	~~0.197~~	~~8.76~~
~~9I26050-CAL3~~	~~0.4~~	~~380~~	~~0.185~~	~~8.76~~
9I26050-CAL4	1	1292	0.243	8.75
9I26050-CAL5	2	2529	0.243	8.75
9I26050-CAL6	5	6916	0.257	8.75
9I26050-CAL7	10	14960	0.296	8.75
9I26050-CAL8	20	31258	0.309	8.75
9I26050-CAL9	50	80780	0.300	8.74
9I26050-CALA	100	170832	0.301	8.75
9I26050-CALB	200	336153	0.327	8.74

AVE RF **0.285** RF RSD **11.31** AVE RT **8.74**

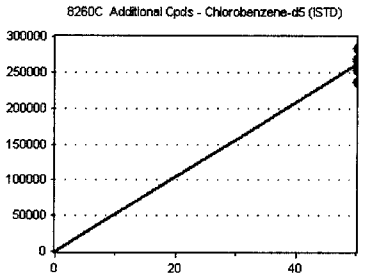
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **A9I3003**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

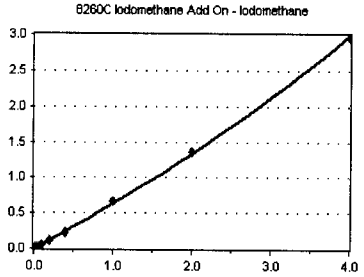
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Iodomethane Add On** Instrument Cal ID: **A9I3003**

Iodomethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

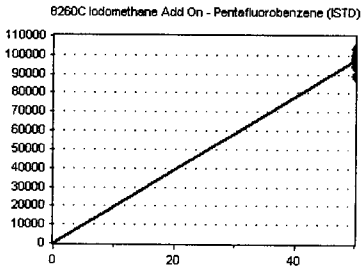


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	240	1.229	0.00
9I26050-CAL2	0.2	304	0.852	3.76
9I26050-CAL3	0.4	539	0.698	3.76
9I26050-CAL4	1	1042	0.522	3.76
9I26050-CAL5	2	1916	0.495	3.76
9I26050-CAL6	5	4369	0.435	3.76
9I26050-CAL7	10	10076	0.534	3.76
9I26050-CAL8	20	21802	0.580	3.76
9I26050-CAL9	50	65139	0.663	3.76
9I26050-CALA	100	140967	0.679	3.75
9I26050-CALB	200	293518	0.743	3.75

AVE RF **0.675** RF RSD **32.64** AVE RT **3.42**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

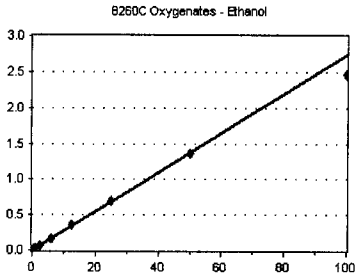
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Ethanol

Curve Fit: **AVERAGE RF**

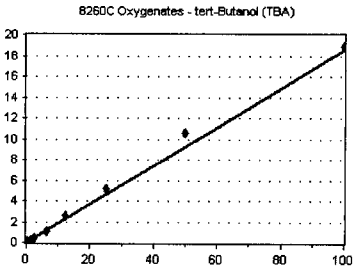


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	6.25	386	3.163	0.00
9I26050-CAL2	12.5	635	2.847	3.64
9I26050-CAL3	25	1311	2.716	3.64
9I26050-CAL4	62.5	3335	2.675	3.64
9I26050-CAL5	125	6105	2.525	3.65
9I26050-CAL6	312	16435	2.619	3.64
9I26050-CAL7	625	33979	2.882	3.64
9I26050-CAL8	1250	64915	2.762	3.65
9I26050-CAL9	2500	134499	2.737	3.64
9I26050-CALA	5000	256296	2.471	3.66

AVE RF **0.027** RF RSD **7.19** AVE RT **3.28**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**

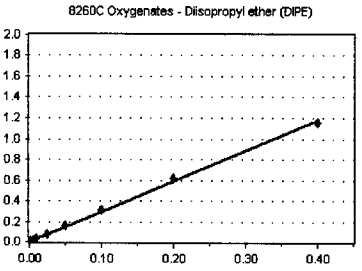


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	6.25	2003	0.164	0.00
9I26050-CAL2	12.5	3781	0.170	4.83
9I26050-CAL3	25	8203	0.170	4.83
9I26050-CAL4	62.5	22478	0.180	4.83
9I26050-CAL5	125	41156	0.170	4.83
9I26050-CAL6	312	113989	0.182	4.83
9I26050-CAL7	625	245440	0.208	4.83
9I26050-CAL8	1250	489576	0.208	4.83
9I26050-CAL9	2500	1046385	0.213	4.83
9I26050-CALA	5000	1967397	0.190	4.84

AVE RF **0.185** RF RSD **9.90** AVE RT **4.35**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

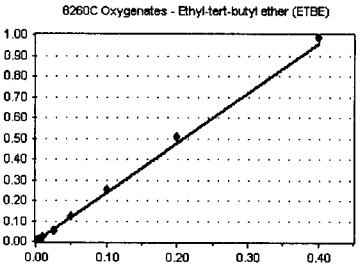


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~80~~	~~1.639~~	~~0.00~~
9I26050-CAL2	0.05	257	2.881	0.00
9I26050-CAL3	0.1	543	2.812	5.12
9I26050-CAL4	0.25	1426	2.859	5.12
9I26050-CAL5	0.5	2807	2.902	5.12
9I26050-CAL6	1.25	7166	2.851	5.12
9I26050-CAL7	2.5	14887	3.157	5.12
9I26050-CAL8	5	29643	3.153	5.12
9I26050-CAL9	10	60075	3.056	5.12
9I26050-CALA	20	120493	2.904	5.12

AVE RF **2.953** RF RSD **4.50** AVE RT **4.55**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~11~~	~~0.225~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~167~~	~~1.872~~	~~0.00~~
9I26050-CAL3	0.1	422	2.185	5.52
9I26050-CAL4	0.25	1196	2.398	5.53
9I26050-CAL5	0.5	2131	2.203	5.53
9I26050-CAL6	1.25	5705	2.270	5.53
9I26050-CAL7	2.5	11927	2.529	5.52
9I26050-CAL8	5	23874	2.539	5.53
9I26050-CAL9	10	49848	2.536	5.52
9I26050-CALA	20	102630	2.473	5.52

AVE RF **2.392** RF RSD **6.35** AVE RT **5.52**

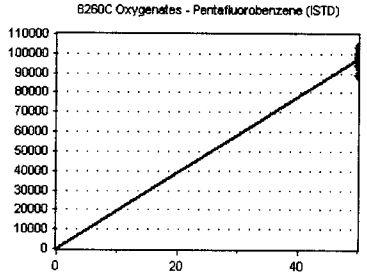
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

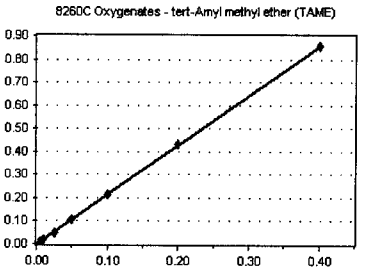


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

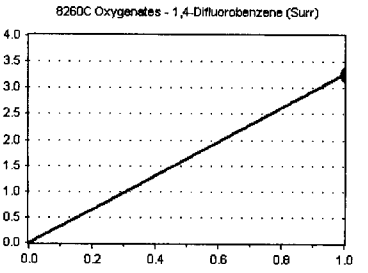


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~181~~	~~3.708~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.1~~	~~532~~	~~2.755~~	~~6.90~~
9I26050-CAL4	0.25	1161	2.328	6.90
9I26050-CAL5	0.5	1931	1.996	6.90
9I26050-CAL6	1.25	4993	1.986	6.90
9I26050-CAL7	2.5	10246	2.173	6.90
9I26050-CAL8	5	20291	2.158	6.90
9I26050-CAL9	10	42764	2.175	6.90
9I26050-CALA	20	88578	2.135	6.90

AVE RF **2.136** RF RSD **5.48** AVE RT **6.90**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

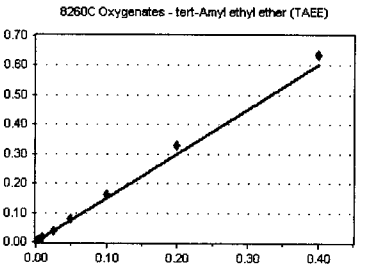


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	320302	3.281	7.46
9I26050-CAL2	50	291734	3.270	7.46
9I26050-CAL3	50	314912	3.261	7.46
9I26050-CAL4	50	323481	3.243	7.46
9I26050-CAL5	50	309764	3.202	7.46
9I26050-CAL6	50	327177	3.254	7.46
9I26050-CAL7	50	307261	3.258	7.46
9I26050-CAL8	50	303280	3.226	7.46
9I26050-CAL9	50	325260	3.309	7.46
9I26050-CALA	50	340927	3.287	7.46
9I26050-CALB	50	326203	3.303	7.46

AVE RF **3.263** RF RSD **0.98** AVE RT **7.46**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~11~~	~~0.225~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.1	236	1.222	7.70
9I26050-CAL4	0.25	732	1.468	7.70
9I26050-CAL5	0.5	1360	1.406	7.70
9I26050-CAL6	1.25	3676	1.462	7.69
9I26050-CAL7	2.5	7612	1.614	7.69
9I26050-CAL8	5	15389	1.637	7.69
9I26050-CAL9	10	32246	1.640	7.69
9I26050-CALA	20	66103	1.593	7.69

AVE RF **1.505** RF RSD **9.67** AVE RT **7.69**

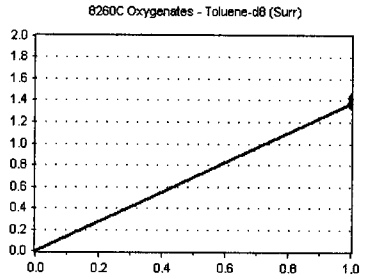
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

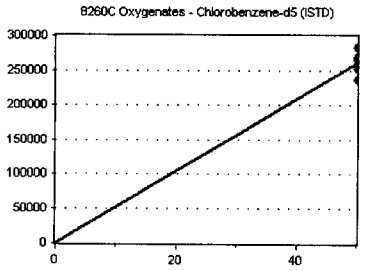


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	358933	1.384	9.00
9I26050-CAL2	50	329271	1.387	9.00
9I26050-CAL3	50	354137	1.382	9.00
9I26050-CAL4	50	366312	1.376	9.00
9I26050-CAL5	50	355642	1.369	9.00
9I26050-CAL6	50	370481	1.377	9.00
9I26050-CAL7	50	346726	1.373	9.00
9I26050-CAL8	50	346044	1.367	9.00
9I26050-CAL9	50	365802	1.360	9.00
9I26050-CALA	50	385560	1.357	9.00
9I26050-CALB	50	365376	1.423	9.00

AVE RF **1.378** RF RSD **1.27** AVE RT **9.00**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

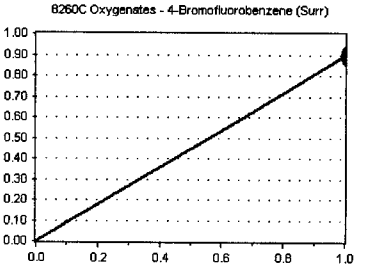


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

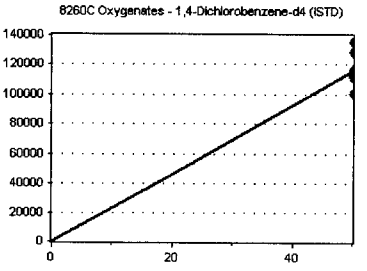


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	102373	0.920	11.45
9I26050-CAL2	50	91087	0.905	11.45
9I26050-CAL3	50	99765	0.894	11.45
9I26050-CAL4	50	104202	0.897	11.45
9I26050-CAL5	50	102067	0.895	11.45
9I26050-CAL6	50	105465	0.907	11.45
9I26050-CAL7	50	100472	0.881	11.45
9I26050-CAL8	50	101239	0.891	11.45
9I26050-CAL9	50	112962	0.879	11.45
9I26050-CALA	50	118613	0.878	11.45
9I26050-CALB	50	101968	0.902	11.45

AVE RF **0.895** RF RSD **1.46** AVE RT **11.45**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	111263	2225.260	12.29
9I26050-CAL2	50	100676	2013.520	12.29
9I26050-CAL3	50	111622	2232.440	12.29
9I26050-CAL4	50	116197	2323.940	12.29
9I26050-CAL5	50	114070	2281.400	12.29
9I26050-CAL6	50	116280	2325.600	12.29
9I26050-CAL7	50	114038	2280.760	12.29
9I26050-CAL8	50	113658	2273.160	12.29
9I26050-CAL9	50	128582	2571.640	12.29
9I26050-CALA	50	135133	2702.660	12.29
9I26050-CALB	50	113094	2261.880	12.29

AVE RF **2317.478** RF RSD **7.83** AVE RT **12.29**

Calibration Status Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 15:38:10 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-09\9I26050\VG19092643.D
2	100	100	50	C:\msdchem\1\data\2019-09\9I26050\VG19092644.D
3	250	250	50	C:\msdchem\1\data\2019-09\9I26050\VG19092645.D
4	500	500	50	C:\msdchem\1\data\2019-09\9I26050\VG19092646.D
5	1000	1000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092647.D
6	2500	2500	50	C:\msdchem\1\data\2019-09\9I26050\VG19092648.D
7	5000	5000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092649.D
8	10K	10000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092650.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Sep 30 15:38 2019	Sep 30 15:38 2019	27 Sep 2019 4:54 am
2	100	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 5:21 am
3	250	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 5:48 am
4	500	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 6:16 am
5	1000	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 6:43 am
6	2500	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 7:10 am
7	5000	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 7:37 am
8	10K	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 8:04 am

VG190930G.M Mon Sep 30 20:32:48 2019

Response Factor Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 23:35:16 2019
Response Via : Initial Calibration

Calibration Files
50 =VG19092643.D 100 =VG19092644.D 250 =VG19092645.D 500 =VG19092646.D 1000=VG19092647.D 2500=VG19092648.D
5000=VG19092649.D 10K =VG19092650.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------ISTD----------									
2)	S	1,4-Difluorobe...	1.587	1.571	1.583	1.567	1.581	1.546	1.583	1.550	1.571	1.00
3)	S	4-Bromofluorob...	0.495	0.504	0.514	0.512	0.509	0.516	0.529	0.509	0.511	1.92
4)	H	NWTPH-Gx (TPH)	1.755	1.143	1.181	1.342	1.264	1.234	1.399	1.357	1.334	14.36
5)	H	TPHg (C5-C9)	3.490	2.248	1.791	1.815	1.685	1.516	1.686	1.610	1.980	32.73
6)	H	TPHg (C6-C10)	3.089	1.941	1.525	1.533	1.408	1.277	1.413	1.351	1.692	35.42
7)	H	CA-LUFT (C5-C12)	3.963	2.496	2.059	2.175	2.027	1.859	2.085	2.020	2.335	29.23
8)		Benzene (NR)									0.000	-1.00
9)	S	Toluene-d8 (NR)									0.000	-1.00
10)		Toluene (NR)									0.000	-1.00
11)	S	Chlorobenzene-...									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS7

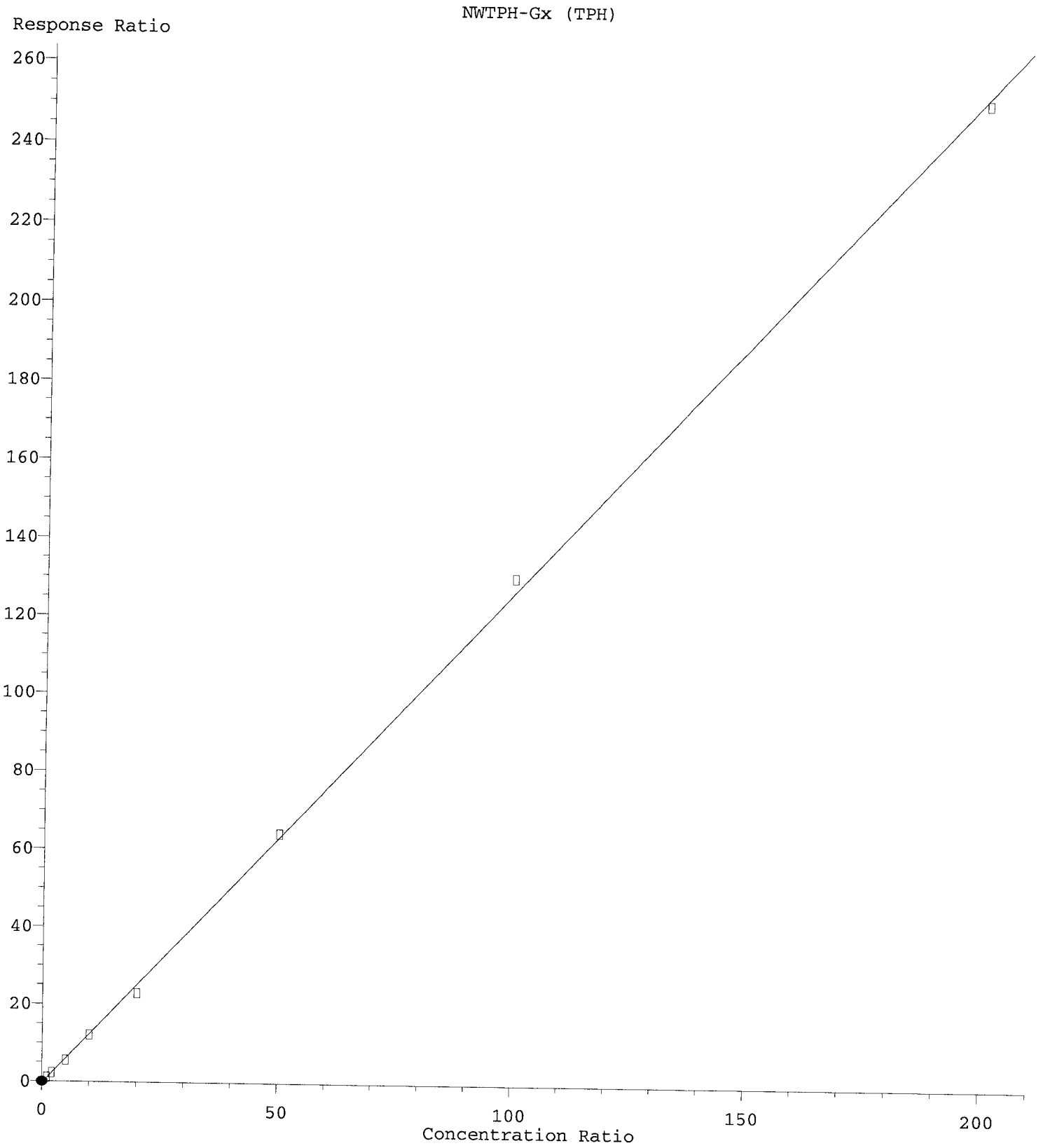
Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 23:35:16 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.867	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	7.459	1.086	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	11.446	1.667	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	9.440	1.375	Q	0	A	B
5	H	TPHg (C5-C9)	TIC	9.940	1.447	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.940	1.447	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.940	1.447	Q	0	A	B
8		Benzene (NR)	78	6.764	0.985	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.995	1.310	A	2	A	B
10		Toluene (NR)	91	9.050	1.318	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	10.458	1.523	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	12.293	1.790	A	2	A	B
13		Naphthalene (NR)	128	14.208	2.069	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VG190930G.M Tue Oct 01 09:13:02 2019



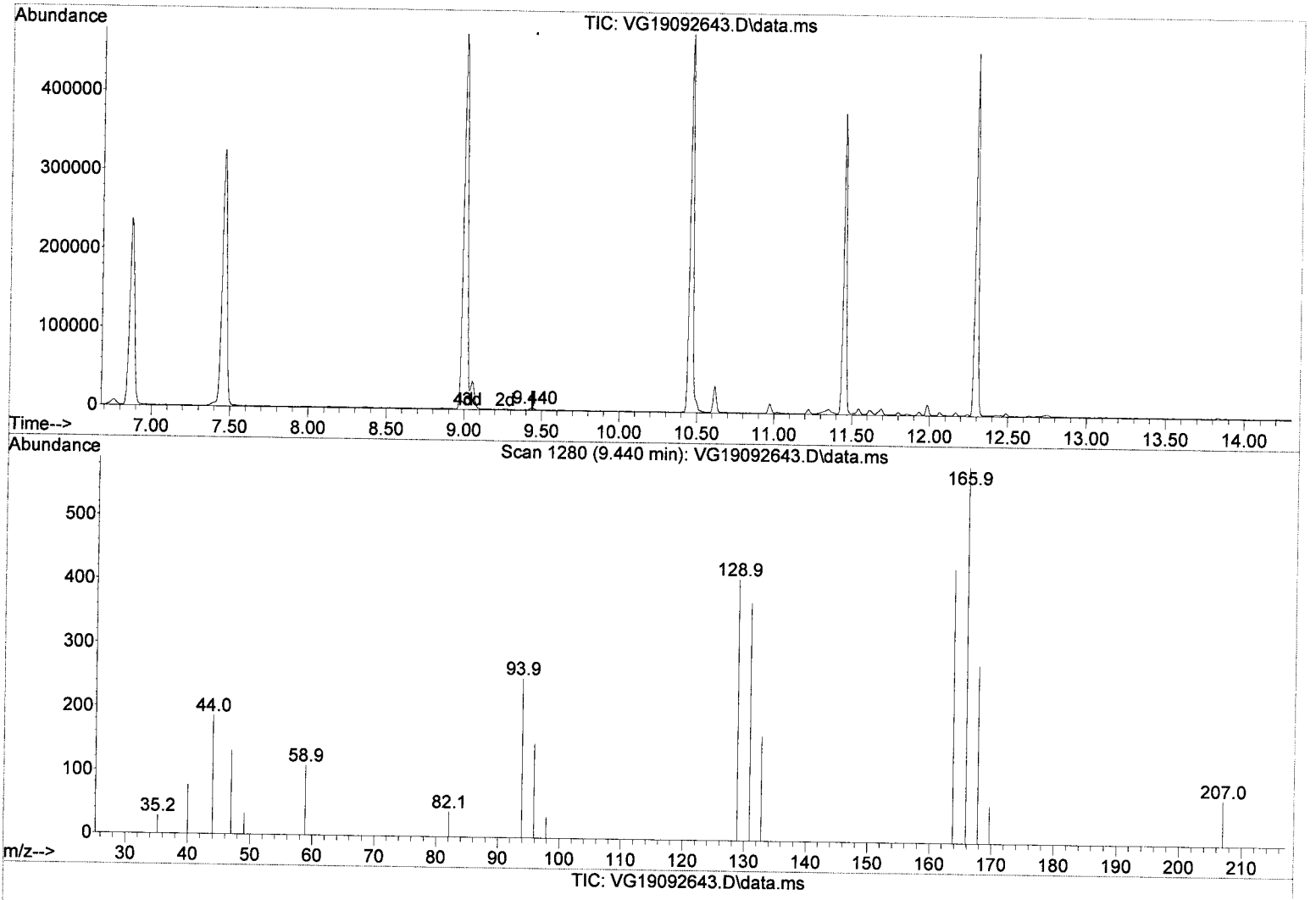
Intercept < MDL
9/30/19 MJ

R = -4.67e-005 A*A + 1.28e+000 A - 4.15e-001
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930G.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092643.D
Acq On : 27 Sep 2019 4:54 am
Operator : MM
Sample : 9I26050-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:49:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration

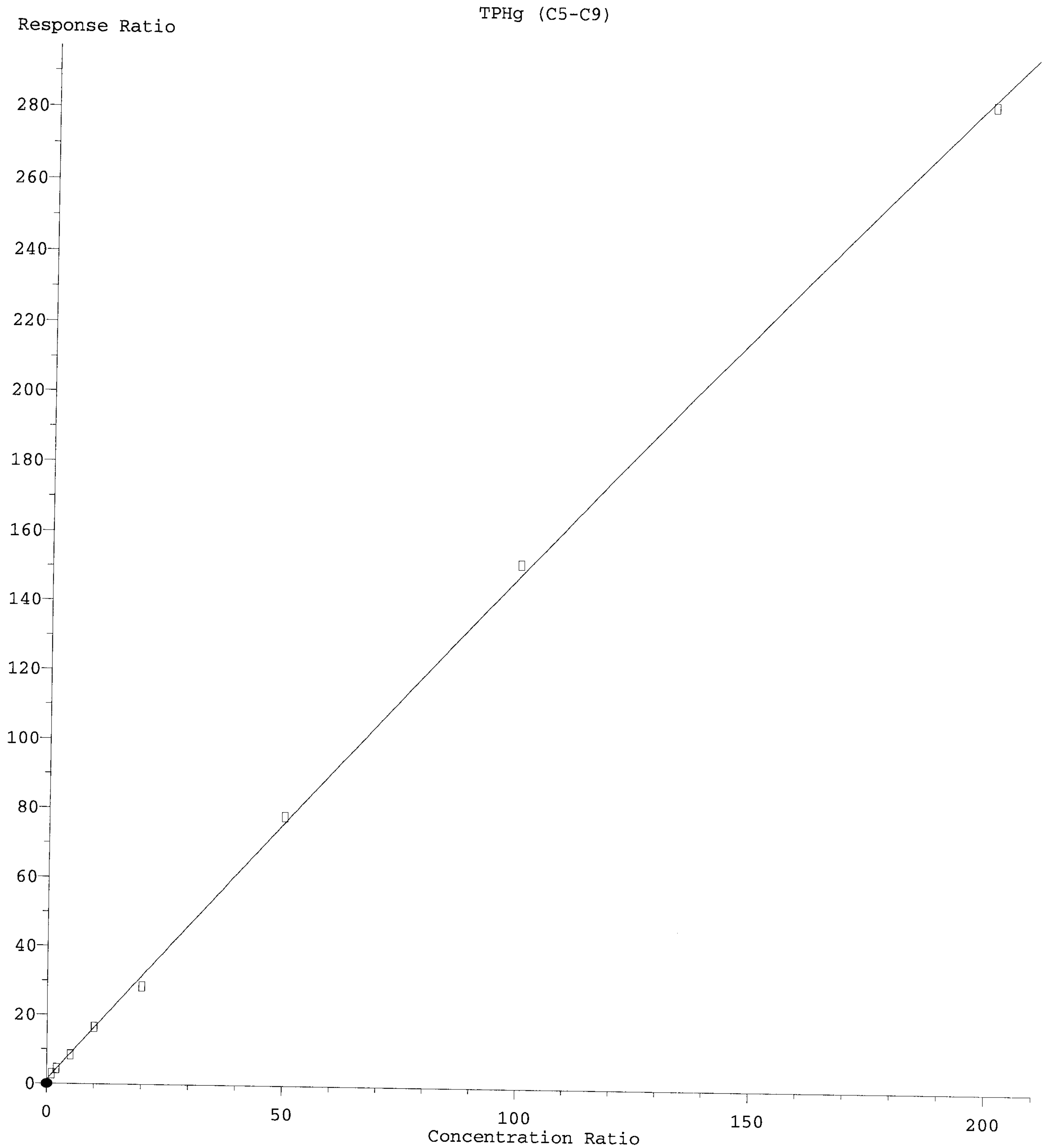


(4) NWTPH-Gx (TPH) (H)

9.440min (0.000) 17.95 ug/L m

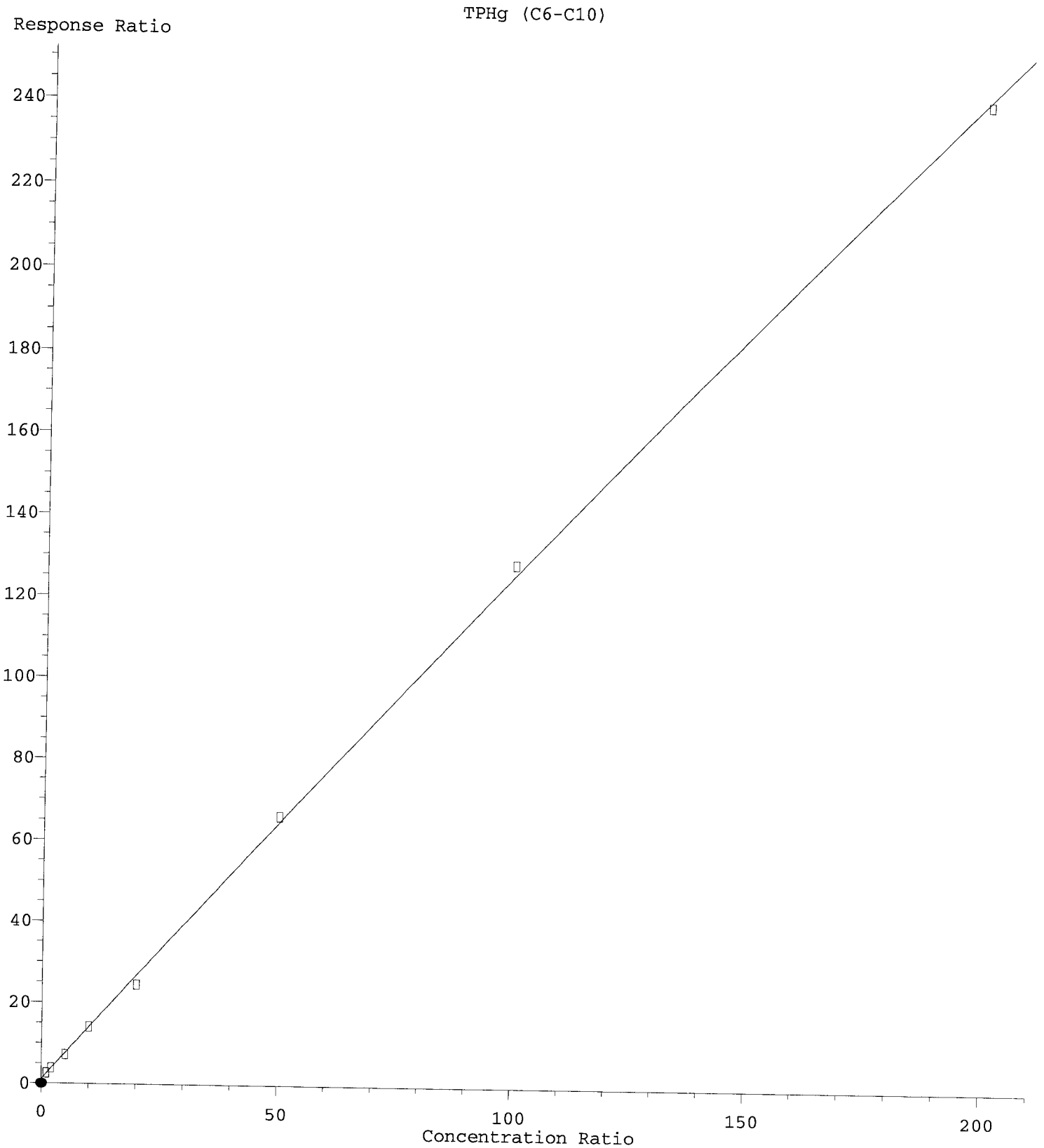
response 8408

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



see ICB < MDL
~~9/2~~ 10/1/19

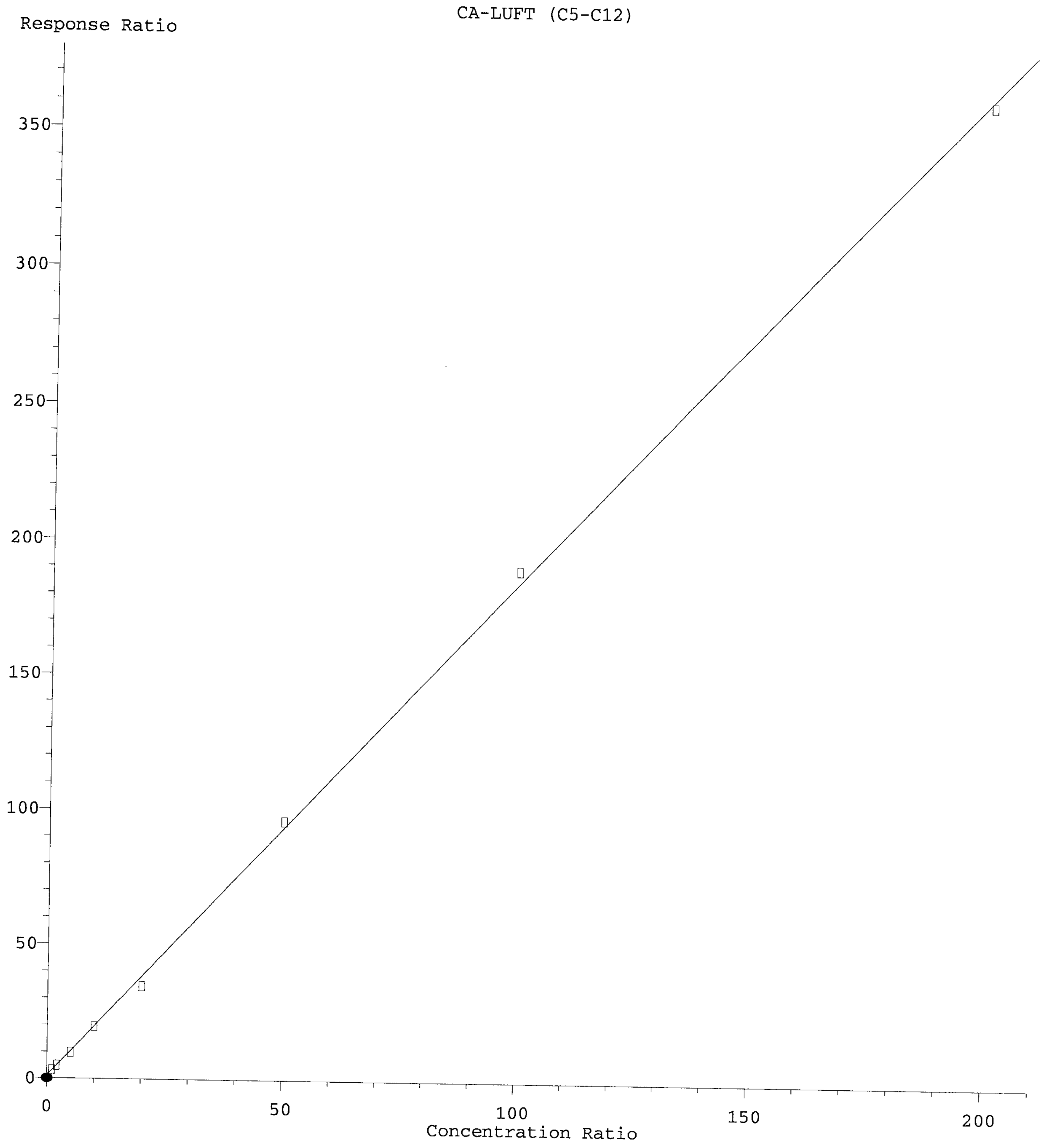
R = -5.50e-004 A*A + 1.53e+000 A + 1.18e+000
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930G.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019



see IRB LMDL

10/1/19 MJ

R = -4.61e-004 A*A + 1.29e+000 A + 1.13e+000
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\vg1909300.m
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019



R = -2.80e-004 A*A + 1.87e+000 A + 9.92e-001
Coef of Det (r^2) = 0.999   Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930C.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

9/30/19 bhy

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	102	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.460	1.1	101	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.650	0.7	101	0.00
4	H	NWTPH-Gx (TPH)	500.000	549.747	-9.9	108	0.00
5	H	TPHg (C5-C9)	500.000	531.427	-6.3	104	0.00
6	H	TPHg (C6-C10)	500.000	539.943	-8.0	105	0.00
7	H	CA-LUFT (C5-C12)	500.000	539.601	-7.9	105	0.00
8		Benzene (NR)	-1.000	0.000	0.0	104	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	102	0.00
10		Toluene (NR)	-1.000	0.000	0.0	108	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	101	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	99	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	110	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analysis Included

8015D-M Gas (C6-C10) Water Soluble Fraction
8015D-Mod Gasoline (C6-C10) by GC/MS
CA LUFT GRO
NWTPH-Gx

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed	
9I26050-TUN2	MS Tune	Water		A19F381	9/27/2019	3:05:00AM
9I26050-ICB2	Initial Cal Blank	Water		A19F381	9/27/2019	4:27:00AM
9I26050-CALC	Cal Standard	Water	A19I331	"	9/27/2019	4:54:00AM
9I26050-CALD	Cal Standard	Water	A19I332	"	9/27/2019	5:21:00AM
9I26050-CALE	Cal Standard	Water	A19I333	"	9/27/2019	5:48:00AM
9I26050-CALF	Cal Standard	Water	A19I334	"	9/27/2019	6:16:00AM
9I26050-CALG	Cal Standard	Water	A19H370	"	9/27/2019	6:43:00AM
9I26050-CALH	Cal Standard	Water	A19H371	"	9/27/2019	7:10:00AM
9I26050-CALI	Cal Standard	Water	A19H372	"	9/27/2019	7:37:00AM
9I26050-CALJ	Cal Standard	Water	A19H373	"	9/27/2019	8:04:00AM
9I26050-ICV3	Initial Cal Check	Water	A19G350	"	9/27/2019	9:25:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9I3003 Instrument: VOA-GCMS7

8015D-M Gas (C6-C10) Wate Sequence: 9I26050 Matrix: Water

9I26050-CALC	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALD	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALE	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALF	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALG	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALH	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALI	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALJ	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I3003** Instrument: **VOA-GCMS7**

NWTPH-Gx Sequence: **9I26050** Matrix: **Water**

9I26050-ICV3	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

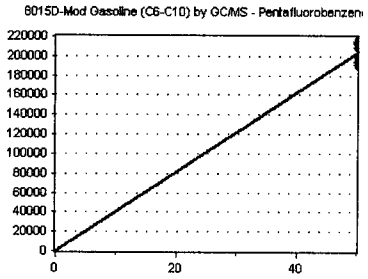
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

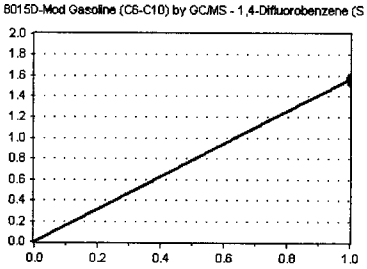


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

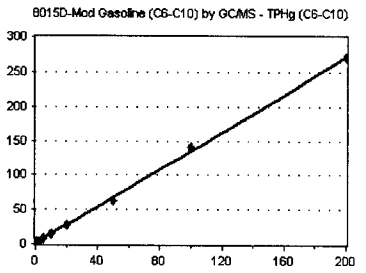


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

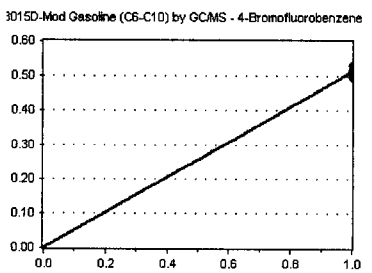


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	601882	3.089	0.00
9I26050-CALD	100	832167	1.941	9.94
9I26050-CALE	250	1523002	1.525	9.94
9I26050-CALF	500	3215445	1.533	9.94
9I26050-CALG	1000	5464695	1.408	9.94
9I26050-CALH	2500	1.356368E+07	1.277	9.94
9I26050-CALI	5000	2.702252E+07	1.413	9.94
9I26050-CALJ	10000	5.809762E+07	1.351	9.94

AVE RF **1.692** RF RSD **35.42** AVE RT **8.70**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

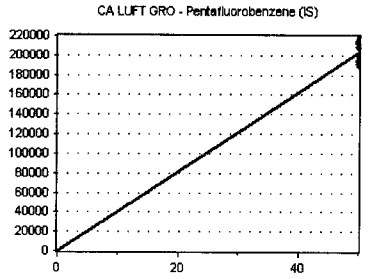
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

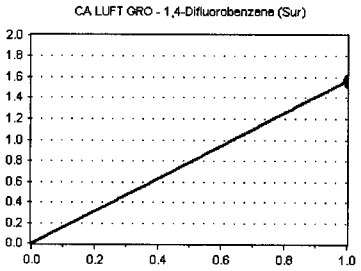


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

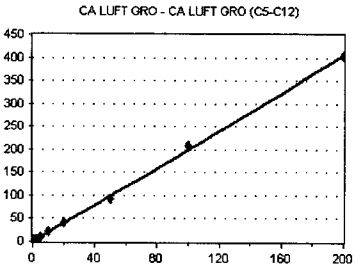


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

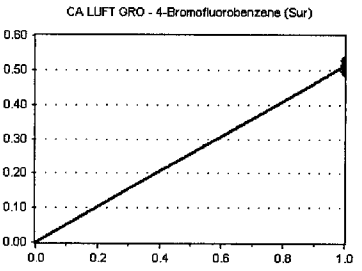


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	772051	3.963	0.00
9I26050-CALD	100	1070187	2.496	9.94
9I26050-CALE	250	2055987	2.059	9.94
9I26050-CALF	500	4560685	2.175	9.94
9I26050-CALG	1000	7865997	2.027	9.94
9I26050-CALH	2500	1.975041E+07	1.859	9.94
9I26050-CALI	5000	3.98633E+07	2.085	9.94
9I26050-CALJ	10000	8.686576E+07	2.020	9.94

AVE RF **2.335** RF RSD **29.23** AVE RT **8.70**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

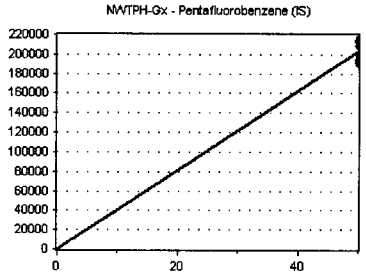
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

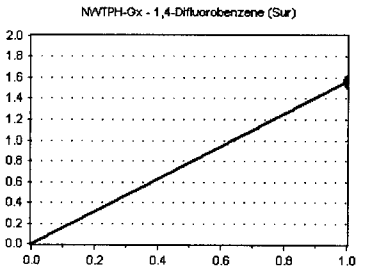


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

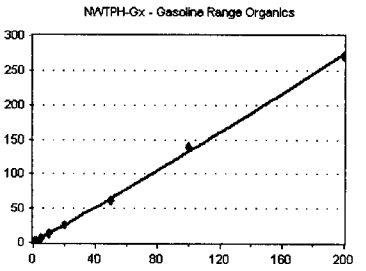


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

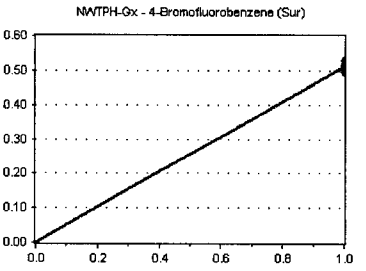


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	341870	1.755	0.00
9I26050-CALD	100	489862	1.143	9.44
9I26050-CALE	250	1179313	1.181	9.44
9I26050-CALF	500	2815223	1.342	9.44
9I26050-CALG	1000	4905450	1.264	9.44
9I26050-CALH	2500	1.310679E+07	1.234	9.44
9I26050-CALI	5000	2.675072E+07	1.399	9.44
9I26050-CALJ	10000	5.836205E+07	1.357	9.44

AVE RF **1.334** RF RSD **14.36** AVE RT **8.26**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

Injection Log

Directory: z:\data\2019-09\9I26050

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vg19092618.d	1.	9I26050-IBL1	1X 5mL DI	26 Sep 2019 17:36
2	2	Vg19092619.d	1.	9I26050-TUN1	A19F380 BFB (IS/...	26 Sep 2019 18:03
3	3	Vg19092620.d	1.	9I26050-ICB1	1X 5mL DI	26 Sep 2019 18:30
4	4	Vg19092621.d	1.	9I26050-CAL1	1X 5mL 0.1/0.2...	26 Sep 2019 18:57
5	5	Vg19092622.d	1.	9I26050-CAL2	1X 5mL 0.2/0.4...	26 Sep 2019 19:24
6	6	Vg19092623.d	1.	9I26050-CAL3	1X 5mL 0.5/1PP...	26 Sep 2019 19:52
7	7	Vg19092624.d	1.	9I26050-CAL4	1X 5mL 1/2PPB ...	26 Sep 2019 20:19
8	8	Vg19092625.d	1.	9I26050-CAL5	1X 5mL 2/4PPB ...	26 Sep 2019 20:46
9	9	Vg19092626.d	1.	9I26050-CAL6	1X 5mL 5/10PPB...	26 Sep 2019 21:13
10	10	Vg19092627.d	1.	9I26050-CAL7	1X 5mL 10/20PP...	26 Sep 2019 21:40
11	11	Vg19092628.d	1.	9I26050-CAL8	1X 5mL 20/40PP...	26 Sep 2019 22:07
12	12	Vg19092629.d	1.	9I26050-CAL9	1X 5mL 50/100P...	26 Sep 2019 22:34
13	13	Vg19092630.d	1.	9I26050-IBL2	1X 5mL DI	26 Sep 2019 23:01
14	14	Vg19092631.d	1.	9I26050-CALA	1X 5mL 100/200...	26 Sep 2019 23:28
15	15	Vg19092632.d	1.	9I26050-IBL3	1X 5mL DI	26 Sep 2019 23:55
16	16	Vg19092633.d	1.	9I26050-CALB	1X 5mL 200/400...	27 Sep 2019 00:22
17	17	Vg19092634.d	1.	9I26050-IBL4	1X 5mL DI	27 Sep 2019 00:50
18	18	Vg19092635.d	1.	9I26050-IBL5	1X 5mL DI	27 Sep 2019 01:17
19	19	Vg19092636.d	1.	9I26050-ICV1	1X 5mL 20/40PP...	27 Sep 2019 01:44
20	20	Vg19092637.d	1.	9I26050-ICV2	1X 5mL 5/1250P...	27 Sep 2019 02:11
21	21	Vg19092638.d	1.	9I26050-IBL6	1X 5mL DI	27 Sep 2019 02:38
22	22	Vg19092639.d	1.	9I26050-TUN2	A19F380 BFB (IS/...	27 Sep 2019 03:05
23	23	Vg19092640.d	1.	9I26050-RT1	A18A167 VPH RT STD	27 Sep 2019 03:33
24	24	Vg19092641.d	1.	9I26050-IBL7	1X 5mL DI	27 Sep 2019 04:00
25	25	Vg19092642.d	1.	9I26050-ICB2	1X 5mL DI	27 Sep 2019 04:27
26	26	Vg19092643.d	1.	9I26050-CALC	1X 5mL 50PPB GX	27 Sep 2019 04:54
27	27	Vg19092644.d	1.	9I26050-CALD	1X 5mL 100PPB GX	27 Sep 2019 05:21
28	28	Vg19092645.d	1.	9I26050-CALE	1X 5mL 250PPB GX	27 Sep 2019 05:48
29	29	Vg19092646.d	1.	9I26050-CALF	1X 5mL 500PPB GX	27 Sep 2019 06:16
30	30	Vg19092647.d	1.	9I26050-CALG	1X 5mL 1000PPB GX	27 Sep 2019 06:43
31	31	Vg19092648.d	1.	9I26050-CALH	1X 5mL 2500PPB GX	27 Sep 2019 07:10
32	32	Vg19092649.d	1.	9I26050-CALI	1X 5mL 5000PPB GX	27 Sep 2019 07:37
33	33	Vg19092650.d	1.	9I26050-CALJ	1X 5mL 10000PP...	27 Sep 2019 08:04
34	34	Vg19092651.d	1.	9I26050-IBL8	1X 5mL DI	27 Sep 2019 08:31
35	35	Vg19092652.d	1.	9I26050-IBL9	1X 5mL DI	27 Sep 2019 08:58
36	36	Vg19092653.d	1.	9I26050-ICV3	1X 5mL 500PPB GX	27 Sep 2019 09:25
37	37	Vg19092654.d	1.	9I26050-IBLA	1X 5mL DI	27 Sep 2019 09:53

9/30/19 KL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	97438	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	253236	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	104047	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93286	48.41 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	316455	49.76 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	355511	50.95 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	96381	51.74 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	1.990	50	198	0.11 ug/L	69
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	2.551	96	24	0.03 ug/L	69
6) Chloroethane	2.740	64	124	Below Cal #	47
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Ethanol	3.630	45	219	4.10 ug/L #	29
9) 1,1-Dichloroethene	3.600	61	10	0.00 ug/L #	54
10) Carbon Disulfide	3.594	76	429	0.14 ug/L	78
11) Freon 113	0.000		0	N.D.	
12) Iodomethane	3.764	142	177	0.09 ug/L	80
13) Acrolein	4.063	56	10	0.02 ug/L #	23
14) Methylene Chloride	4.325	84	7549	3.83 ug/L	99
15) Acetone	4.411	43	2900	2.57 ug/L	92
16) t-1,2-Dichloroethene	4.520	61	77	0.03 ug/L #	56
17) n-Hexane	0.000		0	N.D.	
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.837	59	209	0.58 ug/L #	43
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	0.000		0	N.D.	
22) Acrylonitrile	0.000		0	N.D.	
23) Vinyl Acetate	5.545	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	0.000		0	N.D.	
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.045	49	10	0.01 ug/L #	14
28) Chloroform	6.154	83	10	0.00 ug/L #	25
29) Carbon Tetrachloride	0.000		0	N.D.	
30) Tetrahydrofuran	6.380	42	10	0.01 ug/L #	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.	
33) 1,1-Dichloropropene	0.000		0	N.D.	
34) 2-Butanone (MEK)	6.508	43	18	0.01 ug/L	52
35) Benzene	6.764	78	174	0.02 ug/L	56
36) tert-Amyl methyl ether...	6.861	73	126	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
38) iso-Butyl Alcohol	7.087	43	10	0.06 ug/L	70
40) Trichloroethene (TCE)	7.410	130	19	0.01 ug/L #	12
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

NR 9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

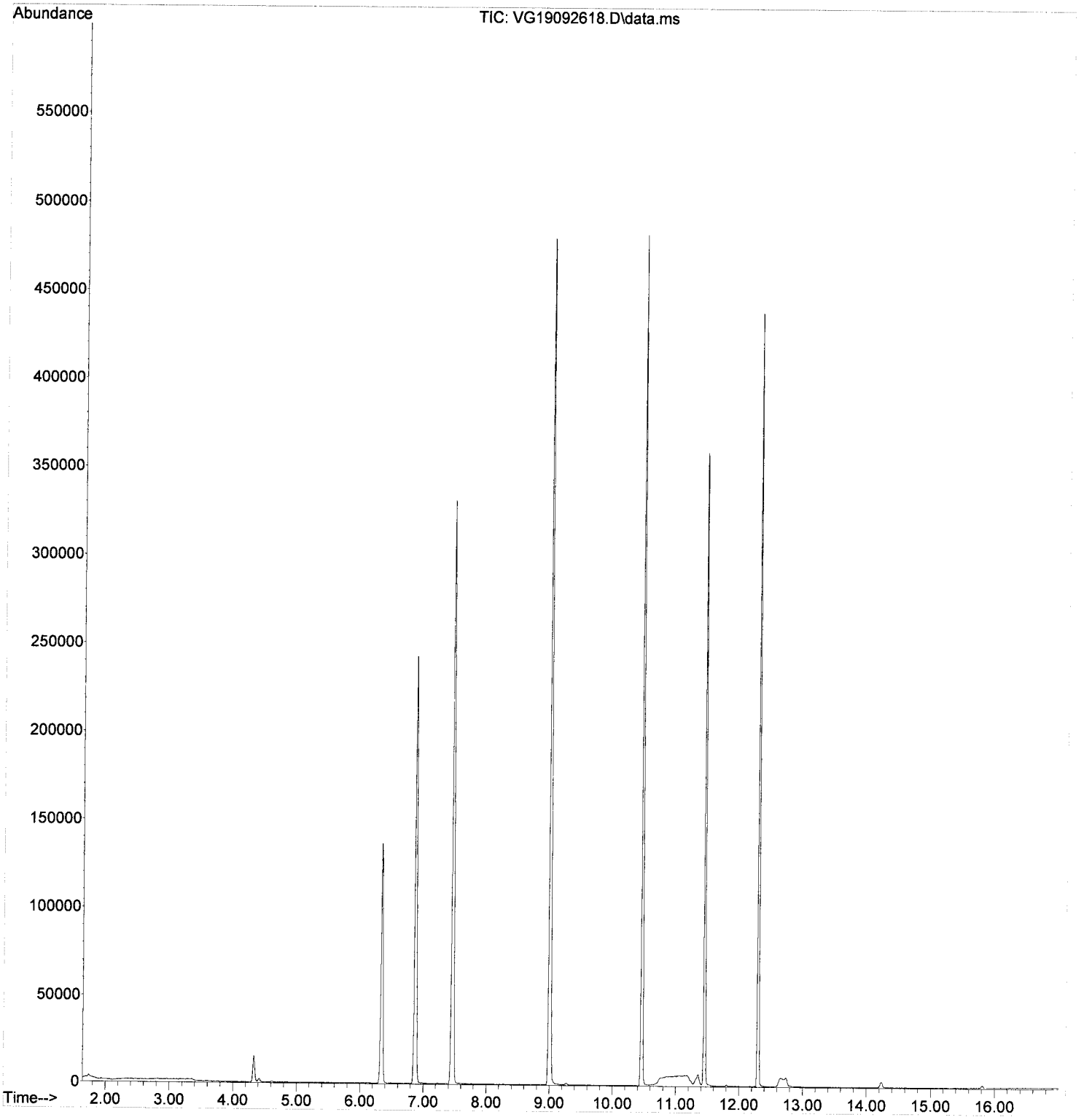
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	269	0.03 ug/L	93
50) Tetrachloroethene (PCE)	9.446	166	35	0.02 ug/L #	24
51) 4-Methyl-2-Pentanone (...	9.458	43	10	0.00 ug/L #	43
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57) 2-Hexanone	10.227	43	27	0.01 ug/L #	32
58) Chlorobenzene	10.470	112	160	0.03 ug/L #	1
59) Ethylbenzene	10.501	91	171	0.02 ug/L #	50
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.629	91	251	0.04 ug/L	90
62) o-Xylene	10.976	91	105	0.02 ug/L #	35
63) Styrene	11.025	104	31	0.01 ug/L #	40
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	122	0.02 ug/L	86
68) Bromobenzene	11.543	156	11	0.01 ug/L #	50
69) n-Propylbenzene	11.550	91	181	0.03 ug/L	56
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	0.000		0	N.D.	
72) 1,3,5-Trimethylbenzene	11.702	105	38	0.01 ug/L #	34
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.812	91	183	0.04 ug/L	86
76) tert-Butylbenzene	11.812	91	183	0.07 ug/L #	1
77) 1,2,4-Trimethylbenzene	11.995	105	129	0.03 ug/L #	36
78) sec-Butylbenzene	12.068	105	106	0.02 ug/L	58
79) 4-Isopropyltoluene	12.165	119	89	0.02 ug/L	51
80) 1,3-Dichlorobenzene	12.245	146	129	0.04 ug/L #	61
81) 1,4-Dichlorobenzene	12.305	146	204	0.07 ug/L #	1
82) n-Butylbenzene	12.494	91	142	0.04 ug/L #	68
83) 1,2-Dichlorobenzene	12.641	146	61	0.02 ug/L	88
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	86	0.05 ug/L	71
87) Naphthalene	14.214	128	226	0.05 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	20	0.01 ug/L #	12

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

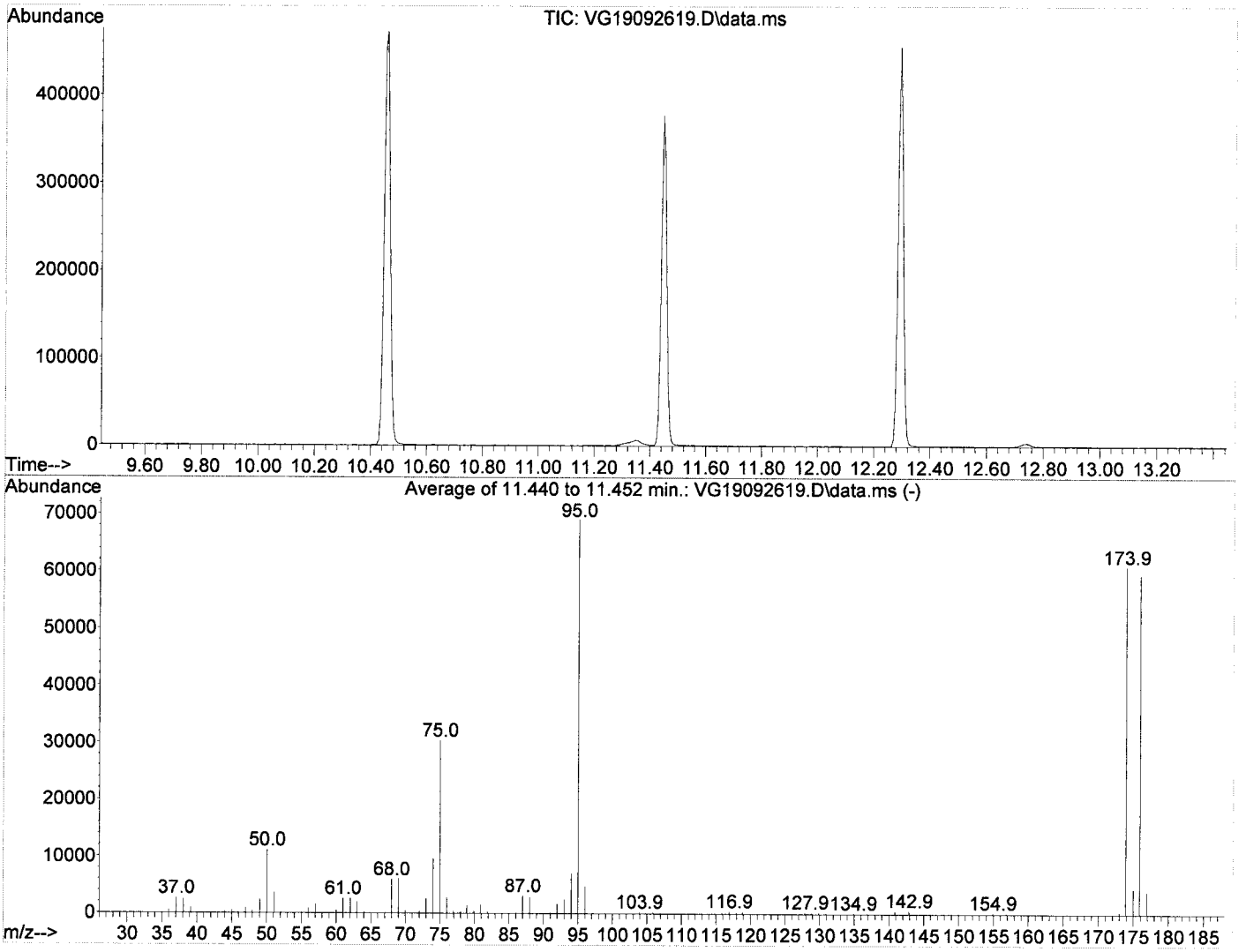
Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019



AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	113.5	69179	PASS
96	95	5	9	6.8	4736	PASS
173	174	0.00	2	0.6	345	PASS
174	95	50	200	88.1	60968	PASS
175	174	5	9	7.2	4394	PASS
176	174	95	105	97.7	59536	PASS
177	176	5	10	6.6	3900	PASS

9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

9/30/19 [handwritten initials]

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	96160	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	253251	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	106954	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	94102	49.48 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314638	50.14 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	349316	50.06 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	98109	51.24 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	1.997	50	192	0.11 ug/L	79
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	2.551	96	37	0.05 ug/L	85
6) Chloroethane	2.734	64	97	Below Cal #	47
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Ethanol	0.000		0	N.D.	
9) 1,1-Dichloroethene	3.588	61	11	0.00 ug/L #	25
10) Carbon Disulfide	3.600	76	318	0.10 ug/L	78
11) Freon 113	3.667	101	30	0.02 ug/L #	73
12) Iodomethane	3.764	142	109	0.04 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.331	84	9079	4.67 ug/L	96
15) Acetone	4.411	43	1542	1.38 ug/L	83
16) t-1,2-Dichloroethene	4.508	61	33	0.01 ug/L #	65
17) n-Hexane	4.618	86	10	0.04 ug/L #	45
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.831	59	442	1.24 ug/L #	21
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	0.000		0	N.D.	
22) Acrylonitrile	0.000		0	N.D.	
23) Vinyl Acetate	0.000		0	N.D.	
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	0.000		0	N.D.	
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	0.000		0	N.D.	
28) Chloroform	6.136	83	10	0.00 ug/L #	25
29) Carbon Tetrachloride	0.000		0	N.D.	
30) Tetrahydrofuran	6.325	42	10	0.01 ug/L #	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.	
33) 1,1-Dichloropropene	6.502	75	10	0.00 ug/L #	39
34) 2-Butanone (MEK)	6.508	43	30	0.02 ug/L	52
35) Benzene	6.764	78	123	0.01 ug/L	56
36) tert-Amyl methyl ether...	6.861	73	94	0.02 ug/L #	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
38) iso-Butyl Alcohol	7.087	43	19	0.11 ug/L #	55
40) Trichloroethene (TCE)	7.422	130	10	0.00 ug/L #	46
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

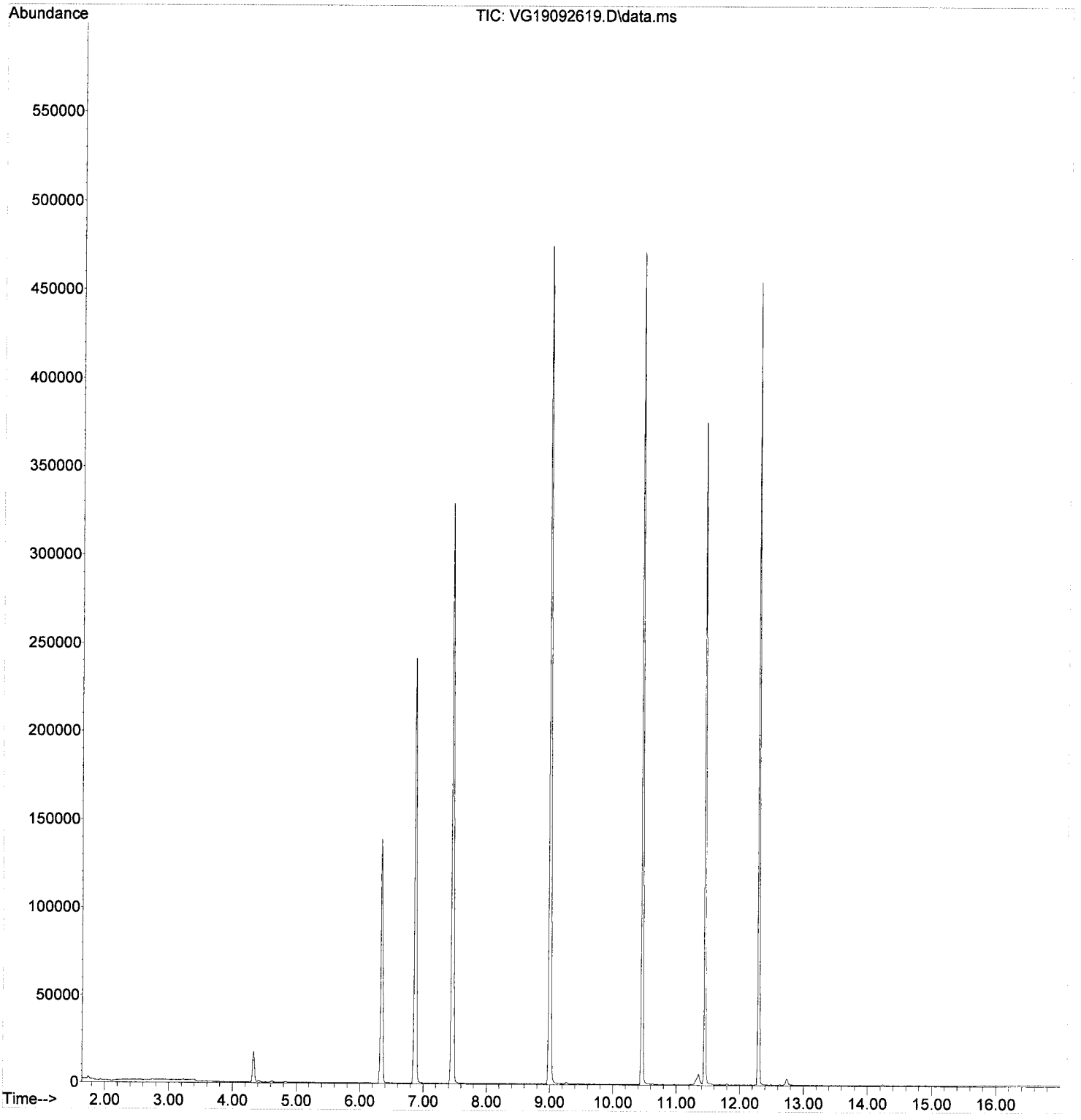
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49)	Toluene	9.050	91	272	0.03 ug/L	92
50)	Tetrachloroethene (PCE)	9.446	166	128	0.06 ug/L #	73
51)	4-Methyl-2-Pentanone (...	9.471	43	11	0.00 ug/L #	43
52)	t-1,3-Dichloropropene	0.000		0	N.D.	
53)	1,1,2-Trichloroethane	0.000		0	N.D.	
54)	Dibromochloromethane	0.000		0	N.D.	
55)	1,3-Dichloropropane	0.000		0	N.D.	
56)	1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57)	2-Hexanone	10.233	43	29	0.01 ug/L #	32
58)	Chlorobenzene	10.464	112	115	0.02 ug/L #	1
59)	Ethylbenzene	10.501	91	214	0.03 ug/L #	50
60)	1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61)	m,p-Xylenes (2)	10.629	91	376	0.07 ug/L	90
62)	o-Xylene	10.976	91	129	0.02 ug/L #	35
63)	Styrene	11.037	104	37	0.01 ug/L #	40
64)	Bromoform	0.000		0	N.D.	
65)	Isopropylbenzene	11.226	105	127	0.02 ug/L	53
68)	Bromobenzene	11.525	156	13	0.01 ug/L #	50
69)	n-Propylbenzene	11.550	91	256	0.04 ug/L	79
70)	1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71)	2-Chlorotoluene	0.000		0	N.D.	
72)	1,3,5-Trimethylbenzene	11.696	105	138	0.03 ug/L #	54
73)	1,2,3-Trichloropropane	0.000		0	N.D.	
74)	t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75)	4-Chlorotoluene	11.806	91	224	0.05 ug/L #	46
76)	tert-Butylbenzene	11.934	91	47	0.02 ug/L #	83
77)	1,2,4-Trimethylbenzene	11.988	105	218	0.05 ug/L	89
78)	sec-Butylbenzene	12.068	105	176	0.03 ug/L	69
79)	4-Isopropyltoluene	12.165	119	187	0.04 ug/L	85
80)	1,3-Dichlorobenzene	12.245	146	165	0.05 ug/L	88
81)	1,4-Dichlorobenzene	12.305	146	236	0.07 ug/L #	1
82)	n-Butylbenzene	12.488	91	241	0.06 ug/L	80
83)	1,2-Dichlorobenzene	12.635	146	47	0.02 ug/L #	24
84)	1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85)	Hexachlorobutadiene	0.000		0	N.D.	
86)	1,2,4-Trichlorobenzene	13.878	180	116	0.07 ug/L #	50
87)	Naphthalene	14.208	128	132	0.03 ug/L	79
88)	1,2,3-Trichlorobenzene	14.397	180	12	0.01 ug/L	72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	90656	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	236171	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	99907	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	89360	49.84 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	295069	49.87 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	329651	50.66 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91308	51.05 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	1.997	50	233	0.14 ug/L #	50
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	2.557	96	10	0.01 ug/L #	35
6) Chloroethane	2.746	64	72	Below Cal #	47
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Ethanol	3.630	45	10	0.20 ug/L #	29
9) 1,1-Dichloroethene	0.000		0	N.D.	
10) Carbon Disulfide	3.594	76	202	0.07 ug/L	78
11) Freon 113	3.649	101	10	0.01 ug/L #	16
12) Iodomethane	3.758	142	155	0.09 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.331	84	3001	1.64 ug/L	98
15) Acetone	4.411	43	1550	1.48 ug/L	94
16) t-1,2-Dichloroethene	4.520	61	10	0.00 ug/L #	22
17) n-Hexane	4.630	86	10	0.04 ug/L #	77
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	0.000		0	N.D.	
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	0.000		0	N.D.	
22) Acrylonitrile	0.000		0	N.D.	
23) Vinyl Acetate	0.000		0	N.D.	
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	0.000		0	N.D.	
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	0.000		0	N.D.	
28) Chloroform	0.000		0	N.D.	
29) Carbon Tetrachloride	0.000		0	N.D.	
30) Tetrahydrofuran	6.288	42	10	0.01 ug/L	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.	
33) 1,1-Dichloropropene	0.000		0	N.D.	
34) 2-Butanone (MEK)	6.508	43	10	0.01 ug/L	52
35) Benzene	6.770	78	104	0.01 ug/L	56
36) tert-Amyl methyl ether...	6.868	73	119	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
38) iso-Butyl Alcohol	7.063	43	19	0.12 ug/L #	22
40) Trichloroethene (TCE)	0.000		0	N.D.	
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

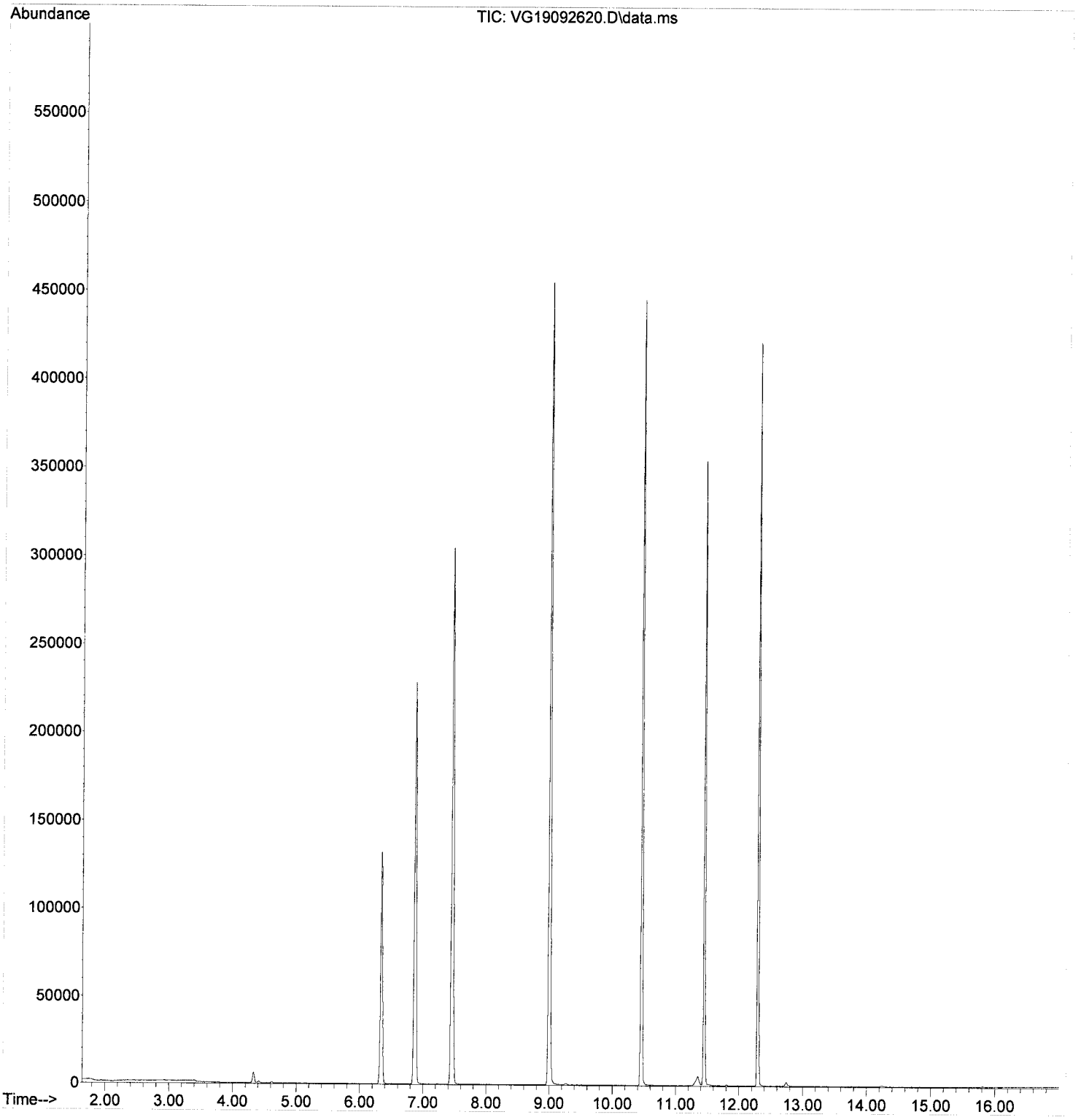
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49)	Toluene	9.050	91	168	0.02 ug/L	90
50)	Tetrachloroethene (PCE)	9.434	166	75	0.04 ug/L #	24
51)	4-Methyl-2-Pentanone (...	0.000		0	N.D.	
52)	t-1,3-Dichloropropene	0.000		0	N.D.	
53)	1,1,2-Trichloroethane	0.000		0	N.D.	
54)	Dibromochloromethane	0.000		0	N.D.	
55)	1,3-Dichloropropane	0.000		0	N.D.	
56)	1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57)	2-Hexanone	10.178	43	19	0.01 ug/L #	32
58)	Chlorobenzene	10.470	112	52	0.01 ug/L #	1
59)	Ethylbenzene	10.501	91	148	0.02 ug/L	86
60)	1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61)	m,p-Xylenes (2)	10.623	91	234	0.04 ug/L	88
62)	o-Xylene	10.976	91	43	0.01 ug/L	92
63)	Styrene	0.000		0	N.D.	
64)	Bromoform	0.000		0	N.D.	
65)	Isopropylbenzene	11.226	105	89	0.01 ug/L	80
68)	Bromobenzene	11.446	156	10	0.01 ug/L #	1
69)	n-Propylbenzene	11.550	91	198	0.03 ug/L	56
70)	1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71)	2-Chlorotoluene	0.000		0	N.D.	
72)	1,3,5-Trimethylbenzene	11.696	105	101	0.02 ug/L	82
73)	1,2,3-Trichloropropane	0.000		0	N.D.	
74)	t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75)	4-Chlorotoluene	11.806	91	148	0.03 ug/L	81
76)	tert-Butylbenzene	11.946	91	20	0.01 ug/L #	1
77)	1,2,4-Trimethylbenzene	11.988	105	130	0.03 ug/L	93
78)	sec-Butylbenzene	12.068	105	127	0.03 ug/L	58
79)	4-Isopropyltoluene	12.165	119	129	0.03 ug/L	51
80)	1,3-Dichlorobenzene	12.245	146	100	0.03 ug/L #	72
81)	1,4-Dichlorobenzene	12.305	146	183	0.06 ug/L #	1
82)	n-Butylbenzene	12.494	91	178	0.05 ug/L	70
83)	1,2-Dichlorobenzene	12.635	146	81	0.03 ug/L #	24
84)	1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85)	Hexachlorobutadiene	0.000		0	N.D.	
86)	1,2,4-Trichlorobenzene	13.872	180	11	0.01 ug/L #	11
87)	Naphthalene	14.208	128	98	0.02 ug/L	79
88)	1,2,3-Trichlorobenzene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:22:03 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	97629	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259392	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111263	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93504	45.36 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	320302	47.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	358933	51.00 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	102373	52.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D. d	
3) Chloromethane	1.997	50	348	0.17 ug/L	90
4) Vinyl Chloride	2.118	62	186	0.10 ug/L	74
5) Bromomethane	2.557	96	151	0.17 ug/L	70
6) Chloroethane	2.734	64	138	Below Cal #	48
7) Trichlorofluoromethane	2.935	101	158	0.07 ug/L	72
8) Ethanol	3.636	45	386	8.26 ug/L	79
9) 1,1-Dichloroethene	3.600	61	278	0.12 ug/L	95
10) Carbon Disulfide	3.594	76	521	0.14 ug/L	78
11) Freon 113	3.661	101	204	0.10 ug/L	77
12) Iodomethane	3.764	142	240	1.56 ug/L #	47
13) Acrolein	0.000		0	N.D. d	
14) Methylene Chloride	4.325	84	5037	0.62 ug/L	99
15) Acetone	4.411	43	1919	1.89 ug/L	86
16) t-1,2-Dichloroethene	4.514	61	245	0.10 ug/L	86
17) n-Hexane	4.612	86	23	0.09 ug/L #	85
18) Methyl-tert-butyl-ether	0.000		0	N.D. d	
19) tert-Butanol (TBA)	4.831	59	2003	5.82 ug/L #	43
20) Diisopropyl ether (DIPE)	0.000		0	N.D. d	
21) 1,1-Dichloroethane	5.228	63	277	0.09 ug/L	84
22) Acrylonitrile	0.000		0	N.D. d	
23) Vinyl Acetate	0.000		0	N.D. d	
24) Ethyl-tert-butyl ether...	0.000		0	N.D. d	
25) c-1,2-Dichloroethene	5.825	61	248	0.10 ug/L	89
26) 2,2-Dichloropropane	5.941	77	98	0.07 ug/L #	49
27) Bromochloromethane	6.045	49	185	0.12 ug/L	74
28) Chloroform	6.142	83	320	0.09 ug/L	96
29) Carbon Tetrachloride	6.282	117	140	0.08 ug/L #	41
30) Tetrahydrofuran	0.000		0	N.D. d	
31) 1,1,1-Trichloroethane	6.349	97	183	0.08 ug/L #	58
33) 1,1-Dichloropropene	6.490	75	274	0.12 ug/L #	73
34) 2-Butanone (MEK)	0.000		0	N.D. d	
35) Benzene	6.770	78	970	0.12 ug/L	91
36) tert-Amyl methyl ether...	0.000		0	N.D. d	
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D. d	
38) iso-Butyl Alcohol	7.063	43	342	2.30 ug/L	91
40) Trichloroethene (TCE)	7.416	130	248	0.12 ug/L	92
41) tert-Amyl ethyl ether ...	0.000		0	N.D. d	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	8.008	63	159	0.08 ug/L	87
44) Bromodichloromethane	0.000		0	N.D. d	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D. d	
47) c-1,3-Dichloropropene	8.806	75	171	0.09 ug/L #	60

9/30/19 MM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:22:03 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	963	0.12 ug/L	97
50) Tetrachloroethene (PCE)	9.446	166	310	0.15 ug/L	84
51) 4-Methyl-2-Pentanone (...	9.452	43	436	0.19 ug/L	88
52) t-1,3-Dichloropropene	0.000		0	N.D. d	
53) 1,1,2-Trichloroethane	9.629	97	170	0.09 ug/L #	57
54) Dibromochloromethane	0.000		0	N.D. d	
55) 1,3-Dichloropropane	9.891	76	282	0.10 ug/L	95
56) 1,2-Dibromoethane (EDB)	10.013	107	150	0.08 ug/L	97
57) 2-Hexanone	10.221	43	257	0.15 ug/L	83
58) Chlorobenzene	10.470	112	587	0.11 ug/L #	1
59) Ethylbenzene	10.495	91	839	0.11 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.525	131	74	0.06 ug/L	78
61) m,p-Xylenes (2)	10.623	91	1282	0.33 ug/L	91
62) o-Xylene	10.976	91	582	0.19 ug/L	88
63) Styrene	11.025	104	359	0.19 ug/L	84
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.220	105	650	0.19 ug/L	94
68) Bromobenzene	11.531	156	222	0.11 ug/L	88
69) n-Propylbenzene	11.550	91	803	0.12 ug/L	96
70) 1,1,2,2-Tetrachloroethane	11.604	83	249	0.09 ug/L	90
71) 2-Chlorotoluene	11.671	126	172	0.11 ug/L #	76
72) 1,3,5-Trimethylbenzene	11.696	105	529	0.13 ug/L	96
73) 1,2,3-Trichloropropane	11.720	110	67	0.08 ug/L #	37
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	577	0.14 ug/L	95
76) tert-Butylbenzene	11.934	91	299	0.13 ug/L #	76
77) 1,2,4-Trimethylbenzene	11.988	105	545	0.13 ug/L	88
78) sec-Butylbenzene	12.068	105	615	0.12 ug/L	95
79) 4-Isopropyltoluene	12.165	119	543	0.14 ug/L	93
80) 1,3-Dichlorobenzene	12.245	146	388	0.12 ug/L	88
81) 1,4-Dichlorobenzene	12.306	146	512	0.15 ug/L #	32
82) n-Butylbenzene	12.488	91	507	0.15 ug/L	87
83) 1,2-Dichlorobenzene	12.641	146	305	0.10 ug/L	78
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D. d	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	245	0.16 ug/L #	69
87) Naphthalene	0.000		0	N.D. d	
88) 1,2,3-Trichlorobenzene	14.403	180	142	0.10 ug/L	71

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	97629	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259392	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111263	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93504	45.86 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	320302	47.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	358933	51.00 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	102373	52.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	118	~~0.08 ug/L #~~	~~51~~
3) Chloromethane	1.997	50	348	0.17 ug/L	90
4) Vinyl Chloride	2.118	62	186	0.10 ug/L	74
5) Bromomethane	2.557	96	151	0.17 ug/L	70
6) Chloroethane	2.734	64	138	Below Cal #	48
7) Trichlorofluoromethane	2.935	101	158	0.07 ug/L	72
8) Ethanol	3.636	45	386	8.26 ug/L	79
9) 1,1-Dichloroethene	3.600	61	278	0.12 ug/L	95
10) Carbon Disulfide	3.594	76	521	0.14 ug/L	78
11) Freon 113	3.661	101	204	0.10 ug/L	77
12) Iodomethane	3.764	142	240	1.56 ug/L #	47
13) Acrolein	4.039	56	10	~~0.02 ug/L #~~	~~23~~
14) Methylene Chloride	4.325	84	5037	0.62 ug/L	99
15) Acetone	4.411	43	1919	1.89 ug/L	86
16) t-1,2-Dichloroethene	4.514	61	245	0.10 ug/L	86
17) n-Hexane	4.612	86	23	0.09 ug/L #	85
18) Methyl-tert-butyl-ether	4.673	73	450	~~0.10 ug/L~~	~~87~~
19) tert-Butanol (TBA)	4.831	59	2003	5.82 ug/L #	43
20) Diisopropyl ether (DIPE)	5.118	45	80	~~0.02 ug/L #~~	~~33~~
21) 1,1-Dichloroethane	5.228	63	277	0.09 ug/L	84
22) Acrylonitrile	5.289	53	10	~~0.01 ug/L #~~	~~14~~
23) Vinyl Acetate	5.551	43	128	~~0.05 ug/L~~	~~74~~
24) Ethyl-tert-butyl ether...	5.514	59	11	~~0.00 ug/L #~~	~~38~~
25) c-1,2-Dichloroethene	5.825	61	248	0.10 ug/L	89
26) 2,2-Dichloropropane	5.941	77	98	0.07 ug/L #	49
27) Bromochloromethane	6.045	49	185	0.12 ug/L	74
28) Chloroform	6.142	83	320	0.09 ug/L	96
29) Carbon Tetrachloride	6.282	117	140	0.08 ug/L #	41
30) Tetrahydrofuran	6.325	42	130	~~0.13 ug/L #~~	~~30~~
31) 1,1,1-Trichloroethane	6.349	97	183	0.08 ug/L #	58
33) 1,1-Dichloropropene	6.490	75	274	0.12 ug/L #	73
34) 2-Butanone (MEK)	6.502	43	362	~~0.24 ug/L~~	~~52~~
35) Benzene	6.770	78	970	0.12 ug/L	91
36) tert-Amyl methyl ether...	6.874	73	181	~~0.04 ug/L #~~	~~1~~
37) 1,2-Dichloroethane (EDC)	6.989	62	233	~~0.09 ug/L #~~	~~49~~
38) iso-Butyl Alcohol	7.063	43	342	2.30 ug/L	91
40) Trichloroethene (TCE)	7.416	130	248	0.12 ug/L	92
41) tert-Amyl ethyl ether ...	7.709	59	11	~~0.00 ug/L #~~	~~21~~
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	8.008	63	159	0.08 ug/L	87
44) Bromodichloromethane	8.069	83	28	~~0.01 ug/L~~	~~94~~
46) 2-Chloroethyl Vinyl Ether	8.751	63	60	~~0.41 ug/L #~~	~~1~~
47) c-1,3-Dichloropropene	8.806	75	171	0.09 ug/L #	60

9/30/19 MM

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

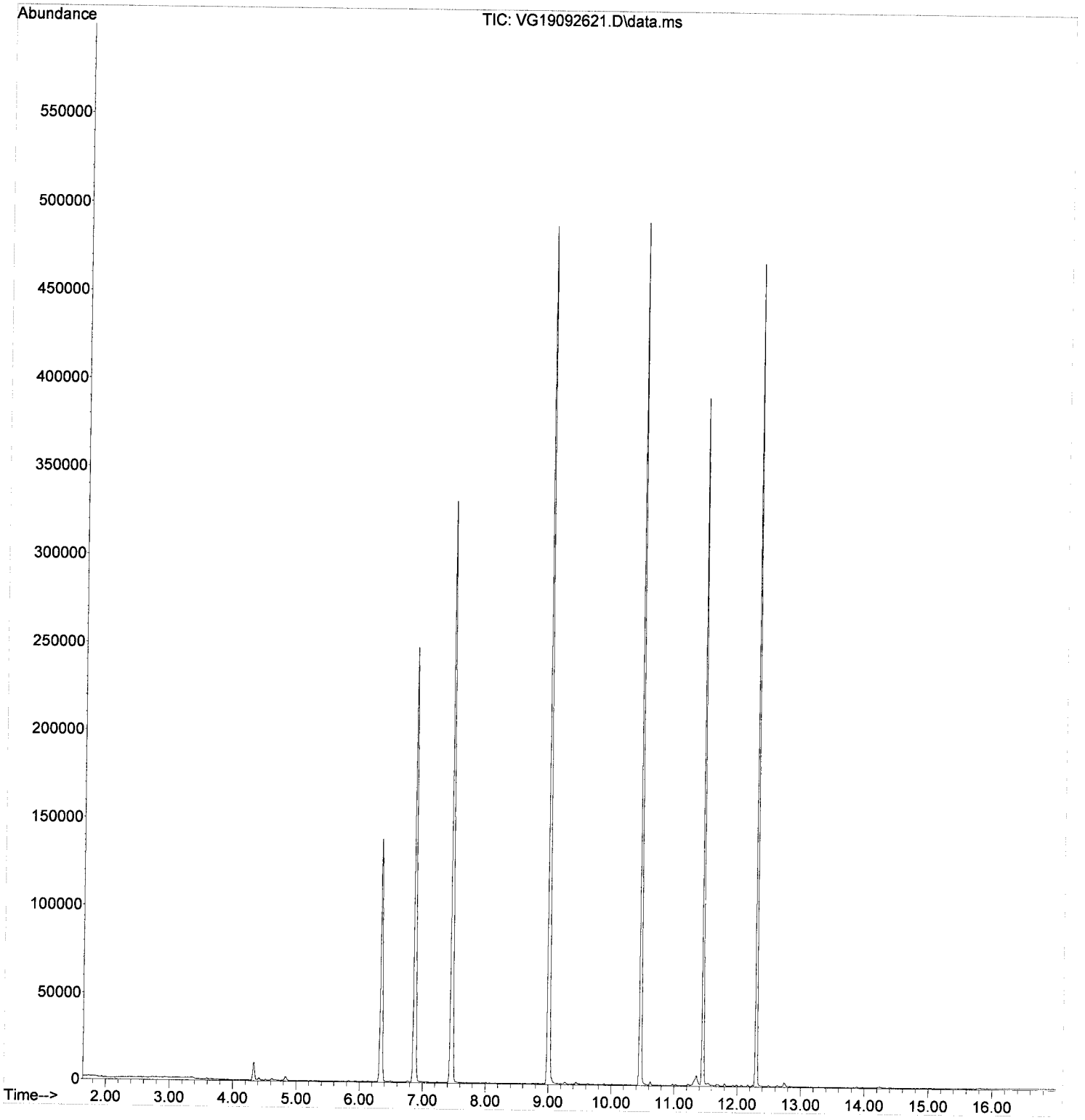
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	963	0.12	ug/L		97
50) Tetrachloroethene (PCE)	9.446	166	310	0.15	ug/L		84
51) 4-Methyl-2-Pentanone (...	9.452	43	436	0.19	ug/L		88
52) t-1,3-Dichloropropene	9.489	75	107	0.25	ug/L	#	45
53) 1,1,2-Trichloroethane	9.629	97	170	0.09	ug/L	#	57
54) Dibromochloromethane	9.806	129	52	0.04	ug/L	#	17
55) 1,3-Dichloropropane	9.891	76	282	0.10	ug/L		95
56) 1,2-Dibromoethane (EDB)	10.013	107	150	0.08	ug/L		97
57) 2-Hexanone	10.221	43	257	0.15	ug/L		83
58) Chlorobenzene	10.470	112	587	0.11	ug/L	#	1
59) Ethylbenzene	10.495	91	839	0.11	ug/L		96
60) 1,1,1,2-Tetrachloroethane	10.525	131	74	0.06	ug/L		78
61) m,p-Xylenes (2)	10.623	91	1282	0.33	ug/L		91
62) o-Xylene	10.976	91	582	0.19	ug/L		88
63) Styrene	11.025	104	359	0.19	ug/L		84
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	11.220	105	650	0.19	ug/L		94
68) Bromobenzene	11.531	156	222	0.11	ug/L		88
69) n-Propylbenzene	11.550	91	803	0.12	ug/L		96
70) 1,1,2,2-Tetrachloroethane	11.604	83	249	0.09	ug/L		90
71) 2-Chlorotoluene	11.671	126	172	0.11	ug/L	#	76
72) 1,3,5-Trimethylbenzene	11.696	105	529	0.13	ug/L		96
73) 1,2,3-Trichloropropane	11.720	110	67	0.08	ug/L	#	37
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.800	91	577	0.14	ug/L		95
76) tert-Butylbenzene	11.934	91	299	0.13	ug/L	#	76
77) 1,2,4-Trimethylbenzene	11.988	105	545	0.13	ug/L		88
78) sec-Butylbenzene	12.068	105	615	0.12	ug/L		95
79) 4-Isopropyltoluene	12.165	119	543	0.14	ug/L		93
80) 1,3-Dichlorobenzene	12.245	146	388	0.12	ug/L		88
81) 1,4-Dichlorobenzene	12.306	146	512	0.15	ug/L	#	32
82) n-Butylbenzene	12.488	91	507	0.15	ug/L		87
83) 1,2-Dichlorobenzene	12.641	146	305	0.10	ug/L		78
84) 1,2-Dibromo-3-Chloropr...	13.281	157	10	0.02	ug/L	#	23
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.878	180	245	0.16	ug/L	#	69
87) Naphthalene	14.208	128	436	0.88	ug/L		79
88) 1,2,3-Trichlorobenzene	14.403	180	142	0.10	ug/L		71

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:31:30 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19mm

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	89211	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	237439	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	100676	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	86275	45.80	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	291734	47.67	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	329271	51.11	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91087	51.59	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.728	85	199	0.16	ug/L	84
3) Chloromethane	1.996	50	558	0.30	ug/L	90
4) Vinyl Chloride	2.118	62	339	0.20	ug/L	88
5) Bromomethane	2.551	96	214	0.26	ug/L	86
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	2.923	101	338	0.17	ug/L	88
8) Ethanol	3.636	45	635	14.86	ug/L	91
9) 1,1-Dichloroethene	3.600	61	454	0.21	ug/L	87
10) Carbon Disulfide	3.594	76	701	0.21	ug/L	78
11) Freon 113	3.667	101	347	0.19	ug/L	83
12) Iodomethane	3.758	142	304	1.76	ug/L	89
13) Acrolein	0.000		0	N.D.	d	
14) Methylene Chloride	4.325	84	4360	0.47	ug/L	97
15) Acetone	4.411	43	1975	2.12	ug/L	100
16) t-1,2-Dichloroethene	4.514	61	545	0.25	ug/L	95
17) n-Hexane	4.606	86	10	0.05	ug/L #	54
18) Methyl-tert-butyl-ether	4.673	73	931	0.23	ug/L	97
19) tert-Butanol (TBA)	4.831	59	3781	12.03	ug/L #	48
20) Diisopropyl ether (DIPE)	5.124	45	257	0.06	ug/L	71
21) 1,1-Dichloroethane	5.228	63	658	0.22	ug/L	92
22) Acrylonitrile	5.301	53	217	0.20	ug/L	78
23) Vinyl Acetate	5.551	43	319	0.13	ug/L	71
24) Ethyl-tert-butyl ether...	5.526	59	167	0.05	ug/L	84
25) c-1,2-Dichloroethene	5.837	61	534	0.25	ug/L	92
26) 2,2-Dichloropropane	5.941	77	269	0.20	ug/L #	35
27) Bromochloromethane	6.051	49	305	0.21	ug/L	85
28) Chloroform	6.142	83	602	0.19	ug/L	98
29) Carbon Tetrachloride	6.282	117	191	0.12	ug/L	75
30) Tetrahydrofuran	6.319	42	235	0.26	ug/L	84
31) 1,1,1-Trichloroethane	6.349	97	380	0.19	ug/L	93
33) 1,1-Dichloropropene	6.483	75	496	0.24	ug/L	91
34) 2-Butanone (MEK)	6.502	43	676	0.49	ug/L	94
35) Benzene	6.764	78	1691	0.24	ug/L	99
36) tert-Amyl methyl ether...	0.000		0	N.D.	d	
37) 1,2-Dichloroethane (EDC)	6.996	62	462	0.20	ug/L	88
38) iso-Butyl Alcohol	7.056	43	680	5.00	ug/L	81
40) Trichloroethene (TCE)	7.416	130	388	0.20	ug/L	86
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	d	
42) Dibromomethane	7.898	93	156	0.14	ug/L	82
43) 1,2-Dichloropropane	8.001	63	413	0.22	ug/L	86
44) Bromodichloromethane	8.087	83	272	0.16	ug/L	91
46) 2-Chloroethyl Vinyl Ether	8.757	63	187	0.55	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	356	0.20	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:31:30 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1693	0.23 ug/L	91
50) Tetrachloroethene (PCE)	9.446	166	470	0.25 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.446	43	955	0.46 ug/L	89
52) t-1,3-Dichloropropene	9.483	75	271	0.34 ug/L #	45
53) 1,1,2-Trichloroethane	9.629	97	360	0.21 ug/L	93
54) Dibromochloromethane	9.794	129	160	0.12 ug/L	91
55) 1,3-Dichloropropane	9.891	76	596	0.22 ug/L	89
56) 1,2-Dibromoethane (EDB)	10.013	107	287	0.17 ug/L	89
57) 2-Hexanone	10.220	43	619	0.40 ug/L	93
58) Chlorobenzene	10.470	112	1065	0.22 ug/L #	61
59) Ethylbenzene	10.495	91	1572	0.22 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.531	131	211	0.18 ug/L #	75
61) m,p-Xylenes (2)	10.617	91	2204	0.53 ug/L	94
62) o-Xylene	10.976	91	1046	0.29 ug/L	94
63) Styrene	11.019	104	681	0.27 ug/L	96
64) Bromoform	0.000		0	N.D. d	
65) Isopropylbenzene	11.226	105	1203	0.29 ug/L	99
68) Bromobenzene	11.531	156	397	0.21 ug/L	88
69) n-Propylbenzene	11.550	91	1379	0.23 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	480	0.19 ug/L	86
71) 2-Chlorotoluene	11.671	126	280	0.20 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	929	0.24 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	119	0.16 ug/L	93
74) t-1,4-Dichloro-2-butene	11.745	88	10	0.42 ug/L #	39
75) 4-Chlorotoluene	11.799	91	886	0.24 ug/L	92
76) tert-Butylbenzene	11.934	91	511	0.25 ug/L	87
77) 1,2,4-Trimethylbenzene	11.988	105	917	0.23 ug/L	94
78) sec-Butylbenzene	12.068	105	991	0.21 ug/L	98
79) 4-Isopropyltoluene	12.165	119	839	0.25 ug/L	96
80) 1,3-Dichlorobenzene	12.245	146	604	0.21 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	794	0.26 ug/L #	73
82) n-Butylbenzene	12.488	91	735	0.24 ug/L	85
83) 1,2-Dichlorobenzene	12.635	146	595	0.22 ug/L	91
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D. d	
85) Hexachlorobutadiene	0.000		0	N.D. d	
86) 1,2,4-Trichlorobenzene	13.878	180	329	0.24 ug/L	89
87) Naphthalene	0.000		0	N.D. d	
88) 1,2,3-Trichlorobenzene	14.397	180	270	0.21 ug/L	73

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	89211	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	237439	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	100676	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	86275	45.80 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	291734	47.67 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	329271	51.11 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91087	51.59 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	199	0.16 ug/L	84
3) Chloromethane	1.996	50	558	0.30 ug/L	90
4) Vinyl Chloride	2.118	62	339	0.20 ug/L	88
5) Bromomethane	2.551	96	214	0.26 ug/L	86
6) Chloroethane	2.740	64	~~250~~	~~Below Cal~~	~~70~~
7) Trichlorofluoromethane	2.923	101	338	0.17 ug/L	88
8) Ethanol	3.636	45	635	14.86 ug/L	91
9) 1,1-Dichloroethene	3.600	61	454	0.21 ug/L	87
10) Carbon Disulfide	3.594	76	701	0.21 ug/L	78
11) Freon 113	3.667	101	347	0.19 ug/L	83
12) Iodomethane	3.758	142	304	1.76 ug/L	89
13) Acrolein	4.027	56	~~29~~	~~0.06 ug/L #~~	~~23~~
14) Methylene Chloride	4.325	84	4360	0.47 ug/L	97
15) Acetone	4.411	43	1975	2.12 ug/L	100
16) t-1,2-Dichloroethene	4.514	61	545	0.25 ug/L	95
17) n-Hexane	4.606	86	10	0.05 ug/L #	54
18) Methyl-tert-butyl-ether	4.673	73	931	0.23 ug/L	97
19) tert-Butanol (TBA)	4.831	59	3781	12.03 ug/L #	48
20) Diisopropyl ether (DIPE)	5.124	45	257	0.06 ug/L	71
21) 1,1-Dichloroethane	5.228	63	658	0.22 ug/L	92
22) Acrylonitrile	5.301	53	217	0.20 ug/L	78
23) Vinyl Acetate	5.551	43	319	0.13 ug/L	71
24) Ethyl-tert-butyl ether...	5.526	59	167	0.05 ug/L	84
25) c-1,2-Dichloroethene	5.837	61	534	0.25 ug/L	92
26) 2,2-Dichloropropane	5.941	77	269	0.20 ug/L #	35
27) Bromochloromethane	6.051	49	305	0.21 ug/L	85
28) Chloroform	6.142	83	602	0.19 ug/L	98
29) Carbon Tetrachloride	6.282	117	191	0.12 ug/L	75
30) Tetrahydrofuran	6.319	42	235	0.26 ug/L	84
31) 1,1,1-Trichloroethane	6.349	97	380	0.19 ug/L	93
33) 1,1-Dichloropropene	6.483	75	496	0.24 ug/L	91
34) 2-Butanone (MEK)	6.502	43	676	0.49 ug/L	94
35) Benzene	6.764	78	1691	0.24 ug/L	99
36) tert-Amyl methyl ether...	6.898	73	~~292~~	~~0.08 ug/L #~~	~~1~~
37) 1,2-Dichloroethane (EDC)	6.996	62	462	0.20 ug/L	88
38) iso-Butyl Alcohol	7.056	43	680	5.00 ug/L	81
40) Trichloroethene (TCE)	7.416	130	388	0.20 ug/L	86
41) tert-Amyl ethyl ether ...	7.703	59	~~94~~	~~0.04 ug/L #~~	~~49~~
42) Dibromomethane	7.898	93	156	0.14 ug/L	82
43) 1,2-Dichloropropane	8.001	63	413	0.22 ug/L	86
44) Bromodichloromethane	8.087	83	272	0.15 ug/L	91
46) 2-Chloroethyl Vinyl Ether	8.757	63	187	0.55 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	356	0.20 ug/L	91

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

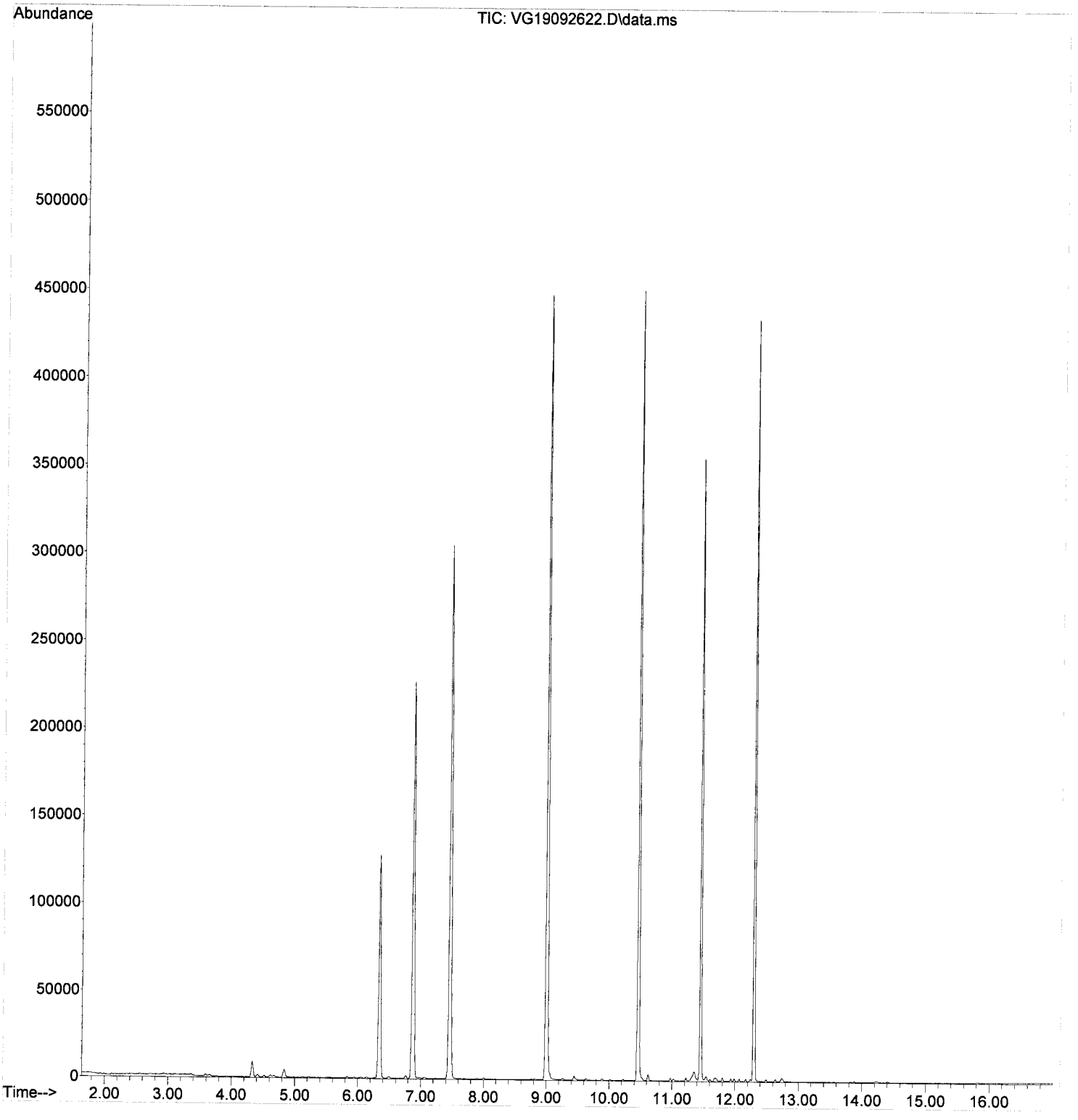
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1693	0.23 ug/L	91
50) Tetrachloroethene (PCE)	9.446	166	470	0.25 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.446	43	955	0.46 ug/L	89
52) t-1,3-Dichloropropene	9.483	75	271	0.34 ug/L #	45
53) 1,1,2-Trichloroethane	9.629	97	360	0.21 ug/L	93
54) Dibromochloromethane	9.794	129	160	0.12 ug/L	91
55) 1,3-Dichloropropane	9.891	76	596	0.22 ug/L	89
56) 1,2-Dibromoethane (EDB)	10.013	107	287	0.17 ug/L	89
57) 2-Hexanone	10.220	43	619	0.40 ug/L	93
58) Chlorobenzene	10.470	112	1065	0.22 ug/L #	61
59) Ethylbenzene	10.495	91	1572	0.22 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.531	131	211	0.18 ug/L #	75
61) m,p-Xylenes (2)	10.617	91	2204	0.53 ug/L	94
62) o-Xylene	10.976	91	1046	0.29 ug/L	94
63) Styrene	11.019	104	681	0.27 ug/L	96
64) Bromoform	11.037	173	91	0.39 ug/L #	37
65) Isopropylbenzene	11.226	105	1203	0.29 ug/L	99
68) Bromobenzene	11.531	156	397	0.21 ug/L	88
69) n-Propylbenzene	11.550	91	1379	0.23 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	480	0.19 ug/L	86
71) 2-Chlorotoluene	11.671	126	280	0.20 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	929	0.24 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	119	0.16 ug/L	93
74) t-1,4-Dichloro-2-butene	11.745	88	10	0.42 ug/L #	39
75) 4-Chlorotoluene	11.799	91	886	0.24 ug/L	92
76) tert-Butylbenzene	11.934	91	511	0.25 ug/L	87
77) 1,2,4-Trimethylbenzene	11.988	105	917	0.23 ug/L	94
78) sec-Butylbenzene	12.068	105	991	0.21 ug/L	98
79) 4-Isopropyltoluene	12.165	119	839	0.25 ug/L	96
80) 1,3-Dichlorobenzene	12.245	146	604	0.21 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	794	0.26 ug/L #	73
82) n-Butylbenzene	12.488	91	735	0.24 ug/L	85
83) 1,2-Dichlorobenzene	12.635	146	595	0.22 ug/L	91
84) 1,2-Dibromo-3-Chloropr...	13.275	157	29	0.07 ug/L #	18
85) Hexachlorobutadiene	13.823	223	19	0.05 ug/L #	46
86) 1,2,4-Trichlorobenzene	13.878	180	329	0.24 ug/L	89
87) Naphthalene	14.208	128	659	0.93 ug/L	79
88) 1,2,3-Trichlorobenzene	14.397	180	270	0.21 ug/L	73

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods~~\VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 [initials]

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	96555	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	256341	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111622	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93900	46.06 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314912	47.54 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	354137	50.91 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99765	50.96 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	332	0.24 ug/L	84
3) Chloromethane	1.997	50	830	0.42 ug/L	96
4) Vinyl Chloride	2.119	62	659	0.36 ug/L	93
5) Bromomethane	2.557	96	398	0.44 ug/L	87
6) Chloroethane	2.740	64	286	Below Cal	92
7) Trichlorofluoromethane	2.929	101	659	0.30 ug/L	97
8) Ethanol	3.636	45	1311	28.35 ug/L	74
9) 1,1-Dichloroethene	3.594	61	984	0.42 ug/L	94
10) Carbon Disulfide	3.594	76	1236	0.34 ug/L	92
11) Freon 113	3.667	101	607	0.30 ug/L	98
12) Iodomethane	3.758	142	539	2.20 ug/L	82
13) Acrolein	4.045	56	151	0.30 ug/L #	64
14) Methylene Chloride	4.331	84	3654	Below Cal	99
15) Acetone	4.411	43	2004	1.99 ug/L	87
16) t-1,2-Dichloroethene	4.514	61	1035	0.44 ug/L	99
17) n-Hexane	4.618	86	109	0.46 ug/L #	39
18) Methyl-tert-butyl-ether	4.673	73	1884	0.43 ug/L	91
19) tert-Butanol (TBA)	4.831	59	8203	24.12 ug/L #	45
20) Diisopropyl ether (DIPE)	5.118	45	543	0.13 ug/L	82
21) 1,1-Dichloroethane	5.222	63	1228	0.39 ug/L	98
22) Acrylonitrile	5.301	53	541	0.46 ug/L	91
23) Vinyl Acetate	5.545	43	578	0.22 ug/L	74
24) Ethyl-tert-butyl ether...	5.520	59	422	0.11 ug/L	81
25) c-1,2-Dichloroethene	5.831	61	1034	0.44 ug/L	96
26) 2,2-Dichloropropane	5.941	77	539	0.37 ug/L	68
27) Bromochloromethane	6.045	49	643	0.41 ug/L	95
28) Chloroform	6.136	83	1282	0.38 ug/L	89
29) Carbon Tetrachloride	6.270	117	509	0.30 ug/L	91
30) Tetrahydrofuran	6.331	42	440	0.46 ug/L	92
31) 1,1,1-Trichloroethane	6.349	97	847	0.38 ug/L	95
33) 1,1-Dichloropropene	6.490	75	932	0.41 ug/L	87
34) 2-Butanone (MEK)	6.496	43	1419	0.94 ug/L	95
35) Benzene	6.764	78	3292	0.43 ug/L	96
36) tert-Amyl methyl ether...	6.904	73	532	0.13 ug/L #	14
37) 1,2-Dichloroethane (EDC)	6.996	62	999	0.41 ug/L	93
38) iso-Butyl Alcohol	7.057	43	1591	10.81 ug/L	81
40) Trichloroethene (TCE)	7.422	130	829	0.40 ug/L	86
41) tert-Amyl ethyl ether ...	7.697	59	236	0.09 ug/L	91
42) Dibromomethane	7.892	93	490	0.41 ug/L	92
43) 1,2-Dichloropropane	8.002	63	771	0.38 ug/L	92
44) Bromodichloromethane	8.081	83	646	0.32 ug/L	93
46) 2-Chloroethyl Vinyl Ether	8.757	63	380	0.72 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	702	0.37 ug/L	98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	3217	0.41 ug/L	91
50) Tetrachloroethene (PCE)	9.440	166	787	0.39 ug/L	97
51) 4-Methyl-2-Pentanone (...	9.446	43	1948	0.87 ug/L	95
52) t-1,3-Dichloropropene	9.483	75	547	0.47 ug/L	96
53) 1,1,2-Trichloroethane	9.629	97	739	0.39 ug/L	86
54) Dibromochloromethane	9.794	129	417	0.30 ug/L	90
55) 1,3-Dichloropropane	9.885	76	1260	0.43 ug/L	96
56) 1,2-Dibromoethane (EDB)	10.013	107	626	0.34 ug/L	98
57) 2-Hexanone	10.221	43	1224	0.73 ug/L	94
58) Chlorobenzene	10.471	112	2071	0.40 ug/L #	69
59) Ethylbenzene	10.495	91	2986	0.39 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.531	131	439	0.35 ug/L	95
61) m,p-Xylenes (2)	10.617	91	4223	0.86 ug/L	99
62) o-Xylene	10.970	91	2140	0.47 ug/L	92
63) Styrene	11.019	104	1435	0.43 ug/L	98
64) Bromoform	11.044	173	210	0.49 ug/L	85
65) Isopropylbenzene	11.220	105	2385	0.45 ug/L	96
68) Bromobenzene	11.531	156	815	0.39 ug/L	85
69) n-Propylbenzene	11.544	91	2740	0.40 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	965	0.34 ug/L	98
71) 2-Chlorotoluene	11.672	126	619	0.41 ug/L	86
72) 1,3,5-Trimethylbenzene	11.690	105	1829	0.43 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	303	0.37 ug/L #	81
74) t-1,4-Dichloro-2-butene	11.739	88	10	0.42 ug/L #	1
75) 4-Chlorotoluene	11.800	91	1795	0.43 ug/L	97
76) tert-Butylbenzene	11.934	91	1033	0.45 ug/L	83
77) 1,2,4-Trimethylbenzene	11.989	105	1971	0.45 ug/L	98
78) sec-Butylbenzene	12.068	105	2017	0.38 ug/L	96
79) 4-Isopropyltoluene	12.165	119	1663	0.44 ug/L	98
80) 1,3-Dichlorobenzene	12.245	146	1282	0.41 ug/L	94
81) 1,4-Dichlorobenzene	12.306	146	1431	0.42 ug/L	78
82) n-Butylbenzene	12.488	91	1516	0.45 ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	1109	0.38 ug/L	96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	71	0.16 ug/L	91
85) Hexachlorobutadiene	13.830	223	146	0.35 ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	642	0.42 ug/L	91
87) Naphthalene	14.202	128	1468	1.07 ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	579	0.41 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 MM

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	96555	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	256341	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111622	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93900	46.06 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314912	47.54 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	354137	50.91 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99765	50.96 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	332	0.24 ug/L	84
3) Chloromethane	1.997	50	830	0.42 ug/L	96
4) Vinyl Chloride	2.119	62	659	0.36 ug/L	93
5) Bromomethane	2.557	96	398	0.44 ug/L	87
6) Chloroethane	2.740	64	286	Below Cal	92
7) Trichlorofluoromethane	2.929	101	659	0.30 ug/L	97
8) Ethanol	3.636	45	1311	28.35 ug/L	74
9) 1,1-Dichloroethene	3.594	61	984	0.42 ug/L	94
10) Carbon Disulfide	3.594	76	1236	0.34 ug/L	92
11) Freon 113	3.667	101	607	0.30 ug/L	98
12) Iodomethane	3.758	142	539	2.20 ug/L	82
13) Acrolein	4.045	56	151	0.30 ug/L #	64
14) Methylene Chloride	4.331	84	3654	Below Cal	99
15) Acetone	4.411	43	2004	1.99 ug/L	87
16) t-1,2-Dichloroethene	4.514	61	1035	0.44 ug/L	99
17) n-Hexane	4.618	86	109	0.46 ug/L #	39
18) Methyl-tert-butyl-ether	4.673	73	1884	0.43 ug/L	91
19) tert-Butanol (TBA)	4.831	59	8203	24.12 ug/L #	45
20) Diisopropyl ether (DIPE)	5.118	45	543	0.13 ug/L	82
21) 1,1-Dichloroethane	5.222	63	1228	0.39 ug/L	98
22) Acrylonitrile	5.301	53	541	0.46 ug/L	91
23) Vinyl Acetate	5.545	43	578	0.22 ug/L	74
24) Ethyl-tert-butyl ether...	5.520	59	422	0.11 ug/L	81
25) c-1,2-Dichloroethene	5.831	61	1034	0.44 ug/L	96
26) 2,2-Dichloropropane	5.941	77	539	0.37 ug/L	68
27) Bromochloromethane	6.045	49	643	0.41 ug/L	95
28) Chloroform	6.136	83	1282	0.38 ug/L	89
29) Carbon Tetrachloride	6.270	117	509	0.30 ug/L	91
30) Tetrahydrofuran	6.331	42	440	0.46 ug/L	92
31) 1,1,1-Trichloroethane	6.349	97	847	0.38 ug/L	95
33) 1,1-Dichloropropene	6.490	75	932	0.41 ug/L	87
34) 2-Butanone (MEK)	6.496	43	1419	0.94 ug/L	95
35) Benzene	6.764	78	3292	0.43 ug/L	96
36) tert-Amyl methyl ether...	6.904	73	532	0.13 ug/L #	14
37) 1,2-Dichloroethane (EDC)	6.996	62	999	0.41 ug/L	93
38) iso-Butyl Alcohol	7.057	43	1591	10.81 ug/L	81
40) Trichloroethene (TCE)	7.422	130	829	0.40 ug/L	86
41) tert-Amyl ethyl ether ...	7.697	59	236	0.09 ug/L	91
42) Dibromomethane	7.892	93	490	0.41 ug/L	92
43) 1,2-Dichloropropane	8.002	63	771	0.38 ug/L	92
44) Bromodichloromethane	8.081	83	646	0.32 ug/L	93
46) 2-Chloroethyl Vinyl Ether	8.757	63	380	0.72 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	702	0.37 ug/L	98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

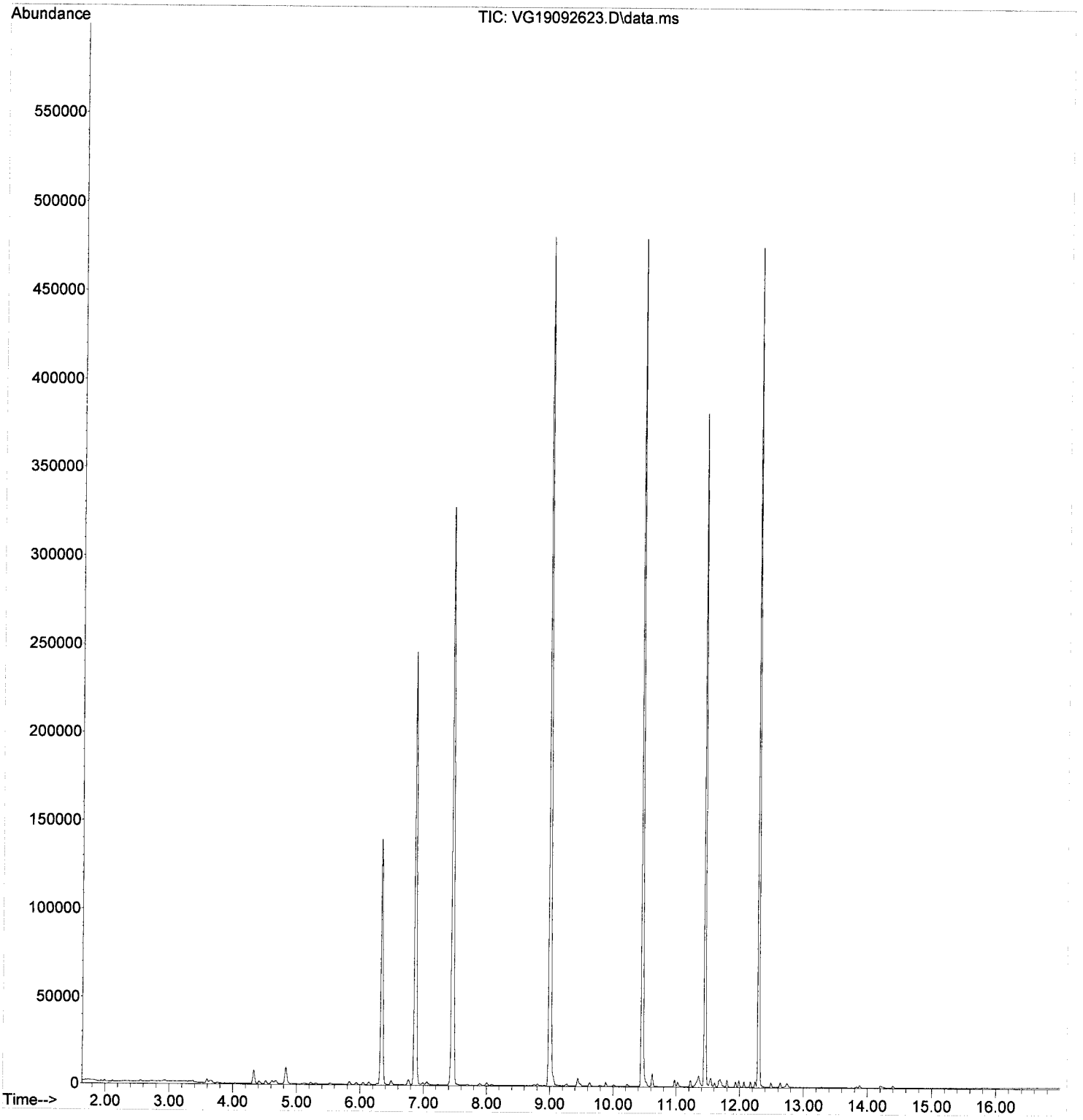
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	3217	0.41 ug/L	91
50) Tetrachloroethene (PCE)	9.440	166	787	0.39 ug/L	97
51) 4-Methyl-2-Pentanone (...	9.446	43	1948	0.87 ug/L	95
52) t-1,3-Dichloropropene	9.483	75	547	0.47 ug/L	96
53) 1,1,2-Trichloroethane	9.629	97	739	0.39 ug/L	86
54) Dibromochloromethane	9.794	129	417	0.30 ug/L	90
55) 1,3-Dichloropropane	9.885	76	1260	0.43 ug/L	96
56) 1,2-Dibromoethane (EDB)	10.013	107	626	0.34 ug/L	98
57) 2-Hexanone	10.221	43	1224	0.73 ug/L	94
58) Chlorobenzene	10.471	112	2071	0.40 ug/L #	69
59) Ethylbenzene	10.495	91	2986	0.39 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.531	131	439	0.35 ug/L	95
61) m,p-Xylenes (2)	10.617	91	4223	0.86 ug/L	99
62) o-Xylene	10.970	91	2140	0.47 ug/L	92
63) Styrene	11.019	104	1435	0.43 ug/L	98
64) Bromoform	11.044	173	210	0.49 ug/L	85
65) Isopropylbenzene	11.220	105	2385	0.45 ug/L	96
68) Bromobenzene	11.531	156	815	0.39 ug/L	85
69) n-Propylbenzene	11.544	91	2740	0.40 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	965	0.34 ug/L	98
71) 2-Chlorotoluene	11.672	126	619	0.41 ug/L	86
72) 1,3,5-Trimethylbenzene	11.690	105	1829	0.43 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	303	0.37 ug/L #	81
74) t-1,4-Dichloro-2-butene	11.739	88	10	0.42 ug/L #	1
75) 4-Chlorotoluene	11.800	91	1795	0.43 ug/L	97
76) tert-Butylbenzene	11.934	91	1033	0.45 ug/L	83
77) 1,2,4-Trimethylbenzene	11.989	105	1971	0.45 ug/L	98
78) sec-Butylbenzene	12.068	105	2017	0.38 ug/L	96
79) 4-Isopropyltoluene	12.165	119	1663	0.44 ug/L	98
80) 1,3-Dichlorobenzene	12.245	146	1282	0.41 ug/L	94
81) 1,4-Dichlorobenzene	12.306	146	1431	0.42 ug/L	78
82) n-Butylbenzene	12.488	91	1516	0.45 ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	1109	0.38 ug/L	96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	71	0.16 ug/L	91
85) Hexachlorobutadiene	13.830	223	146	0.35 ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	642	0.42 ug/L	91
87) Naphthalene	14.202	128	1468	1.07 ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	579	0.41 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 MM

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	99744	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	266167	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	116197	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	94835	45.03	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	323481	47.27	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	366312	50.72	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	104202	51.13	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	997	0.69	ug/L		94
3) Chloromethane	1.997	50	1871	0.91	ug/L		98
4) Vinyl Chloride	2.119	62	1718	0.90	ug/L		93
5) Bromomethane	2.551	96	820	0.88	ug/L		88
6) Chloroethane	2.734	64	505	Below Cal		#	36
7) Trichlorofluoromethane	2.923	101	1896	0.85	ug/L		96
8) Ethanol	3.643	45	3335	69.82	ug/L		79
9) 1,1-Dichloroethene	3.594	61	2543	1.06	ug/L		99
10) Carbon Disulfide	3.594	76	2746	0.73	ug/L		100
11) Freon 113	3.673	101	1697	0.82	ug/L		95
12) Iodomethane	3.758	142	1042	3.19	ug/L		90
13) Acrolein	4.045	56	414	0.80	ug/L		84
14) Methylene Chloride	4.325	84	4845	0.46	ug/L		98
15) Acetone	4.411	43	3337	3.21	ug/L		100
16) t-1,2-Dichloroethene	4.514	61	2564	1.05	ug/L		98
17) n-Hexane	4.618	86	279	1.13	ug/L		95
18) Methyl-tert-butyl-ether	4.673	73	5127	1.14	ug/L		94
19) tert-Butanol (TBA)	4.831	59	22478	63.97	ug/L	#	50
20) Diisopropyl ether (DIPE)	5.118	45	1426	0.32	ug/L		94
21) 1,1-Dichloroethane	5.222	63	3266	0.99	ug/L		93
22) Acrylonitrile	5.301	53	1287	1.07	ug/L		88
23) Vinyl Acetate	5.539	43	1605	0.58	ug/L		91
24) Ethyl-tert-butyl ether...	5.526	59	1196	0.80	ug/L		96
25) c-1,2-Dichloroethene	5.831	61	2900	1.20	ug/L		97
26) 2,2-Dichloropropane	5.941	77	1485	0.98	ug/L	#	55
27) Bromochloromethane	6.051	49	1700	1.06	ug/L		96
28) Chloroform	6.142	83	3343	0.96	ug/L		98
29) Carbon Tetrachloride	6.270	117	1445	0.83	ug/L		97
30) Tetrahydrofuran	6.319	42	1203	1.21	ug/L		94
31) 1,1,1-Trichloroethane	6.349	97	2262	0.99	ug/L		95
33) 1,1-Dichloropropene	6.490	75	2496	1.07	ug/L		96
34) 2-Butanone (MEK)	6.490	43	3599	2.31	ug/L		99
35) Benzene	6.758	78	8398	1.05	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	1161	0.28	ug/L	#	42
37) 1,2-Dichloroethane (EDC)	6.990	62	2739	1.08	ug/L		97
38) iso-Butyl Alcohol	7.057	43	4224	27.78	ug/L		90
40) Trichloroethene (TCE)	7.416	130	2241	1.04	ug/L		95
41) tert-Amyl ethyl ether ...	7.697	59	732	0.27	ug/L		83
42) Dibromomethane	7.892	93	1232	1.00	ug/L		97
43) 1,2-Dichloropropane	8.002	63	2157	1.04	ug/L		98
44) Bromodichloromethane	8.087	83	1723	0.84	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.745	63	1292	1.55	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	2001	1.00	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

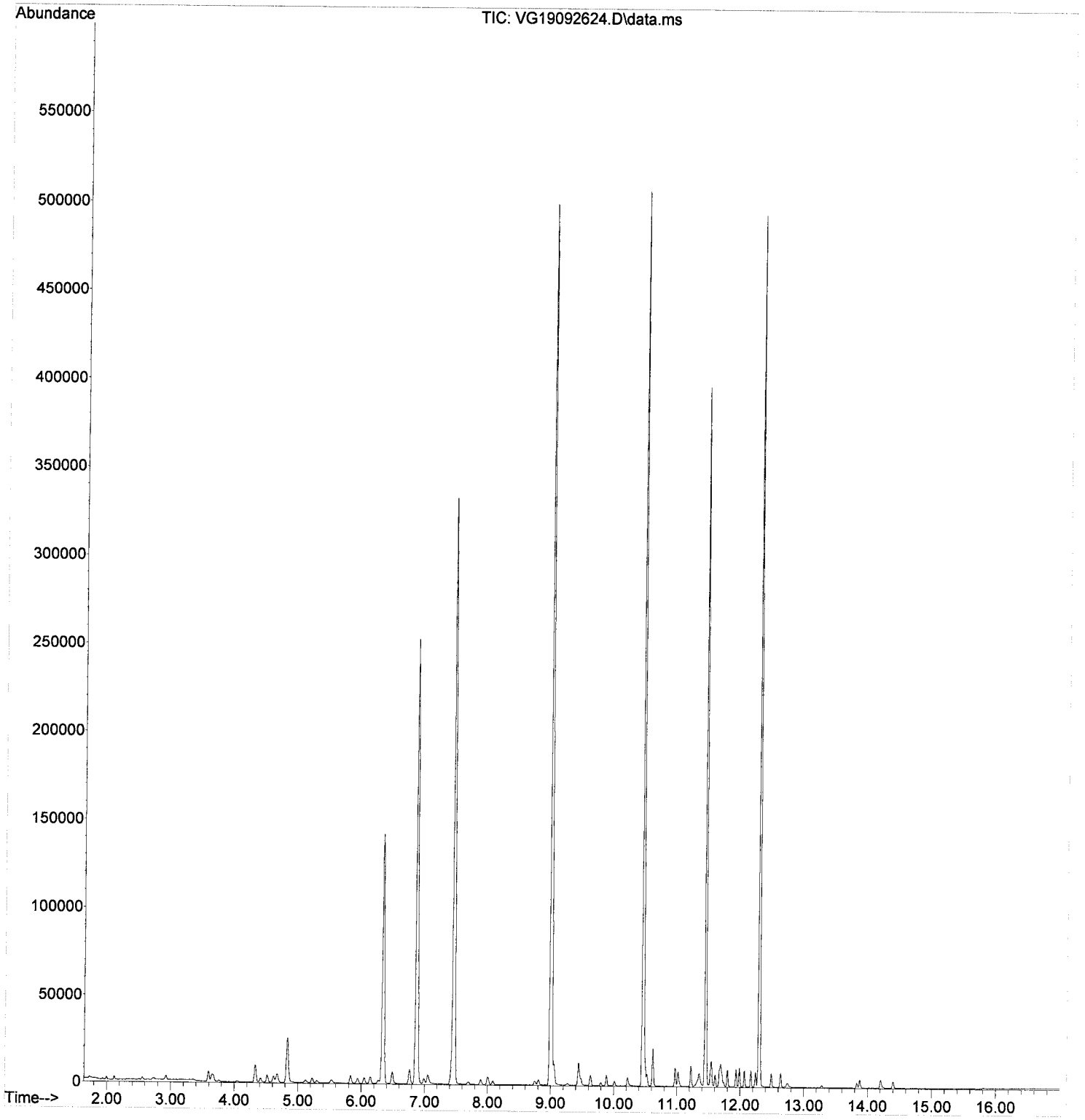
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	8510	1.05	ug/L		100
50) Tetrachloroethene (PCE)	9.440	166	2152	1.03	ug/L		94
51) 4-Methyl-2-Pentanone (...	9.446	43	5746	2.47	ug/L		97
52) t-1,3-Dichloropropene	9.483	75	1611	0.97	ug/L		95
53) 1,1,2-Trichloroethane	9.629	97	2038	1.04	ug/L		95
54) Dibromochloromethane	9.794	129	1077	0.75	ug/L		92
55) 1,3-Dichloropropane	9.885	76	3424	1.13	ug/L		96
56) 1,2-Dibromoethane (EDB)	10.013	107	1907	1.01	ug/L		98
57) 2-Hexanone	10.221	43	3818	2.18	ug/L		98
58) Chlorobenzene	10.471	112	5519	1.02	ug/L		92
59) Ethylbenzene	10.495	91	8732	1.11	ug/L		98
60) 1,1,1,2-Tetrachloroethane	10.525	131	1236	0.94	ug/L		98
61) m,p-Xylenes (2)	10.617	91	11304	2.05	ug/L		98
62) o-Xylene	10.970	91	5733	1.10	ug/L		97
63) Styrene	11.019	104	4008	0.97	ug/L		97
64) Bromoform	11.044	173	671	0.87	ug/L		85
65) Isopropylbenzene	11.220	105	6575	1.04	ug/L		97
68) Bromobenzene	11.531	156	2151	0.99	ug/L		93
69) n-Propylbenzene	11.544	91	7288	1.03	ug/L		94
70) 1,1,2,2-Tetrachloroethane	11.604	83	2692	0.91	ug/L		99
71) 2-Chlorotoluene	11.672	126	1662	1.05	ug/L		96
72) 1,3,5-Trimethylbenzene	11.690	105	5019	1.14	ug/L		97
73) 1,2,3-Trichloropropane	11.708	110	845	1.00	ug/L		95
74) t-1,4-Dichloro-2-butene	11.739	88	127	0.92	ug/L	#	51
75) 4-Chlorotoluene	11.800	91	4814	1.11	ug/L		98
76) tert-Butylbenzene	11.934	91	2804	1.19	ug/L		99
77) 1,2,4-Trimethylbenzene	11.989	105	5459	1.20	ug/L		97
78) sec-Butylbenzene	12.068	105	5736	1.05	ug/L		97
79) 4-Isopropyltoluene	12.165	119	4772	1.22	ug/L		96
80) 1,3-Dichlorobenzene	12.239	146	3201	0.98	ug/L		95
81) 1,4-Dichlorobenzene	12.306	146	3526	0.99	ug/L		91
82) n-Butylbenzene	12.488	91	4162	1.18	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	3202	1.05	ug/L		96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	312	0.69	ug/L	#	73
85) Hexachlorobutadiene	13.836	223	463	1.08	ug/L		90
86) 1,2,4-Trichlorobenzene	13.878	180	1785	1.13	ug/L		96
87) Naphthalene	14.202	128	4456	1.60	ug/L		97
88) 1,2,3-Trichlorobenzene	14.397	180	1637	1.11	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	96729	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259713	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114070	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	91562	44.83	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	309764	46.68	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	355642	50.47	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	102067	51.02	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	1819	1.31	ug/L	97
3) Chloromethane	1.997	50	3271	1.64	ug/L	97
4) Vinyl Chloride	2.118	62	3174	1.72	ug/L	90
5) Bromomethane	2.557	96	1514	1.68	ug/L	98
6) Chloroethane	2.734	64	661	Below	Cal	77
7) Trichlorofluoromethane	2.923	101	3468	1.60	ug/L	97
8) Ethanol	3.649	45	6105	131.79	ug/L	85
9) 1,1-Dichloroethene	3.594	61	4912	2.11	ug/L	99
10) Carbon Disulfide	3.594	76	5204	1.43	ug/L	98
11) Freon 113	3.661	101	3243	1.61	ug/L	96
12) Iodomethane	3.758	142	1916	5.04	ug/L	95
13) Acrolein	4.045	56	797	1.59	ug/L	96
14) Methylene Chloride	4.325	84	6326	1.33	ug/L	99
15) Acetone	4.411	43	5535	5.49	ug/L	93
16) t-1,2-Dichloroethene	4.514	61	4953	2.10	ug/L	99
17) n-Hexane	4.618	86	515	2.15	ug/L #	85
18) Methyl-tert-butyl-ether	4.673	73	9311	2.13	ug/L	94
19) tert-Butanol (TBA)	4.831	59	41156	120.78	ug/L #	55
20) Diisopropyl ether (DIPE)	5.118	45	2807	0.65	ug/L	93
21) 1,1-Dichloroethane	5.222	63	6235	1.96	ug/L	99
22) Acrylonitrile	5.301	53	2497	2.13	ug/L	98
23) Vinyl Acetate	5.539	43	3426	1.28	ug/L	95
24) Ethyl-tert-butyl ether...	5.526	59	2131	0.54	ug/L	90
25) c-1,2-Dichloroethene	5.831	61	5314	2.27	ug/L	99
26) 2,2-Dichloropropane	5.935	77	2845	1.94	ug/L #	68
27) Bromochloromethane	6.045	49	3244	2.08	ug/L	97
28) Chloroform	6.142	83	6362	1.89	ug/L	95
29) Carbon Tetrachloride	6.270	117	2683	1.59	ug/L	98
30) Tetrahydrofuran	6.319	42	2230	2.31	ug/L	99
31) 1,1,1-Trichloroethane	6.343	97	4202	1.90	ug/L	93
33) 1,1-Dichloropropene	6.490	75	4855	2.14	ug/L	98
34) 2-Butanone (MEK)	6.490	43	6651	4.40	ug/L	98
35) Benzene	6.758	78	16033	2.08	ug/L	98
36) tert-Amyl methyl ether...	6.904	73	1931	0.48	ug/L #	61
37) 1,2-Dichloroethane (EDC)	6.989	62	5115	2.09	ug/L	94
38) iso-Butyl Alcohol	7.050	43	7745	52.52	ug/L	91
40) Trichloroethene (TCE)	7.416	130	4121	1.98	ug/L	97
41) tert-Amyl ethyl ether ...	7.697	59	1360	0.51	ug/L	91
42) Dibromomethane	7.892	93	2308	1.94	ug/L	98
43) 1,2-Dichloropropane	8.001	63	4061	2.01	ug/L	96
44) Bromodichloromethane	8.081	83	3209	1.61	ug/L	94
46) 2-Chloroethyl Vinyl Ether	8.745	63	2529	2.75	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	3781	1.94	ug/L	92

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

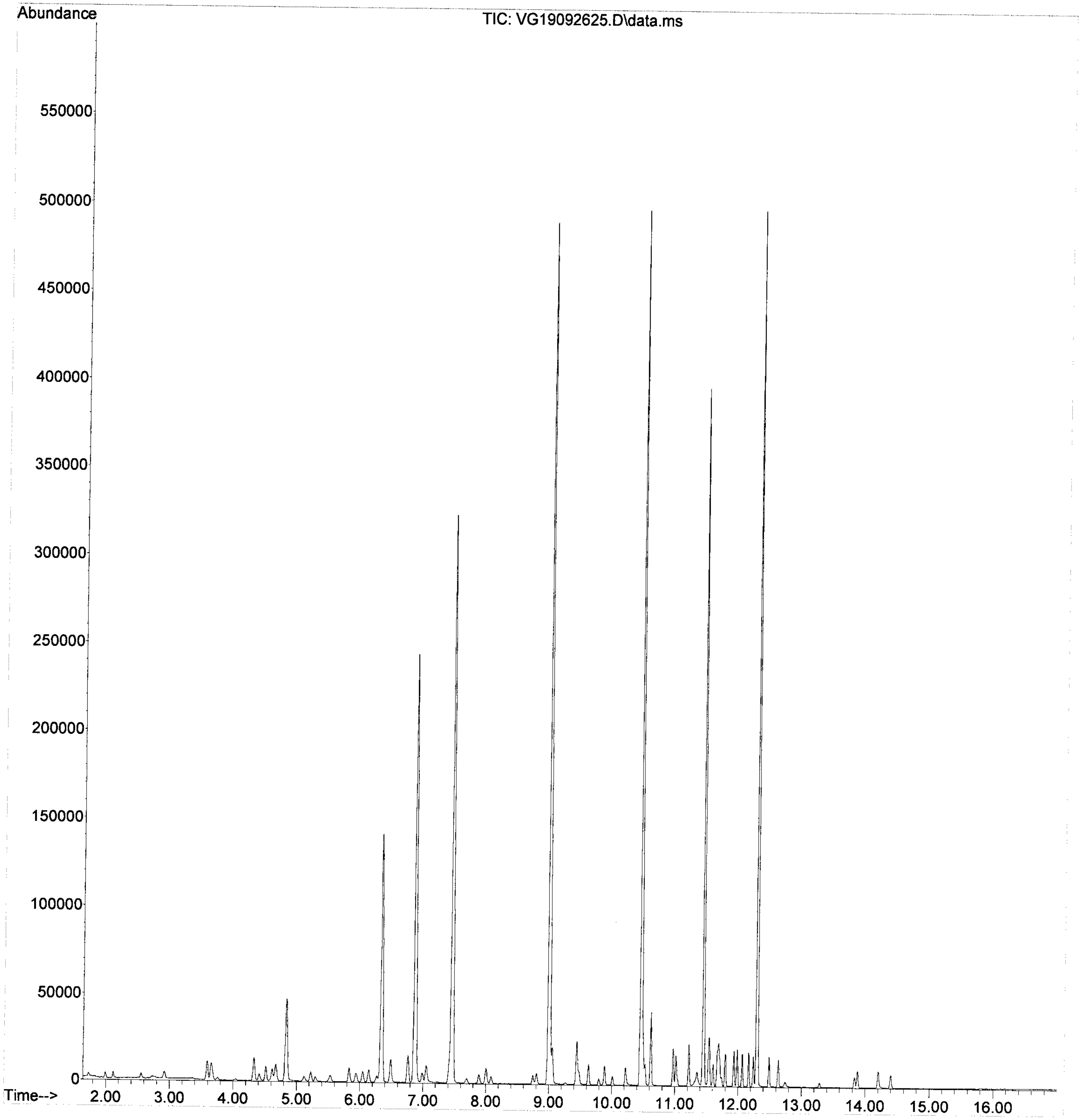
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	16301	2.05	ug/L		100
50) Tetrachloroethene (PCE)	9.434	166	3931	1.93	ug/L		98
51) 4-Methyl-2-Pentanone (...	9.446	43	11030	4.87	ug/L		97
52) t-1,3-Dichloropropene	9.477	75	3064	1.71	ug/L		97
53) 1,1,2-Trichloroethane	9.629	97	3670	1.92	ug/L		97
54) Dibromochloromethane	9.794	129	2025	1.44	ug/L		98
55) 1,3-Dichloropropane	9.885	76	6255	2.12	ug/L		98
56) 1,2-Dibromoethane (EDB)	10.007	107	3645	1.98	ug/L		96
57) 2-Hexanone	10.214	43	7520	4.41	ug/L		97
58) Chlorobenzene	10.470	112	10263	1.94	ug/L		95
59) Ethylbenzene	10.495	91	16502	2.15	ug/L		98
60) 1,1,1,2-Tetrachloroethane	10.525	131	2330	1.81	ug/L		97
61) m,p-Xylenes (2)	10.617	91	22167	4.03	ug/L		99
62) o-Xylene	10.970	91	11104	2.10	ug/L		97
63) Styrene	11.013	104	8216	1.91	ug/L		98
64) Bromoform	11.044	173	1255	1.39	ug/L		96
65) Isopropylbenzene	11.220	105	13548	2.10	ug/L		96
68) Bromobenzene	11.531	156	4051	1.91	ug/L		86
69) n-Propylbenzene	11.543	91	14638	2.11	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.604	83	5037	1.73	ug/L		96
71) 2-Chlorotoluene	11.671	126	3318	2.13	ug/L		97
72) 1,3,5-Trimethylbenzene	11.690	105	10019	2.31	ug/L		95
73) 1,2,3-Trichloropropane	11.708	110	1630	1.97	ug/L		96
74) t-1,4-Dichloro-2-butene	11.739	88	309	1.71	ug/L	#	43
75) 4-Chlorotoluene	11.793	91	9331	2.20	ug/L		96
76) tert-Butylbenzene	11.934	91	5653	2.43	ug/L		92
77) 1,2,4-Trimethylbenzene	11.982	105	10397	2.33	ug/L		98
78) sec-Butylbenzene	12.068	105	11614	2.17	ug/L		97
79) 4-Isopropyltoluene	12.165	119	9351	2.43	ug/L		97
80) 1,3-Dichlorobenzene	12.238	146	6241	1.95	ug/L		97
81) 1,4-Dichlorobenzene	12.306	146	6450	1.85	ug/L		94
82) n-Butylbenzene	12.488	91	8292	2.40	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	5948	1.98	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	589	1.33	ug/L	#	56
85) Hexachlorobutadiene	13.836	223	913	2.17	ug/L		96
86) 1,2,4-Trichlorobenzene	13.878	180	3569	2.30	ug/L		94
87) Naphthalene	14.201	128	8574	2.37	ug/L		97
88) 1,2,3-Trichlorobenzene	14.397	180	2987	2.07	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 MM

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	100549	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	269093	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	116280	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	98527	46.41	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	327177	47.43	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	370481	50.74	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	105465	51.72	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	5552	3.84	ug/L	98
3) Chloromethane	1.996	50	8350	4.03	ug/L	98
4) Vinyl Chloride	2.118	62	8444	4.39	ug/L	95
5) Bromomethane	2.557	96	3788	4.04	ug/L	99
6) Chloroethane	2.740	64	2298	1.85	ug/L	91
7) Trichlorofluoromethane	2.929	101	8591	3.81	ug/L	98
8) Ethanol	3.636	45	16435	341.31	ug/L	82
9) 1,1-Dichloroethene	3.594	61	12096	5.00	ug/L	99
10) Carbon Disulfide	3.594	76	13988	3.70	ug/L	99
11) Freon 113	3.667	101	7496	3.58	ug/L	96
12) Iodomethane	3.758	142	4369	9.50	ug/L	96
13) Acrolein	4.045	56	2111	4.05	ug/L	96
14) Methylene Chloride	4.325	84	12220	4.25	ug/L	98
15) Acetone	4.411	43	11329	10.81	ug/L	96
16) t-1,2-Dichloroethene	4.514	61	12446	5.07	ug/L	99
17) n-Hexane	4.618	86	1240	4.97	ug/L #	40
18) Methyl-tert-butyl-ether	4.673	73	24595	5.40	ug/L	98
19) tert-Butanol (TBA)	4.825	59	113989	321.80	ug/L #	62
20) Diisopropyl ether (DIPE)	5.118	45	7166	1.61	ug/L	93
21) 1,1-Dichloroethane	5.221	63	16248	4.91	ug/L	98
22) Acrylonitrile	5.295	53	6207	5.10	ug/L	93
23) Vinyl Acetate	5.538	43	13087	4.69	ug/L	98
24) Ethyl-tert-butyl ether...	5.526	59	5705	1.40	ug/L	91
25) c-1,2-Dichloroethene	5.831	61	13649	5.60	ug/L	97
26) 2,2-Dichloropropane	5.941	77	7434	4.89	ug/L #	60
27) Bromochloromethane	6.044	49	8514	5.25	ug/L	98
28) Chloroform	6.142	83	16345	4.68	ug/L	99
29) Carbon Tetrachloride	6.270	117	7037	4.01	ug/L	95
30) Tetrahydrofuran	6.313	42	5884	5.88	ug/L	92
31) 1,1,1-Trichloroethane	6.349	97	10978	4.77	ug/L	94
33) 1,1-Dichloropropene	6.489	75	12139	5.14	ug/L	97
34) 2-Butanone (MEK)	6.483	43	17146	10.92	ug/L	100
35) Benzene	6.764	78	40141	5.00	ug/L	98
36) tert-Amyl methyl ether...	6.904	73	4993	1.19	ug/L	66
37) 1,2-Dichloroethane (EDC)	6.989	62	13178	5.17	ug/L	98
38) iso-Butyl Alcohol	7.050	43	23235	151.59	ug/L	95
40) Trichloroethene (TCE)	7.416	130	10301	4.76	ug/L	98
41) tert-Amyl ethyl ether ...	7.690	59	3676	1.32	ug/L	89
42) Dibromomethane	7.886	93	6245	5.04	ug/L	94
43) 1,2-Dichloropropane	8.001	63	10615	5.06	ug/L	98
44) Bromodichloromethane	8.081	83	8604	4.15	ug/L	97
46) 2-Chloroethyl Vinyl Ether	8.745	63	6916	6.64	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	10945	5.42	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

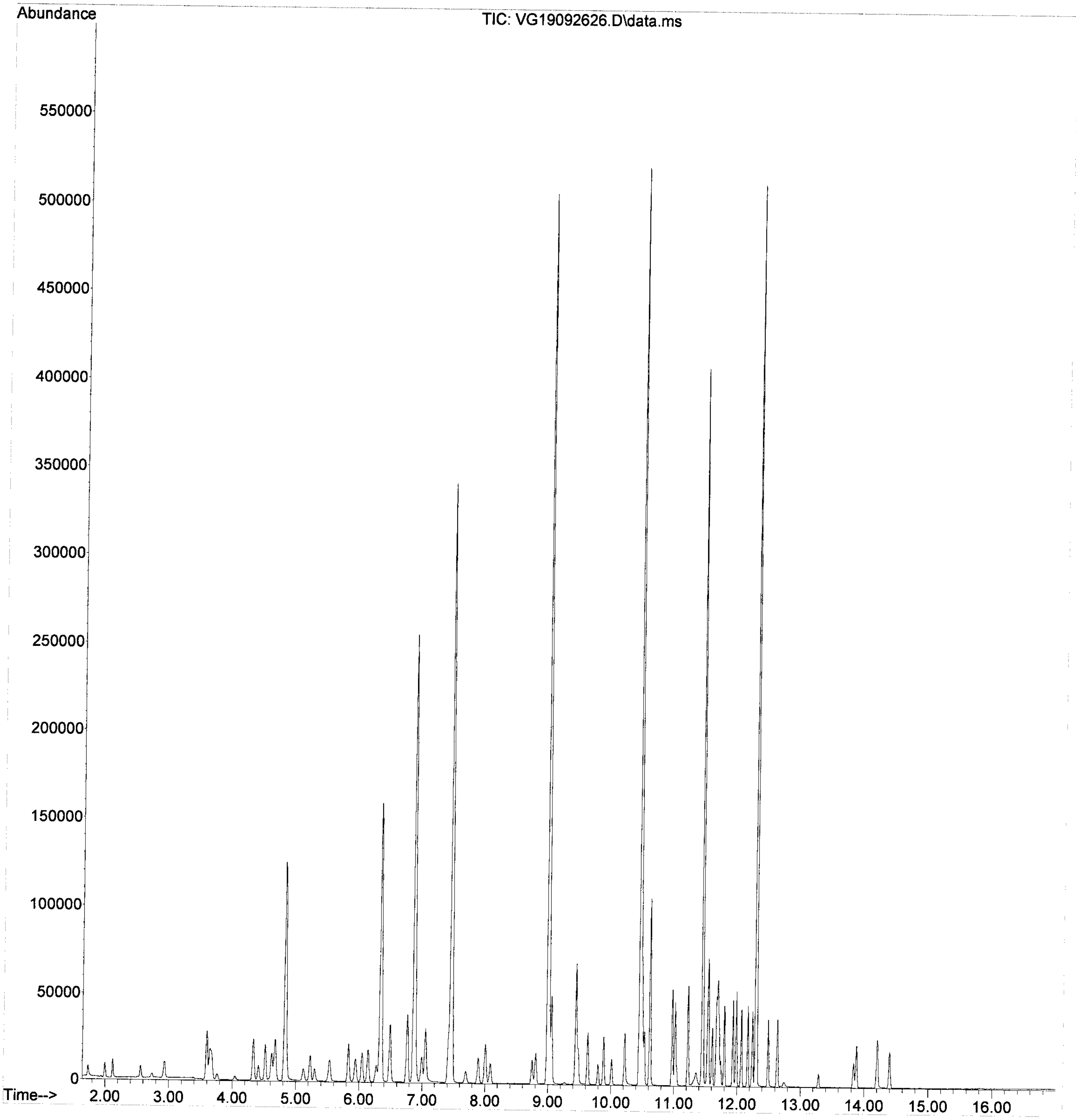
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	39843	4.85	ug/L		99
50) Tetrachloroethene (PCE)	9.434	166	9681	4.59	ug/L		97
51) 4-Methyl-2-Pentanone (...	9.440	43	29627	12.62	ug/L		98
52) t-1,3-Dichloropropene	9.477	75	9350	4.64	ug/L		96
53) 1,1,2-Trichloroethane	9.629	97	9710	4.90	ug/L		97
54) Dibromochloromethane	9.794	129	5996	4.11	ug/L		95
55) 1,3-Dichloropropane	9.885	76	16370	5.37	ug/L		98
56) 1,2-Dibromoethane (EDB)	10.007	107	9704	5.08	ug/L		98
57) 2-Hexanone	10.214	43	20475	11.58	ug/L		99
58) Chlorobenzene	10.470	112	25651	4.68	ug/L		99
59) Ethylbenzene	10.495	91	39695	5.00	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	6601	4.95	ug/L		96
61) m,p-Xylenes (2)	10.617	91	55541	9.60	ug/L		98
62) o-Xylene	10.970	91	28275	5.04	ug/L		99
63) Styrene	11.013	104	21446	4.66	ug/L		99
64) Bromoform	11.043	173	3664	3.36	ug/L		98
65) Isopropylbenzene	11.220	105	33272	4.85	ug/L		99
68) Bromobenzene	11.531	156	10396	4.80	ug/L		94
69) n-Propylbenzene	11.543	91	35827	5.08	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.604	83	13680	4.62	ug/L		96
71) 2-Chlorotoluene	11.671	126	8197	5.15	ug/L		98
72) 1,3,5-Trimethylbenzene	11.690	105	24697	5.59	ug/L		94
73) 1,2,3-Trichloropropane	11.708	110	4260	5.06	ug/L		85
74) t-1,4-Dichloro-2-butene	11.738	88	933	4.33	ug/L	#	60
75) 4-Chlorotoluene	11.793	91	23567	5.45	ug/L		97
76) tert-Butylbenzene	11.934	91	13488	5.70	ug/L		94
77) 1,2,4-Trimethylbenzene	11.982	105	25417	5.59	ug/L		98
78) sec-Butylbenzene	12.068	105	27530	5.04	ug/L		97
79) 4-Isopropyltoluene	12.165	119	22443	5.72	ug/L		98
80) 1,3-Dichlorobenzene	12.238	146	15933	4.89	ug/L		98
81) 1,4-Dichlorobenzene	12.305	146	16067	4.53	ug/L		96
82) n-Butylbenzene	12.488	91	18765	5.34	ug/L		96
83) 1,2-Dichlorobenzene	12.635	146	15283	4.98	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	1855	4.11	ug/L		82
85) Hexachlorobutadiene	13.836	223	2004	4.67	ug/L		88
86) 1,2,4-Trichlorobenzene	13.878	180	8740	5.52	ug/L		97
87) Naphthalene	14.201	128	24760	5.24	ug/L		99
88) 1,2,3-Trichlorobenzene	14.396	180	7964	5.41	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	94319	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	252515	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114038	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	94296	47.35	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	307261	47.48	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	346726	50.60	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	100472	50.24	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	13110	9.66	ug/L		98
3) Chloromethane	1.997	50	17690	9.10	ug/L		99
4) Vinyl Chloride	2.119	62	18988	10.52	ug/L		94
5) Bromomethane	2.557	96	7207	8.20	ug/L		95
6) Chloroethane	2.728	64	3523	7.61	ug/L		85
7) Trichlorofluoromethane	2.923	101	19831	9.37	ug/L		97
8) Ethanol	3.643	45	33979	752.26	ug/L		83
9) 1,1-Dichloroethene	3.594	61	26918	11.87	ug/L		99
10) Carbon Disulfide	3.594	76	32528	9.18	ug/L		98
11) Freon 113	3.667	101	17532	8.92	ug/L		98
12) Iodomethane	3.758	142	10076	20.26	ug/L		99
13) Acrolein	4.045	56	4450	9.09	ug/L		98
14) Methylene Chloride	4.325	84	21075	9.57	ug/L		99
15) Acetone	4.405	43	22156	22.54	ug/L		98
16) t-1,2-Dichloroethene	4.514	61	26538	11.51	ug/L		99
17) n-Hexane	4.618	86	2758	11.79	ug/L	#	55
18) Methyl-tert-butyl-ether	4.667	73	51504	12.06	ug/L		96
19) tert-Butanol (TBA)	4.831	59	245440	738.67	ug/L	#	71
20) Diisopropyl ether (DIPE)	5.118	45	14887	3.56	ug/L		93
21) 1,1-Dichloroethane	5.222	63	34182	11.01	ug/L		99
22) Acrylonitrile	5.295	53	12922	11.33	ug/L		99
23) Vinyl Acetate	5.539	43	29166	11.13	ug/L		96
24) Ethyl-tert-butyl ether...	5.520	59	11927	3.11	ug/L		96
25) c-1,2-Dichloroethene	5.831	61	28583	12.50	ug/L		97
26) 2,2-Dichloropropane	5.941	77	16550	11.60	ug/L		69
27) Bromochloromethane	6.045	49	17537	11.53	ug/L		97
28) Chloroform	6.142	83	34166	10.43	ug/L		97
29) Carbon Tetrachloride	6.270	117	16875	10.26	ug/L		94
30) Tetrahydrofuran	6.313	42	12243	13.03	ug/L		98
31) 1,1,1-Trichloroethane	6.349	97	24708	11.45	ug/L		96
33) 1,1-Dichloropropene	6.490	75	26617	12.01	ug/L		98
34) 2-Butanone (MEK)	6.484	43	36000	24.44	ug/L		99
35) Benzene	6.758	78	83394	11.08	ug/L		99
36) tert-Amyl methyl ether...	6.904	73	10246	2.61	ug/L		74
37) 1,2-Dichloroethane (EDC)	6.990	62	26732	11.19	ug/L		98
38) iso-Butyl Alcohol	7.044	43	50963	354.45	ug/L		97
40) Trichloroethene (TCE)	7.416	130	21700	10.70	ug/L		98
41) tert-Amyl ethyl ether ...	7.691	59	7612	2.92	ug/L		90
42) Dibromomethane	7.886	93	13106	11.27	ug/L		95
43) 1,2-Dichloropropane	8.002	63	21773	11.07	ug/L		92
44) Bromodichloromethane	8.081	83	19192	9.86	ug/L		96
46) 2-Chloroethyl Vinyl Ether	8.745	63	14960	14.72	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	24537	12.96	ug/L		95

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

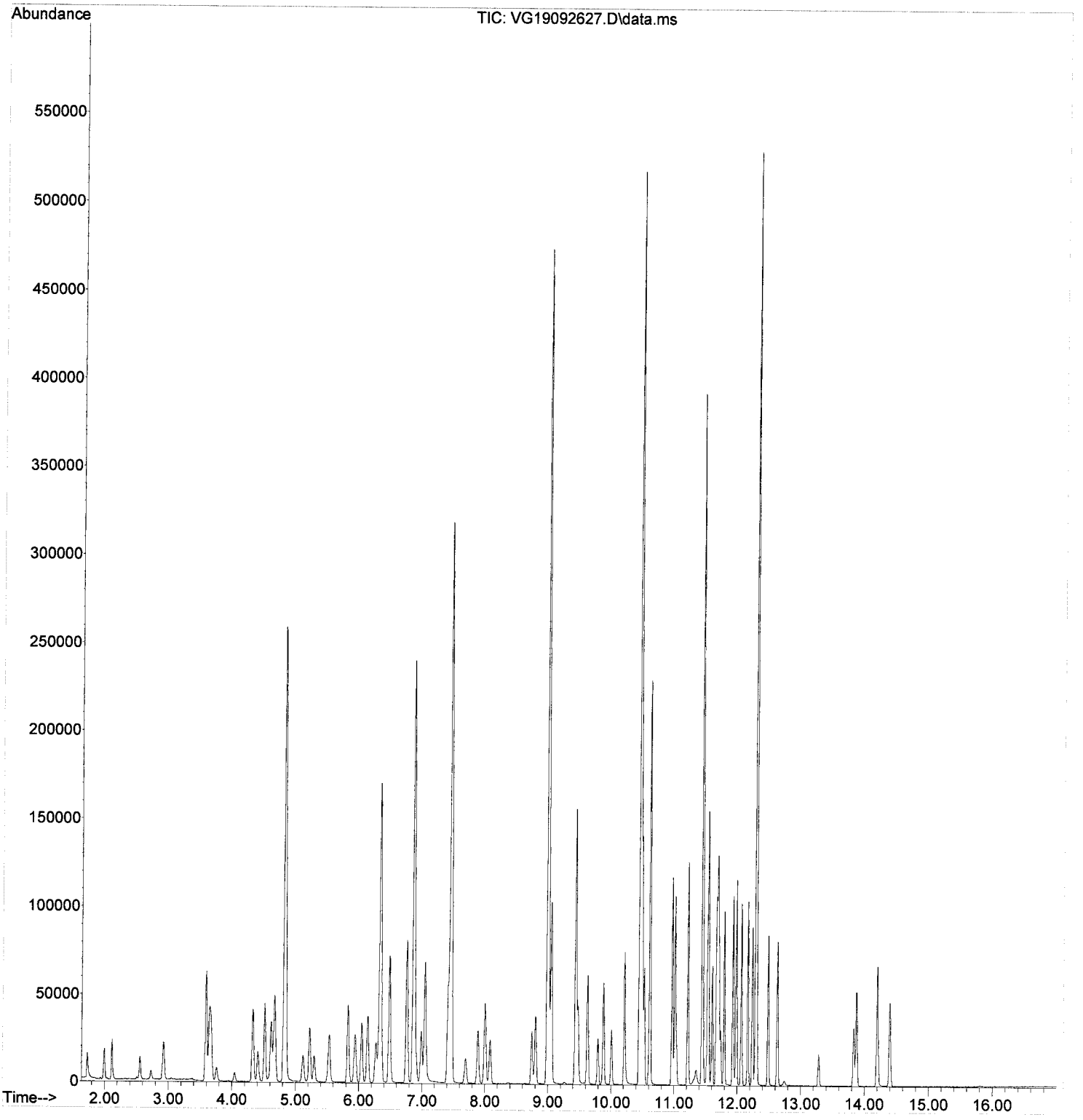
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	82464	10.69	ug/L		99
50) Tetrachloroethene (PCE)	9.434	166	20775	10.49	ug/L		95
51) 4-Methyl-2-Pentanone (...	9.440	43	63160	28.67	ug/L		97
52) t-1,3-Dichloropropene	9.477	75	21132	10.82	ug/L		99
53) 1,1,2-Trichloroethane	9.629	97	19896	10.70	ug/L		97
54) Dibromochloromethane	9.794	129	13869	10.13	ug/L		100
55) 1,3-Dichloropropane	9.879	76	33668	11.76	ug/L		99
56) 1,2-Dibromoethane (EDB)	10.007	107	20603	11.50	ug/L		99
57) 2-Hexanone	10.215	43	46260	27.89	ug/L		99
58) Chlorobenzene	10.471	112	51726	10.06	ug/L		100
59) Ethylbenzene	10.489	91	82999	11.14	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	14854	11.86	ug/L		96
61) m,p-Xylenes (2)	10.617	91	117930	21.62	ug/L		98
62) o-Xylene	10.970	91	60046	11.26	ug/L		97
63) Styrene	11.013	104	47265	10.77	ug/L		98
64) Bromoform	11.038	173	8520	7.83	ug/L		98
65) Isopropylbenzene	11.220	105	72608	11.13	ug/L		99
68) Bromobenzene	11.531	156	21154	9.96	ug/L		94
69) n-Propylbenzene	11.544	91	78221	11.30	ug/L		97
70) 1,1,2,2-Tetrachloroethane	11.605	83	28965	9.97	ug/L		98
71) 2-Chlorotoluene	11.672	126	17297	11.09	ug/L		97
72) 1,3,5-Trimethylbenzene	11.690	105	53273	12.30	ug/L		96
73) 1,2,3-Trichloropropane	11.708	110	8901	10.78	ug/L		91
74) t-1,4-Dichloro-2-butene	11.739	88	2230	9.94	ug/L	#	73
75) 4-Chlorotoluene	11.793	91	48533	11.45	ug/L		97
76) tert-Butylbenzene	11.934	91	29811	12.84	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	54454	12.22	ug/L		96
78) sec-Butylbenzene	12.062	105	63068	11.77	ug/L		96
79) 4-Isopropyltoluene	12.165	119	50508	13.13	ug/L		99
80) 1,3-Dichlorobenzene	12.239	146	33016	10.33	ug/L		97
81) 1,4-Dichlorobenzene	12.306	146	33297	9.57	ug/L		98
82) n-Butylbenzene	12.488	91	41997	12.18	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	32172	10.70	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	4459	10.07	ug/L		76
85) Hexachlorobutadiene	13.830	223	4671	11.09	ug/L		94
86) 1,2,4-Trichlorobenzene	13.878	180	19218	12.38	ug/L		98
87) Naphthalene	14.202	128	59341	11.63	ug/L		99
88) 1,2,3-Trichlorobenzene	14.397	180	17903	12.39	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/2019

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	94013	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	253060	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113658	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	94936	47.82	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	303280	47.02	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	346044	50.39	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	101239	50.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	25646	18.96	ug/L		98
3) Chloromethane	1.996	50	33757	17.42	ug/L		99
4) Vinyl Chloride	2.118	62	37326	20.75	ug/L		95
5) Bromomethane	2.557	96	14292	16.32	ug/L		98
6) Chloroethane	2.728	64	5888	17.67	ug/L		92
7) Trichlorofluoromethane	2.923	101	38898	18.43	ug/L		99
8) Ethanol	3.649	45	64915	1441.82	ug/L		84
9) 1,1-Dichloroethene	3.588	61	54233	24.00	ug/L		98
10) Carbon Disulfide	3.594	76	68545	19.40	ug/L		99
11) Freon 113	3.667	101	34995	17.86	ug/L		98
12) Iodomethane	3.758	142	21802	38.14	ug/L		97
13) Acrolein	4.045	56	8246	16.90	ug/L		99
14) Methylene Chloride	4.325	84	38696	19.45	ug/L		99
15) Acetone	4.411	43	44126	45.04	ug/L		98
16) t-1,2-Dichloroethene	4.514	61	52709	22.94	ug/L		97
17) n-Hexane	4.612	86	5672	24.32	ug/L	#	53
18) Methyl-tert-butyl-ether	4.667	73	103936	24.42	ug/L		78
19) tert-Butanol (TBA)	4.831	59	489576	1478.21	ug/L	#	76
20) Diisopropyl ether (DIPE)	5.118	45	29643	7.11	ug/L		94
21) 1,1-Dichloroethane	5.221	63	68425	22.11	ug/L		100
22) Acrylonitrile	5.295	53	25652	22.56	ug/L		99
23) Vinyl Acetate	5.532	43	39086	14.97	ug/L		96
24) Ethyl-tert-butyl ether...	5.526	59	23874	6.25	ug/L		94
25) c-1,2-Dichloroethene	5.831	61	56457	24.77	ug/L		98
26) 2,2-Dichloropropane	5.941	77	34568	24.31	ug/L		76
27) Bromochloromethane	6.044	49	33748	22.26	ug/L		98
28) Chloroform	6.142	83	68468	20.97	ug/L		97
29) Carbon Tetrachloride	6.270	117	36147	22.05	ug/L		93
30) Tetrahydrofuran	6.313	42	24948	26.64	ug/L		95
31) 1,1,1-Trichloroethane	6.349	97	50360	23.42	ug/L		96
33) 1,1-Dichloropropene	6.483	75	52962	23.98	ug/L		99
34) 2-Butanone (MEK)	6.483	43	71673	48.82	ug/L		98
35) Benzene	6.758	78	164958	21.98	ug/L		99
36) tert-Amyl methyl ether...	6.904	73	20291	5.18	ug/L		78
37) 1,2-Dichloroethane (EDC)	6.989	62	53000	22.25	ug/L		98
38) iso-Butyl Alcohol	7.050	43	96936	676.38	ug/L		96
40) Trichloroethene (TCE)	7.416	130	44576	22.05	ug/L		99
41) tert-Amyl ethyl ether ...	7.690	59	15389	5.93	ug/L		88
42) Dibromomethane	7.892	93	26409	22.78	ug/L		97
43) 1,2-Dichloropropane	8.001	63	43677	22.28	ug/L		94
44) Bromodichloromethane	8.081	83	41298	21.28	ug/L		99
46) 2-Chloroethyl Vinyl Ether	8.745	63	31258	29.82	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	53435	28.15	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

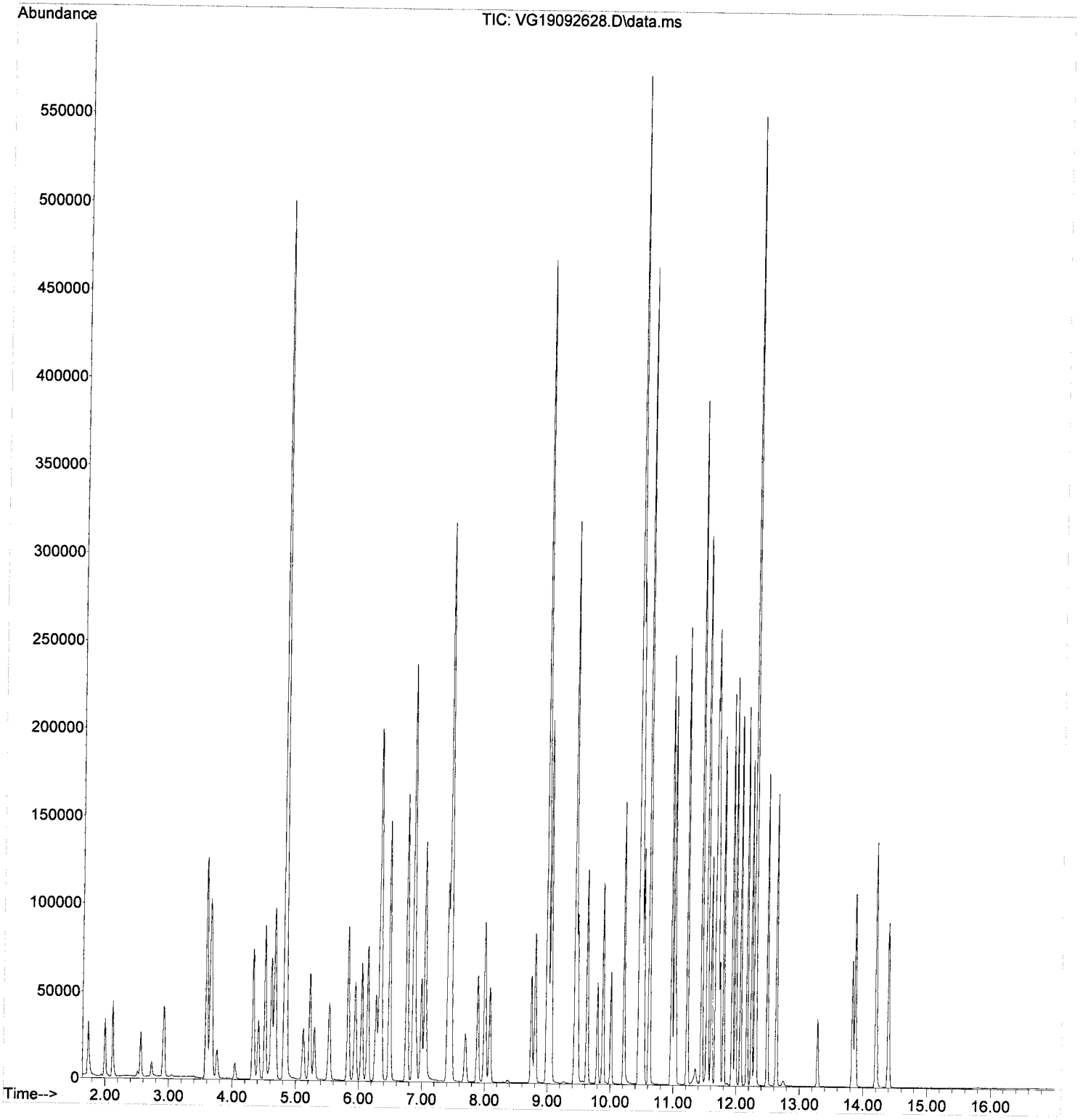
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	164491	21.27	ug/L		100
50) Tetrachloroethene (PCE)	9.440	166	41350	20.84	ug/L		98
51) 4-Methyl-2-Pentanone (...	9.440	43	126474	57.29	ug/L		96
52) t-1,3-Dichloropropene	9.477	75	46862	23.33	ug/L		98
53) 1,1,2-Trichloroethane	9.629	97	39556	21.23	ug/L		96
54) Dibromochloromethane	9.794	129	31158	22.71	ug/L		99
55) 1,3-Dichloropropane	9.879	76	66687	23.25	ug/L		99
56) 1,2-Dibromoethane (EDB)	10.007	107	42383	23.60	ug/L		100
57) 2-Hexanone	10.214	43	92625	55.72	ug/L		99
58) Chlorobenzene	10.470	112	103573	20.10	ug/L		100
59) Ethylbenzene	10.495	91	166521	22.30	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	31743	25.30	ug/L		98
61) m,p-Xylenes (2)	10.617	91	236854	43.28	ug/L		99
62) o-Xylene	10.970	91	122339	22.70	ug/L		97
63) Styrene	11.013	104	95775	21.62	ug/L		98
64) Bromoform	11.043	173	19749	17.48	ug/L		98
65) Isopropylbenzene	11.220	105	148612	22.55	ug/L		98
68) Bromobenzene	11.531	156	42680	20.16	ug/L		92
69) n-Propylbenzene	11.543	91	158775	23.01	ug/L		97
70) 1,1,2,2-Tetrachloroethane	11.604	83	55114	19.04	ug/L		97
71) 2-Chlorotoluene	11.671	126	35153	22.61	ug/L		97
72) 1,3,5-Trimethylbenzene	11.690	105	108000	25.02	ug/L		93
73) 1,2,3-Trichloropropane	11.708	110	17472	21.24	ug/L		89
74) t-1,4-Dichloro-2-butene	11.738	88	5302	22.84	ug/L	#	85
75) 4-Chlorotoluene	11.793	91	98917	23.41	ug/L		97
76) tert-Butylbenzene	11.934	91	60557	26.18	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	109297	24.61	ug/L		97
78) sec-Butylbenzene	12.068	105	129568	24.25	ug/L		97
79) 4-Isopropyltoluene	12.165	119	103672	27.04	ug/L		99
80) 1,3-Dichlorobenzene	12.238	146	66808	20.98	ug/L		98
81) 1,4-Dichlorobenzene	12.305	146	67186	19.38	ug/L		97
82) n-Butylbenzene	12.488	91	85671	24.93	ug/L		98
83) 1,2-Dichlorobenzene	12.635	146	64527	21.53	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.287	157	9818	22.24	ug/L		96
85) Hexachlorobutadiene	13.836	223	9787	23.32	ug/L		97
86) 1,2,4-Trichlorobenzene	13.878	180	38616	24.97	ug/L		97
87) Naphthalene	14.201	128	120918	22.87	ug/L		99
88) 1,2,3-Trichlorobenzene	14.397	180	35770	24.84	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	98290	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	268919	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	128582	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	102495	49.39	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	325260	48.24	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	365802	50.13	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	112962	50.09	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	68608	48.52	ug/L		97
3) Chloromethane	1.997	50	88312	43.60	ug/L		99
4) Vinyl Chloride	2.119	62	95342	50.70	ug/L		96
5) Bromomethane	2.558	96	34844	38.06	ug/L		99
6) Chloroethane	2.728	64	15125	54.21	ug/L		92
7) Trichlorofluoromethane	2.923	101	94401	42.79	ug/L		97
8) Ethanol	3.643	45	134499	2857.36	ug/L		84
9) 1,1-Dichloroethene	3.594	61	122747	51.95	ug/L		98
10) Carbon Disulfide	3.594	76	173305	46.91	ug/L		99
11) Freon 113	3.667	101	78614	38.37	ug/L		99
12) Iodomethane	3.758	142	65139	83.70	ug/L		95
13) Acrolein	4.039	56	22754	44.60	ug/L		97
14) Methylene Chloride	4.325	84	89091	45.79	ug/L		99
15) Acetone	4.405	43	107597	105.04	ug/L		97
16) t-1,2-Dichloroethene	4.514	61	122320	50.93	ug/L		98
17) n-Hexane	4.618	86	12933	53.04	ug/L	#	51
18) Methyl-tert-butyl-ether	4.667	73	266202	59.83	ug/L		97
19) tert-Butanol (TBA)	4.831	59	1046385	3021.93	ug/L	#	87
20) Diisopropyl ether (DIPE)	5.118	45	60075	13.78	ug/L		94
21) 1,1-Dichloroethane	5.222	63	160396	49.57	ug/L		100
22) Acrylonitrile	5.295	53	64736	54.45	ug/L		97
23) Vinyl Acetate	5.533	43	99692	36.52	ug/L		97
24) Ethyl-tert-butyl ether...	5.520	59	49848	12.49	ug/L		97
25) c-1,2-Dichloroethene	5.831	61	132230	55.50	ug/L		95
26) 2,2-Dichloropropane	5.941	77	85291	57.36	ug/L		86
27) Bromochloromethane	6.045	49	80963	51.08	ug/L		93
28) Chloroform	6.142	83	163489	47.89	ug/L		96
29) Carbon Tetrachloride	6.270	117	90796	52.99	ug/L		96
30) Tetrahydrofuran	6.307	42	63890	65.26	ug/L		97
31) 1,1,1-Trichloroethane	6.349	97	120842	53.74	ug/L		98
33) 1,1-Dichloropropene	6.484	75	120698	52.26	ug/L		99
34) 2-Butanone (MEK)	6.484	43	184368	120.12	ug/L		98
35) Benzene	6.758	78	387766	49.43	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	42764	10.44	ug/L		83
37) 1,2-Dichloroethane (EDC)	6.990	62	126976	51.00	ug/L		99
38) iso-Butyl Alcohol	7.044	43	265347	1770.92	ug/L		99
40) Trichloroethene (TCE)	7.410	130	107241	50.73	ug/L		99
41) tert-Amyl ethyl ether ...	7.691	59	32246	11.89	ug/L		90
42) Dibromomethane	7.886	93	67393	55.61	ug/L		97
43) 1,2-Dichloropropane	8.002	63	103633	50.57	ug/L		94
44) Bromodichloromethane	8.081	83	109811	54.12	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.739	63	80780	69.12	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	141358	70.09	ug/L		94

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

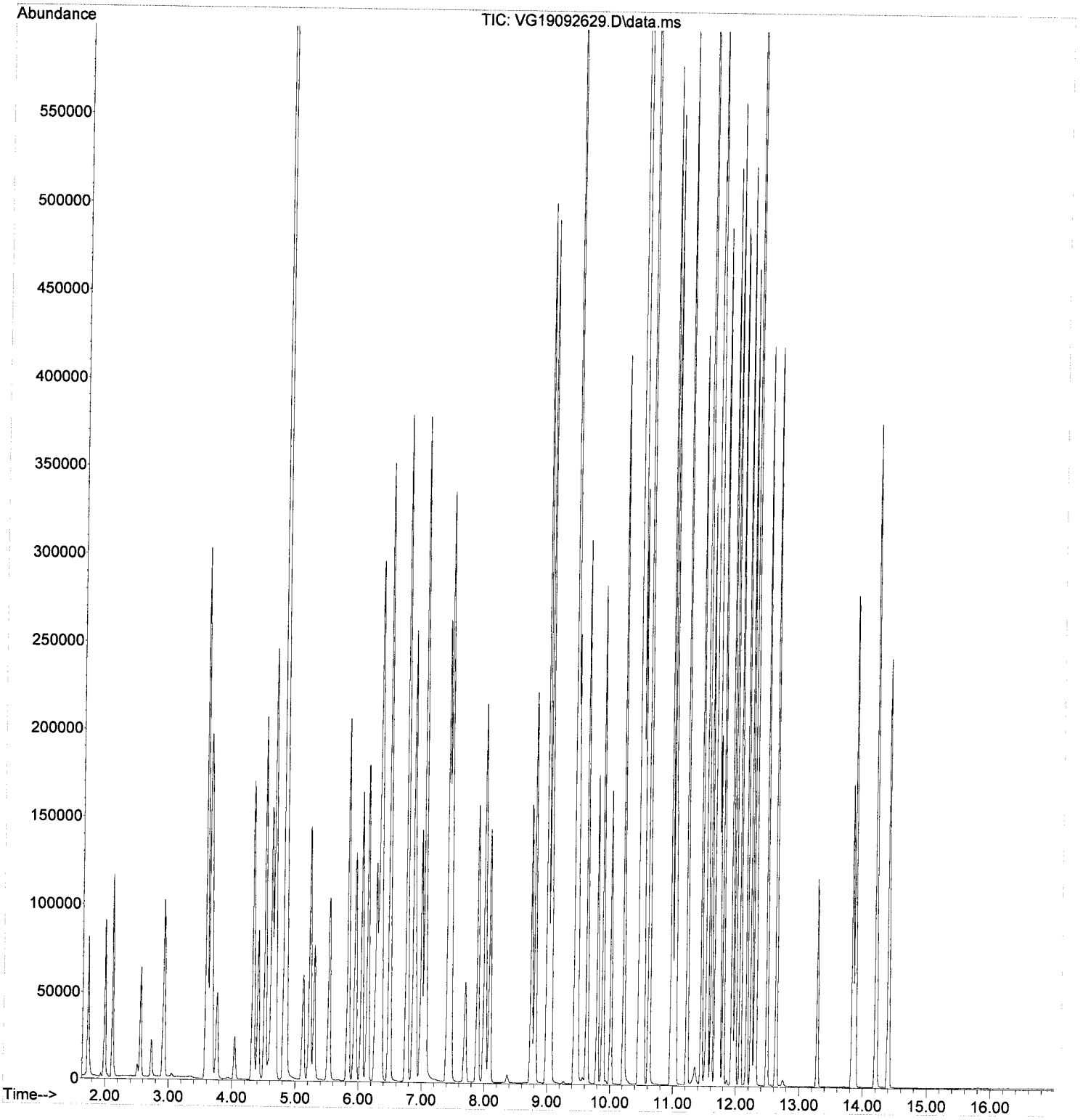
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	383687	46.69	ug/L	99
50) Tetrachloroethene (PCE)	9.440	166	96836	45.92	ug/L	98
51) 4-Methyl-2-Pentanone (...	9.440	43	315362	134.43	ug/L	94
52) t-1,3-Dichloropropene	9.477	75	128835	57.53	ug/L	99
53) 1,1,2-Trichloroethane	9.629	97	99796	50.40	ug/L	96
54) Dibromochloromethane	9.794	129	91580	62.82	ug/L	99
55) 1,3-Dichloropropane	9.879	76	165027	54.14	ug/L	99
56) 1,2-Dibromoethane (EDB)	10.007	107	109366	57.31	ug/L	99
57) 2-Hexanone	10.215	43	238194	134.85	ug/L	96
58) Chlorobenzene	10.471	112	247943	45.28	ug/L	99
59) Ethylbenzene	10.495	91	390083	49.16	ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	84255	63.18	ug/L	97
61) m,p-Xylenes (2)	10.617	91	559567	96.44	ug/L	99
62) o-Xylene	10.970	91	295347	50.84	ug/L	98
63) Styrene	11.013	104	240354	50.56	ug/L	97
64) Bromoform	11.044	173	65348	51.43	ug/L	99
65) Isopropylbenzene	11.220	105	352540	49.81	ug/L	99
68) Bromobenzene	11.531	156	107397	44.84	ug/L	96
69) n-Propylbenzene	11.544	91	373433	47.84	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.605	83	142152	43.40	ug/L	97
71) 2-Chlorotoluene	11.672	126	86616	49.25	ug/L	94
72) 1,3,5-Trimethylbenzene	11.690	105	260970	53.44	ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	44728	48.05	ug/L	87
74) t-1,4-Dichloro-2-butene	11.739	88	16073	58.18	ug/L	94
75) 4-Chlorotoluene	11.794	91	241498	50.53	ug/L	98
76) tert-Butylbenzene	11.934	91	144481	55.21	ug/L	99
77) 1,2,4-Trimethylbenzene	11.983	105	264950	52.74	ug/L	98
78) sec-Butylbenzene	12.062	105	307160	50.82	ug/L	98
79) 4-Isopropyltoluene	12.165	119	253892	58.54	ug/L	99
80) 1,3-Dichlorobenzene	12.239	146	170199	47.24	ug/L	98
81) 1,4-Dichlorobenzene	12.306	146	170066	43.35	ug/L	97
82) n-Butylbenzene	12.489	91	203872	52.44	ug/L	98
83) 1,2-Dichlorobenzene	12.635	146	166516	49.12	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	32261	64.61	ug/L	92
85) Hexachlorobutadiene	13.836	223	23920	50.39	ug/L	98
86) 1,2,4-Trichlorobenzene	13.878	180	99341	56.77	ug/L	98
87) Naphthalene	14.202	128	329843	53.52	ug/L	99
88) 1,2,3-Trichlorobenzene	14.397	180	93819	57.58	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	95552	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	254822	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	109709	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	91836	48.59 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	310594	49.81 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	351651	50.08 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99900	50.86 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	178	0.24 ug/L	#	51
3) Chloromethane	1.997	50	317	0.18 ug/L		80
4) Vinyl Chloride	2.118	62	165	0.09 ug/L		71
5) Bromomethane	2.551	96	133	0.19 ug/L		92
6) Chloroethane	2.746	64	150	Below Cal	#	47
7) Trichlorofluoromethane	2.929	101	139	0.08 ug/L		65
8) Ethanol	3.636	45	81	1.55 ug/L		84
9) 1,1-Dichloroethene	3.594	61	221	0.09 ug/L	#	74
10) Carbon Disulfide	3.594	76	1151	0.37 ug/L		93
11) Freon 113	3.673	101	288	0.17 ug/L		79
12) Iodomethane	3.758	142	194	0.11 ug/L	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.325	84	3692	1.91 ug/L		95
15) Acetone	4.411	43	1838	1.66 ug/L		94
16) t-1,2-Dichloroethene	4.514	61	422	0.17 ug/L		87
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	4.837	59	400	1.13 ug/L	#	42
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	5.234	63	53	0.02 ug/L	#	50
22) Acrylonitrile	5.301	53	10	0.01 ug/L	#	14
23) Vinyl Acetate	5.557	43	11	1.37 ug/L		74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	5.831	61	190	0.07 ug/L		92
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	6.045	49	63	0.04 ug/L	#	47
28) Chloroform	6.136	83	40	0.01 ug/L		87
29) Carbon Tetrachloride	6.282	117	10	0.17 ug/L	#	13
30) Tetrahydrofuran	6.313	42	11	0.01 ug/L	#	37
31) 1,1,1-Trichloroethane	6.343	97	168	0.07 ug/L	#	40
33) 1,1-Dichloropropene	6.483	75	329	0.13 ug/L		81
34) 2-Butanone (MEK)	6.483	43	10	0.01 ug/L		52
35) Benzene	6.770	78	423	0.05 ug/L		69
36) tert-Amyl methyl ether...	6.861	73	110	0.03 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	6.989	62	53	0.02 ug/L	#	49
38) iso-Butyl Alcohol	7.063	43	153	0.88 ug/L		92
40) Trichloroethene (TCE)	7.416	130	256	0.12 ug/L		88
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	7.904	93	29	0.02 ug/L	#	1
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.		

NR 9/30/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

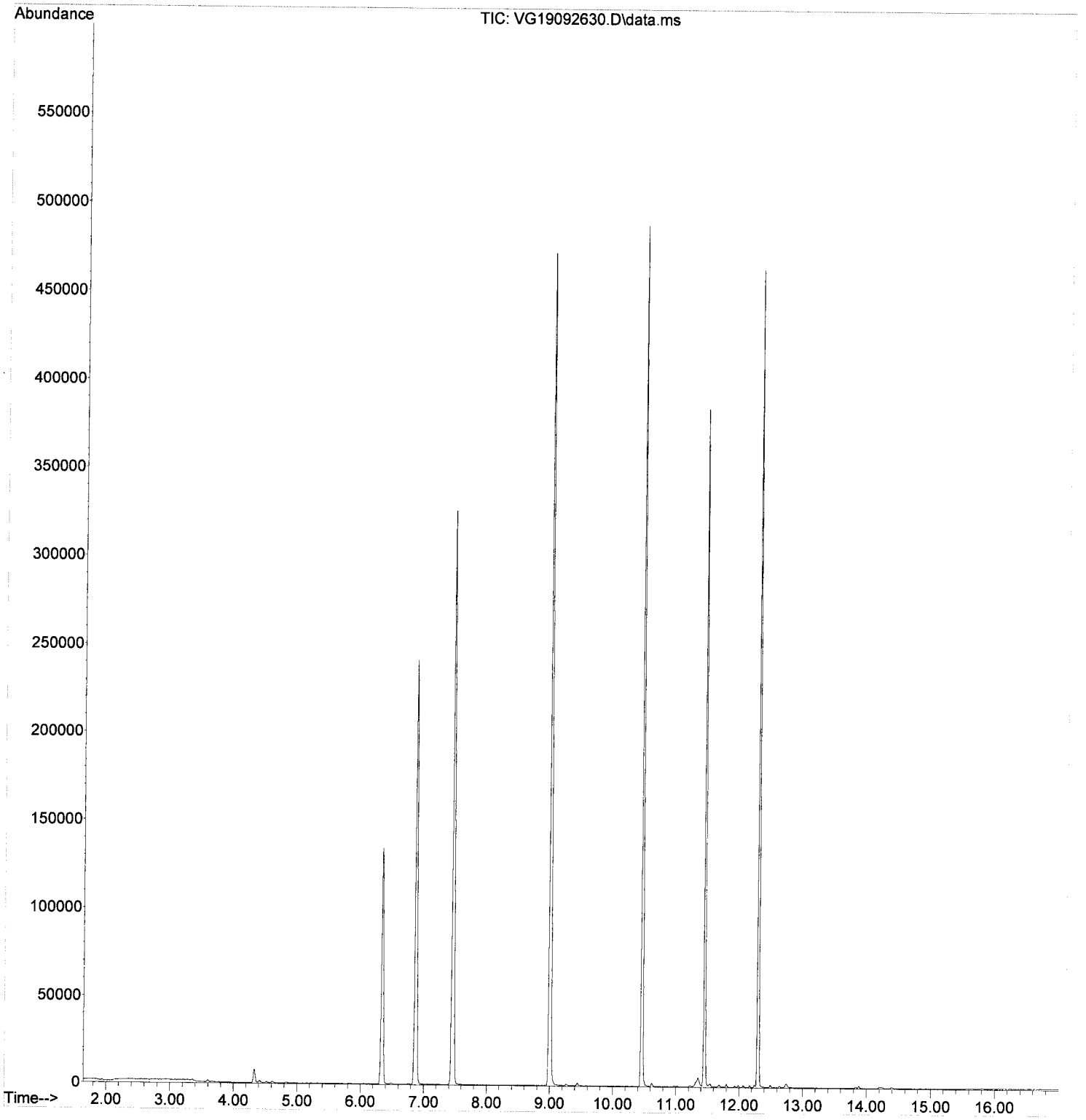
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	760	0.09 ug/L	93
50) Tetrachloroethene (PCE)	9.434	166	463	0.23 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.452	43	214	0.08 ug/L #	43
52) t-1,3-Dichloropropene	9.489	75	58	0.19 ug/L #	45
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.885	76	79	0.02 ug/L #	28
56) 1,2-Dibromoethane (EDB)	10.019	107	48	0.03 ug/L #	7
57) 2-Hexanone	10.227	43	149	0.07 ug/L #	32
58) Chlorobenzene	10.470	112	477	0.09 ug/L #	15
59) Ethylbenzene	10.495	91	918	0.11 ug/L	97
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	1229	0.22 ug/L	88
62) o-Xylene	10.976	91	426	0.07 ug/L	94
63) Styrene	11.025	104	315	0.07 ug/L	95
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	568	0.08 ug/L	92
68) Bromobenzene	11.531	156	195	0.10 ug/L #	81
69) n-Propylbenzene	11.550	91	1038	0.15 ug/L	95
70) 1,1,2,2-Tetrachloroethane	11.604	83	51	0.02 ug/L	81
71) 2-Chlorotoluene	11.665	126	139	0.09 ug/L #	81
72) 1,3,5-Trimethylbenzene	11.690	105	652	0.13 ug/L	90
73) 1,2,3-Trichloropropane	11.720	110	10	0.01 ug/L #	1
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.799	91	760	0.16 ug/L	94
76) tert-Butylbenzene	11.934	91	270	0.10 ug/L	93
77) 1,2,4-Trimethylbenzene	11.988	105	795	0.16 ug/L	86
78) sec-Butylbenzene	12.068	105	838	0.15 ug/L	99
79) 4-Isopropyltoluene	12.165	119	745	0.16 ug/L	92
80) 1,3-Dichlorobenzene	12.245	146	696	0.22 ug/L	92
81) 1,4-Dichlorobenzene	12.305	146	820	0.25 ug/L #	55
82) n-Butylbenzene	12.494	91	962	0.24 ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	405	0.14 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.830	223	160	0.39 ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	594	0.34 ug/L	86
87) Naphthalene	14.208	128	1054	0.21 ug/L	87
88) 1,2,3-Trichlorobenzene	14.397	180	372	0.24 ug/L	80

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	103733	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	284132	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	135133	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	106783	48.75	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	340927	47.91	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	385560	50.01	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	118613	50.05	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.728	85	127237	85.26	ug/L		98
3) Chloromethane	1.997	50	169626	79.34	ug/L		100
4) Vinyl Chloride	2.119	62	178987	90.19	ug/L		95
5) Bromomethane	2.557	96	71878	74.38	ug/L		99
6) Chloroethane	2.728	64	26943	97.01	ug/L		96
7) Trichlorofluoromethane	2.917	101	171473	73.64	ug/L		97
8) Ethanol	3.655	45	256296	5159.16	ug/L		84
9) 1,1-Dichloroethene	3.588	61	266132	106.73	ug/L		98
10) Carbon Disulfide	3.588	76	383024	98.24	ug/L		98
11) Freon 113	3.661	101	169878	78.56	ug/L		98
12) Iodomethane	3.752	142	140967	136.23	ug/L		95
13) Acrolein	4.039	56	47806	88.80	ug/L		97
14) Methylene Chloride	4.325	84	185242	94.03	ug/L		98
15) Acetone	4.405	43	218701	202.29	ug/L		97
16) t-1,2-Dichloroethene	4.514	61	260343	102.71	ug/L		97
17) n-Hexane	4.612	86	27462	106.72	ug/L	#	43
18) Methyl-tert-butyl-ether	4.667	73	563807	120.08	ug/L		90
19) tert-Butanol (TBA)	4.838	59	1967397	5383.66	ug/L	#	93
20) Diisopropyl ether (DIPE)	5.118	45	120493	26.18	ug/L		94
21) 1,1-Dichloroethane	5.222	63	341680	100.05	ug/L		99
22) Acrylonitrile	5.295	53	132559	105.64	ug/L		98
23) Vinyl Acetate	5.532	43	259288	90.01	ug/L		98
24) Ethyl-tert-butyl ether...	5.520	59	102630	24.36	ug/L		96
25) c-1,2-Dichloroethene	5.825	61	280134	111.40	ug/L		97
26) 2,2-Dichloropropane	5.941	77	189553	120.80	ug/L		89
27) Bromochloromethane	6.045	49	152774	91.32	ug/L		95
28) Chloroform	6.142	83	345779	95.97	ug/L		96
29) Carbon Tetrachloride	6.270	117	213422	118.01	ug/L		96
30) Tetrahydrofuran	6.307	42	131959	127.72	ug/L		96
31) 1,1,1-Trichloroethane	6.349	97	265702	111.97	ug/L		98
33) 1,1-Dichloropropene	6.484	75	261531	107.30	ug/L		99
34) 2-Butanone (MEK)	6.484	43	373834	230.78	ug/L		97
35) Benzene	6.758	78	823975	99.52	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	88578	20.48	ug/L		86
37) 1,2-Dichloroethane (EDC)	6.990	62	264813	100.77	ug/L		99
38) iso-Butyl Alcohol	7.050	43	480675	3039.68	ug/L		99
40) Trichloroethene (TCE)	7.410	130	227764	102.09	ug/L		99
41) tert-Amyl ethyl ether ...	7.691	59	66103	23.09	ug/L		90
42) Dibromomethane	7.886	93	142561	111.46	ug/L		98
43) 1,2-Dichloropropane	8.002	63	221724	102.52	ug/L		93
44) Bromodichloromethane	8.081	83	243451	113.69	ug/L		96
46) 2-Chloroethyl Vinyl Ether	8.745	63	170832	129.89	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	310792	145.84	ug/L		93

9/30/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

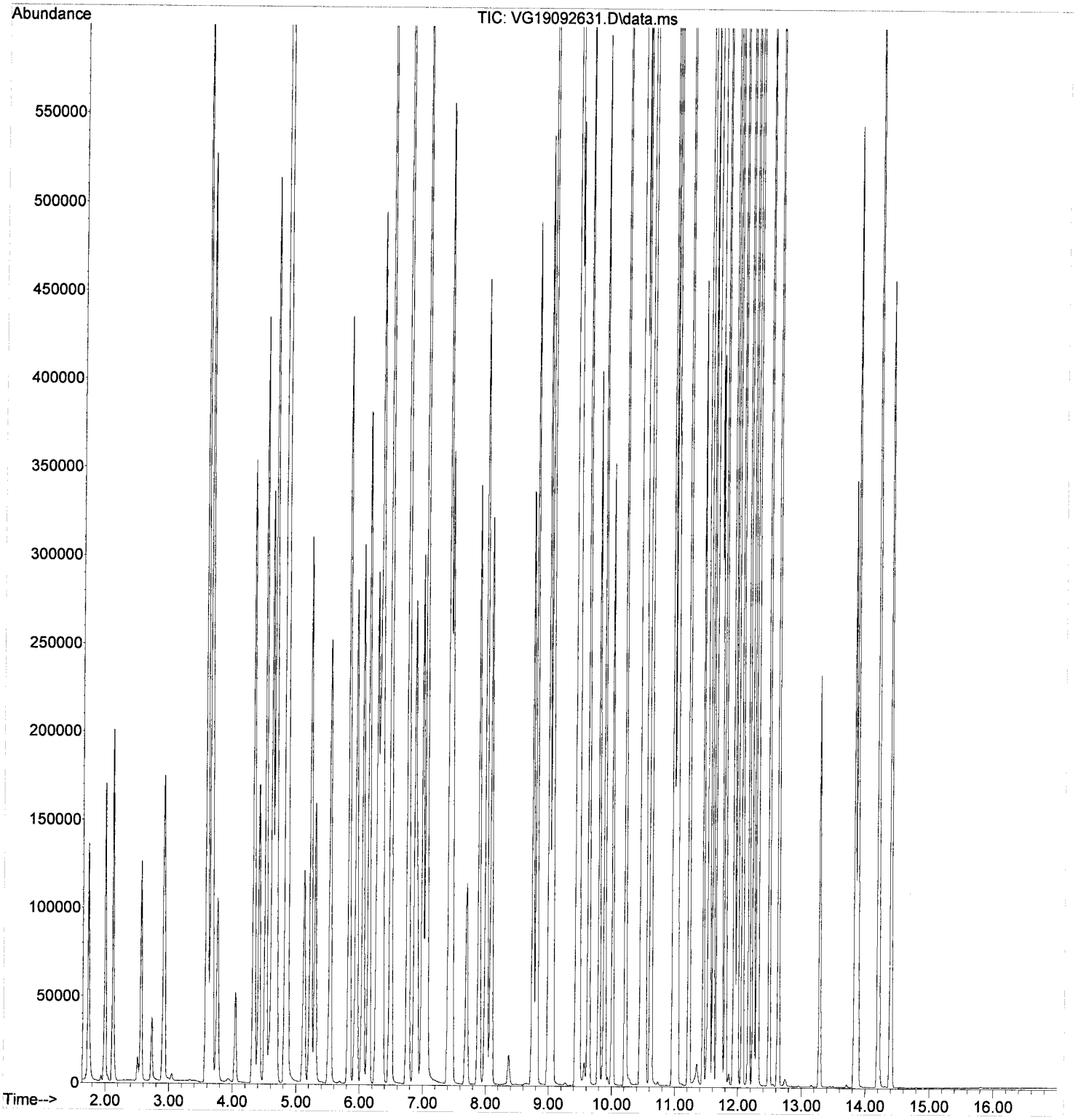
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	822891	94.77 ug/L	99
50) Tetrachloroethene (PCE)	9.434	166	209940	94.22 ug/L	97
51) 4-Methyl-2-Pentanone (...	9.440	43	602850	243.21 ug/L	93
52) t-1,3-Dichloropropene	9.477	75	286723	113.22 ug/L	98
53) 1,1,2-Trichloroethane	9.629	97	209430	100.10 ug/L	95
54) Dibromochloromethane	9.794	129	211601	137.37 ug/L	99
55) 1,3-Dichloropropane	9.879	76	345330	107.22 ug/L	97
56) 1,2-Dibromoethane (EDB)	10.007	107	231270	114.70 ug/L	98
57) 2-Hexanone	10.214	43	452638	242.53 ug/L	95
58) Chlorobenzene	10.471	112	524646	90.68 ug/L	98
59) Ethylbenzene	10.495	91	841526	100.38 ug/L	97
60) 1,1,1,2-Tetrachloroethane	10.525	131	186458	132.33 ug/L	96
61) m,p-Xylenes (2)	10.617	91	1222357	200.66 ug/L	99
62) o-Xylene	10.970	91	653239	103.92 ug/L	98
63) Styrene	11.013	104	520960	102.41 ug/L	96
64) Bromoform	11.038	173	152546	105.76 ug/L	98
65) Isopropylbenzene	11.220	105	768012	101.05 ug/L	99
68) Bromobenzene	11.531	156	227105	90.22 ug/L	99
69) n-Propylbenzene	11.544	91	818291	99.75 ug/L	99
70) 1,1,2,2-Tetrachloroethane	11.604	83	270124	78.48 ug/L	98
71) 2-Chlorotoluene	11.672	126	189393	102.46 ug/L	92
72) 1,3,5-Trimethylbenzene	11.690	105	567837	110.64 ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	86038	87.95 ug/L	88
74) t-1,4-Dichloro-2-butene	11.739	88	34347	111.27 ug/L	94
75) 4-Chlorotoluene	11.793	91	525963	104.71 ug/L	98
76) tert-Butylbenzene	11.934	91	314345	114.30 ug/L	99
77) 1,2,4-Trimethylbenzene	11.982	105	568689	107.72 ug/L	98
78) sec-Butylbenzene	12.062	105	667202	105.05 ug/L	97
79) 4-Isopropyltoluene	12.165	119	551870	121.08 ug/L	99
80) 1,3-Dichlorobenzene	12.239	146	359335	94.91 ug/L	99
81) 1,4-Dichlorobenzene	12.306	146	357713	86.76 ug/L	98
82) n-Butylbenzene	12.488	91	433224	106.03 ug/L	99
83) 1,2-Dichlorobenzene	12.635	146	341621	95.88 ug/L	98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	64148	122.24 ug/L	94
85) Hexachlorobutadiene	13.836	223	46871	93.95 ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	189497	103.04 ug/L	97
87) Naphthalene	14.202	128	622135	94.23 ug/L	98
88) 1,2,3-Trichlorobenzene	14.397	180	176128	102.86 ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	93279	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	247673	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	105766	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	90666	49.14 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	302967	49.77 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	344181	50.43 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	96410	50.91 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	300	0.35 ug/L	98
3) Chloromethane	1.996	50	348	0.21 ug/L	94
4) Vinyl Chloride	2.118	62	221	0.13 ug/L	73
5) Bromomethane	2.551	96	180	0.26 ug/L #	67
6) Chloroethane	2.728	64	224	Below Cal #	47
7) Trichlorofluoromethane	2.929	101	226	0.13 ug/L	83
8) Ethanol	3.636	45	154	3.01 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	412	0.17 ug/L	84
10) Carbon Disulfide	3.594	76	2077	0.69 ug/L	100
11) Freon 113	3.673	101	451	0.28 ug/L	89
12) Iodomethane	3.752	142	215	0.14 ug/L #	47
13) Acrolein	4.045	56	10	0.02 ug/L #	23
14) Methylene Chloride	4.331	84	4504	2.39 ug/L	95
15) Acetone	4.411	43	1842	1.71 ug/L	97
16) t-1,2-Dichloroethene	4.520	61	700	0.28 ug/L	97
17) n-Hexane	4.612	86	43	0.17 ug/L #	61
18) Methyl-tert-butyl-ether	4.654	73	10	0.00 ug/L	57
19) tert-Butanol (TBA)	4.837	59	778	2.25 ug/L #	34
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.221	63	82	0.03 ug/L #	50
22) Acrylonitrile	5.295	53	30	0.02 ug/L #	14
23) Vinyl Acetate	5.575	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.837	61	330	0.13 ug/L	95
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.057	49	153	0.10 ug/L #	67
28) Chloroform	6.148	83	155	0.05 ug/L #	33
29) Carbon Tetrachloride	6.264	117	41	0.19 ug/L #	65
30) Tetrahydrofuran	6.325	42	53	0.05 ug/L #	30
31) 1,1,1-Trichloroethane	6.355	97	21	0.01 ug/L #	57
33) 1,1-Dichloropropene	6.490	75	645	0.26 ug/L	93
34) 2-Butanone (MEK)	6.496	43	144	0.08 ug/L	52
35) Benzene	6.770	78	624	0.08 ug/L	86
36) tert-Amyl methyl ether...	6.867	73	105	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.996	62	116	0.05 ug/L #	49
38) iso-Butyl Alcohol	7.056	43	244	1.45 ug/L	67
40) Trichloroethene (TCE)	7.422	130	496	0.24 ug/L	82
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.898	93	126	0.10 ug/L	82
43) 1,2-Dichloropropane	7.995	63	29	0.01 ug/L #	40
44) Bromodichloromethane	8.087	83	10	0.01 ug/L #	26
46) 2-Chloroethyl Vinyl Ether	8.770	63	20	0.01 ug/L #	1
47) c-1,3-Dichloropropene	8.812	75	149	0.18 ug/L #	75

NK 9/30/1911

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

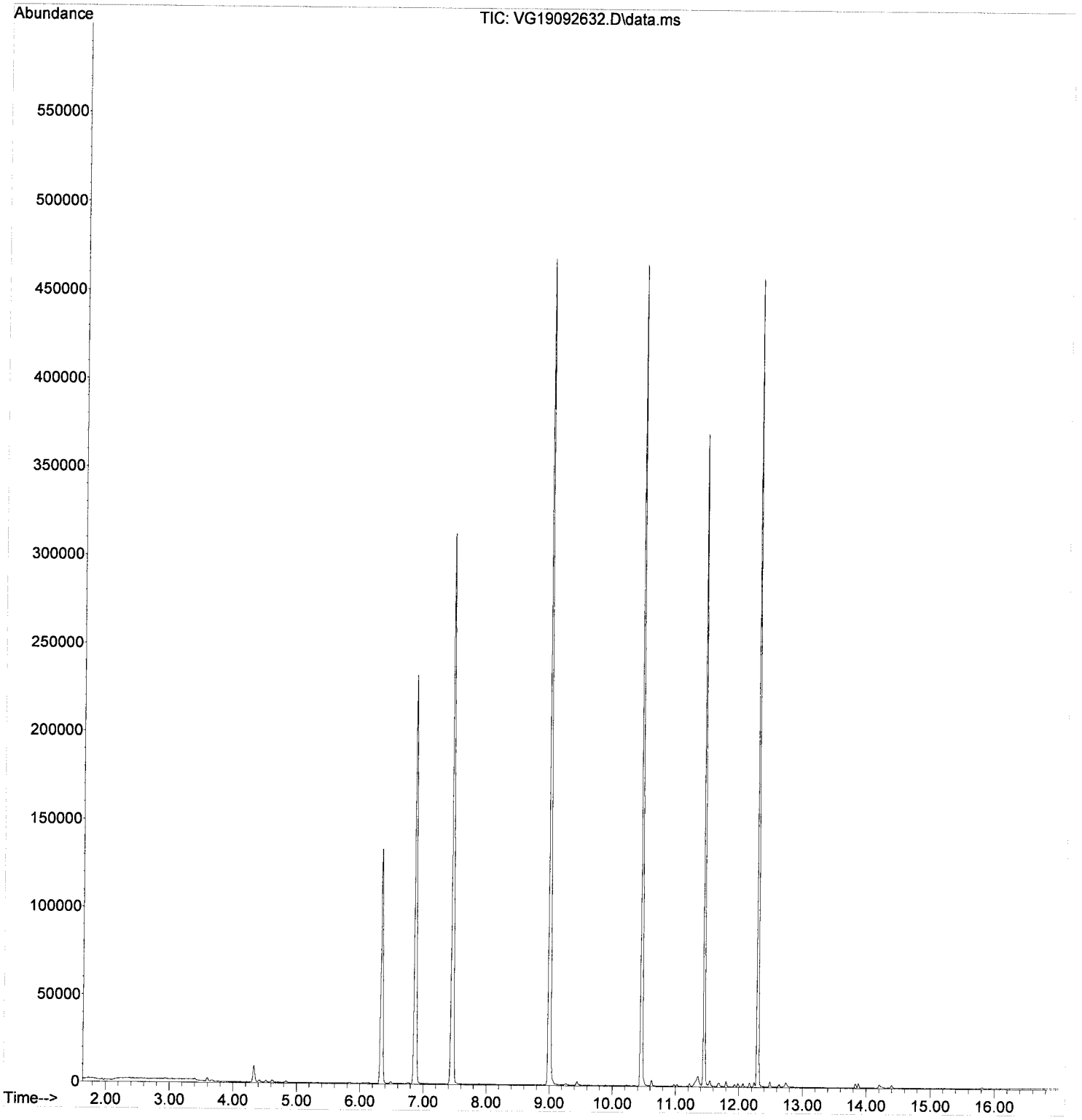
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.056	91	999	0.13 ug/L	94
50) Tetrachloroethene (PCE)	9.440	166	637	0.32 ug/L	85
51) 4-Methyl-2-Pentanone (...	9.452	43	282	0.10 ug/L	79
52) t-1,3-Dichloropropene	9.489	75	174	0.25 ug/L	72
53) 1,1,2-Trichloroethane	9.629	97	25	0.01 ug/L #	12
54) Dibromochloromethane	9.794	129	10	0.61 ug/L #	17
55) 1,3-Dichloropropane	9.885	76	106	0.03 ug/L #	60
56) 1,2-Dibromoethane (EDB)	10.019	107	126	0.07 ug/L	79
57) 2-Hexanone	10.227	43	331	0.17 ug/L	83
58) Chlorobenzene	10.470	112	787	0.16 ug/L #	32
59) Ethylbenzene	10.495	91	1282	0.17 ug/L	97
60) 1,1,1,2-Tetrachloroethane	10.531	131	10	0.12 ug/L #	21
61) m,p-Xylenes (2)	10.623	91	2095	0.38 ug/L	87
62) o-Xylene	10.976	91	632	0.11 ug/L	87
63) Styrene	11.025	104	498	0.12 ug/L	90
64) Bromoform	11.050	173	11	0.48 ug/L #	37
65) Isopropylbenzene	11.226	105	960	0.15 ug/L	95
68) Bromobenzene	11.531	156	353	0.18 ug/L	96
69) n-Propylbenzene	11.550	91	1966	0.29 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	90	0.04 ug/L	82
71) 2-Chlorotoluene	11.671	126	271	0.18 ug/L	89
72) 1,3,5-Trimethylbenzene	11.696	105	909	0.19 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	30	0.04 ug/L #	77
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.799	91	1389	0.31 ug/L	93
76) tert-Butylbenzene	11.934	91	473	0.18 ug/L	95
77) 1,2,4-Trimethylbenzene	11.988	105	1149	0.24 ug/L	96
78) sec-Butylbenzene	12.068	105	1481	0.28 ug/L	97
79) 4-Isopropyltoluene	12.165	119	1328	0.30 ug/L	93
80) 1,3-Dichlorobenzene	12.244	146	1166	0.38 ug/L	95
81) 1,4-Dichlorobenzene	12.305	146	1320	0.42 ug/L #	74
82) n-Butylbenzene	12.488	91	1769	0.46 ug/L	97
83) 1,2-Dichlorobenzene	12.635	146	712	0.25 ug/L	96
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.836	223	373	0.93 ug/L	87
86) 1,2,4-Trichlorobenzene	13.878	180	996	0.58 ug/L	90
87) Naphthalene	14.201	128	2036	0.42 ug/L	95
88) 1,2,3-Trichlorobenzene	14.397	180	717	0.49 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	98765	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	256844	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113094	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	100891	48.38	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	326203	48.14	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	365376	52.43	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	101968	51.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.728	85	278761	196.19	ug/L		98
3) Chloromethane	1.996	50	350425	172.16	ug/L		99
4) Vinyl Chloride	2.118	62	376148	199.07	ug/L		95
5) Bromomethane	2.557	96	157531	171.23	ug/L		99
6) Chloroethane	2.728	64	48587	192.51	ug/L		95
7) Trichlorofluoromethane	2.911	101	315270	142.21	ug/L		97
8) Ethanol	3.673	45	734	15.52	ug/L		91
9) 1,1-Dichloroethene	3.588	61	526597	221.81	ug/L		96
10) Carbon Disulfide	3.581	76	815367	219.65	ug/L		98
11) Freon 113	3.661	101	366447	178.00	ug/L		99
12) Iodomethane	3.752	142	293518	222.76	ug/L		95
13) Acrolein	4.039	56	91310	178.13	ug/L		96
14) Methylene Chloride	4.325	84	359775	202.83	ug/L		97
15) Acetone	4.411	43	416008	404.15	ug/L		96
16) t-1,2-Dichloroethene	4.508	61	536785	222.41	ug/L		97
17) n-Hexane	4.612	86	62588	256.45	ug/L	#	53
18) Methyl-tert-butyl-ether	4.667	73	1131518	253.10	ug/L		96
19) tert-Butanol (TBA)	4.850	59	191	0.55	ug/L	#	1
20) Diisopropyl ether (DIPE)	5.112	45	375	0.09	ug/L		60
21) 1,1-Dichloroethane	5.221	63	696479	214.19	ug/L		100
22) Acrylonitrile	5.295	53	256006	214.27	ug/L		98
23) Vinyl Acetate	5.532	43	388290	141.57	ug/L		97
24) Ethyl-tert-butyl ether...	5.532	59	180	0.04	ug/L	#	1
25) c-1,2-Dichloroethene	5.825	61	565657	236.27	ug/L		96
26) 2,2-Dichloropropane	5.941	77	402432	269.86	ug/L		93
27) Bromochloromethane	6.044	49	286180	179.67	ug/L		94
28) Chloroform	6.136	83	700225	204.13	ug/L		96
29) Carbon Tetrachloride	6.270	117	474389	275.51	ug/L		96
30) Tetrahydrofuran	6.307	42	256364	260.61	ug/L		95
31) 1,1,1-Trichloroethane	6.349	97	561072	248.33	ug/L		97
33) 1,1-Dichloropropene	6.483	75	543147	234.05	ug/L		98
34) 2-Butanone (MEK)	6.483	43	696929	451.88	ug/L		96
35) Benzene	6.758	78	1656328	210.12	ug/L		98
36) tert-Amyl methyl ether...	6.910	73	11	0.00	ug/L	#	1
37) 1,2-Dichloroethane (EDC)	6.989	62	527985	211.03	ug/L		100
38) iso-Butyl Alcohol	7.056	43	760941	5054.07	ug/L		99
40) Trichloroethene (TCE)	7.410	130	476552	224.36	ug/L		99
41) tert-Amyl ethyl ether ...	7.697	59	125	0.05	ug/L		89
42) Dibromomethane	7.886	93	285855	234.73	ug/L		98
43) 1,2-Dichloropropane	8.001	63	443103	215.20	ug/L		95
44) Bromodichloromethane	8.081	83	511867	251.07	ug/L		97
46) 2-Chloroethyl Vinyl Ether	8.739	63	336153	252.41	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	639187	331.82	ug/L		94

9/30/19 KL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

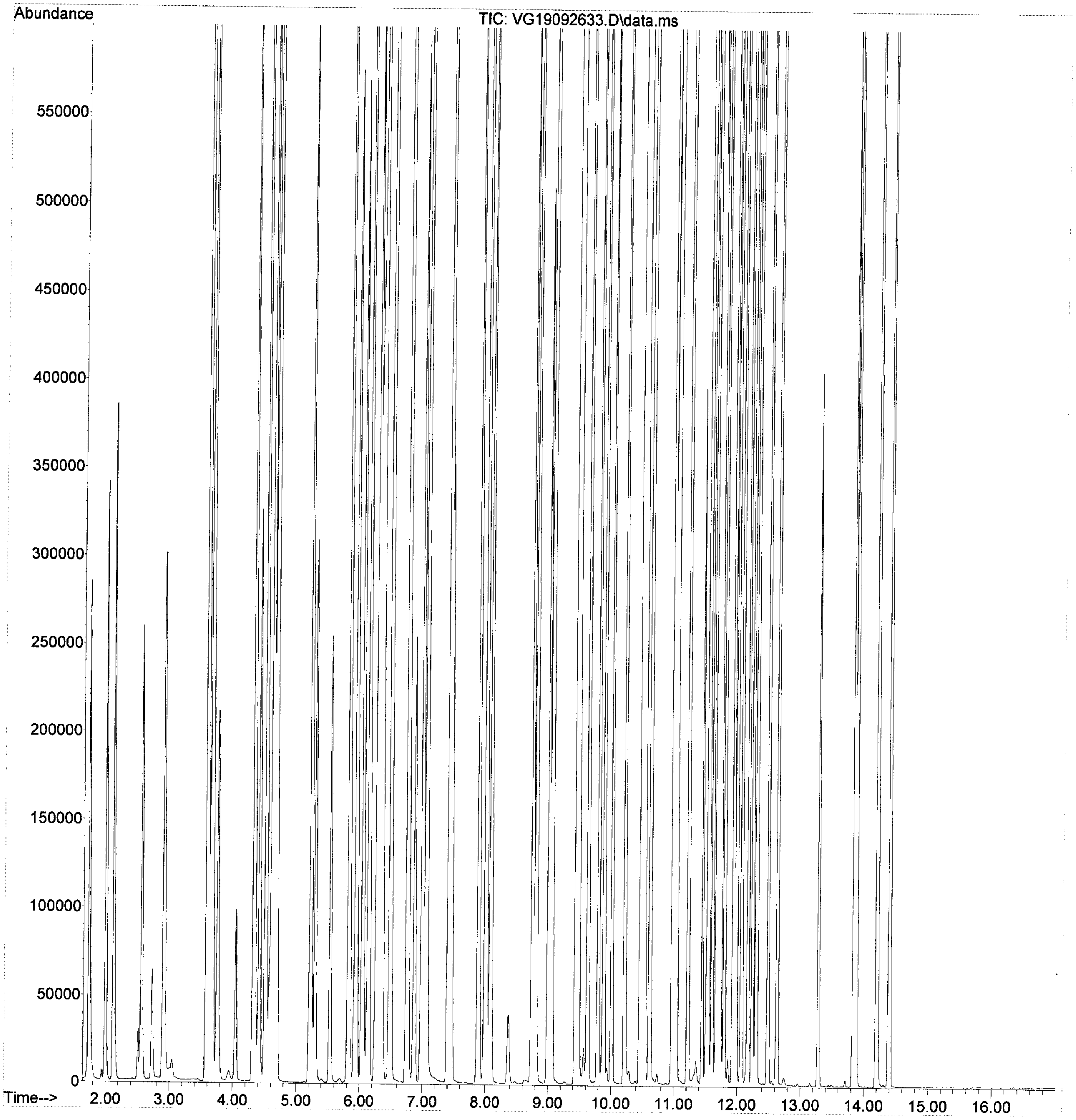
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	1646511	209.78	ug/L	99
50) Tetrachloroethene (PCE)	9.434	166	431076	214.01	ug/L	98
51) 4-Methyl-2-Pentanone (...	9.440	43	983725	439.04	ug/L	92
52) t-1,3-Dichloropropene	9.477	75	588613	227.13	ug/L	98
53) 1,1,2-Trichloroethane	9.629	97	410673	217.14	ug/L	95
54) Dibromochloromethane	9.794	129	444877	319.51	ug/L	99
55) 1,3-Dichloropropane	9.879	76	676588	232.40	ug/L	98
56) 1,2-Dibromoethane (EDB)	10.007	107	456747	250.60	ug/L	99
57) 2-Hexanone	10.214	43	745676	442.00	ug/L	94
58) Chlorobenzene	10.470	112	1002146	191.61	ug/L	99
59) Ethylbenzene	10.495	91	1627490	214.75	ug/L	97
60) 1,1,1,2-Tetrachloroethane	10.525	131	378602	297.25	ug/L	97
61) m,p-Xylenes (2)	10.617	91	2286592	421.30	ug/L	98
62) o-Xylene	10.970	91	1248565	210.11	ug/L	99
63) Styrene	11.013	104	980108	208.07	ug/L	96
64) Bromoform	11.043	173	296965	203.24	ug/L	99
65) Isopropylbenzene	11.220	105	1473949	207.84	ug/L	100
68) Bromobenzene	11.531	156	411473	195.32	ug/L	99
69) n-Propylbenzene	11.543	91	1558293	226.97	ug/L	100
70) 1,1,2,2-Tetrachloroethane	11.604	83	430386	149.41	ug/L	98
71) 2-Chlorotoluene	11.671	126	356156	230.24	ug/L	90
72) 1,3,5-Trimethylbenzene	11.690	105	1084119	252.39	ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	140832	172.02	ug/L	90
74) t-1,4-Dichloro-2-butene	11.738	88	61240	213.45	ug/L	92
75) 4-Chlorotoluene	11.793	91	999096	237.67	ug/L	98
76) tert-Butylbenzene	11.934	91	603794	262.33	ug/L	97
77) 1,2,4-Trimethylbenzene	11.982	105	1077392	243.84	ug/L	98
78) sec-Butylbenzene	12.062	105	1284780	241.70	ug/L	98
79) 4-Isopropyltoluene	12.165	119	1059054	277.63	ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	659898	208.26	ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	652930	189.23	ug/L	97
82) n-Butylbenzene	12.488	91	840655	245.85	ug/L	99
83) 1,2-Dichlorobenzene	12.635	146	604858	202.85	ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	113563	258.59	ug/L	93
85) Hexachlorobutadiene	13.829	223	82859	198.46	ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	341357	221.79	ug/L	97
87) Naphthalene	14.201	128	1124699	196.45	ug/L	99
88) 1,2,3-Trichlorobenzene	14.396	180	322406	224.98	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	101639	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	267659	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114374	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	99656	49.57 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	330485	49.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	371122	50.32 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	104492	51.03 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	704	0.64 ug/L	76
3) Chloromethane	1.996	50	558	0.30 ug/L	94
4) Vinyl Chloride	2.118	62	472	0.25 ug/L	93
5) Bromomethane	2.557	96	320	0.42 ug/L	91
6) Chloroethane	2.734	64	290	Below Cal	66
7) Trichlorofluoromethane	2.935	101	654	0.35 ug/L	97
8) Ethanol	3.649	45	69	1.24 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	823	0.31 ug/L	95
10) Carbon Disulfide	3.594	76	4814	1.47 ug/L	97
11) Freon 113	3.667	101	1021	0.57 ug/L	94
12) Iodomethane	3.758	142	319	0.21 ug/L	85
13) Acrolein	4.039	56	37	0.08 ug/L #	5
14) Methylene Chloride	4.325	84	7222	3.51 ug/L	99
15) Acetone	4.411	43	3629	3.08 ug/L	91
16) t-1,2-Dichloroethene	4.514	61	1564	0.58 ug/L	96
17) n-Hexane	4.612	86	180	0.63 ug/L #	90
18) Methyl-tert-butyl-ether	4.673	73	26	0.00 ug/L	57
19) tert-Butanol (TBA)	4.819	59	11	0.03 ug/L #	46
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.227	63	279	0.08 ug/L	86
22) Acrylonitrile	5.313	53	223	0.17 ug/L	94
23) Vinyl Acetate	5.575	43	12	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.831	61	708	0.25 ug/L	96
26) 2,2-Dichloropropane	5.935	77	12	0.01 ug/L #	32
27) Bromochloromethane	6.044	49	291	0.17 ug/L	82
28) Chloroform	6.148	83	378	0.11 ug/L	82
29) Carbon Tetrachloride	6.264	117	248	0.31 ug/L	89
30) Tetrahydrofuran	6.319	42	136	0.11 ug/L	89
31) 1,1,1-Trichloroethane	6.343	97	219	0.09 ug/L #	69
33) 1,1-Dichloropropene	6.489	75	1263	0.47 ug/L	92
34) 2-Butanone (MEK)	6.502	43	541	0.29 ug/L	93
35) Benzene	6.764	78	1247	0.14 ug/L	97
36) tert-Amyl methyl ether...	6.861	73	135	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.989	62	326	0.12 ug/L	77
38) iso-Butyl Alcohol	7.063	43	646	3.51 ug/L	87
40) Trichloroethene (TCE)	7.416	130	996	0.44 ug/L	87
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.886	93	253	0.19 ug/L	76
43) 1,2-Dichloropropane	8.001	63	156	0.07 ug/L	85
44) Bromodichloromethane	8.081	83	123	0.06 ug/L	95
46) 2-Chloroethyl Vinyl Ether	8.745	63	30	0.02 ug/L #	1
47) c-1,3-Dichloropropene	8.812	75	322	0.24 ug/L	93

NR 9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

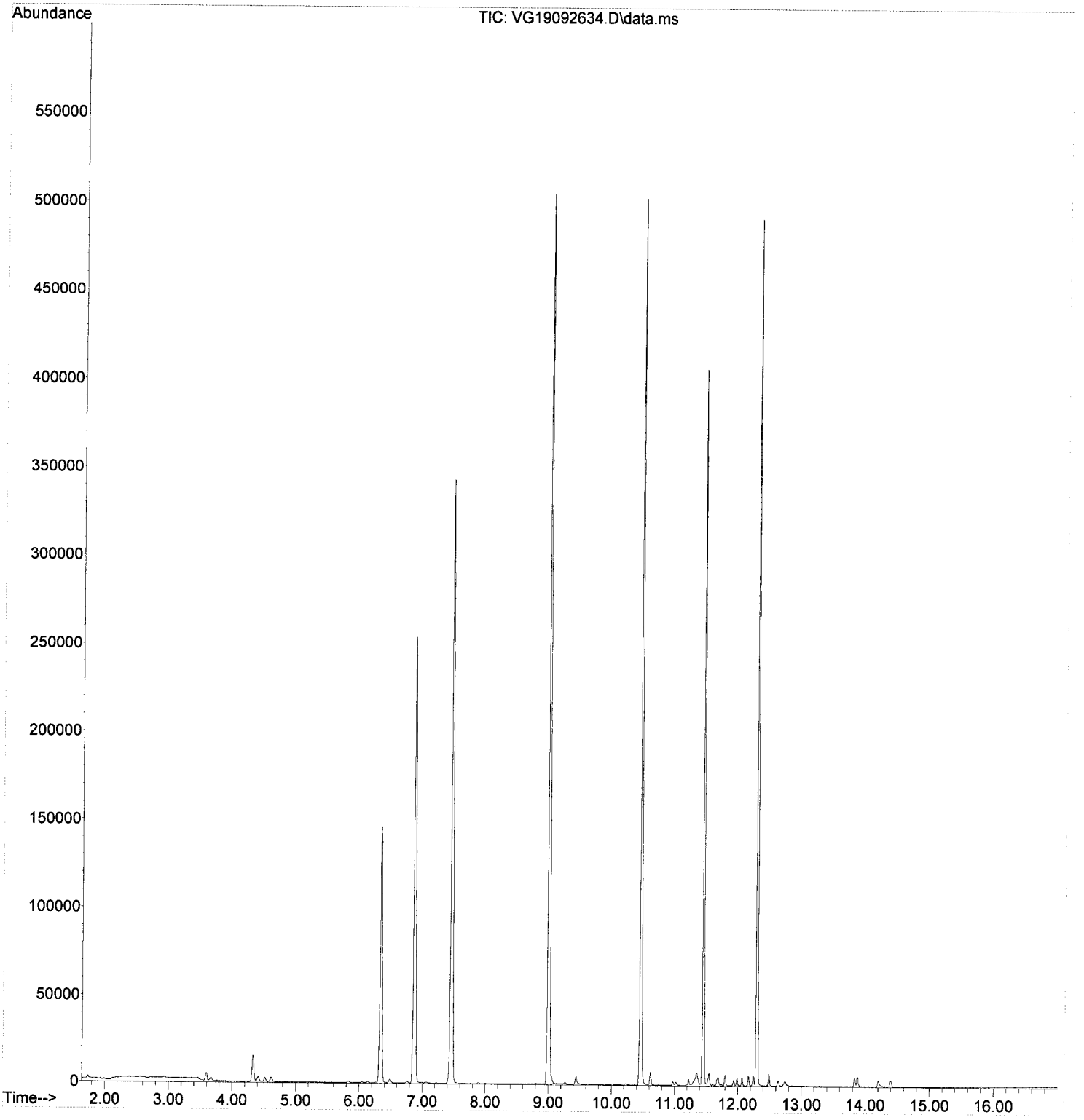
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1956	0.23 ug/L	98
50) Tetrachloroethene (PCE)	9.440	166	1414	0.66 ug/L	98
51) 4-Methyl-2-Pentanone (...	9.446	43	701	0.24 ug/L	83
52) t-1,3-Dichloropropene	9.483	75	358	0.32 ug/L	88
53) 1,1,2-Trichloroethane	9.629	97	115	0.06 ug/L #	61
54) Dibromochloromethane	9.794	129	103	0.67 ug/L #	50
55) 1,3-Dichloropropane	9.885	76	279	0.08 ug/L	94
56) 1,2-Dibromoethane (EDB)	10.013	107	334	0.17 ug/L	86
57) 2-Hexanone	10.227	43	621	0.29 ug/L	87
58) Chlorobenzene	10.470	112	1698	0.31 ug/L #	72
59) Ethylbenzene	10.495	91	2599	0.31 ug/L	92
60) 1,1,1,2-Tetrachloroethane	10.525	131	60	0.15 ug/L	83
61) m,p-Xylenes (2)	10.617	91	4289	0.73 ug/L	93
62) o-Xylene	10.976	91	1250	0.21 ug/L	99
63) Styrene	11.019	104	1144	0.26 ug/L	98
64) Bromoform	11.043	173	81	0.54 ug/L #	37
65) Isopropylbenzene	11.220	105	2176	0.31 ug/L	96
68) Bromobenzene	11.531	156	691	0.33 ug/L	94
69) n-Propylbenzene	11.543	91	4145	0.56 ug/L	96
70) 1,1,2,2-Tetrachloroethane	11.604	83	214	0.08 ug/L	82
71) 2-Chlorotoluene	11.671	126	684	0.41 ug/L #	78
72) 1,3,5-Trimethylbenzene	11.690	105	2171	0.43 ug/L	91
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	11.738	88	34	0.92 ug/L #	50
75) 4-Chlorotoluene	11.799	91	2806	0.58 ug/L	99
76) tert-Butylbenzene	11.934	91	1095	0.39 ug/L	86
77) 1,2,4-Trimethylbenzene	11.988	105	2430	0.47 ug/L	95
78) sec-Butylbenzene	12.068	105	3144	0.54 ug/L	95
79) 4-Isopropyltoluene	12.165	119	3014	0.63 ug/L	96
80) 1,3-Dichlorobenzene	12.238	146	2300	0.70 ug/L	97
81) 1,4-Dichlorobenzene	12.305	146	2767	0.81 ug/L	87
82) n-Butylbenzene	12.488	91	3630	0.88 ug/L	96
83) 1,2-Dichlorobenzene	12.635	146	1451	0.47 ug/L	97
84) 1,2-Dibromo-3-Chloropr...	13.287	157	14	1.03 ug/L #	47
85) Hexachlorobutadiene	13.829	223	742	1.72 ug/L	96
86) 1,2,4-Trichlorobenzene	13.878	180	2184	1.19 ug/L	93
87) Naphthalene	14.201	128	3706	0.70 ug/L	96
88) 1,2,3-Trichlorobenzene	14.396	180	1570	0.98 ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	98274	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	263169	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113880	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	95020	48.89 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	321119	50.07 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	363495	50.13 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	102881	50.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	335	0.36 ug/L	93
3) Chloromethane	1.990	50	349	0.20 ug/L	90
4) Vinyl Chloride	2.119	62	169	0.09 ug/L #	46
5) Bromomethane	2.557	96	242	0.33 ug/L	75
6) Chloroethane	2.740	64	95	Below Cal #	47
7) Trichlorofluoromethane	2.935	101	240	0.13 ug/L	81
8) Ethanol	3.643	45	25	0.46 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	299	0.12 ug/L	83
10) Carbon Disulfide	3.594	76	1840	0.58 ug/L	96
11) Freon 113	3.667	101	529	0.31 ug/L	91
12) Iodomethane	3.758	142	176	0.09 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.332	84	6743	3.39 ug/L	97
15) Acetone	4.411	43	1472	1.29 ug/L	98
16) t-1,2-Dichloroethene	4.520	61	603	0.23 ug/L	98
17) n-Hexane	4.618	86	11	0.04 ug/L #	49
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.838	59	185	0.51 ug/L #	30
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.222	63	47	0.01 ug/L #	50
22) Acrylonitrile	5.319	53	10	0.01 ug/L #	14
23) Vinyl Acetate	5.636	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.837	61	217	0.08 ug/L	85
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.045	49	103	0.06 ug/L #	63
28) Chloroform	6.136	83	114	0.03 ug/L #	56
29) Carbon Tetrachloride	6.258	117	69	0.21 ug/L #	13
30) Tetrahydrofuran	6.331	42	20	0.02 ug/L #	34
31) 1,1,1-Trichloroethane	6.349	97	55	0.02 ug/L #	25
33) 1,1-Dichloropropene	6.490	75	539	0.21 ug/L	98
34) 2-Butanone (MEK)	6.508	43	162	0.09 ug/L	77
35) Benzene	6.770	78	532	0.06 ug/L	81
36) tert-Amyl methyl ether...	6.862	73	93	0.02 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.996	62	52	0.02 ug/L #	49
38) iso-Butyl Alcohol	7.063	43	108	0.61 ug/L	67
40) Trichloroethene (TCE)	7.416	130	403	0.18 ug/L	93
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.898	93	56	0.04 ug/L #	44
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	8.081	83	12	0.01 ug/L #	26
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	8.812	75	29	0.13 ug/L #	33

NR 9/30/19 tm

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

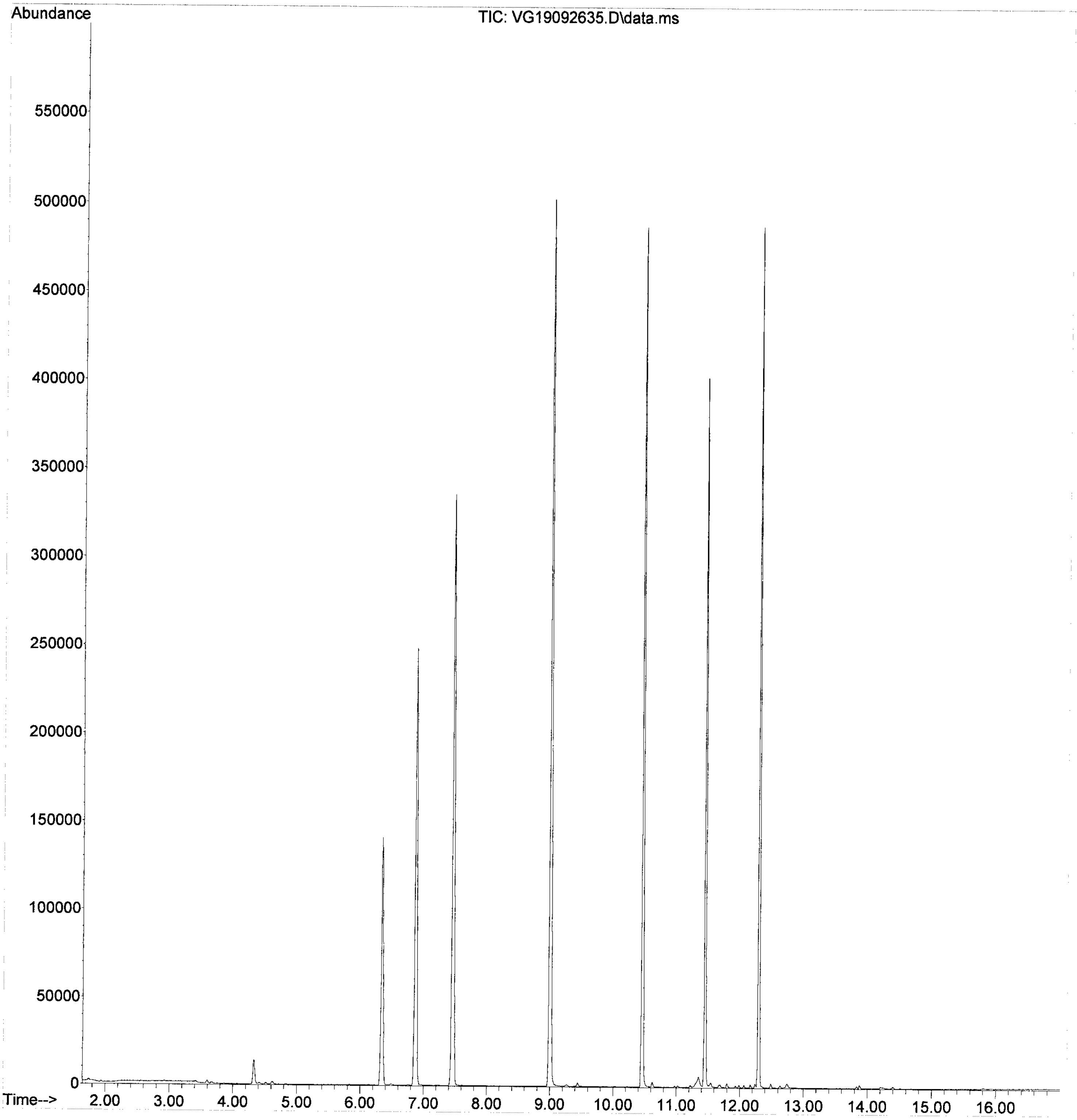
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	864	0.10 ug/L	94
50) Tetrachloroethene (PCE)	9.440	166	620	0.30 ug/L	89
51) 4-Methyl-2-Pentanone (...	9.452	43	221	0.08 ug/L #	43
52) t-1,3-Dichloropropene	9.489	75	151	0.23 ug/L	75
53) 1,1,2-Trichloroethane	9.629	97	11	0.01 ug/L #	12
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.885	76	98	0.03 ug/L #	79
56) 1,2-Dibromoethane (EDB)	10.019	107	117	0.06 ug/L	99
57) 2-Hexanone	10.227	43	198	0.09 ug/L	75
58) Chlorobenzene	10.471	112	718	0.14 ug/L #	31
59) Ethylbenzene	10.495	91	1025	0.12 ug/L	93
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	1730	0.30 ug/L	94
62) o-Xylene	10.977	91	524	0.09 ug/L	92
63) Styrene	11.025	104	448	0.10 ug/L	96
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.227	105	806	0.12 ug/L	97
68) Bromobenzene	11.531	156	289	0.14 ug/L #	84
69) n-Propylbenzene	11.544	91	1622	0.22 ug/L	94
70) 1,1,2,2-Tetrachloroethane	11.611	83	47	0.02 ug/L #	24
71) 2-Chlorotoluene	11.672	126	224	0.14 ug/L	93
72) 1,3,5-Trimethylbenzene	11.690	105	792	0.16 ug/L	93
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	1120	0.23 ug/L	84
76) tert-Butylbenzene	11.934	91	313	0.11 ug/L	86
77) 1,2,4-Trimethylbenzene	11.989	105	910	0.18 ug/L	92
78) sec-Butylbenzene	12.068	105	1098	0.19 ug/L	94
79) 4-Isopropyltoluene	12.165	119	1106	0.23 ug/L	97
80) 1,3-Dichlorobenzene	12.245	146	882	0.27 ug/L	93
81) 1,4-Dichlorobenzene	12.306	146	1174	0.35 ug/L #	65
82) n-Butylbenzene	12.488	91	1516	0.37 ug/L	98
83) 1,2-Dichlorobenzene	12.635	146	495	0.16 ug/L	85
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.836	223	210	0.49 ug/L	86
86) 1,2,4-Trichlorobenzene	13.878	180	810	0.44 ug/L	98
87) Naphthalene	14.202	128	1087	0.21 ug/L	89
88) 1,2,3-Trichlorobenzene	14.403	180	471	0.30 ug/L	88

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	99594	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	272148	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	122354	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	101717	51.64	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	325832	50.13	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	372645	49.69	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	108084	49.34	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	19743	15.60	ug/L		97
3) Chloromethane	1.996	50	31803	17.68	ug/L		99
4) Vinyl Chloride	2.118	62	34132	18.73	ug/L		95
5) Bromomethane	2.557	96	16729	22.35	ug/L		97
6) Chloroethane	2.728	64	6386	20.90	ug/L		92
7) Trichlorofluoromethane	2.917	101	33796	18.70	ug/L		97
8) Ethanol	3.667	45	185	3.39	ug/L	#	29
9) 1,1-Dichloroethene	3.588	61	50562	19.32	ug/L		99
10) Carbon Disulfide	3.594	76	68070	21.24	ug/L		98
11) Freon 113	3.661	101	30229	17.31	ug/L		96
12) Iodomethane	3.758	142	18007	15.09	ug/L		96
13) Acrolein	4.045	56	8827	20.27	ug/L		96
14) Methylene Chloride	4.325	84	39622	19.66	ug/L		99
15) Acetone	4.411	43	45247	39.23	ug/L		97
16) t-1,2-Dichloroethene	4.514	61	52839	20.00	ug/L		98
17) n-Hexane	4.612	86	4294	15.44	ug/L	#	54
18) Methyl-tert-butyl-ether	4.673	73	104841	20.27	ug/L		96
19) tert-Butanol (TBA)	0.000		0	N.D.			
20) Diisopropyl ether (DIPE)	0.000		0	N.D.			
21) 1,1-Dichloroethane	5.221	63	72473	21.76	ug/L		99
22) Acrylonitrile	5.295	53	26043	20.03	ug/L		96
23) Vinyl Acetate	5.538	43	52518	21.31	ug/L		98
24) Ethyl-tert-butyl ether...	0.000		0	N.D.			
25) c-1,2-Dichloroethene	5.831	61	55638	19.91	ug/L		98
26) 2,2-Dichloropropane	5.941	77	30172	18.32	ug/L		76
27) Bromochloromethane	6.044	49	34153	20.32	ug/L		99
28) Chloroform	6.142	83	68580	20.29	ug/L		95
29) Carbon Tetrachloride	6.270	117	34210	19.37	ug/L		93
30) Tetrahydrofuran	6.313	42	25570	20.70	ug/L		95
31) 1,1,1-Trichloroethane	6.349	97	50725	21.57	ug/L		97
33) 1,1-Dichloropropene	6.483	75	48958	18.78	ug/L		98
34) 2-Butanone (MEK)	6.483	43	73431	40.41	ug/L		99
35) Benzene	6.758	78	162072	18.95	ug/L		99
36) tert-Amyl methyl ether...	6.867	73	150	0.04	ug/L	#	1
37) 1,2-Dichloroethane (EDC)	6.989	62	53969	20.53	ug/L		99
38) iso-Butyl Alcohol	7.050	43	109951	610.15	ug/L		98
40) Trichloroethene (TCE)	7.416	130	42156	18.81	ug/L		100
41) tert-Amyl ethyl ether ...	0.000		0	N.D.			
42) Dibromomethane	7.885	93	26665	20.21	ug/L		95
43) 1,2-Dichloropropane	8.001	63	43609	20.55	ug/L		94
44) Bromodichloromethane	8.081	83	42122	21.71	ug/L		98
46) 2-Chloroethyl Vinyl Ether	8.745	63	30788	19.88	ug/L	#	1
47) c-1,3-Dichloropropene	8.806	75	53503	19.82	ug/L		93

9/30/19 [illegible]

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

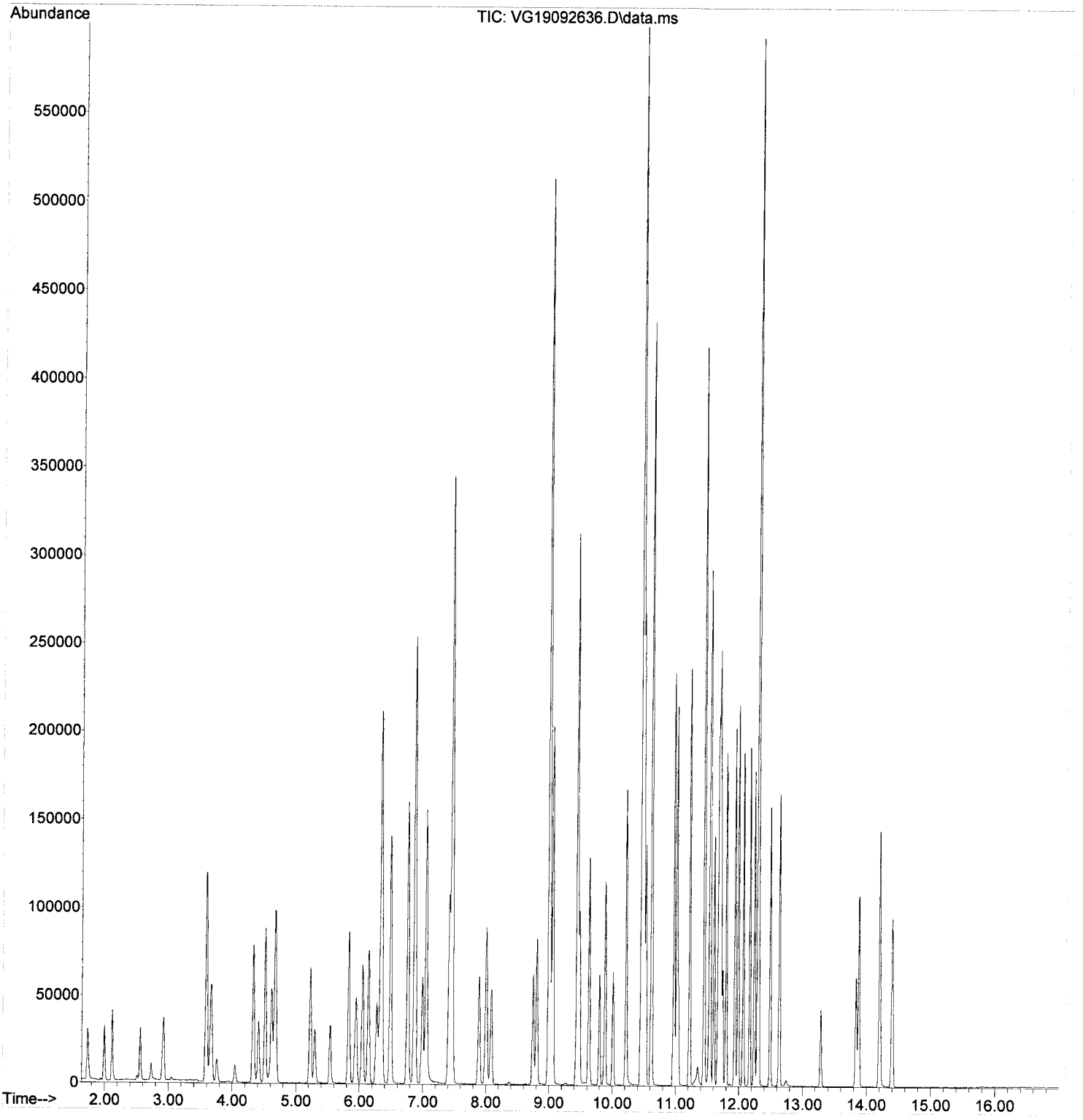
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	158723	18.23	ug/L		100
50) Tetrachloroethene (PCE)	9.440	166	37268	17.16	ug/L		96
51) 4-Methyl-2-Pentanone (...	9.440	43	129707	43.77	ug/L		96
52) t-1,3-Dichloropropene	9.477	75	47833	19.74	ug/L		98
53) 1,1,2-Trichloroethane	9.629	97	41063	20.30	ug/L		95
54) Dibromochloromethane	9.794	129	32698	19.45	ug/L		99
55) 1,3-Dichloropropane	9.885	76	67844	20.03	ug/L		98
56) 1,2-Dibromoethane (EDB)	10.007	107	42689	20.85	ug/L		98
57) 2-Hexanone	10.214	43	96042	43.83	ug/L		99
58) Chlorobenzene	10.470	112	100789	18.34	ug/L		99
59) Ethylbenzene	10.489	91	155597	18.24	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	32120	19.81	ug/L		97
61) m,p-Xylenes (2)	10.617	91	221924	36.91	ug/L		98
62) o-Xylene	10.970	91	117614	19.29	ug/L		98
63) Styrene	11.013	104	93279	20.72	ug/L		98
64) Bromoform	11.043	173	21904	18.52	ug/L		98
65) Isopropylbenzene	11.220	105	135415	18.92	ug/L		99
68) Bromobenzene	11.531	156	41985	18.77	ug/L		94
69) n-Propylbenzene	11.543	91	142532	17.88	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.604	83	60721	22.07	ug/L		99
71) 2-Chlorotoluene	11.671	126	33565	18.86	ug/L		96
72) 1,3,5-Trimethylbenzene	11.690	105	100490	18.48	ug/L		94
73) 1,2,3-Trichloropropane	11.708	110	18416	21.93	ug/L	#	84
74) t-1,4-Dichloro-2-butene	11.738	88	4909	17.48	ug/L	#	83
75) 4-Chlorotoluene	11.793	91	93022	17.96	ug/L		96
76) tert-Butylbenzene	11.933	91	55694	18.52	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	102828	18.58	ug/L		96
78) sec-Butylbenzene	12.062	105	115640	18.59	ug/L		96
79) 4-Isopropyltoluene	12.165	119	93781	18.40	ug/L		98
80) 1,3-Dichlorobenzene	12.238	146	64551	18.34	ug/L		98
81) 1,4-Dichlorobenzene	12.305	146	64578	17.69	ug/L		96
82) n-Butylbenzene	12.488	91	76336	17.33	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	64271	19.51	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	11196	20.21	ug/L		88
85) Hexachlorobutadiene	13.836	223	8603	18.64	ug/L		96
86) 1,2,4-Trichlorobenzene	13.878	180	37844	19.20	ug/L		98
87) Naphthalene	14.201	128	125372	22.11	ug/L		99
88) 1,2,3-Trichlorobenzene	14.396	180	36030	21.13	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	96909	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	260255	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113704	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	94018	49.05 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	315070	49.82 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	357168	49.81 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.452	174	101932	50.07 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	142	0.21 ug/L	#	51
3) Chloromethane	1.996	50	566	0.32 ug/L		77
4) Vinyl Chloride	2.118	62	297	0.17 ug/L		89
5) Bromomethane	2.557	96	311	0.43 ug/L		80
6) Chloroethane	2.746	64	150	Below Cal	#	47
7) Trichlorofluoromethane	2.935	101	208	0.12 ug/L		79
8) Ethanol	3.643	45	72771	1370.49 ug/L		85
9) 1,1-Dichloroethene	3.594	61	490	0.19 ug/L		89
10) Carbon Disulfide	3.594	76	1519	0.49 ug/L		93
11) Freon 113	3.673	101	361	0.21 ug/L		83
12) Iodomethane	3.758	142	345	0.24 ug/L		85
13) Acrolein	4.051	56	10	0.02 ug/L	#	23
14) Methylene Chloride	4.331	84	2897	1.48 ug/L		97
15) Acetone	4.411	43	1311	1.17 ug/L		90
16) t-1,2-Dichloroethene	4.508	61	720	0.28 ug/L		80
17) n-Hexane	4.624	86	32	0.12 ug/L	#	47
18) Methyl-tert-butyl-ether	4.685	73	49	0.01 ug/L		57
19) tert-Butanol (TBA)	4.831	59	520675	1448.37 ug/L	#	78
20) Diisopropyl ether (DIPE)	5.118	45	30570	5.34 ug/L		93
21) 1,1-Dichloroethane	5.228	63	508	0.16 ug/L		91
22) Acrylonitrile	5.301	53	138	0.11 ug/L		82
23) Vinyl Acetate	5.526	43	2582	2.34 ug/L		57
24) Ethyl-tert-butyl ether...	5.526	59	24451	5.27 ug/L		96
25) c-1,2-Dichloroethene	5.825	61	463	0.17 ug/L		91
26) 2,2-Dichloropropane	5.935	77	152	0.09 ug/L		82
27) Bromochloromethane	6.045	49	112	0.07 ug/L	#	65
28) Chloroform	6.136	83	457	0.14 ug/L		88
29) Carbon Tetrachloride	6.270	117	160	0.26 ug/L	#	40
30) Tetrahydrofuran	6.325	42	31	0.03 ug/L	#	36
31) 1,1,1-Trichloroethane	6.349	97	282	0.12 ug/L		88
33) 1,1-Dichloropropene	6.490	75	585	0.23 ug/L		88
34) 2-Butanone (MEK)	6.508	43	57	0.03 ug/L		52
35) Benzene	6.764	78	1445	0.17 ug/L		96
36) tert-Amyl methyl ether...	6.904	73	20209	4.88 ug/L		76
37) 1,2-Dichloroethane (EDC)	6.989	62	116	0.05 ug/L	#	49
38) iso-Butyl Alcohol	7.075	43	75	0.43 ug/L	#	22
40) Trichloroethene (TCE)	7.416	130	489	0.22 ug/L		97
41) tert-Amyl ethyl ether ...	7.697	59	15030	5.15 ug/L		90
42) Dibromomethane	7.892	93	49	0.04 ug/L	#	1
43) 1,2-Dichloropropane	8.008	63	172	0.08 ug/L	#	40
44) Bromodichloromethane	8.093	83	96	0.05 ug/L		73
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	8.812	75	170	0.19 ug/L	#	72

NR NR NR

9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

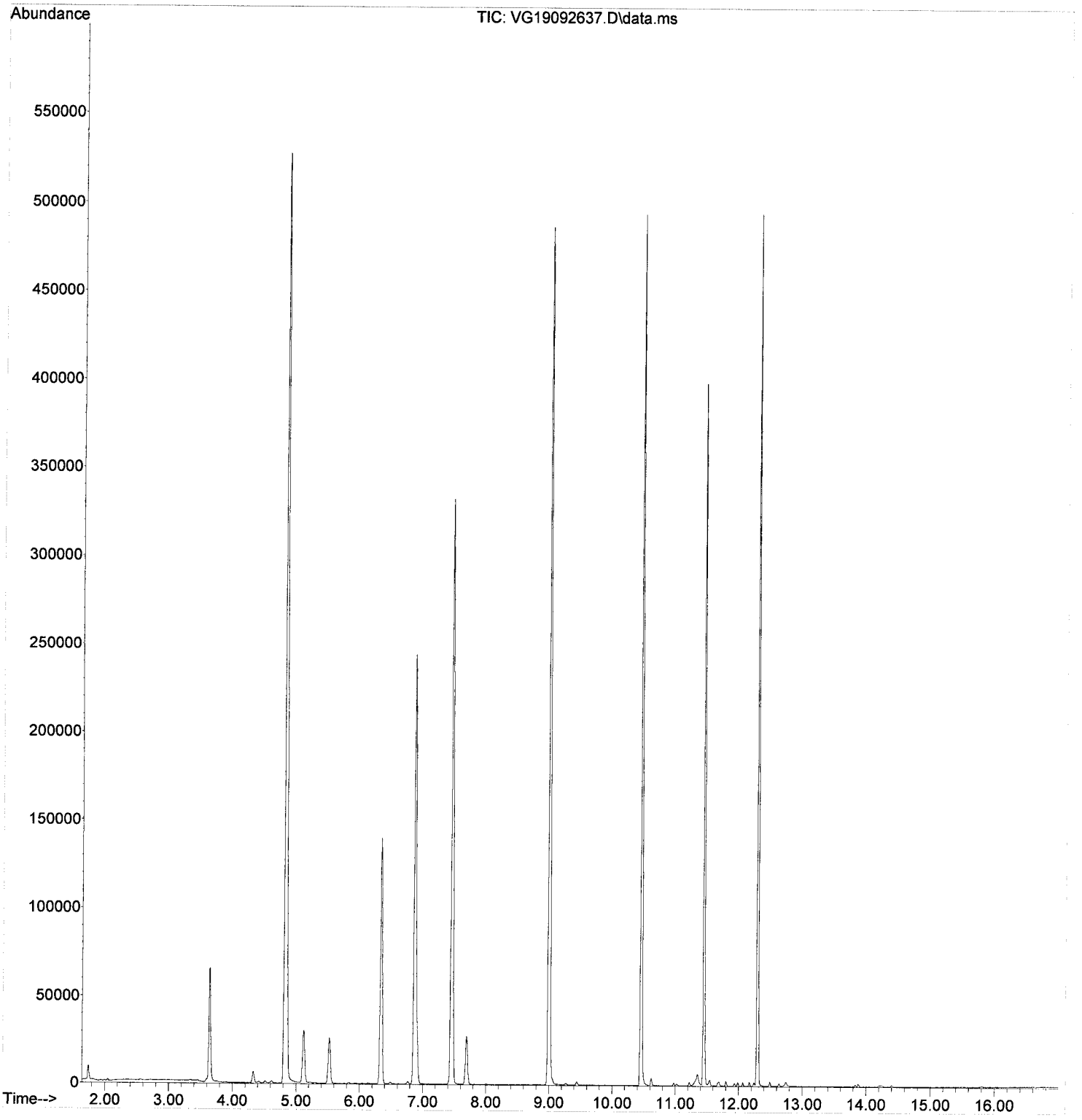
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
49) Toluene	9.056	91	1597	0.19 ug/L		99
50) Tetrachloroethene (PCE)	9.440	166	598	0.29 ug/L		90
51) 4-Methyl-2-Pentanone (...	9.452	43	140	0.05 ug/L	#	43
52) t-1,3-Dichloropropene	9.489	75	91	0.21 ug/L	#	45
53) 1,1,2-Trichloroethane	9.635	97	60	0.03 ug/L	#	38
54) Dibromochloromethane	9.800	129	19	0.62 ug/L	#	55
55) 1,3-Dichloropropane	9.891	76	116	0.04 ug/L	#	68
56) 1,2-Dibromoethane (EDB)	10.019	107	71	0.04 ug/L		93
57) 2-Hexanone	10.233	43	122	0.06 ug/L		73
58) Chlorobenzene	10.470	112	977	0.19 ug/L	#	44
59) Ethylbenzene	10.495	91	1662	0.20 ug/L		96
60) 1,1,1,2-Tetrachloroethane	10.519	131	97	0.18 ug/L	#	75
61) m,p-Xylenes (2)	10.617	91	2486	0.43 ug/L		95
62) o-Xylene	10.976	91	919	0.16 ug/L		94
63) Styrene	11.019	104	658	0.15 ug/L		91
64) Bromoform	11.044	173	10	0.48 ug/L	#	37
65) Isopropylbenzene	11.220	105	1275	0.19 ug/L		97
68) Bromobenzene	11.531	156	338	0.16 ug/L		98
69) n-Propylbenzene	11.543	91	1941	0.26 ug/L		92
70) 1,1,2,2-Tetrachloroethane	11.604	83	61	0.02 ug/L		66
71) 2-Chlorotoluene	11.671	126	361	0.22 ug/L		86
72) 1,3,5-Trimethylbenzene	11.690	105	1150	0.23 ug/L		90
73) 1,2,3-Trichloropropane	0.000		0	N.D.		
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
75) 4-Chlorotoluene	11.799	91	1281	0.27 ug/L		98
76) tert-Butylbenzene	11.934	91	542	0.19 ug/L		85
77) 1,2,4-Trimethylbenzene	11.988	105	1171	0.23 ug/L		97
78) sec-Butylbenzene	12.068	105	1264	0.22 ug/L		95
79) 4-Isopropyltoluene	12.165	119	1264	0.27 ug/L		93
80) 1,3-Dichlorobenzene	12.238	146	915	0.28 ug/L		95
81) 1,4-Dichlorobenzene	12.305	146	1105	0.33 ug/L	#	67
82) n-Butylbenzene	12.488	91	1510	0.37 ug/L		96
83) 1,2-Dichlorobenzene	12.635	146	594	0.19 ug/L		93
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
85) Hexachlorobutadiene	13.830	223	189	0.44 ug/L	#	83
86) 1,2,4-Trichlorobenzene	13.878	180	630	0.34 ug/L		93
87) Naphthalene	14.208	128	919	0.17 ug/L		79
88) 1,2,3-Trichlorobenzene	14.397	180	462	0.29 ug/L		91

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	103333	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	277181	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	120377	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	99507	48.69 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	338557	50.20 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	380103	49.77 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	108807	50.49 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	102	0.17 ug/L	#	51
3) Chloromethane	1.991	50	263	0.14 ug/L		85
4) Vinyl Chloride	2.125	62	30	0.02 ug/L	#	46
5) Bromomethane	2.558	96	149	0.19 ug/L		88
6) Chloroethane	2.734	64	65	Below Cal	#	47
7) Trichlorofluoromethane	2.923	101	63	0.03 ug/L		82
8) Ethanol	0.000		0	N.D.		
9) 1,1-Dichloroethene	3.588	61	98	0.04 ug/L	#	49
10) Carbon Disulfide	3.594	76	753	0.23 ug/L		91
11) Freon 113	3.661	101	215	0.12 ug/L	#	59
12) Iodomethane	3.758	142	154	0.07 ug/L	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.332	84	10193	4.87 ug/L		96
15) Acetone	4.411	43	2939	2.46 ug/L		99
16) t-1,2-Dichloroethene	4.521	61	232	0.08 ug/L		93
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	4.831	59	273	0.71 ug/L	#	22
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.		
22) Acrylonitrile	0.000		0	N.D.		
23) Vinyl Acetate	5.563	43	11	1.37 ug/L		74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	5.831	61	65	0.02 ug/L	#	29
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	6.136	83	19	0.01 ug/L	#	25
29) Carbon Tetrachloride	0.000		0	N.D.		
30) Tetrahydrofuran	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	6.496	75	243	0.09 ug/L		78
34) 2-Butanone (MEK)	6.490	43	11	0.01 ug/L		52
35) Benzene	6.764	78	238	0.03 ug/L		68
36) tert-Amyl methyl ether...	6.855	73	107	0.02 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	0.000		0	N.D.		
40) Trichloroethene (TCE)	7.416	130	125	0.05 ug/L	#	54
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.		
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	8.818	75	10	0.12 ug/L	#	33

NR 9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

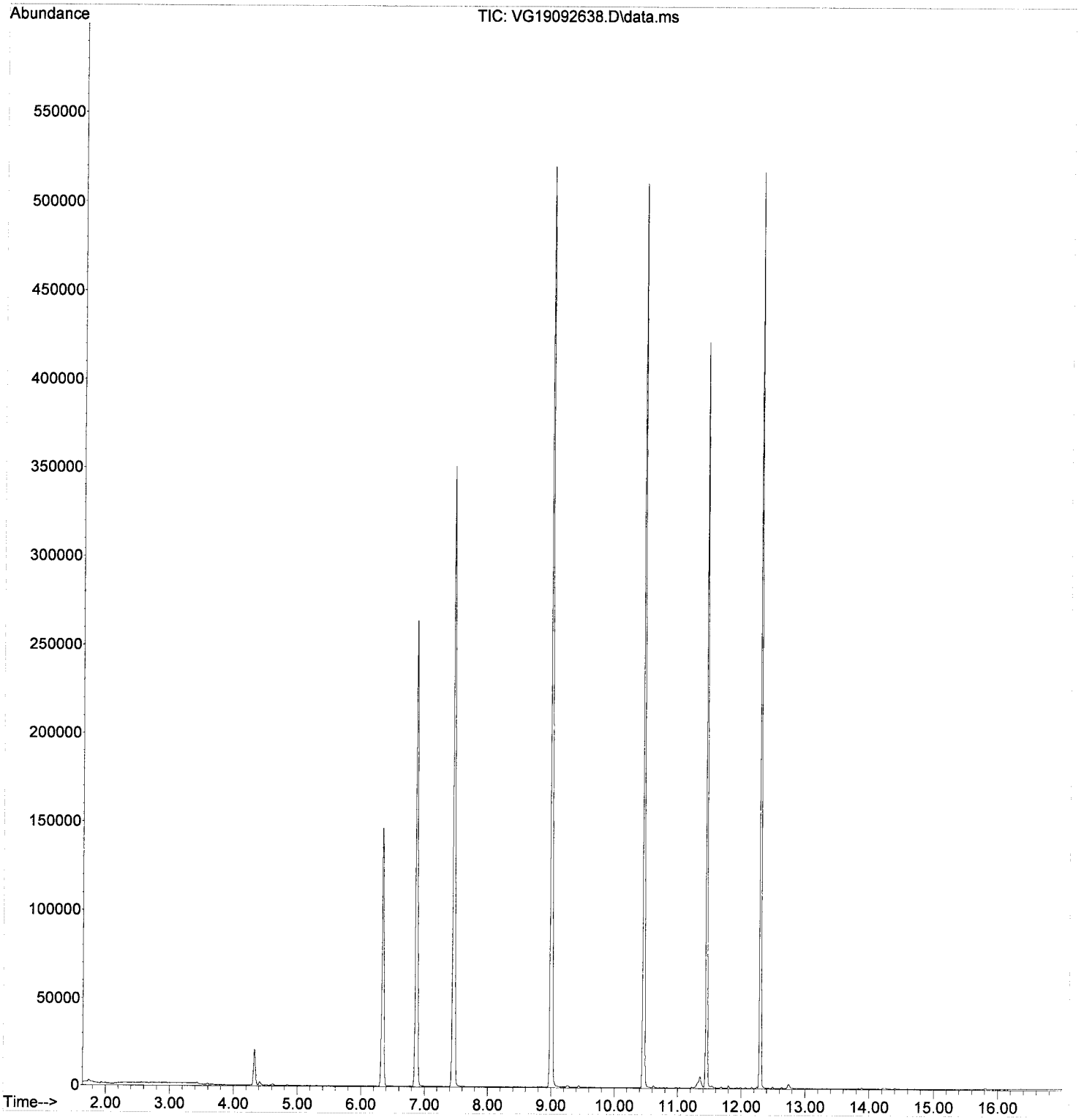
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	472	0.05 ug/L	82
50) Tetrachloroethene (PCE)	9.446	166	266	0.12 ug/L	92
51) 4-Methyl-2-Pentanone (...	9.452	43	32	0.01 ug/L #	43
52) t-1,3-Dichloropropene	9.477	75	10	0.17 ug/L #	45
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.891	76	20	0.01 ug/L #	28
56) 1,2-Dibromoethane (EDB)	10.026	107	10	0.00 ug/L	95
57) 2-Hexanone	10.239	43	31	0.01 ug/L #	32
58) Chlorobenzene	10.464	112	317	0.06 ug/L #	1
59) Ethylbenzene	10.501	91	455	0.05 ug/L	96
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.623	91	783	0.13 ug/L	95
62) o-Xylene	10.977	91	224	0.04 ug/L	82
63) Styrene	11.031	104	189	0.04 ug/L #	40
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.227	105	342	0.05 ug/L	69
68) Bromobenzene	11.531	156	131	0.06 ug/L #	72
69) n-Propylbenzene	11.544	91	696	0.09 ug/L	86
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	11.672	126	101	0.06 ug/L #	73
72) 1,3,5-Trimethylbenzene	11.690	105	337	0.06 ug/L	86
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	530	0.10 ug/L	96
76) tert-Butylbenzene	11.934	91	168	0.06 ug/L #	68
77) 1,2,4-Trimethylbenzene	11.982	105	423	0.08 ug/L	82
78) sec-Butylbenzene	12.068	105	428	0.07 ug/L	90
79) 4-Isopropyltoluene	12.165	119	455	0.09 ug/L	82
80) 1,3-Dichlorobenzene	12.245	146	435	0.13 ug/L	84
81) 1,4-Dichlorobenzene	12.306	146	569	0.16 ug/L #	33
82) n-Butylbenzene	12.495	91	629	0.15 ug/L	92
83) 1,2-Dichlorobenzene	12.641	146	231	0.07 ug/L	95
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.848	223	10	0.02 ug/L #	1
86) 1,2,4-Trichlorobenzene	13.885	180	351	0.18 ug/L	83
87) Naphthalene	14.208	128	432	0.08 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	204	0.12 ug/L	79

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

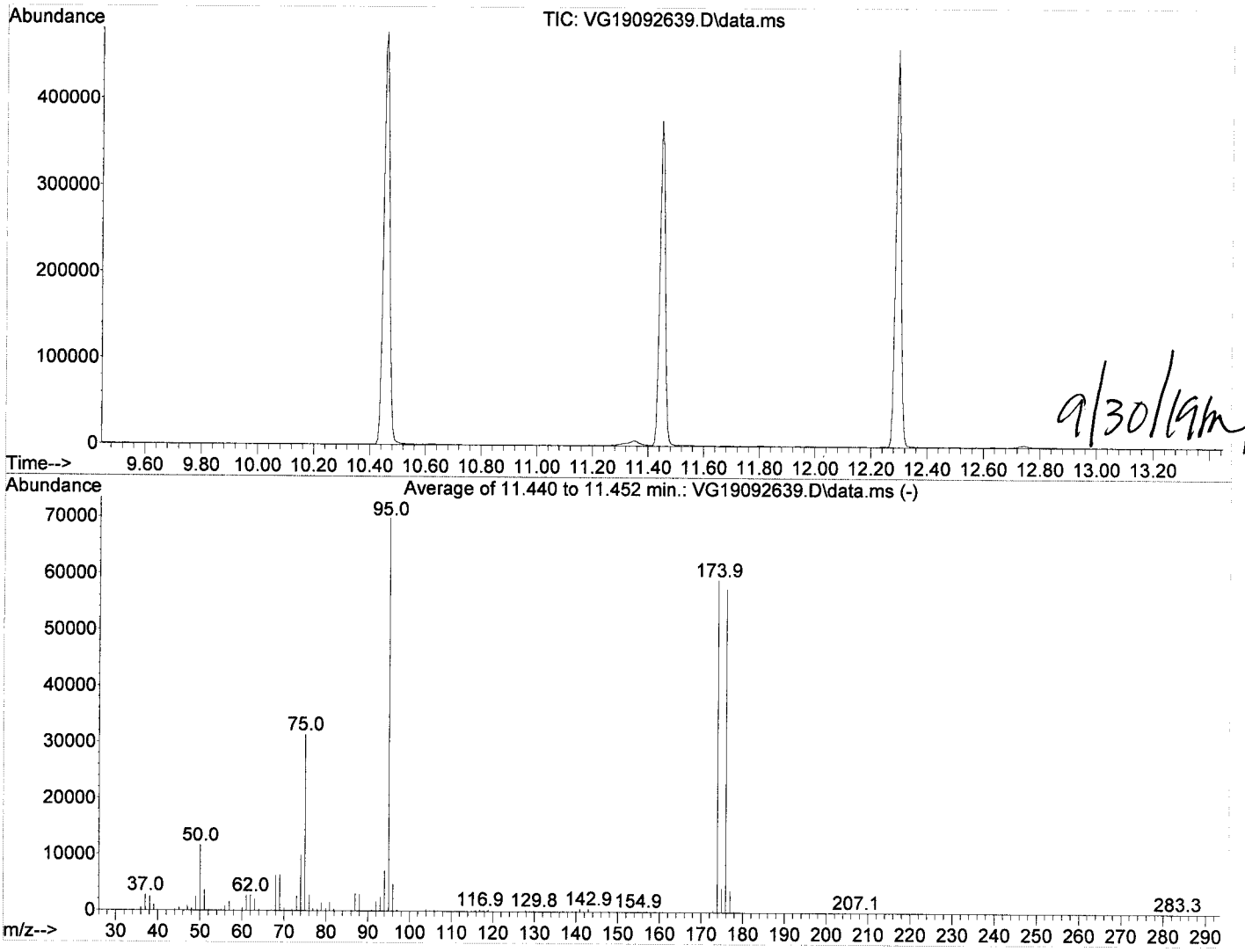


BFB

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019



9/30/19 MM

AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	118.3	69915	PASS
96	95	5	9	6.8	4777	PASS
173	174	0.00	2	0.6	329	PASS
174	95	50	200	84.5	59101	PASS
175	174	5	9	7.2	4234	PASS
176	174	95	105	97.3	57499	PASS
177	176	5	10	6.6	3809	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	94294	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	250236	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	105598	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	91679	49.16 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	307502	49.97 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	347308	50.37 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	96250	50.91 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	34	0.12 ug/L	#	32
3) Chloromethane	1.997	50	255	0.15 ug/L		75
4) Vinyl Chloride	2.125	62	19	0.01 ug/L	#	46
5) Bromomethane	2.551	96	102	0.14 ug/L		79
6) Chloroethane	2.710	64	78	Below Cal	#	26
7) Trichlorofluoromethane	2.929	101	22	0.01 ug/L	#	27
8) Ethanol	3.649	45	10	0.19 ug/L	#	29
9) 1,1-Dichloroethene	3.600	61	51	0.02 ug/L	#	25
10) Carbon Disulfide	3.594	76	518	0.17 ug/L		76
11) Freon 113	3.673	101	153	0.09 ug/L		83
12) Iodomethane	3.771	142	42	Below Cal	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.325	84	8587	4.50 ug/L		98
15) Acetone	4.417	43	1154	1.06 ug/L		90
16) t-1,2-Dichloroethene	4.521	61	116	0.05 ug/L		90
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	4.838	59	64	0.18 ug/L	#	1
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.		
22) Acrylonitrile	0.000		0	N.D.		
23) Vinyl Acetate	0.000		0	N.D.		
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	5.831	61	12	0.00 ug/L	#	18
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	6.063	49	20	0.01 ug/L	#	14
28) Chloroform	0.000		0	N.D.		
29) Carbon Tetrachloride	6.270	117	10	0.17 ug/L	#	13
30) Tetrahydrofuran	6.319	42	10	0.01 ug/L	#	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	6.496	75	135	0.05 ug/L		91
34) 2-Butanone (MEK)	6.508	43	10	0.01 ug/L		52
35) Benzene	6.764	78	179	0.02 ug/L		56
36) tert-Amyl methyl ether...	6.868	73	121	0.03 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	7.148	43	10	0.06 ug/L	#	22
40) Trichloroethene (TCE)	7.416	130	103	0.05 ug/L		87
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	7.892	93	11	0.01 ug/L	#	1
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.		

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

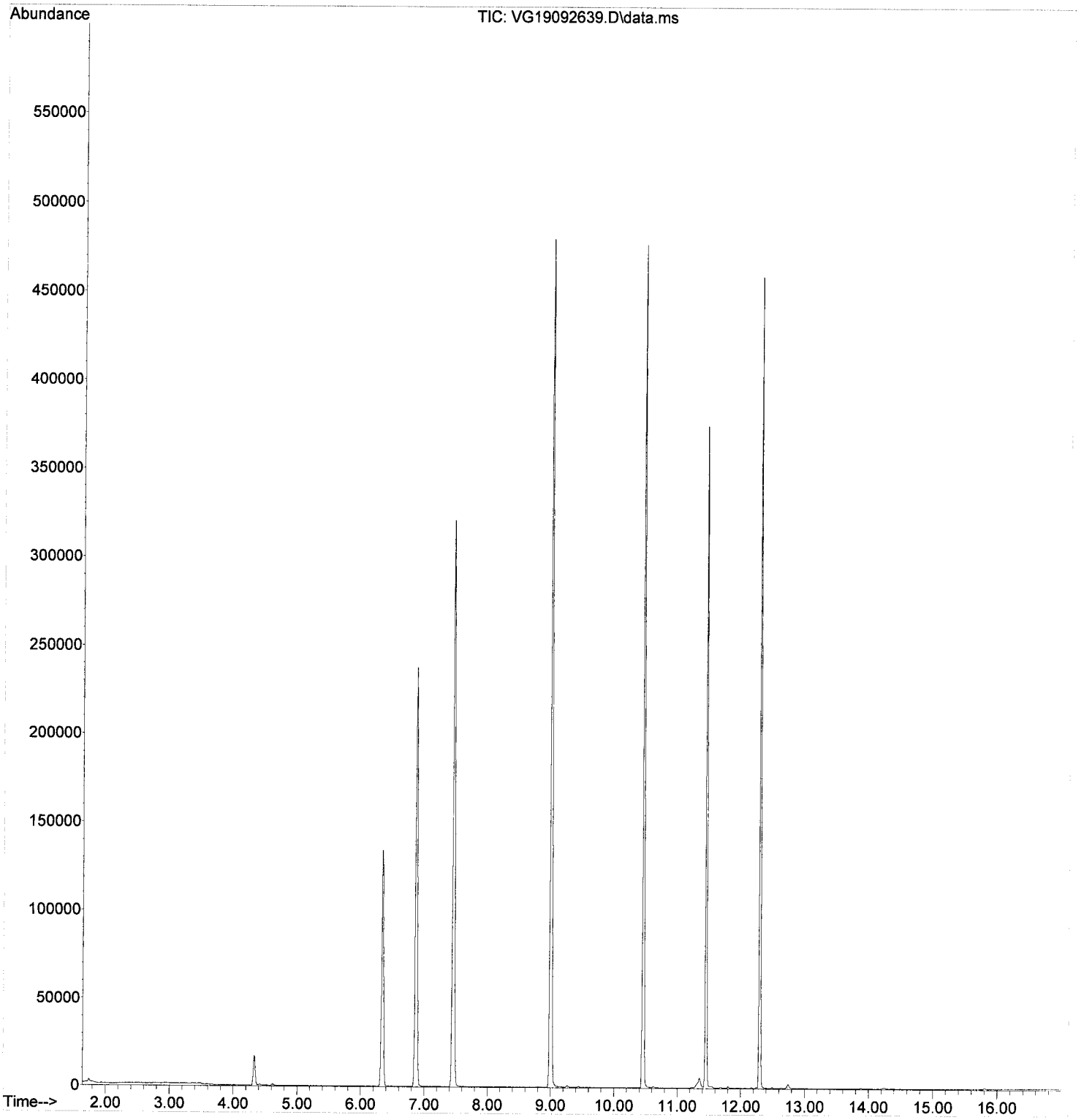
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	329	0.04 ug/L	95
50) Tetrachloroethene (PCE)	9.440	166	226	0.11 ug/L #	77
51) 4-Methyl-2-Pentanone (...	9.440	43	11	0.00 ug/L #	43
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	10.019	107	12	0.01 ug/L #	7
57) 2-Hexanone	10.245	43	11	0.01 ug/L #	32
58) Chlorobenzene	10.471	112	235	0.05 ug/L #	1
59) Ethylbenzene	10.501	91	338	0.04 ug/L	91
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	562	0.10 ug/L	96
62) o-Xylene	10.977	91	166	0.03 ug/L #	35
63) Styrene	11.031	104	121	0.03 ug/L	71
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.220	105	225	0.03 ug/L	54
68) Bromobenzene	11.537	156	68	0.04 ug/L #	78
69) n-Propylbenzene	11.550	91	486	0.07 ug/L	93
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	11.672	126	29	0.02 ug/L #	24
72) 1,3,5-Trimethylbenzene	11.690	105	259	0.06 ug/L	77
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.806	91	357	0.08 ug/L	89
76) tert-Butylbenzene	11.934	91	85	0.03 ug/L #	62
77) 1,2,4-Trimethylbenzene	11.989	105	305	0.06 ug/L	91
78) sec-Butylbenzene	12.068	105	363	0.07 ug/L	83
79) 4-Isopropyltoluene	12.171	119	347	0.08 ug/L	93
80) 1,3-Dichlorobenzene	12.245	146	271	0.09 ug/L	95
81) 1,4-Dichlorobenzene	12.306	146	429	0.14 ug/L #	30
82) n-Butylbenzene	12.495	91	400	0.11 ug/L	92
83) 1,2-Dichlorobenzene	12.641	146	170	0.06 ug/L #	65
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	208	0.12 ug/L	79
87) Naphthalene	14.208	128	312	0.06 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	100	0.07 ug/L	72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration

9/30/19 bm

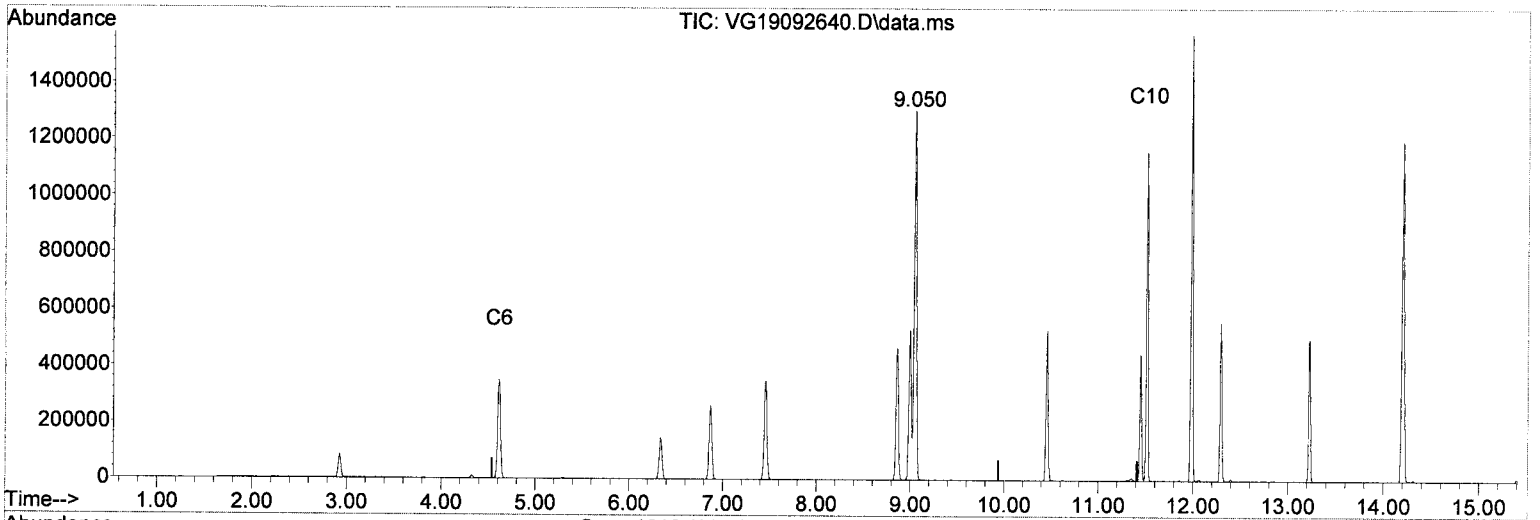
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	215271	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	333590	48.91	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	113681	50.14	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	384166	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	279966	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	205118	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	9406992m	1731.33	ug/L	
5) TPHg (C5-C9)	9.940	TIC	4541576m	655.47	ug/L	
6) TPHg (C6-C10)	9.940	TIC	4334325m	738.56	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	8681524m	1056.62	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration



TIC: VG19092640.D\data.ms

(6) TPHg (C6-C10) (H)

9.940min (0.000) 738.56 ug/L m

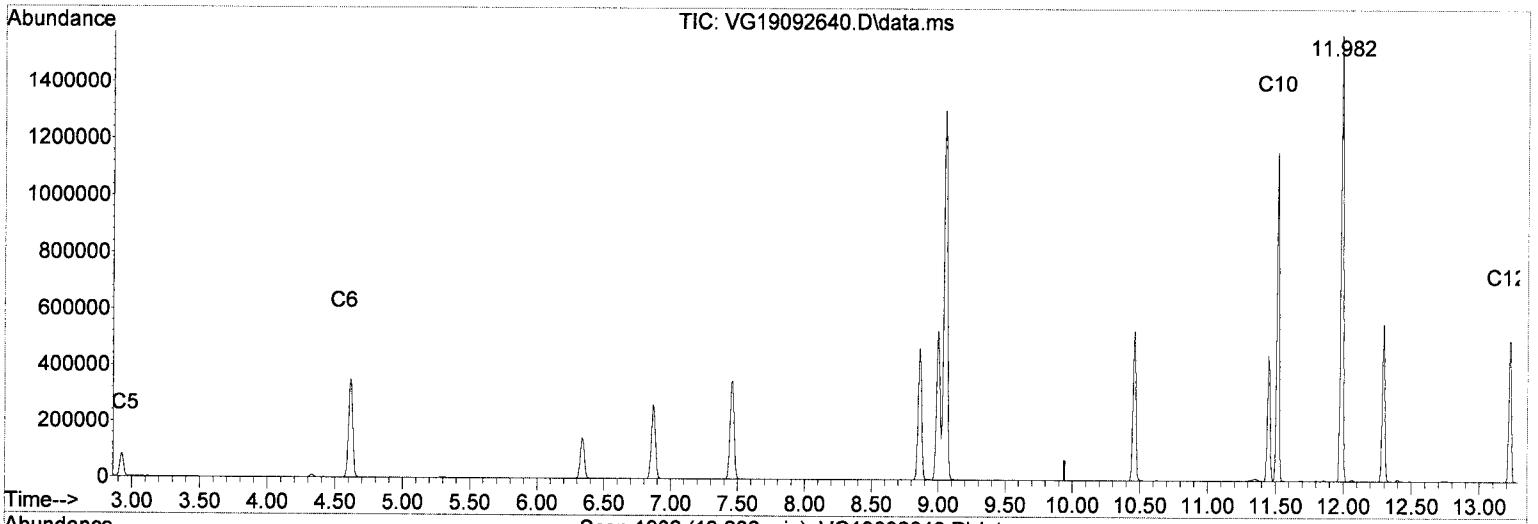
response 4334325

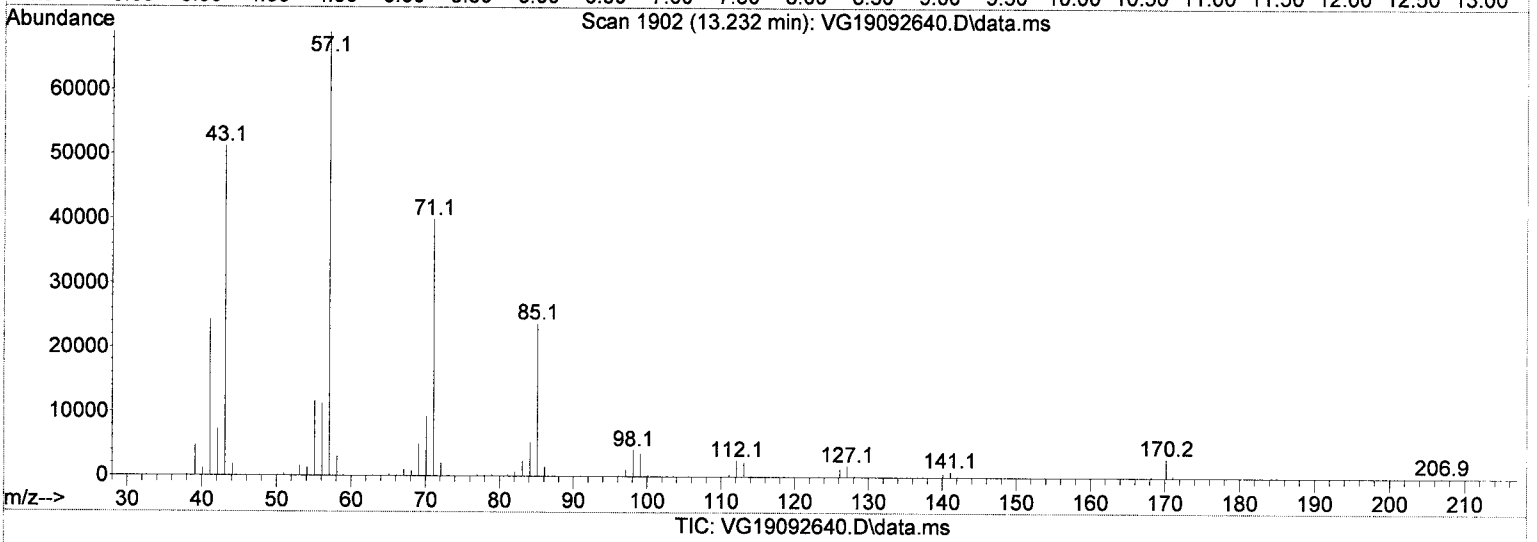
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.85#
0.00	0.00	1.35#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration





TIC: VG19092640.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.940min (0.000) 1056.62 ug/L m

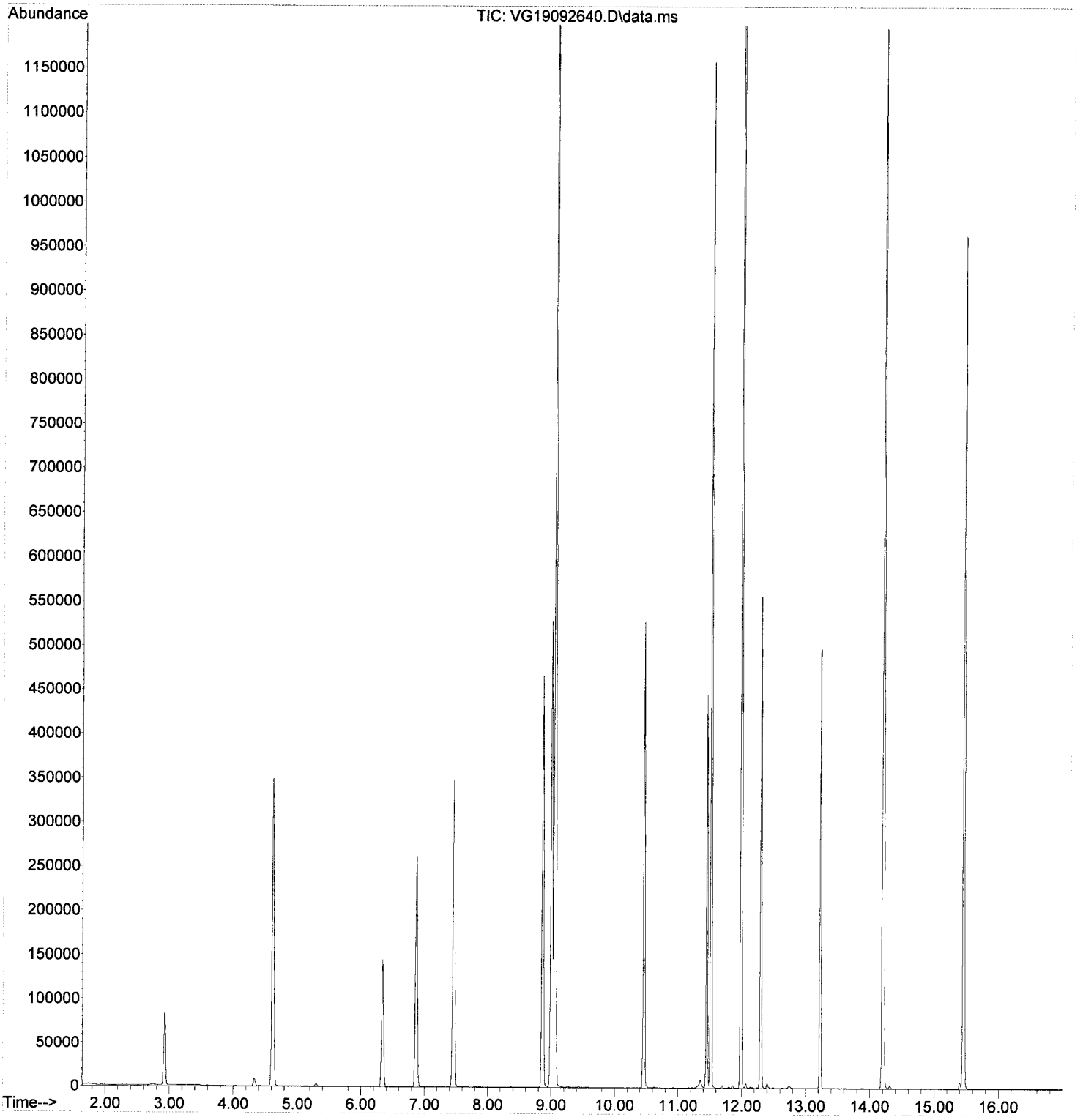
response 8681524

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.92#
0.00	0.00	0.67#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092641.D
Acq On : 27 Sep 2019 4:00 am
Operator : MM
Sample : 9I26050-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:39 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	186216	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.459	114	294259	50.30 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	92059	48.38 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	331978	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	239302	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	159410	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	95279m	14.76 ug/L	
5) TPHg (C5-C9)	9.940	TIC	357756m	8.11 ug/L	
6) TPHg (C6-C10)	9.940	TIC	305639m	3.72 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	413413m	14.99 ug/L	

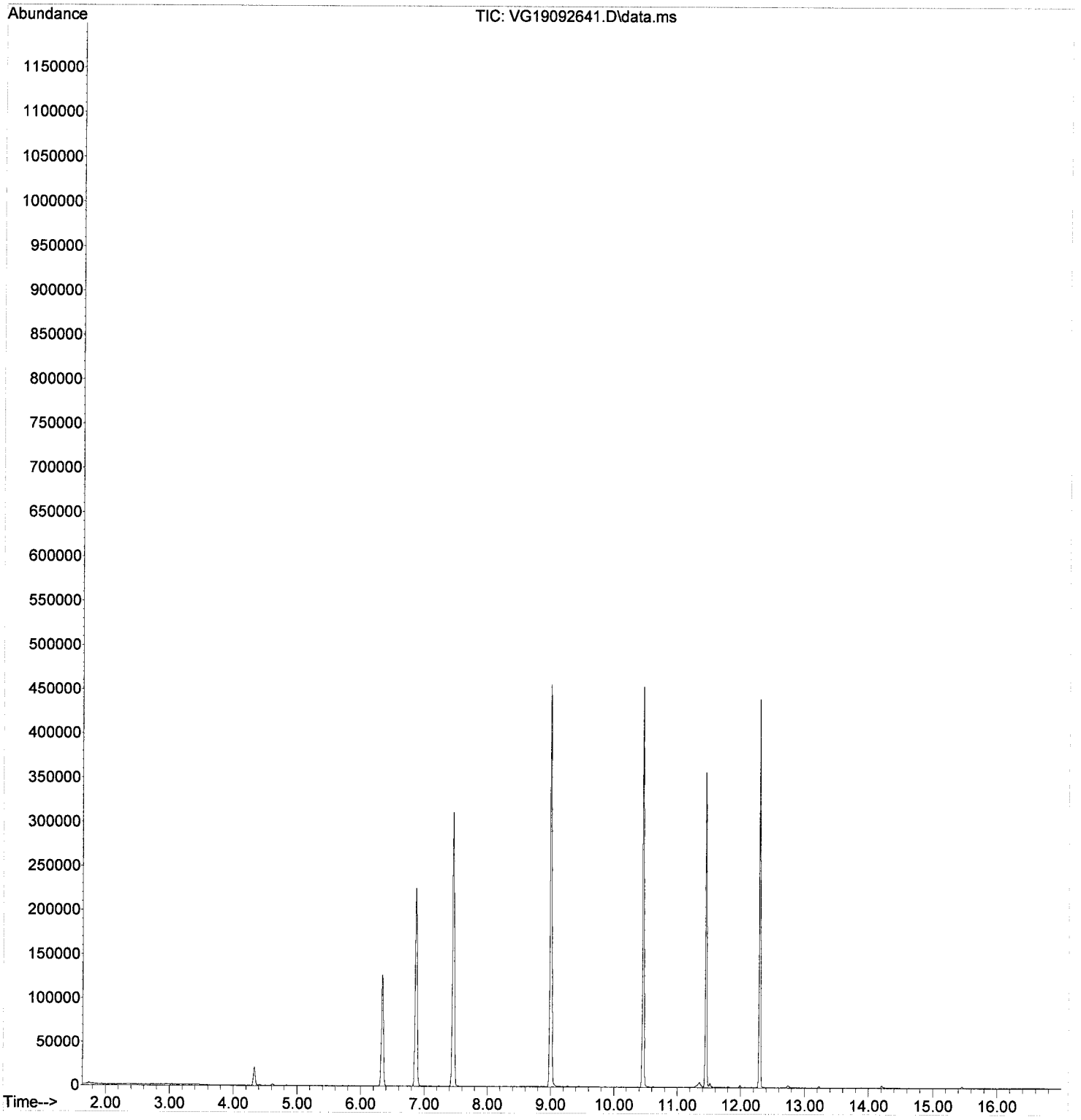
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NK 9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092641.D
Acq On : 27 Sep 2019 4:00 am
Operator : MM
Sample : 9I26050-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:39 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092642.D
Acq On : 27 Sep 2019 4:27 am
Operator : MM
Sample : 9I26050-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:41 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	211299	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	331177	49.89	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	104505	48.40	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	373160	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	270284	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	180385	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	80100m	9.59	ug/L	
5) TPHg (C5-C9)	9.940	TIC	362047m	1.54	ug/L	
6) TPHg (C6-C10)	9.940	TIC	334290m	1.47	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	410996m	7.84	ug/L	

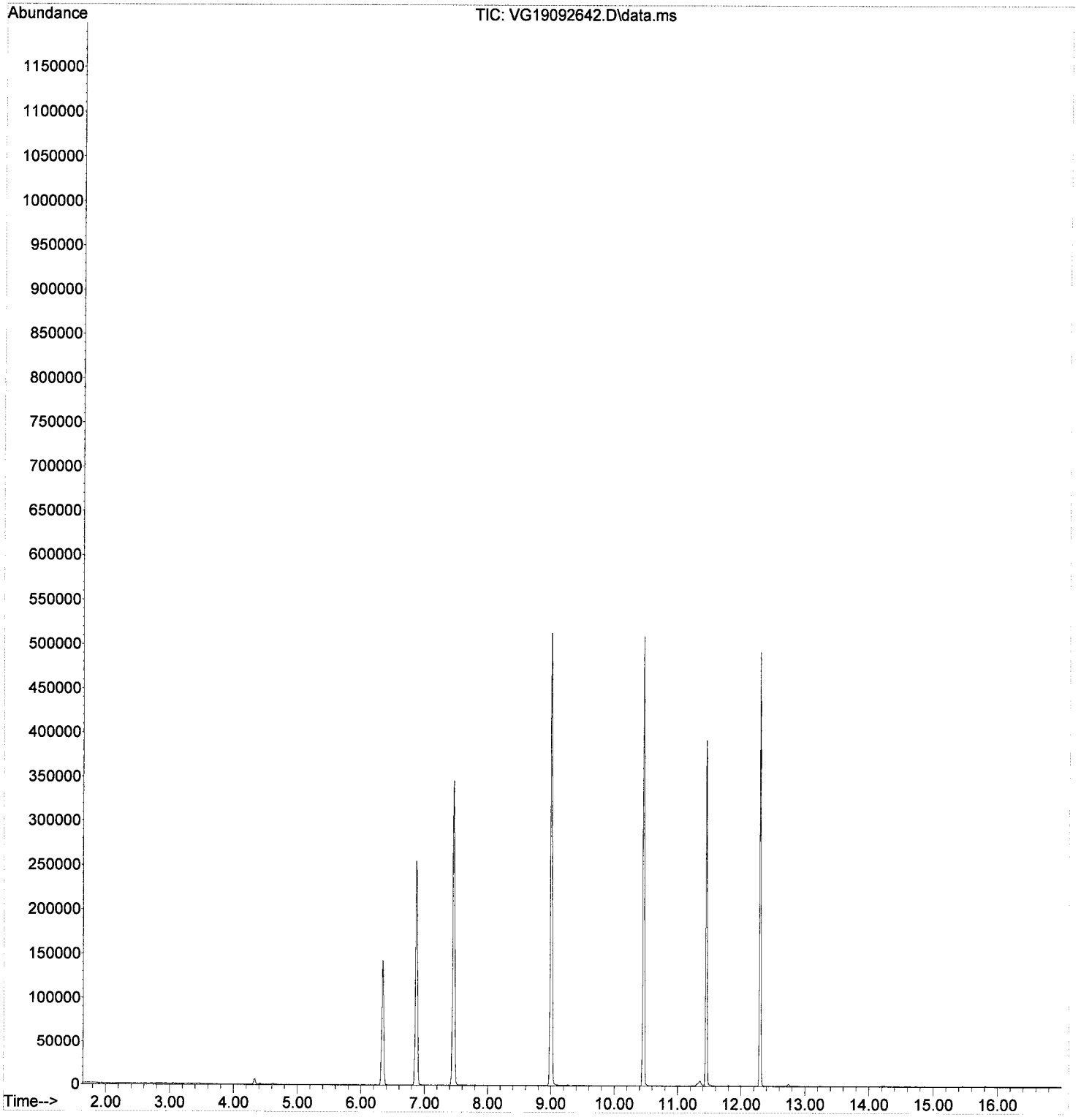
9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092642.D
Acq On : 27 Sep 2019 4:27 am
Operator : MM
Sample : 9I26050-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:41 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092643.D
Acq On : 27 Sep 2019 4:54 am
Operator : MM
Sample : 9I26050-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

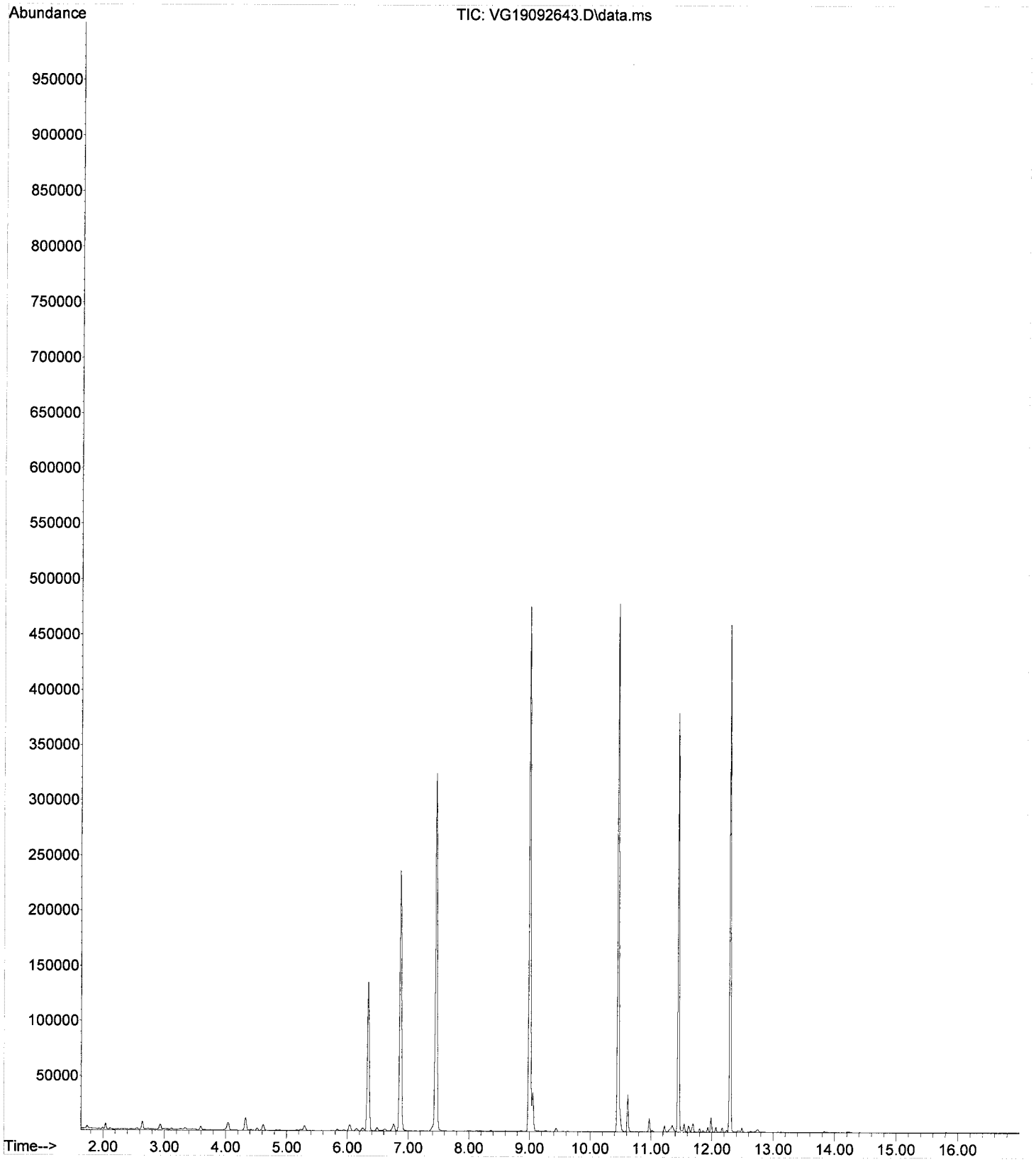
Quant Time: Sep 30 13:08:39 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	194820	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	309122	50.08	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	96407	46.99	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	348916	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	253278	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	168661	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	341870m	85.05	ug/L	
5) TPHg (C5-C9)	9.940	TIC	679865m	75.82	ug/L	
6) TPHg (C6-C10)	9.940	TIC	601882m	75.93	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	772051m	79.56	ug/L	

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

9/30/19 [initials]

File :C:\msdchem\1\data\2019-09\9I26050\VG19092643.D
Operator : MM
Acquired : 27 Sep 2019 4:54 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALC
Misc Info : 1X 5mL 50PPB GX
Vial Number: 26



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092644.D
Acq On : 27 Sep 2019 5:21 am
Operator : MM
Sample : 9I26050-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

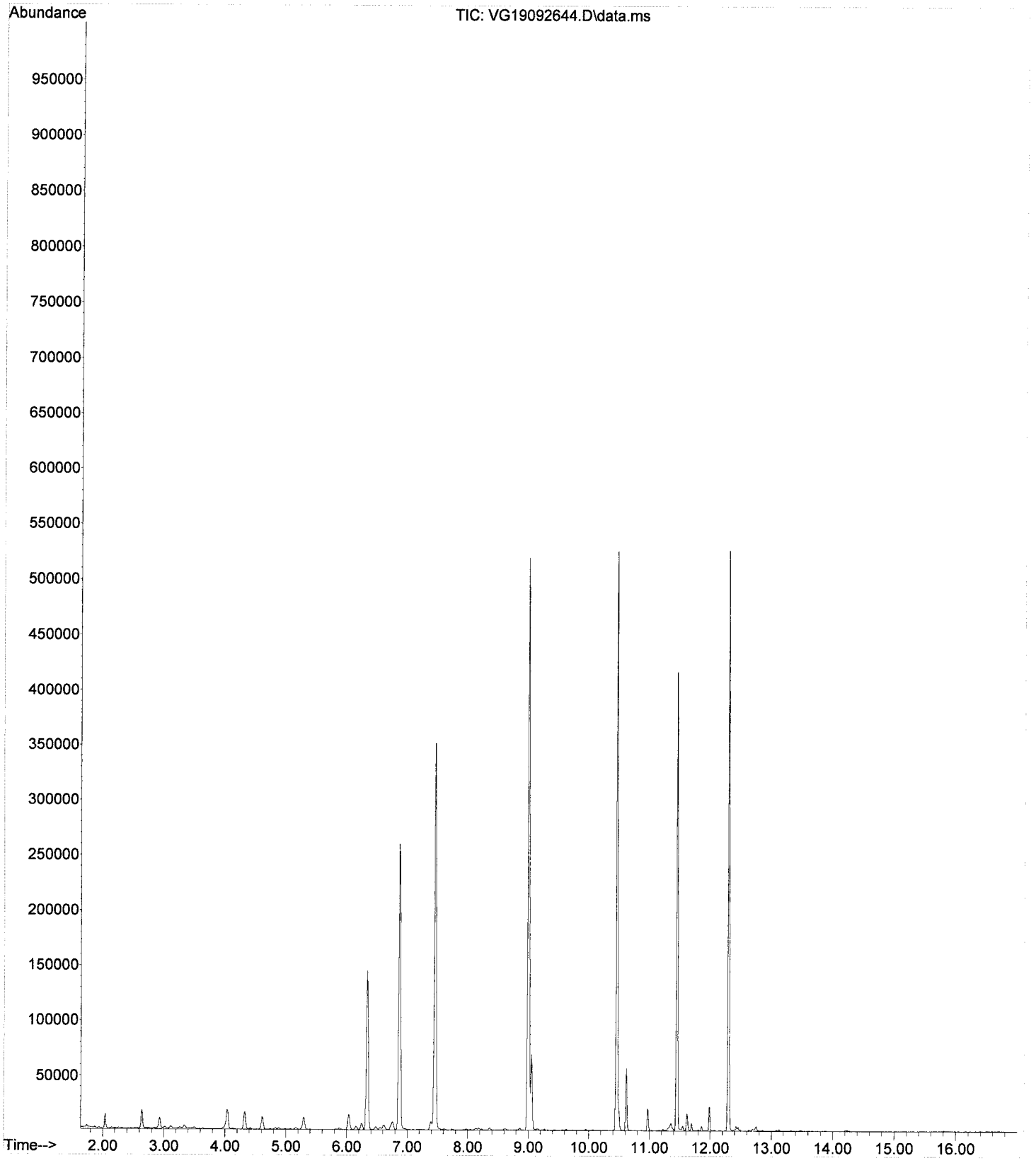
Quant Time: Sep 30 13:08:42 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	214353	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	336830	49.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	108081	47.88	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	379052	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	275768	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	189134	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	489862m	105.85	ug/L	
5) TPHg (C5-C9)	9.940	TIC	963864m	108.84	ug/L	
6) TPHg (C6-C10)	9.940	TIC	832167m	106.61	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	1070187m	107.15	ug/L	

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

9/30/19 tz

File :C:\msdchem\1\data\2019-09\9I26050\VG19092644.D
Operator : MM
Acquired : 27 Sep 2019 5:21 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALD
Misc Info : 1X 5mL 100PPB GX
Vial Number: 27



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092645.D
Acq On : 27 Sep 2019 5:48 am
Operator : MM
Sample : 9I26050-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

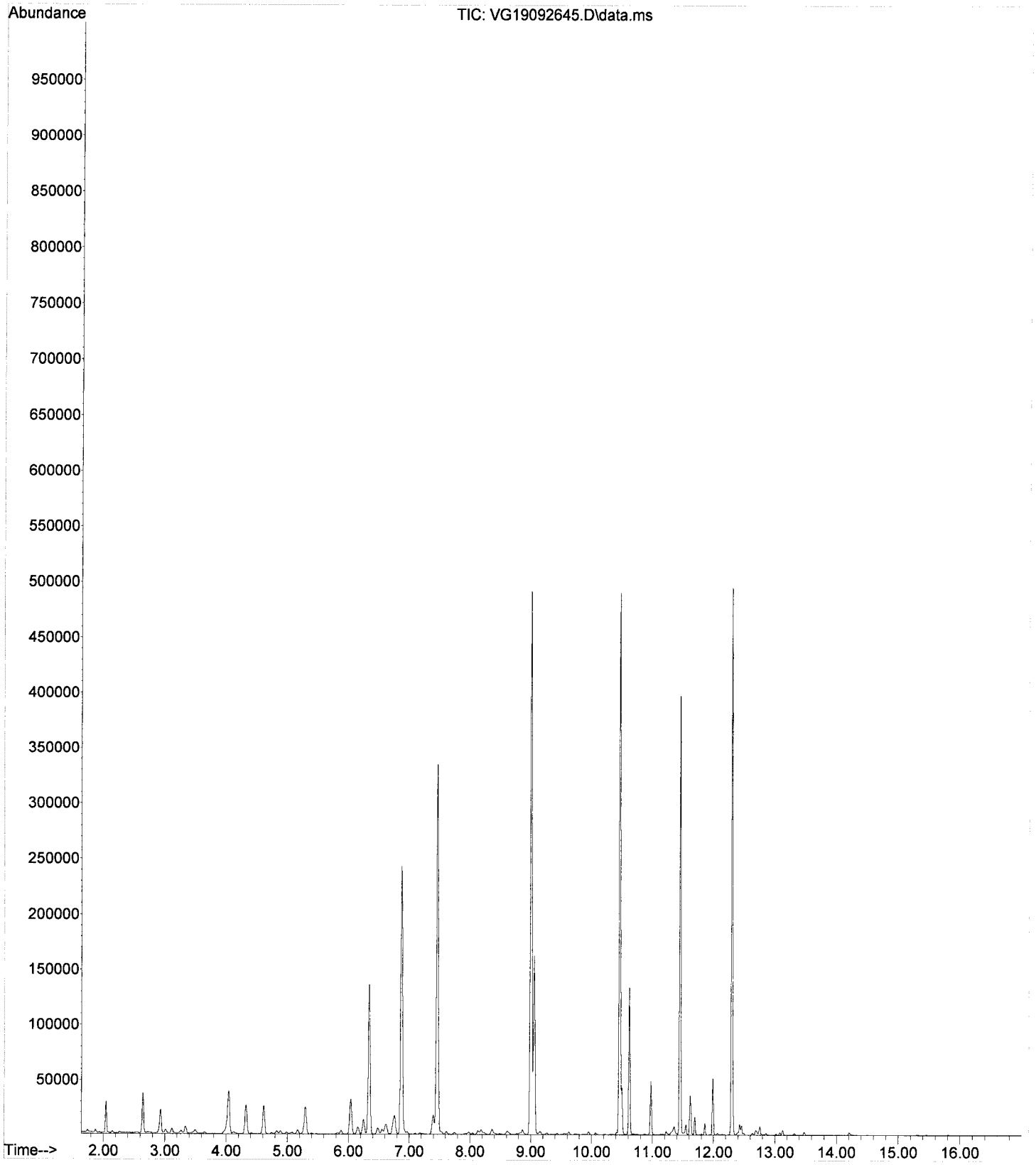
Quant Time: Sep 30 13:08:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	199682	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	316029	49.96	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	102655	48.81	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	359017	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	260060	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179897	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	1179313m	247.80	ug/L	
5) TPHg (C5-C9)	9.940	TIC	1788514m	255.28	ug/L	
6) TPHg (C6-C10)	9.940	TIC	1523002m	251.72	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	2055987m	249.31	ug/L	

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

9/30/19 MM

File :C:\msdchem\1\data\2019-09\9I26050\VG19092645.D
Operator : MM
Acquired : 27 Sep 2019 5:48 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALE
Misc Info : 1X 5mL 250PPB GX
Vial Number: 28



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092646.D
Acq On : 27 Sep 2019 6:16 am
Operator : MM
Sample : 9I26050-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

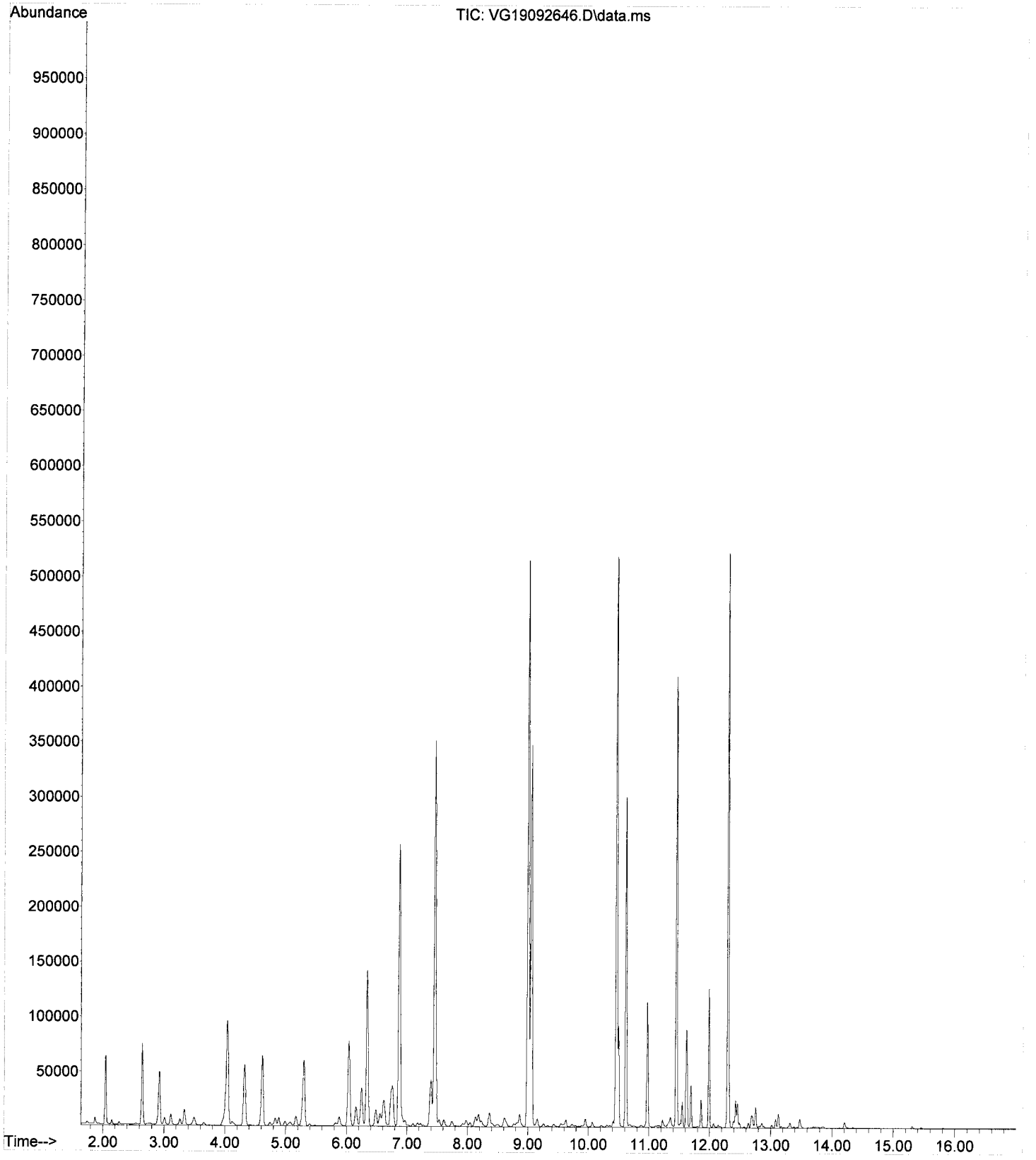
Quant Time: Sep 30 13:08:48 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	209712	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	328552	49.45	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	107283	48.57	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	373900	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	272185	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	190515	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	2815223m	542.67	ug/L	
5) TPHg (C5-C9)	9.940	TIC	3807092m	558.24	ug/L	
6) TPHg (C6-C10)	9.940	TIC	3215445m	551.26	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4560685m	556.67	ug/L	

9/30/19 KM

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

File :C:\msdchem\1\data\2019-09\9I26050\VG19092646.D
Operator : MM
Acquired : 27 Sep 2019 6:16 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALF
Misc Info : 1X 5mL 500PPB GX
Vial Number: 29



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092647.D
Acq On : 27 Sep 2019 6:43 am
Operator : MM
Sample : 9I26050-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

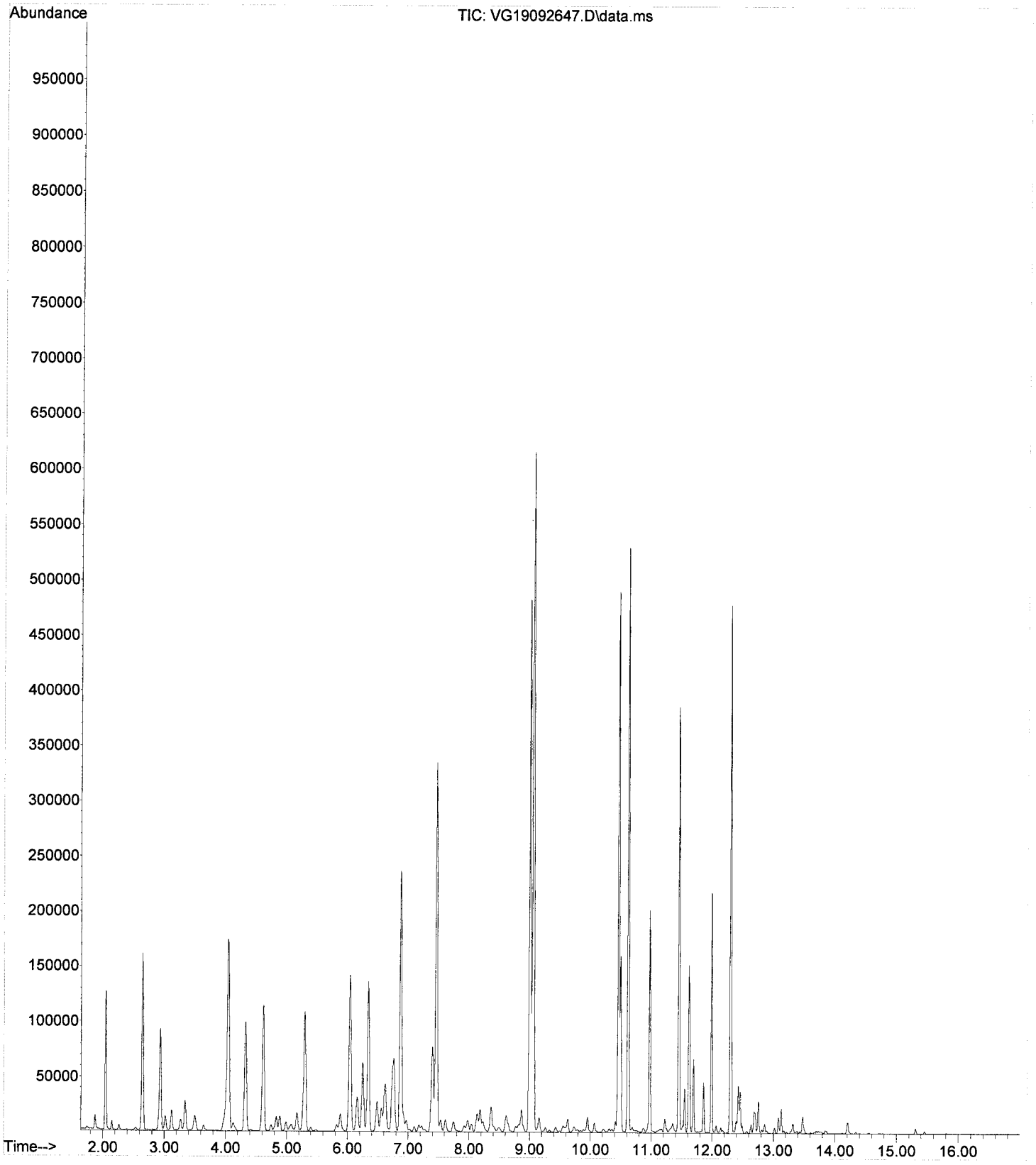
Quant Time: Sep 30 13:08:51 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	194045	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	306690	49.89	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	98676	48.28	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	349606	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	253073	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	175028	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	4905450m	1007.92	ug/L	
5) TPHg (C5-C9)	9.940	TIC	6540537m	1073.60	ug/L	
6) TPHg (C6-C10)	9.940	TIC	5464695m	1052.85	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	7865997m	1062.24	ug/L	

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

9/30/19

File :C:\msdchem\1\data\2019-09\9I26050\VG19092647.D
Operator : MM
Acquired : 27 Sep 2019 6:43 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALG
Misc Info : 1X 5mL 1000PPB GX
Vial Number: 30



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092648.D
Acq On : 27 Sep 2019 7:10 am
Operator : MM
Sample : 9I26050-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

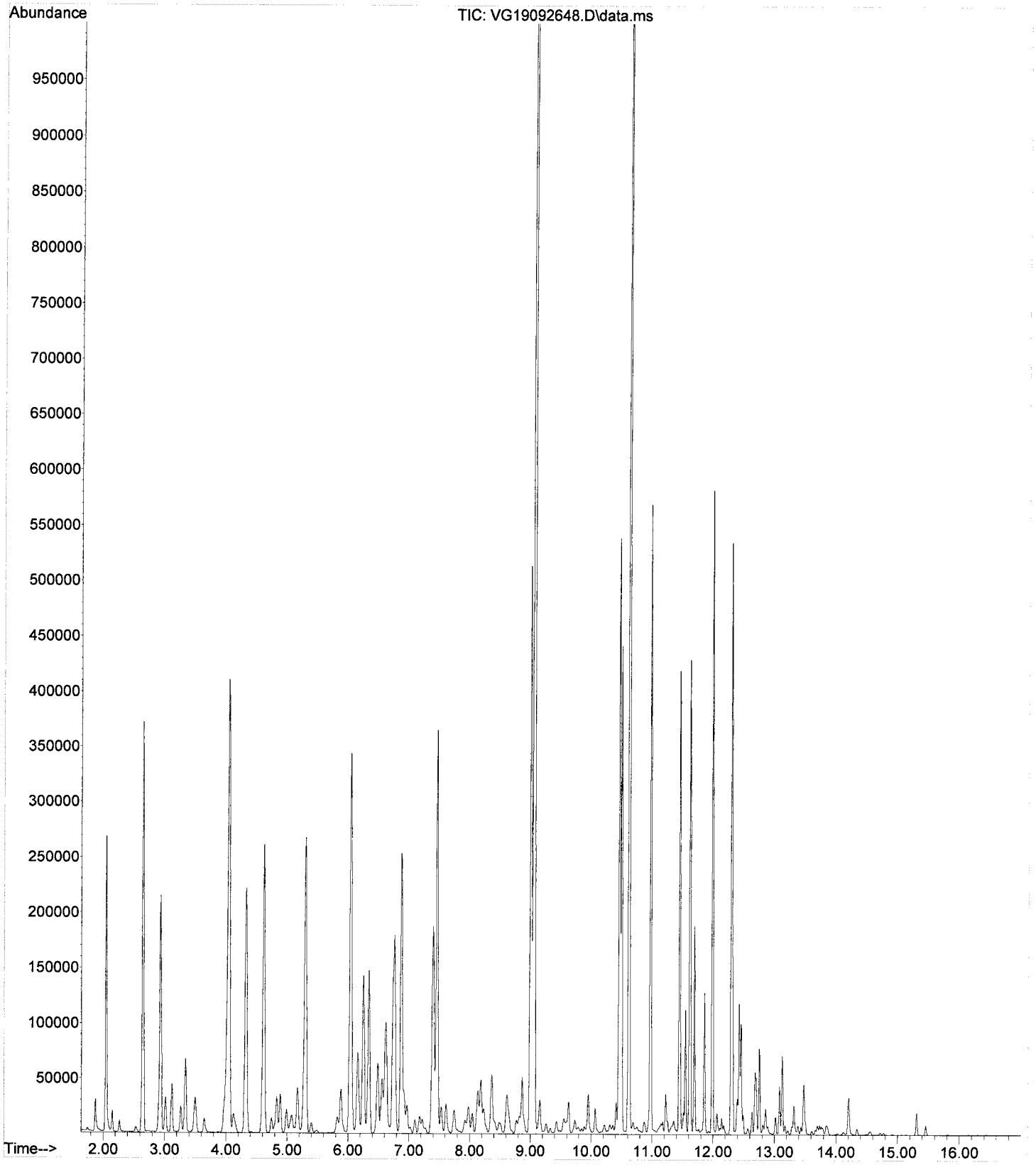
Quant Time: Sep 30 13:08:53 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.873	168	212509	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	328443	48.78	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	109685	49.01	ug/L	0.00
9) Toluene-d8 (NR)	9.001	98	375286	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	277525	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	194037	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	13106790m	2438.18	ug/L	
5) TPHg (C5-C9)	9.940	TIC	16105357m	2487.93	ug/L	
6) TPHg (C6-C10)	9.940	TIC	13563681m	2466.78	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	19750411m	2480.46	ug/L	

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

9/30/19 hw

File :C:\msdchem\1\data\2019-09\9I26050\VG19092648.D
Operator : MM
Acquired : 27 Sep 2019 7:10 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALH
Misc Info : 1X 5mL 2500PPB GX
Vial Number: 31



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092649.D
Acq On : 27 Sep 2019 7:37 am
Operator : MM
Sample : 9I26050-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

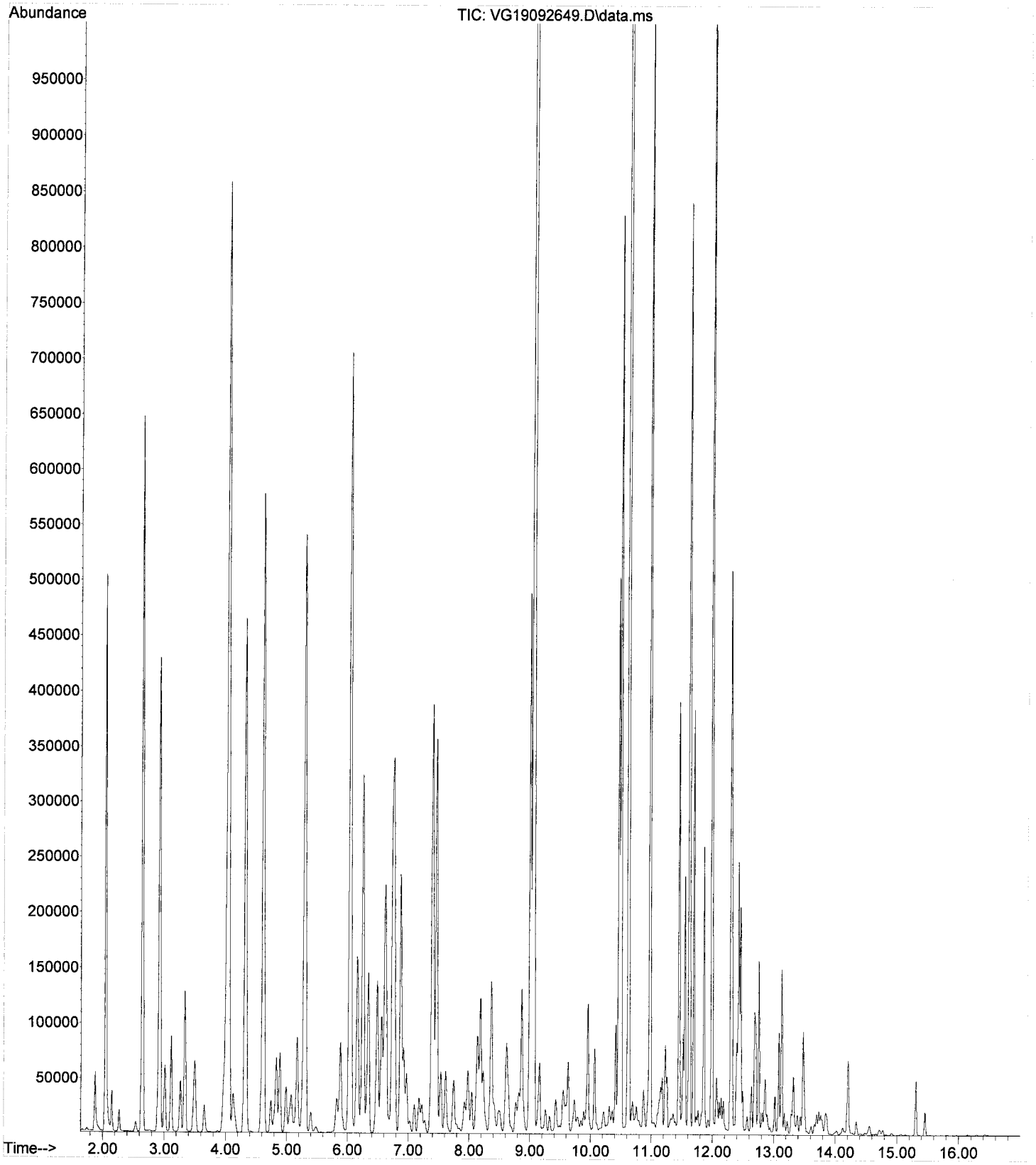
Quant Time: Sep 30 13:08:55 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	191180	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	302676	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	101117	50.22	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	346469	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	251919	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179373	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	26750722m	5523.31	ug/L	
5) TPHg (C5-C9)	9.940	TIC	32242370m	5720.16	ug/L	
6) TPHg (C6-C10)	9.940	TIC	27022524m	5646.98	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	39863299m	5652.54	ug/L	

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

9/30/19 tw

File :C:\msdchem\1\data\2019-09\9I26050\VG19092649.D
Operator : MM
Acquired : 27 Sep 2019 7:37 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALI
Misc Info : 1X 5mL 5000PPB GX
Vial Number: 32



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092650.D
Acq On : 27 Sep 2019 8:04 am
Operator : MM
Sample : 9I26050-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

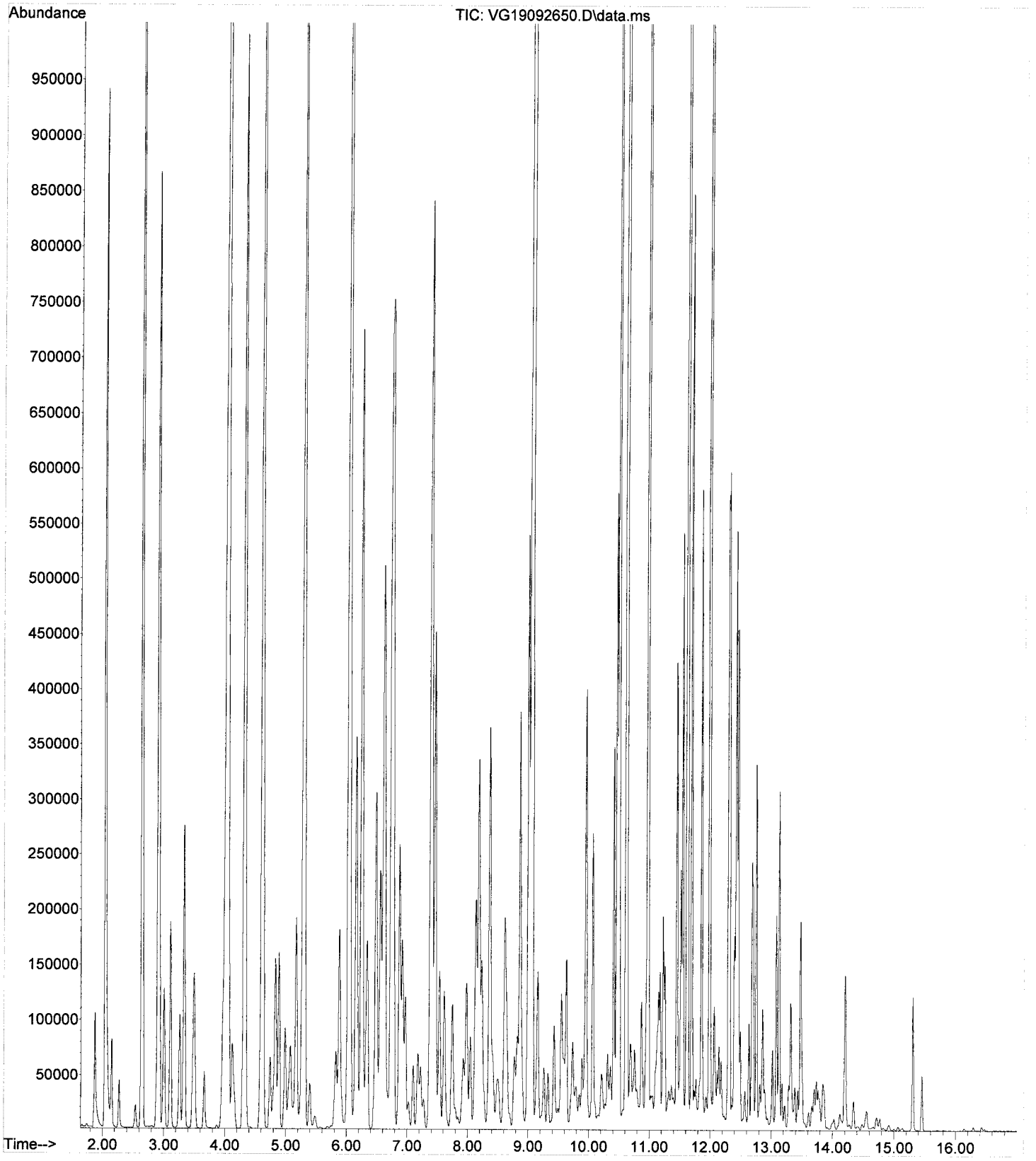
Quant Time: Sep 30 13:08:57 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	215030	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	333302	48.93	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	109457	48.33	ug/L	0.00
9) Toluene-d8 (NR)	9.001	98	375346	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	272079	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	195043	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	58362046m	10739.53	ug/L	
5) TPHg (C5-C9)	9.940	TIC	69221082m	11447.91	ug/L	
6) TPHg (C6-C10)	9.940	TIC	58097624m	11311.84	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	86865763m	11164.54	ug/L	

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

9/30/19 hm

File :C:\msdchem\1\data\2019-09\9I26050\VG19092650.D
Operator : MM
Acquired : 27 Sep 2019 8:04 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALJ
Misc Info : 1X 5mL 10000PPB GX
Vial Number: 33



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092651.D
Acq On : 27 Sep 2019 8:31 am
Operator : MM
Sample : 9I26050-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:43 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	212524	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	330368	49.48	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	103753	47.78	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	368916	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	266546	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	177100	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	154348m	23.13	ug/L	
5) TPHg (C5-C9)	9.940	TIC	492098m	20.59	ug/L	
6) TPHg (C6-C10)	9.940	TIC	425203m	17.32	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	549059m	24.44	ug/L	

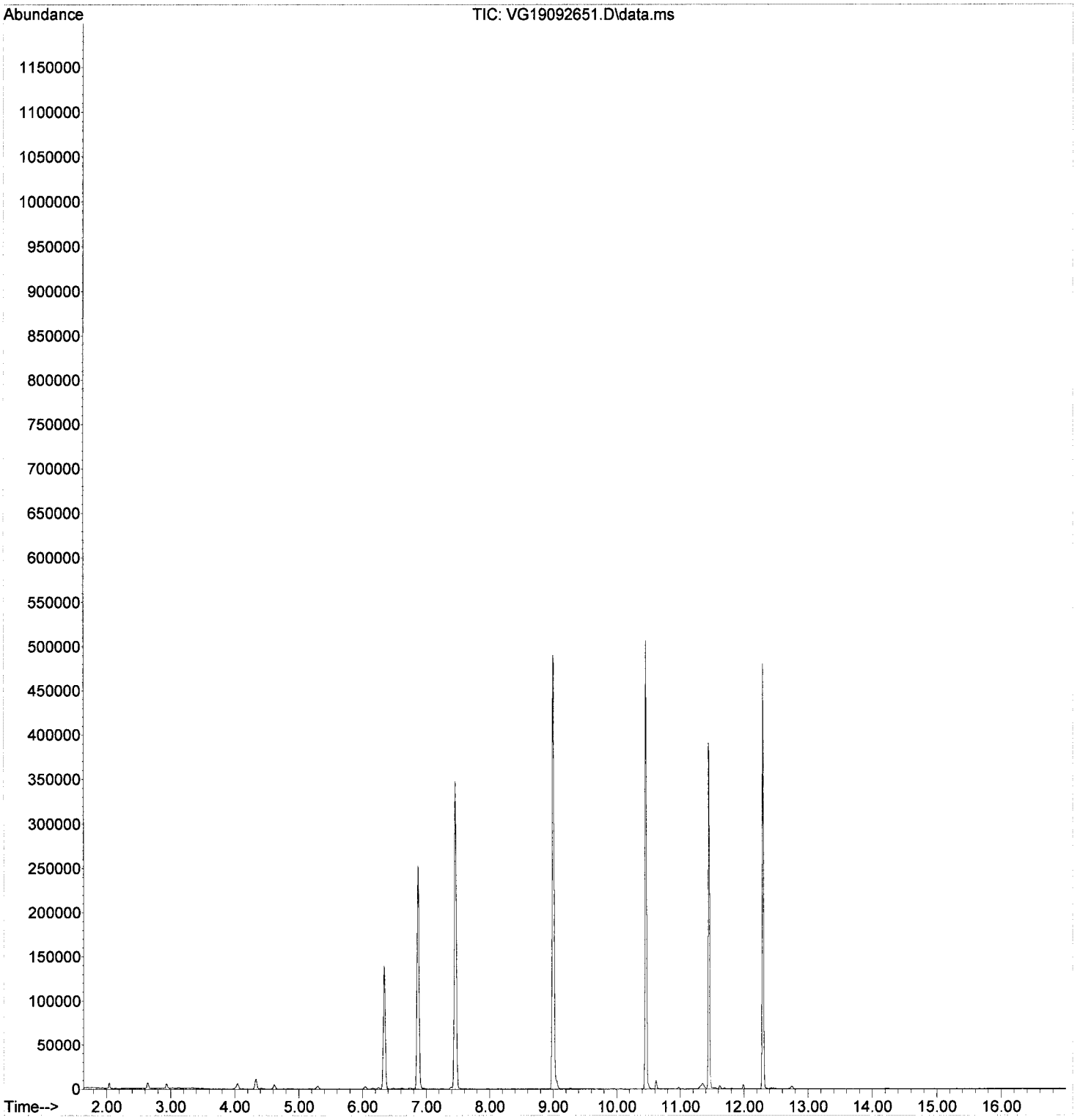
NR 9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092651.D
Acq On : 27 Sep 2019 8:31 am
Operator : MM
Sample : 9I26050-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:43 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092652.D
Acq On : 27 Sep 2019 8:58 am
Operator : MM
Sample : 9I26050-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	203408	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	322487	50.46	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	101271	48.72	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	363403	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	260869	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	175566	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	104138m	14.77	ug/L	
5) TPHg (C5-C9)	9.940	TIC	422183m	13.00	ug/L	
6) TPHg (C6-C10)	9.940	TIC	363126m	9.16	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	468735m	17.18	ug/L	

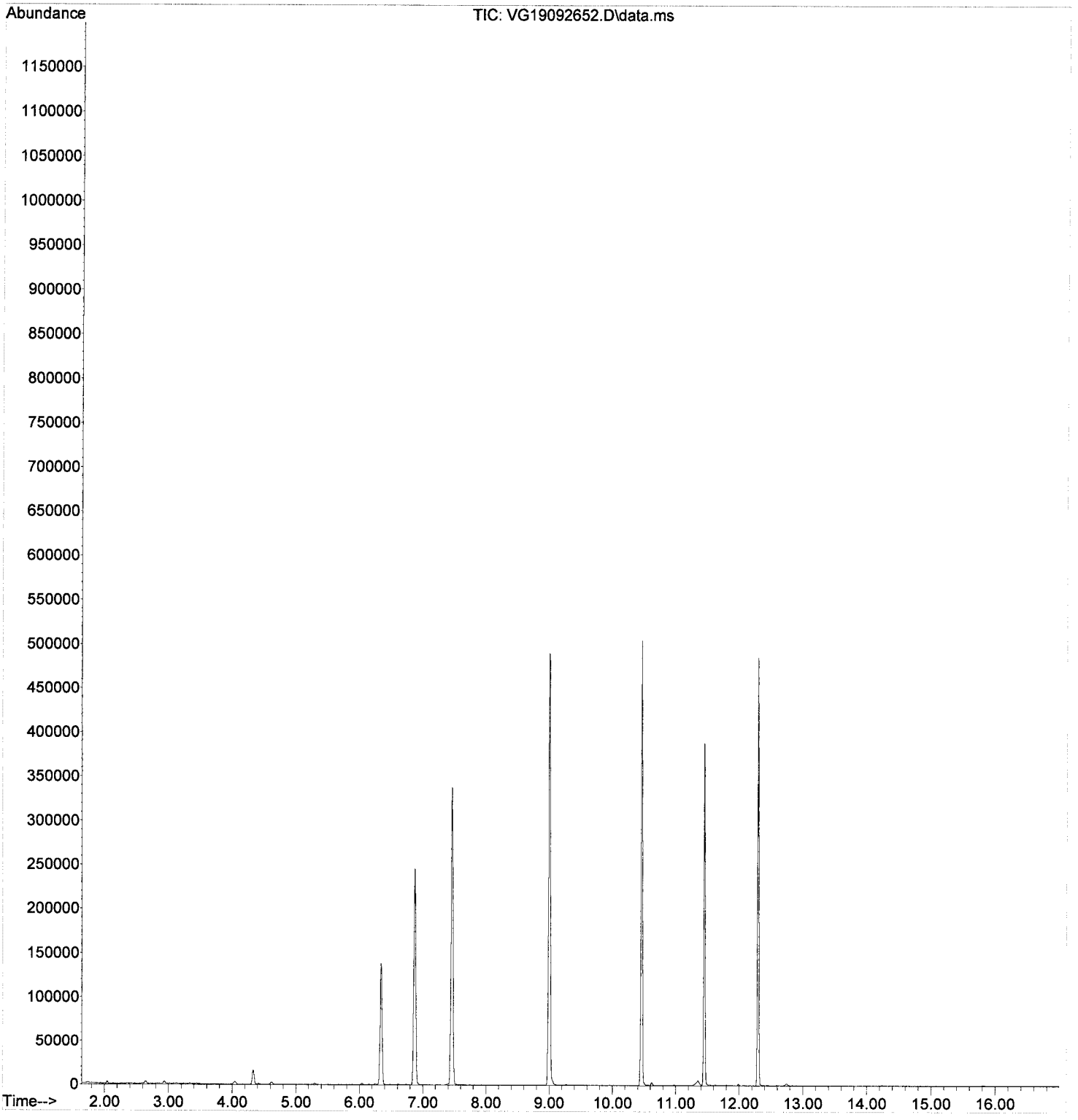
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NR
9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092652.D
Acq On : 27 Sep 2019 8:58 am
Operator : MM
Sample : 9I26050-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	213783	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	332192	49.46	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	108461	49.65	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	380274	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	276182	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	188859	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	3052322m	549.75	ug/L	
5) TPHg (C5-C9)	9.940	TIC	3949725m	531.43	ug/L	
6) TPHg (C6-C10)	9.940	TIC	3383126m	539.94	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4800578m	539.60	ug/L	

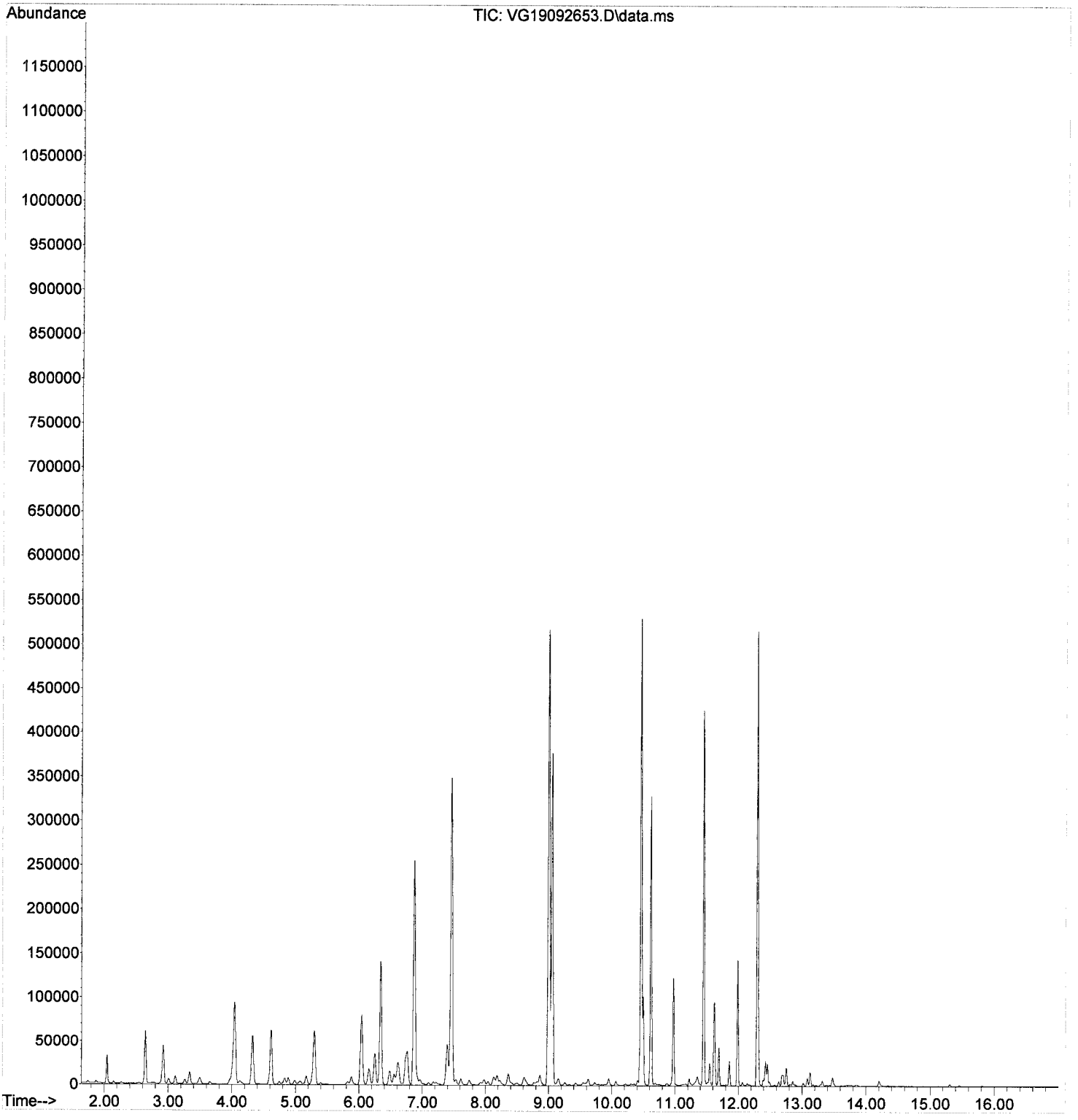
9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092654.D
Acq On : 27 Sep 2019 9:53 am
Operator : MM
Sample : 9I26050-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:49 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	213740	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	334644	49.84	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	103304	47.30	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	375574	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	271064	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179121	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	55812m	4.98	ug/L	
5) TPHg (C5-C9)	9.940	TIC	426669m	10.49	ug/L	
6) TPHg (C6-C10)	9.940	TIC	364382m	6.12	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	425579m	9.03	ug/L	

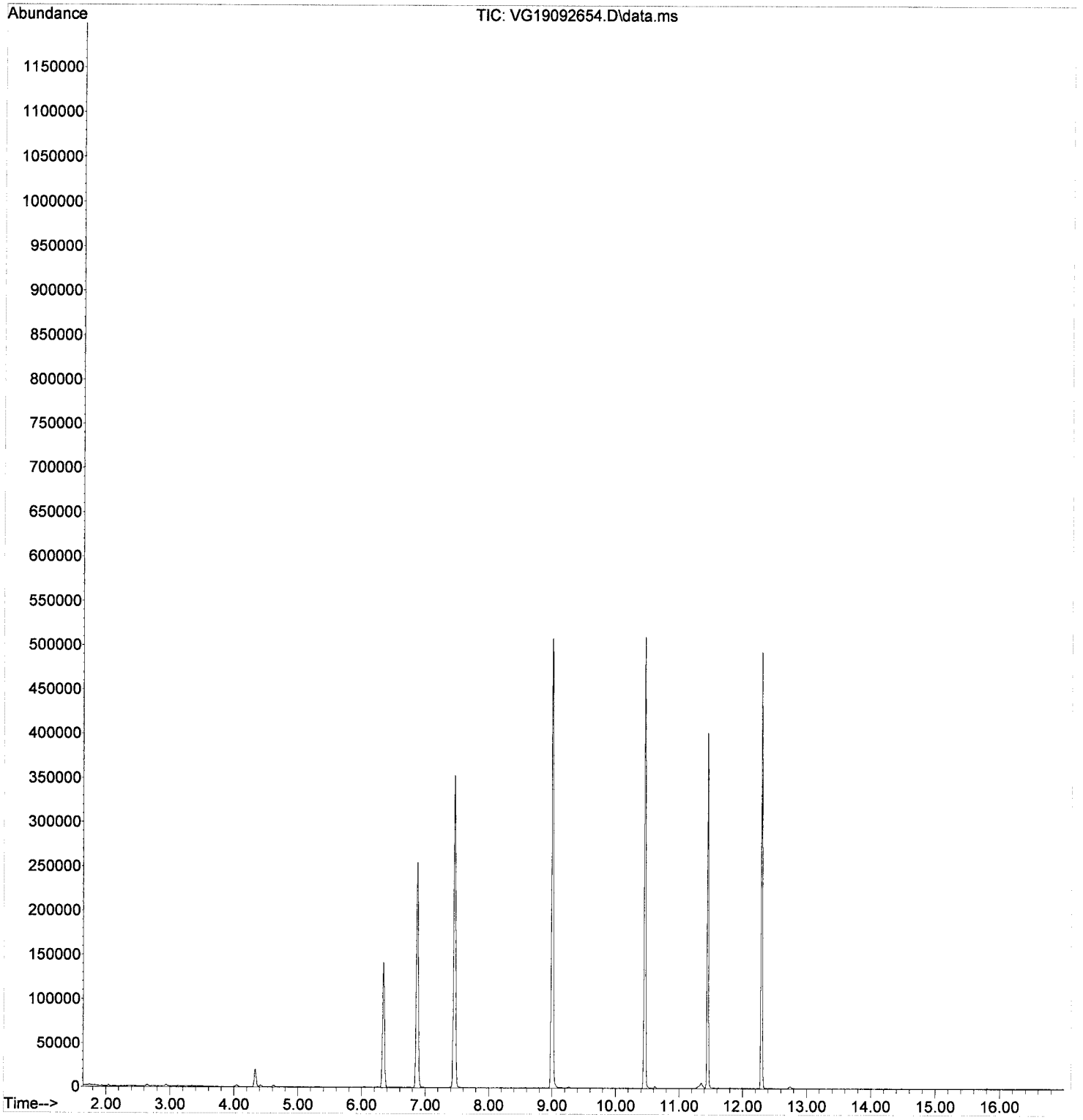
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NR 9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092654.D
Acq On : 27 Sep 2019 9:53 am
Operator : MM
Sample : 9I26050-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:49 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Batch 9100583
Sequence 9J03014 (A9I0885-01RE1,02RE1,04RE1,05RE1,06RE1,07RE1)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100583-BLK1		QC	10/03/19 06:49	16	5				100					
	9100583-BS1		QC	10/03/19 06:49	15	5	A19H078		100	100					
	A9I0885-01RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.45	5				100	PDI-013SC-B-7.6-9.6-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-02RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.39	5				100	PDI-013SC-B-9.6-12-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-04RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.46	5				100	PDI-018SC-B-11.8-13.2-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-05RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.7	10				100	PDI-018SC-B-5.8-7.8-190926	Concentrate alone. Extremely hot sample. Re-extract added 10/2/2019 by jk			
	A9I0885-06RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.58	5				100	PDI-018SC-B-7.8-9.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-07RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.28	5				100	PDI-018SC-B-9.8-11.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0922-01	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.11	5				100	PDI-021SC-B-11.7-13.7-190927				
	A9I0922-02	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.04	5				100	PDI-021SC-B-13.7-15.4-190927				
	A9I0922-03	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.21	5				100	PDI-021SC-B-5.7-7.7-190927				
	A9I0922-04	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.05	10				100	PDI-021SC-B-7.7-9.7-190927				
	A9I0922-05	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.51	5				100	PDI-021SC-B-9.7-11.7-190927				
	A9I0922-07	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.44	5				100	PDI-024SC-B-10-12.1-190927				
	A9I0922-08	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.05	5				100	PDI-1024SC-B-10-12.1-190927				
	A9I0922-09	I	8270D LL PAH Only (Scan)	10/03/19 06:50	15.28	5				100	PDI-030SC-B-5.9-7.9-190929	MS/MSD			

Prepared By: Date

DTH 10/3/19

Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100583-MS1		QC	10/03/19 06:49	15.3	5	A19H078	A9I0922-09	100	100					
	9100583-MSD1		QC	10/03/19 06:49	15.8	5	A19H078	A9I0922-09	100	100					
	A9I0922-10	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.22	5				100	PDI-030SC-B-7.9-9.9-190929				
	A9I0922-11	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.65	5				100	PDI-030SC-B-9.9-11.8-190929				
	A9I0922-12	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.1	5				100	PDI-036SC-B-10.2-12.2-190929				
	A9I0922-13	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.67	5				100	PDI-036SC-B-12.2-13.4-190929				
	A9I0922-13RE1	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.67	5				100	PDI-036SC-B-12.2-13.4-190929	Added 10/7/2019 by ams			
	A9I0922-14	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.22	5				100	PDI-036SC-B-4.2-6.2-190929				
	A9I0922-15	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.08	5				100	PDI-036SC-B-6.2-8.2-190929				

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
A19I262	08/30/22	DCM CHEM PROD. 186806

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	03/03/20	8270D LL PAH Only Surr. (5ppm)

Method 3546 digestion time and temperture achieved.
Initial:

Witness:_____

Prepared By: _____ Date _____

Reviewed By: _____ Date _____

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
1	9100583-BLK1		QC	10/03/19 06:49	~~10~~ 16.00	5				100					
2	9100583-BS1		QC	10/03/19 06:49	~~10~~ 15.00	5	A19H078		100	100					
3	A9I0885-01RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.45	5				100	PDI-013SC-B-7.6-9.6-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
4	A9I0885-02RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.39	5				100	PDI-013SC-B-9.6-12-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
5	A9I0885-04RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.46	5				100	PDI-018SC-B-11.8-13.2-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
6	A9I0885-05RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.70	~~5~~ ~~ANO 10/7~~ 10				100	PDI-018SC-B-5.8-7.8-190926	★ Concentrate alone. Extremely hot sample. Re-extract added 10/2/2019 by jk mud			
7	A9I0885-06RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.58	~~5~~ ~~ANO 10/7~~ ~~10~~ ~~ANO 10/7~~ ANO 10/7				100	PDI-018SC-B-7.8-9.8-190926	~~★~~ ~~ANO 10/7~~ Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
8	A9I0885-07RE1	D E	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.28	5				100	PDI-018SC-B-9.8-11.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
9	A9I0922-01	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.11	5				100	PDI-021SC-B-11.7-13.7-190927	Sand, dirt			
10	A9I0922-02	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.04	5				100	PDI-021SC-B-13.7-15.4-190927	Sand, dirt			
11	A9I0922-03	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.21	5				100	PDI-021SC-B-5.7-7.7-190927	Sand, dirt			
12	A9I0922-04	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.05	~~5~~ 10				100	PDI-021SC-B-7.7-9.7-190927	★ Sand, dirt			
13	A9I0922-05	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.51	5				100	PDI-021SC-B-9.7-11.7-190927	Sand, dirt			
14	A9I0922-07	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.44	5				100	PDI-024SC-B-10-12.1-190927	Sand, dirt			
15	A9I0922-08	D	8270D LL PAH Only (Scan)	10/03/19 06:49	~~10~~ 15.05	5				100	PDI-1024SC-B-10-12.1-190927	Sand, dirt			
16	A9I0922-09	I	8270D LL PAH Only (Scan)	10/03/19 06:50	~~10~~ 15.28	5				100	PDI-030SC-B-5.9-7.9-190929	MS/MSD Sand, dirt			

ANT 10-3-19
Prepared By: Date

CAH 10-3-19
Reviewed By: Date

JAG 10/3/19

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
17	9100583-MS1	J	QC	10/03/19 06:49	10/15.30	5	A19H078	A9I0922-09	100	100					
18	9100583-MSD1	K	QC	10/03/19 06:49	10/15.80	5	A19H078	A9I0922-09	100	100					
19	A9I0922-10	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.22	5				100	PDI-030SC-B-7.9-9.9-190929	Sand, dirt			
20	A9I0922-11	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.65	5				100	PDI-030SC-B-9.9-11.8-190929	Sand, dirt			
21	A9I0922-12	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.10	5				100	PDI-036SC-B-10.2-12.2-190929	Sand, dirt			
22	A9I0922-13	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.67	5				100	PDI-036SC-B-12.2-13.4-190929	Sand, dirt			
23	A9I0922-14	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.22	5				100	PDI-036SC-B-4.2-6.2-190929	Sand, dirt			
24	A9I0922-15	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.08	5				100	PDI-036SC-B-6.2-8.2-190929	Sand, dirt			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
A19I262	08/30/22	DCM CHEM PROD. 186806

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVl PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	08/03/20	8270D LL PAH Only Surr. (5ppm)

Method 3546 digestion time and temperture achieved. yes

Initial: JAG

Witness: JAG 10/3/19

* = blown down together but separate from QC & batch to avoid contamination.

JAG 10-3-19

Prepared By: JAG Date 10/3/19

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9J03014**	Instrument:	**SV-GCMS14**
Date:	**10/03/19 08:11**	Calibration:	**A9I1001**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J03014-TUN1	Sediment	QC	QC			A19I102	A19J016
2	9J03014-CCV1	Sediment	QC	QC			A19I102	A19I020
3	9J03014-IBL1	Sediment	QC	QC			A19I102	
4	9J03014-TUN2	Sediment	QC	QC			A19I102	A19J016
5	9J03014-CCV2	Sediment	QC	QC			A19I102	A19I020
6	9J03014-CCB1	Sediment	QC	QC			A19I102	
7	9100583-BLK1	Sediment	QC	QC		9100583	A19I102	
8	9100583-BS1	Sediment	QC	QC		9100583	A19I102	
9	A9I0922-09	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
10	9100583-MS1	Sediment	QC	QC		9100583	A19I102	
11	9100583-MSD1	Sediment	QC	QC		9100583	A19I102	
12	A9I0885-05RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
13	A9I0885-01RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
14	A9I0885-02RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
15	A9I0885-04RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
16	A9I0885-06RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
17	A9I0885-07RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
18	A9I0936-11	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
19	A9I0936-12	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
20	A9I0936-14	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
21	A9I0936-15	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
22	A9I0936-16	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
23	A9I0936-17	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
24	A9I0922-01	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
25	A9I0922-02	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
26	A9I0922-03	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
27	9J03014-IBL2	Sediment	QC	QC			A19I102	

Data Entered By: AMS 10/7/19

Data Reviewed By: [signature] 10/7/19

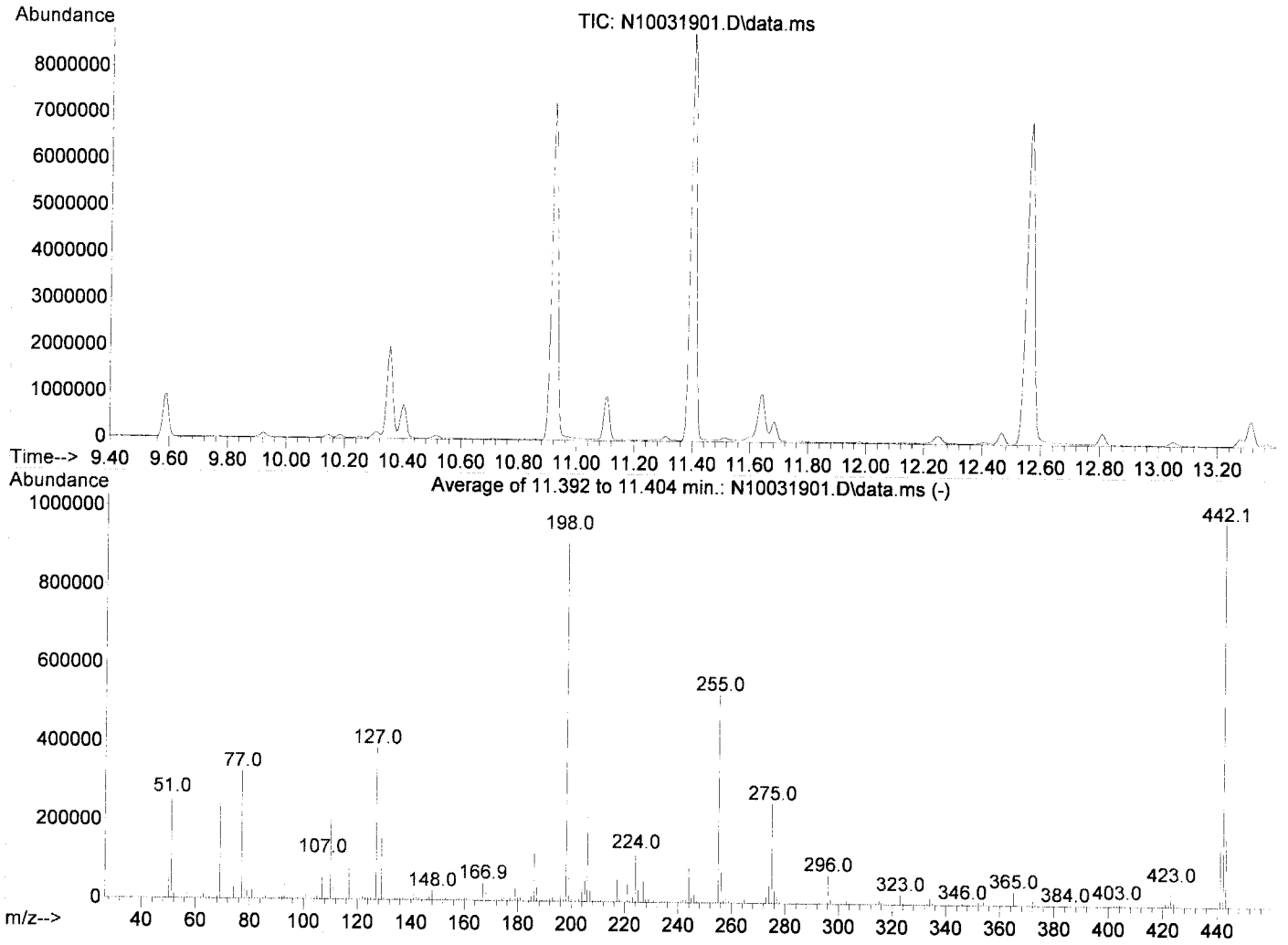
Comments:

Data Path : R:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Q-14
AMS
10/4/19

Integration File: rteint.p

Method : O:\methods\DFTPP.M
Title : DFTPP Tune Methodug/mL
Last Update : Thu Oct 03 11:34:01 2019



AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	4578	PASS
69	69	100	100	100.0	282937	PASS
70	69	0.00	2	0.5	1413	PASS
197	198	0.00	2	0.5	4578	PASS
198	198	100	100	100.0	937109	PASS
199	198	5	9	6.8	63974	PASS
365	198	1	100	3.7	34587	PASS
441	443	0.01	150	76.4	145765	PASS
442	198	0.10	200	104.7	980907	PASS
443	442	15	24	19.4	190669	PASS

Data Path : U:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

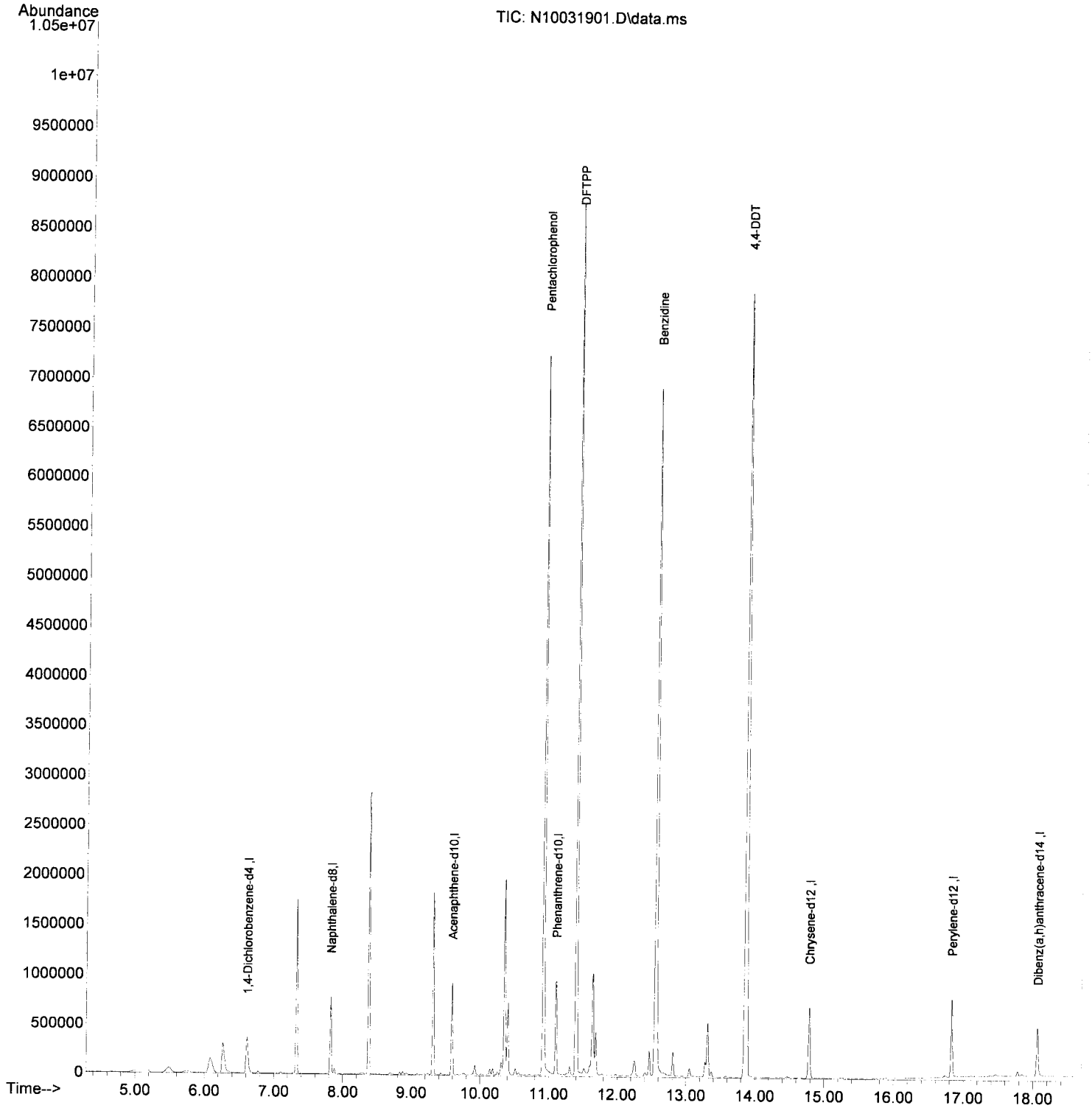
Quant Time: Oct 04 15:16:41 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	6.613	150	205268	2.00	ug/mL		0.00
2) Naphthalene-d8	7.825	136	522617	2.00	ug/mL		0.00
3) Acenaphthene-d10	9.591	162	275216	2.00	ug/mL		0.00
5) Phenanthrene-d10	11.106	188	497969	2.00	ug/mL		0.00
11) Chrysene-d12	14.784	240	456238	2.00	ug/mL	#	0.00
12) Perylene-d12	16.830	264	441452	2.00	ug/mL	#	0.00
13) Dibenz(a,h)anthracene-...	18.060	292	353348	2.00	ug/mL	#	0.00
Target Compounds							Qvalue
4) Pentachlorophenol	10.920	266	1304200	50.18	ug/mL		90
6) DFTPP	11.404	442	1643209	40.88	ug/mL		81
7) Benzidine	12.564	184	5355897	30.23	ug/mL		98
8) 4,4-DDE	12.808	TIC	340638	No Calib			
9) 4,4-DDD	13.316	TIC	897373	No Calib			
10) 4,4-DDT	13.869	TIC	16645808	32.60	ug/mL		97

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

Data Path : U:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 04 15:16:41 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031902.D
Acq On : 03 Oct 2019 08:56 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Q-14 AMS 10/4/19

Quant Time: Oct 04 12:43:00 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	225555	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	127157	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	227774	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	204818	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	191193	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	146555	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	40505	54.04 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	101537	53.53 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	125751	48.10 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	102239	47.46 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	78693	51.47 ng/ml	0.00
Target Compounds					Qvalue
3) Decalin	7.353	138	8238	49.06 ng/ml	97
4) Naphthalene	7.901	128	121503	48.84 ng/ml	100
5) 2-Methylnaphthalene	8.583	142	77210	36.63 ng/ml	98
6) 1-Methylnaphthalene	8.682	142	78308	37.15 ng/ml	98
7) 1,1'-Biphenyl	9.049	154	108880	38.40 ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	72659	35.09 ng/ml	98
12) Acenaphthylene	9.492	152	136168	49.33 ng/ml	99
13) Acenaphthene	9.667	153	89954	49.75 ng/ml	99
14) Dibenzofuran	9.842	168	113952	50.32 ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	74024	48.82 ng/ml	100
16) Fluorene	10.185	166	89152	48.18 ng/ml	99
18) Dibenzothiopene	11.036	184	119779	50.28 ng/ml	97
19) Phenanthrene	11.165	178	132643	49.77 ng/ml	100
20) Anthracene	11.217	178	121694	49.09 ng/ml	99
21) Carbazole	11.375	167	99353	49.53 ng/ml	99
22) 1-Methylphenanthrene	11.794	192	94368	50.97 ng/ml	100
23) Fluoranthene	12.430	202	138456	51.56 ng/ml	98
25) Pyrene	12.721	202	144512	45.16 ng/ml	100
27) Benz(a)anthracene	14.883	228	110715	46.56 ng/ml	99
28) Chrysene	14.959	228	108000	47.99 ng/ml	99
30) Benzo(b)fluoranthene	17.465	252	106918	48.46 ng/ml	94
31) Benzo(k)fluoranthene	17.530	252	107745	49.60 ng/ml	95
32) Benzo(b+k)fluoranthene	17.530	252	221318	98.08 ng/ml	95
34) Benzo(e)pyrene	18.112	252	108395	48.59 ng/ml	98
35) Benzo(a)pyrene	18.235	252	95251	50.44 ng/ml	98
36) Perylene	18.433	252	117443	50.50 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	85870	47.51 ng/ml	86
39) Dibenz(a,h)anthracene	20.829	278	83523	49.18 ng/ml	85
40) Benzo(g,h,i)perylene	21.295	276	92897	48.45 ng/ml	85

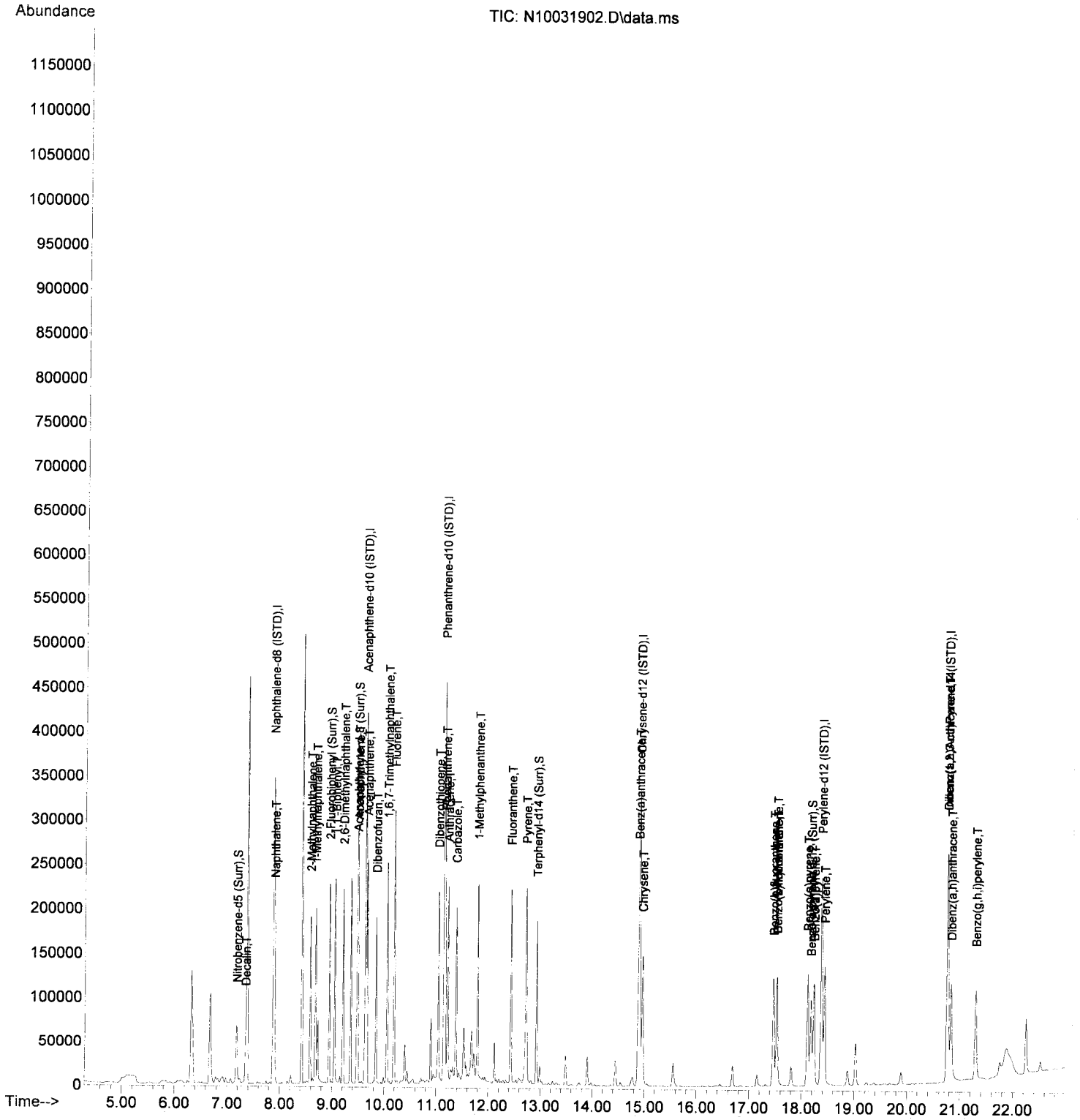
✓

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031902.D
Acq On : 03 Oct 2019 08:56 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:43:00 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



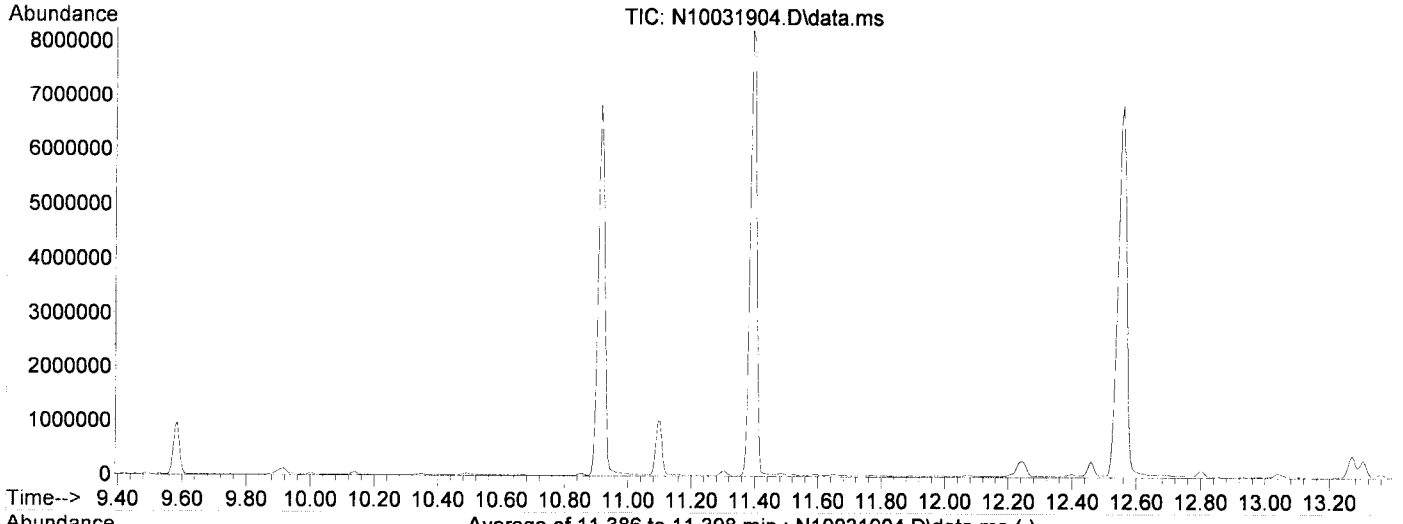
Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

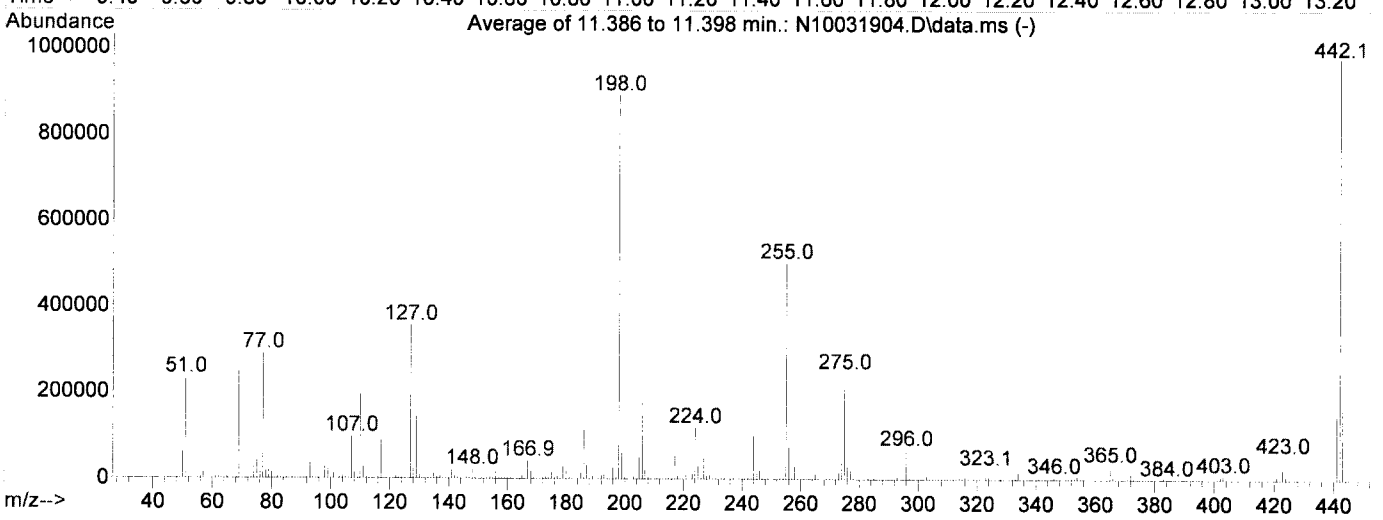
Replaced liner

AMS 10/4/19

Integration File: rteint.p

Method : R:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019





AutoFind: Scans 1217, 1218, 1219; Background Corrected with Scan 1211

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	4212	PASS
69	69	100	100	100.0	257555	PASS
70	69	0.00	2	0.5	1208	PASS
197	198	0.00	2	0.5	4378	PASS
198	198	100	100	100.0	890667	PASS
199	198	5	9	6.9	61213	PASS
365	198	1	100	3.7	32651	PASS
441	443	0.01	150	76.5	147216	PASS
442	198	0.10	200	110.1	980224	PASS
443	442	15	24	19.6	192365	PASS

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

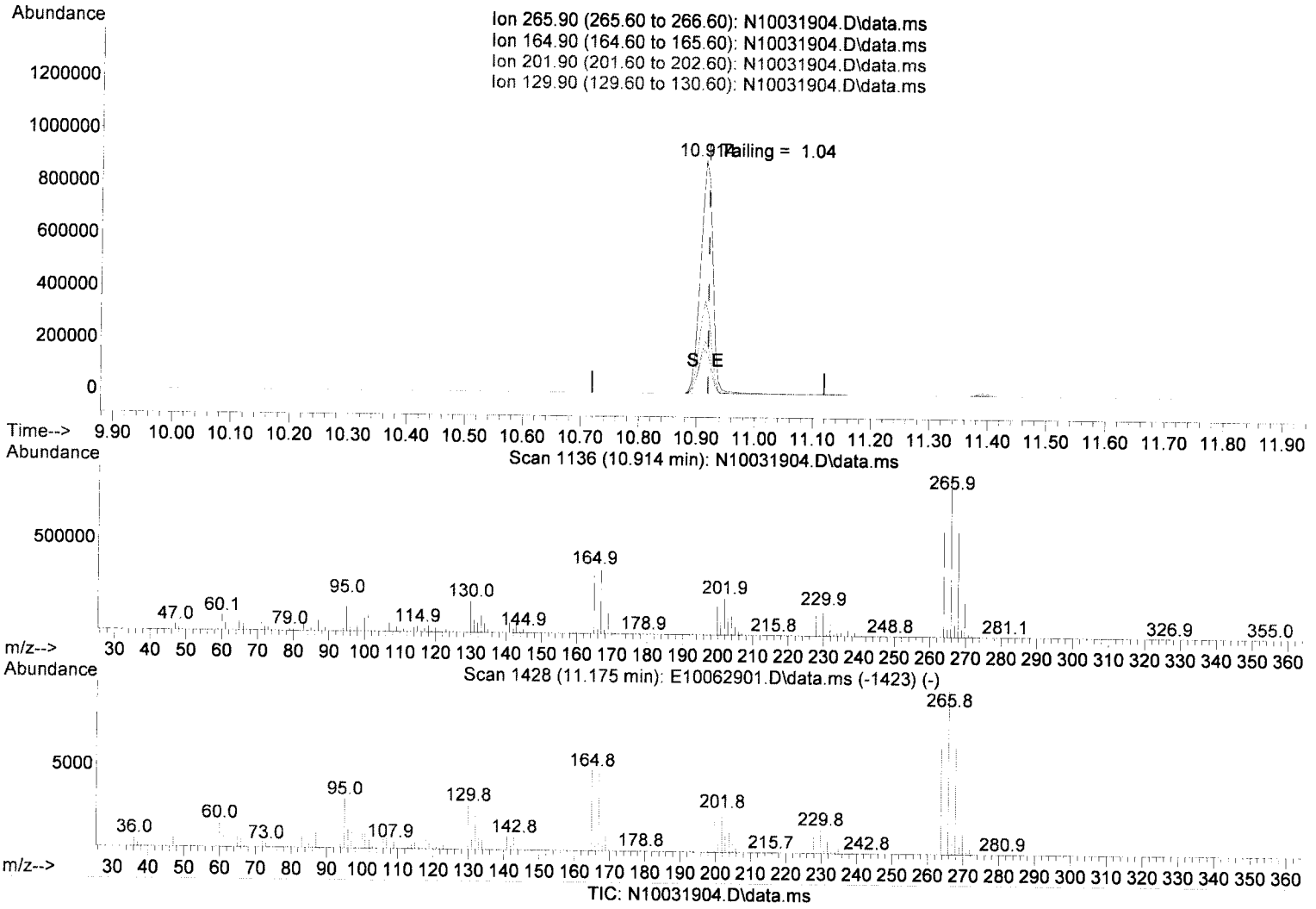
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.607	150	178844	2.00	ug/mL	0.00
2) Naphthalene-d8	7.819	136	514271	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	281614	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.095	188	532238	2.00	ug/mL	0.00
11) Chrysene-d12	14.773	240	479432	2.00	ug/mL	-0.01
12) Perylene-d12	16.813	264	429321	2.00	ug/mL	-0.02
13) Dibenz(a,h)anthracene-...	18.042	292	351660	2.00	ug/mL	#-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	10.914	266	1301543	48.94	ug/mL	87
6) DFTPP	11.398	442	1680806	39.12	ug/mL	78
7) Benzidine	12.558	184	5474317	28.91	ug/mL	98
8) 4,4-DDE	12.802	TIC	160719	No Calib		
9) 4,4-DDD	13.304	TIC	439969	No Calib		
10) 4,4-DDT	13.863	TIC	16913414	30.99	ug/mL	96

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Pentachlorophenol

10.914min (-0.006) 48.94 ug/mL

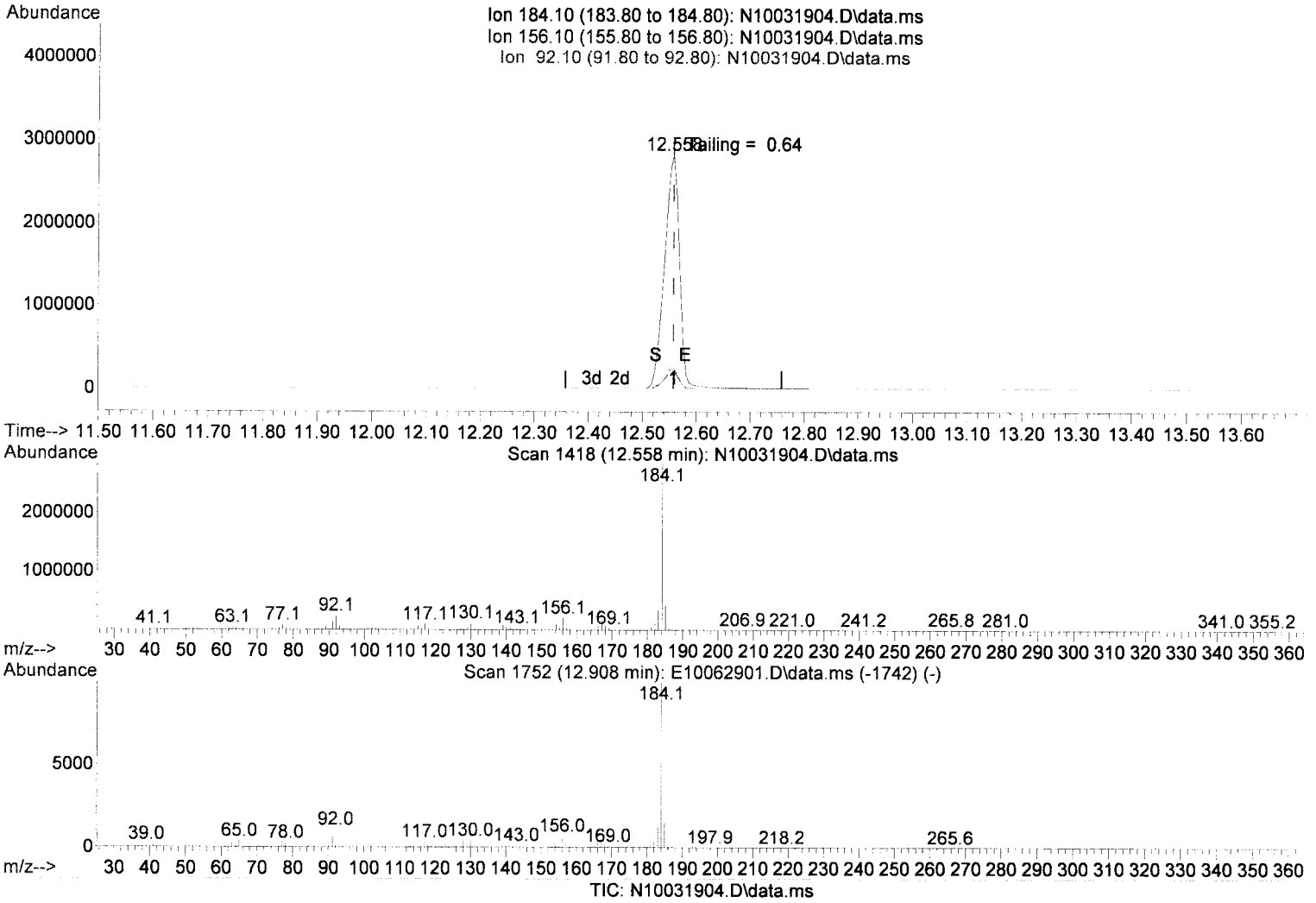
response 1301543

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	39.97
201.90	25.80	22.63
129.90	27.30	19.21

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(7) Benzidine

12.558min (-0.000) 28.91 ug/mL

response 5474317

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.28
92.10	8.20	8.53
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9J03014-TUN2
SV-GCMS14

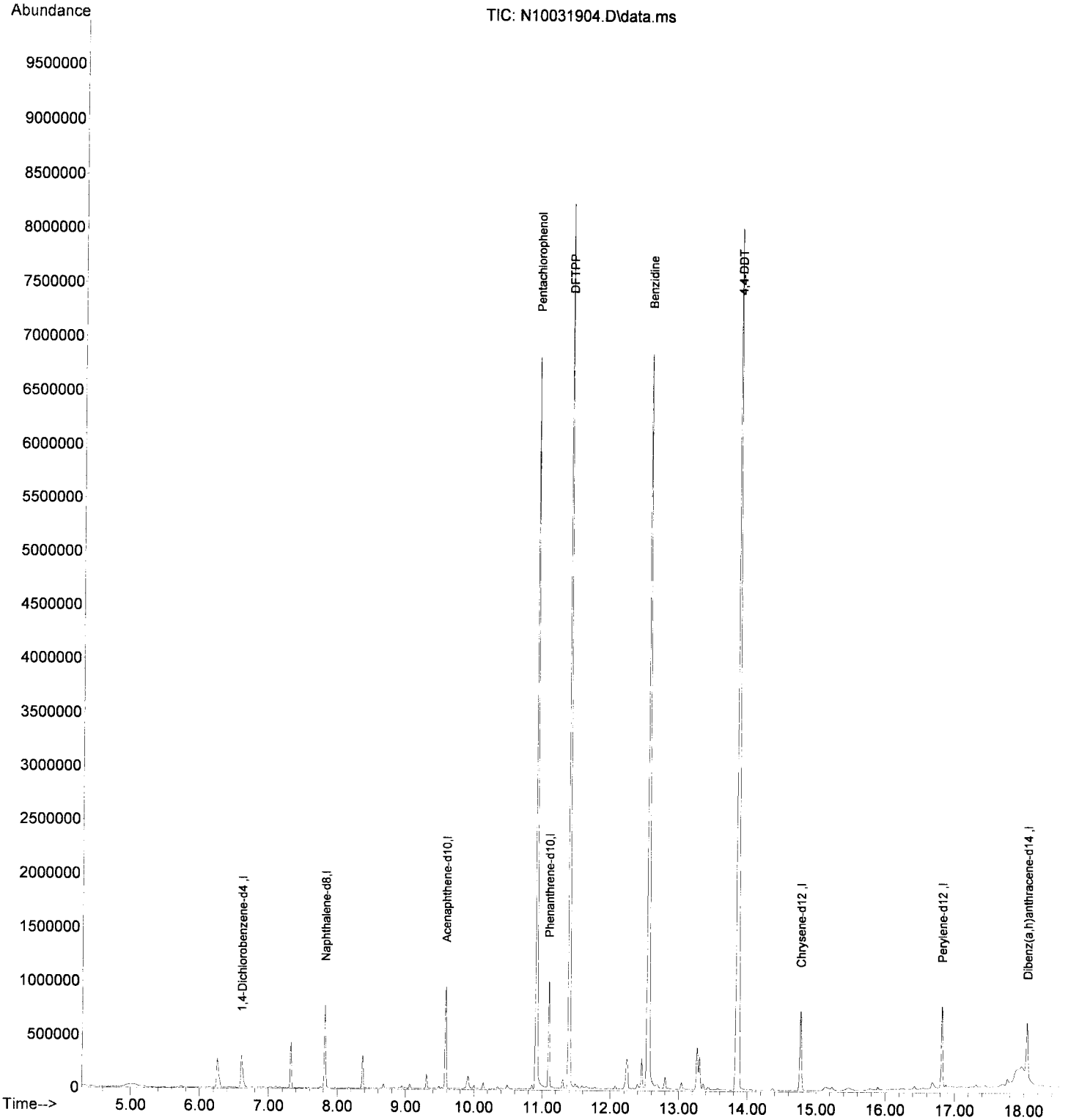
First Column	Area Counts	Percent Breakdown	
DDE	160719		
DDD	439969		
DDT	16913414	**3.43**	**PASS**

Breakdown must be less than 20% to accept sample data.

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

AMS
10/4/19

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	140	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	50.408	-0.8	145	0.00
3	T	Decalin	50.000	29.905	40.2#	83	-0.01
4	T	Naphthalene	50.000	49.006	2.0	140	-0.01
5	T	2-Methylnaphthalene	50.000	44.867	10.3	125	0.00
6	T	1-Methylnaphthalene	50.000	42.539	14.9	115	0.00
7	T	1,1'-Biphenyl	50.000	42.346	15.3	118	0.00
8	T	2,6-Dimethylnaphthalene	50.000	43.267	13.5	118	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	115	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	50.756	-1.5	117	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.873	4.3	112	0.00
12	T	Acenaphthylene	50.000	48.719	2.6	112	0.00
13	T	Acenaphthene	50.000	49.893	0.2	117	0.00
14	T	Dibenzofuran	50.000	51.878	-3.8	119	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	49.619	0.8	116	0.00
16	T	Fluorene	50.000	52.891	-5.8	122	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	120	0.00
18	T	Dibenzothiopene	50.000	49.164	1.7	120	0.00
19	T	Phenanthrene	50.000	48.719	2.6	119	0.00
20	T	Anthracene	50.000	49.748	0.5	121	0.00
21	T	Carbazole	50.000	47.331	5.3	115	-0.02
22	T	1-Methylphenanthrene	50.000	51.117	-2.2	124	0.00
23	T	Fluoranthene	50.000	50.951	-1.9	123	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	134	0.00
25	T	Pyrene	50.000	46.264	7.5	123	0.00
26	S	Terphenyl-d14 (Surr)	50.000	49.840	0.3	134	0.00
27	T	Benz(a)anthracene	50.000	47.602	4.8	135	0.00
28	T	Chrysene	50.000	48.035	3.9	131	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	130	0.00
30	T	Benzo(b)fluoranthene	50.000	50.846	-1.7	131	0.00
31	T	Benzo(k)fluoranthene	50.000	50.665	-1.3	134	0.00
32	T	Benzo(b+k)fluoranthene	100.000	101.222	-1.2	132	-0.07
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	52.534	-5.1	135	0.00
34	T	Benzo(e)pyrene	50.000	48.776	2.4	129	0.00
35	T	Benzo(a)pyrene	50.000	51.208	-2.4	131	0.00
36	T	Perylene	50.000	48.936	2.1	127	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	136	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	47.384	5.2	130	0.00
39	T	Dibenz(a,h)anthracene	50.000	49.212	1.6	135	0.00
40	T	Benzo(g,h,i)perylene	50.000	48.010	4.0	128	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

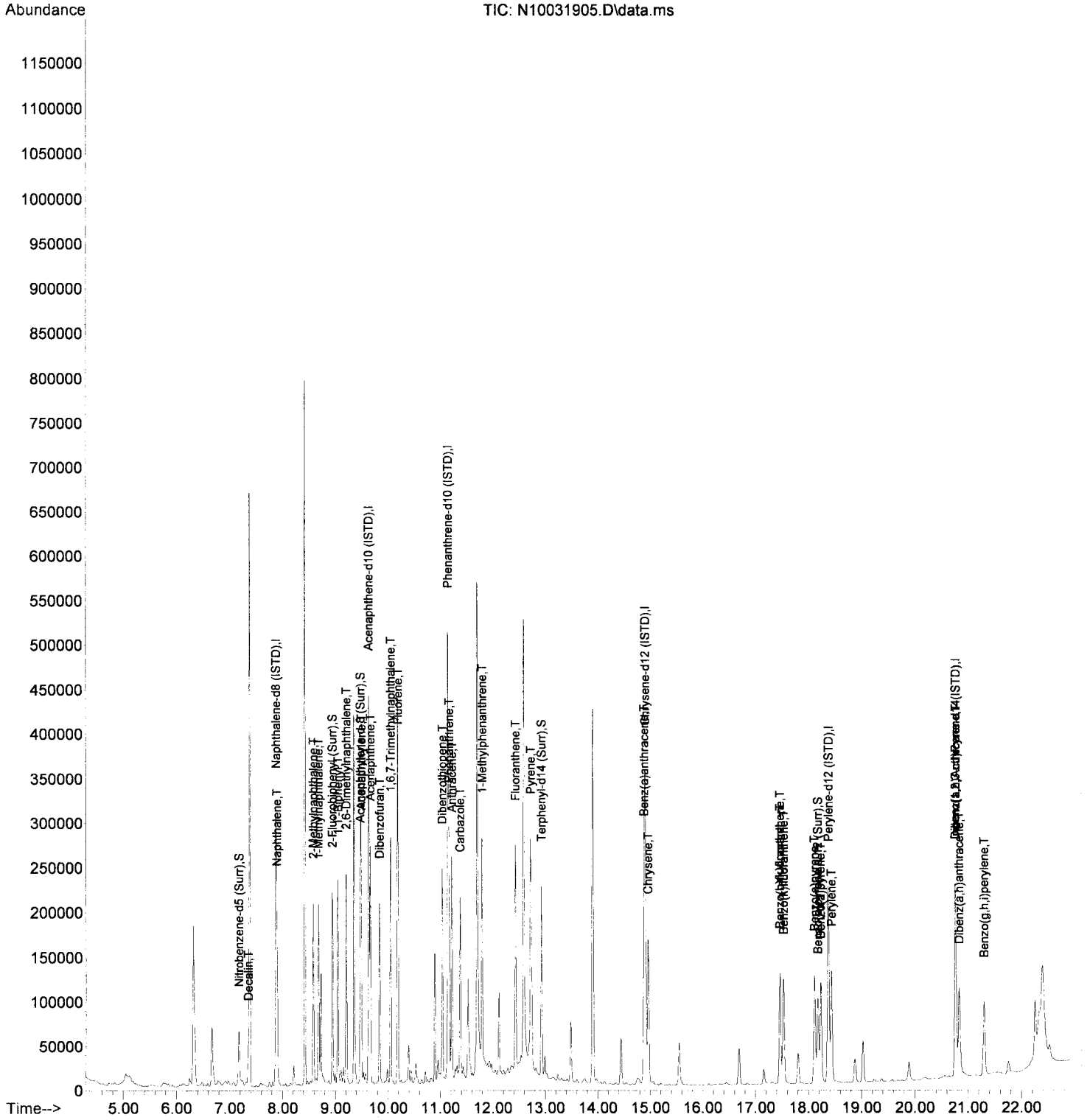
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	207501	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	135408	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	263900	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	227174	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	185420	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	126520	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	34757	50.41	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	102532	50.76	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	133285	47.87	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	119081	49.84	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.176	264	77899	52.53	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.353	138	4620	29.91	ng/ml	94
4) Naphthalene	7.895	128	112155	49.01	ng/ml	100
5) 2-Methylnaphthalene	8.582	142	87012	44.87	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	82482	42.54	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	110451	42.35	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	82419	43.27	ng/ml	99
12) Acenaphthylene	9.492	152	143220	48.72	ng/ml	99
13) Acenaphthene	9.667	153	96067	49.89	ng/ml	100
14) Dibenzofuran	9.841	168	125114	51.88	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	80124	49.62	ng/ml	99
16) Fluorene	10.191	166	104211	52.89	ng/ml	98
18) Dibenzothiopene	11.036	184	135695	49.16	ng/ml	97
19) Phenanthrene	11.165	178	150449	48.72	ng/ml	100
20) Anthracene	11.217	178	142896	49.75	ng/ml	99
21) Carbazole	11.374	167	110009	47.33	ng/ml	98
22) 1-Methylphenanthrene	11.794	192	109656	51.12	ng/ml	99
23) Fluoranthene	12.429	202	158524	50.95	ng/ml	97
25) Pyrene	12.721	202	164201	46.26	ng/ml	100
27) Benz(a)anthracene	14.883	228	125552	47.60	ng/ml	99
28) Chrysene	14.959	228	119893	48.03	ng/ml	100
30) Benzo(b)fluoranthene	17.459	252	108787	50.85	ng/ml	94
31) Benzo(k)fluoranthene	17.529	252	106728	50.67	ng/ml	94
32) Benzo(b+k)fluoranthene	17.459	252	221518	101.22	ng/ml	93
34) Benzo(e)pyrene	18.112	252	105523	48.78	ng/ml	98
35) Benzo(a)pyrene	18.229	252	93777	51.21	ng/ml	97
36) Perylene	18.433	252	110376	48.94	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	73937	47.38	ng/ml	83
39) Dibenz(a,h)anthracene	20.828	278	72154	49.21	ng/ml	84
40) Benzo(g,h,i)perylene	21.295	276	79469	48.01	ng/ml	84

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031906.D
Acq On : 03 Oct 2019 11:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:06 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

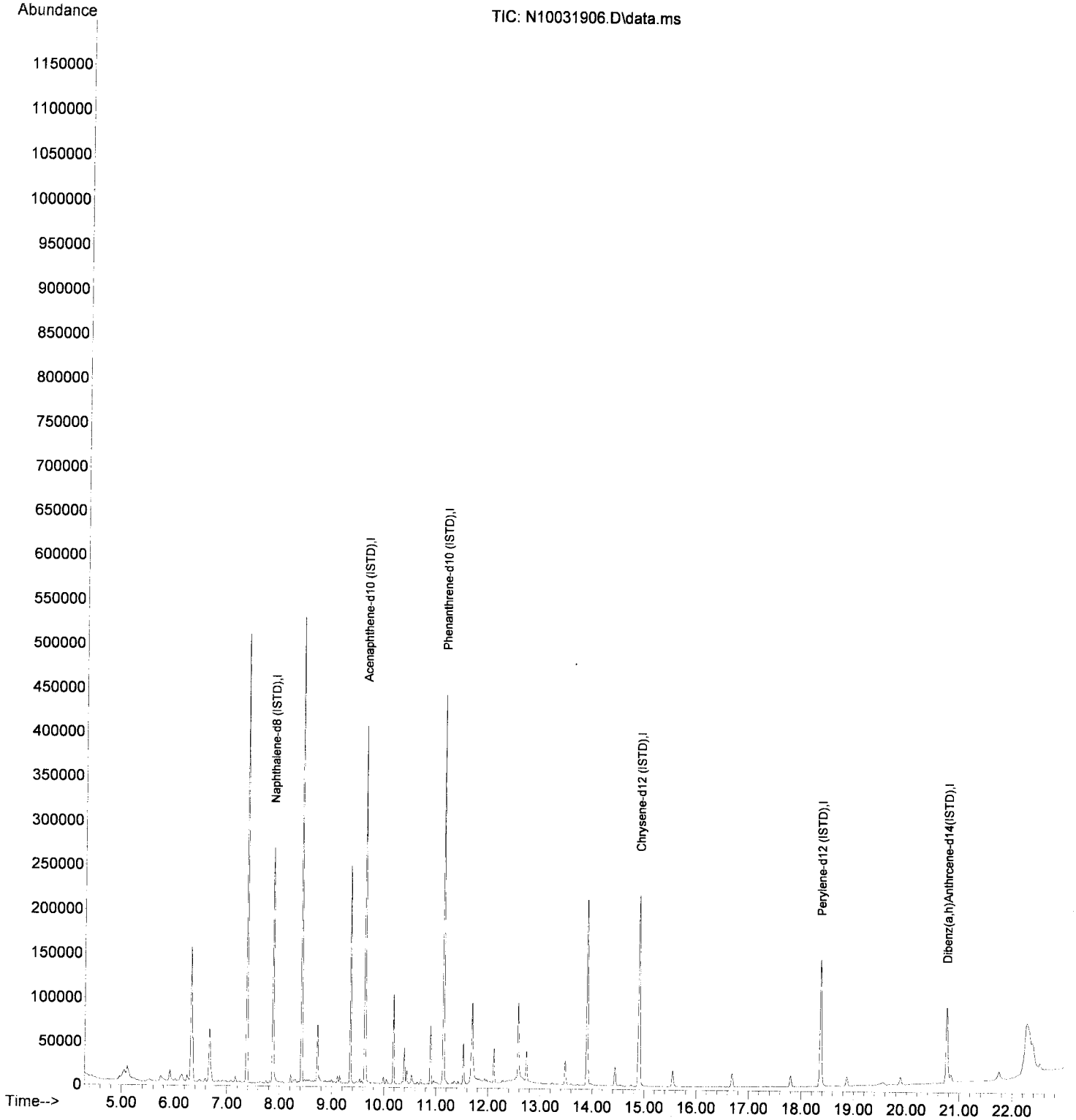
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	203955	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	126264	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	237335	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	163092	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	121839	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	86422	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.166	82	223	0.33 ng/ml	-0.02
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
11) Acenaphthylene d-8 (Surr)	9.480	160	1122	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	0.000	244	0	0.00 ng/ml	
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.907	128	577	N.D.	
5) 2-Methylnaphthalene	8.589	142	118	N.D.	
6) 1-Methylnaphthalene	8.688	142	75	N.D.	
7) 1,1'-Biphenyl	9.055	154	305	N.D.	
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
12) Acenaphthylene	9.492	152	104	N.D.	
13) Acenaphthene	0.000		0	N.D.	
14) Dibenzofuran	0.000		0	N.D.	
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
16) Fluorene	10.191	166	74	N.D.	
18) Dibenzothiopene	0.000		0	N.D.	
19) Phenanthrene	11.165	178	289	N.D.	
20) Anthracene	11.165	178	262	N.D.	
21) Carbazole	11.380	167	113	N.D.	
22) 1-Methylphenanthrene	11.788	192	50	N.D.	
23) Fluoranthene	12.430	202	90	N.D.	
25) Pyrene	12.721	202	76	N.D.	
27) Benz(a)anthracene	14.901	228	455	N.D.	
28) Chrysene	14.953	228	62	N.D.	
30) Benzo(b)fluoranthene	0.000		0	N.D.	
31) Benzo(k)fluoranthene	0.000		0	N.D.	
32) Benzo(b+k)fluoranthene	0.000		0	N.D.	
34) Benzo(e)pyrene	18.369	252	386	N.D.	
35) Benzo(a)pyrene	0.000		0	N.D.	
36) Perylene	18.369	252	386	N.D.	
38) Indeno(1,2,3-cd)Pyrene	0.000		0	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031906.D
Acq On : 03 Oct 2019 11:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 04 12:47:06 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031907.D
Acq On : 03 Oct 2019 11:49 am
Operator : JK/ AMS/ DTH
Sample : 9100583-BLK1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 4 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:09 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

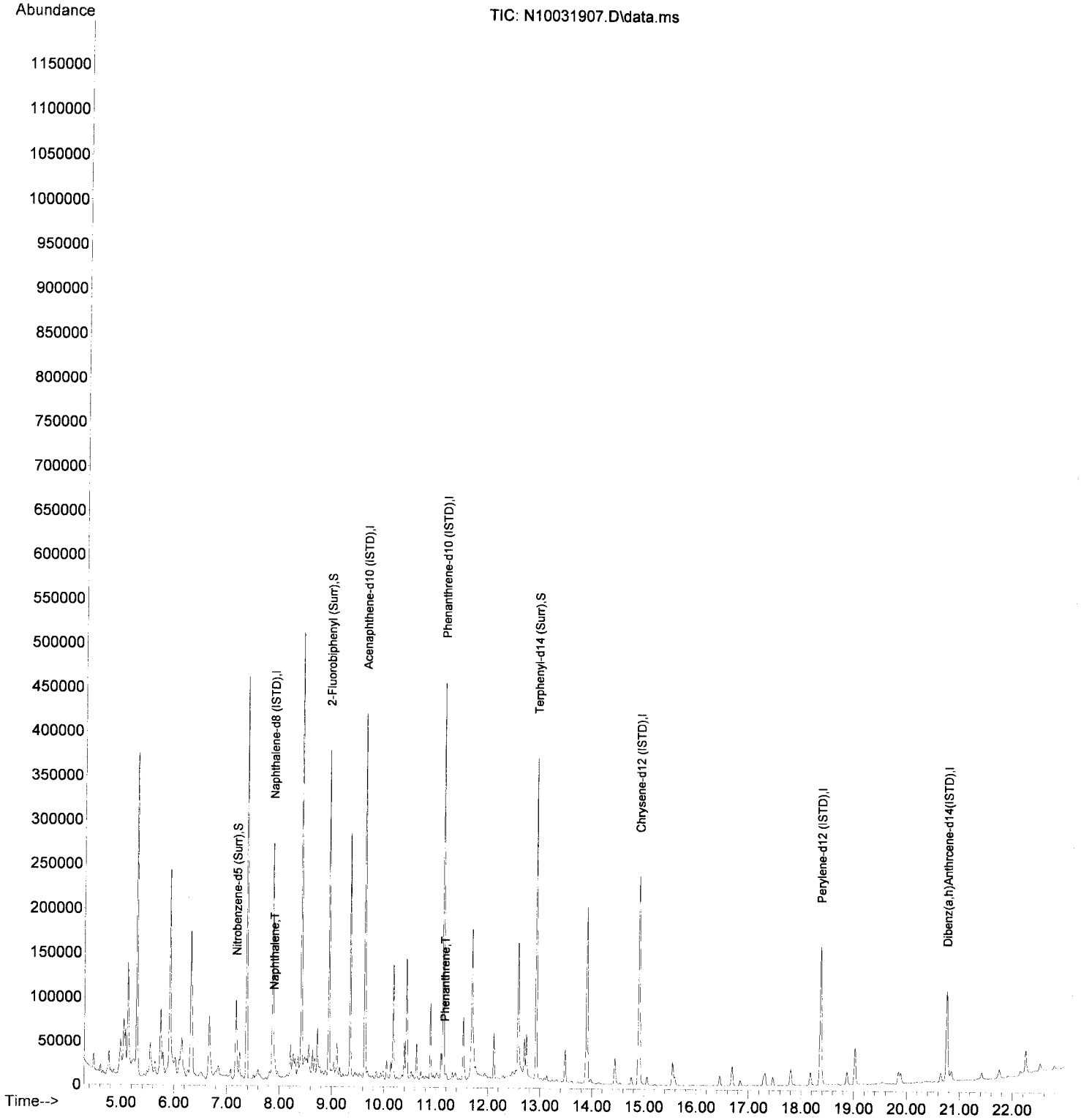
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	194910	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	125114	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	238408	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	176778	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	134282	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	96007	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.178	82	55061	85.01 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	172546	92.44 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	873	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	201016	108.12 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.895	128	3298	1.53 ng/ml	99
5) 2-Methylnaphthalene	8.583	142	664	N.D.	
6) 1-Methylnaphthalene	8.682	142	326	N.D.	
7) 1,1'-Biphenyl	9.049	154	675	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	225	N.D.	
12) Acenaphthylene	9.492	152	632	N.D.	
13) Acenaphthene	9.667	153	674	N.D.	
14) Dibenzofuran	9.842	168	152	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.057	170	89	N.D.	
16) Fluorene	10.191	166	226	N.D.	
18) Dibenzothiopene	11.037	184	141	N.D.	
19) Phenanthrene	11.165	178	1127	0.40 ng/ml	95
20) Anthracene	11.217	178	191	N.D.	
21) Carbazole	11.375	167	163	N.D.	
22) 1-Methylphenanthrene	11.794	192	173	N.D.	
23) Fluoranthene	12.430	202	593	N.D.	
25) Pyrene	12.721	202	756	N.D.	
27) Benz(a)anthracene	14.895	228	635	N.D.	
28) Chrysene	14.959	228	244	N.D.	
30) Benzo(b)fluoranthene	17.460	252	306	N.D.	
31) Benzo(k)fluoranthene	17.460	252	462	N.D.	
32) Benzo(b+k)fluoranthene	17.460	252	462	N.D.	
34) Benzo(e)pyrene	18.113	252	255	N.D.	
35) Benzo(a)pyrene	18.235	252	266	N.D.	
36) Perylene	18.375	252	406	N.D.	
38) Indeno(1,2,3-cd)Pyrene	20.759	276	308	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	21.295	276	334	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031907.D
Acq On : 03 Oct 2019 11:49 am
Operator : JK/ AMS/ DTH
Sample : 9100583-BLK1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 12:47:09 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031908.D
Acq On : 03 Oct 2019 12:21 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-BS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 5 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:12 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	196581	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	128611	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	246492	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	197429	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	156299	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	110329	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	55176	84.47	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	178211	92.88	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1115	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	204126	98.31	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.353	138	3173	21.68	ng/ml	98
4) Naphthalene	7.895	128	79460	36.65	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	62559	34.05	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	60176	32.76	ng/ml	95
7) 1,1'-Biphenyl	9.049	154	80948	32.76	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	59516	32.98	ng/ml	98
12) Acenaphthylene	9.492	152	100934	36.15	ng/ml	98
13) Acenaphthene	9.667	153	68997	37.73	ng/ml	100
14) Dibenzofuran	9.842	168	89970	39.28	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	57652	37.59	ng/ml	98
16) Fluorene	10.186	166	74342	39.73	ng/ml	99
18) Dibenzothiopene	11.037	184	97437	37.80	ng/ml	97
19) Phenanthrene	11.165	178	109750	38.05	ng/ml	99
20) Anthracene	11.217	178	102675	38.27	ng/ml	99
21) Carbazole	11.375	167	80449	37.06	ng/ml	99
22) 1-Methylphenanthrene	11.788	192	78529	39.19	ng/ml	100
23) Fluoranthene	12.430	202	114547	39.42	ng/ml	97
25) Pyrene	12.715	202	116349	37.72	ng/ml	99
27) Benz(a)anthracene	14.878	228	83288	36.34	ng/ml	99
28) Chrysene	14.959	228	85962	39.63	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	72318	40.10	ng/ml	95
31) Benzo(k)fluoranthene	17.524	252	68057	38.33	ng/ml	94
32) Benzo(b+k)fluoranthene	17.460	252	144964	78.58	ng/ml	93
34) Benzo(e)pyrene	18.112	252	69931	38.35	ng/ml	98
35) Benzo(a)pyrene	18.229	252	58389	37.82	ng/ml	98
36) Perylene	18.427	252	71503	37.61	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	51682	37.98	ng/ml	83
39) Dibenz(a,h)anthracene	20.823	278	47779	37.37	ng/ml	87
40) Benzo(g,h,i)perylene	21.289	276	54921	38.05	ng/ml	84

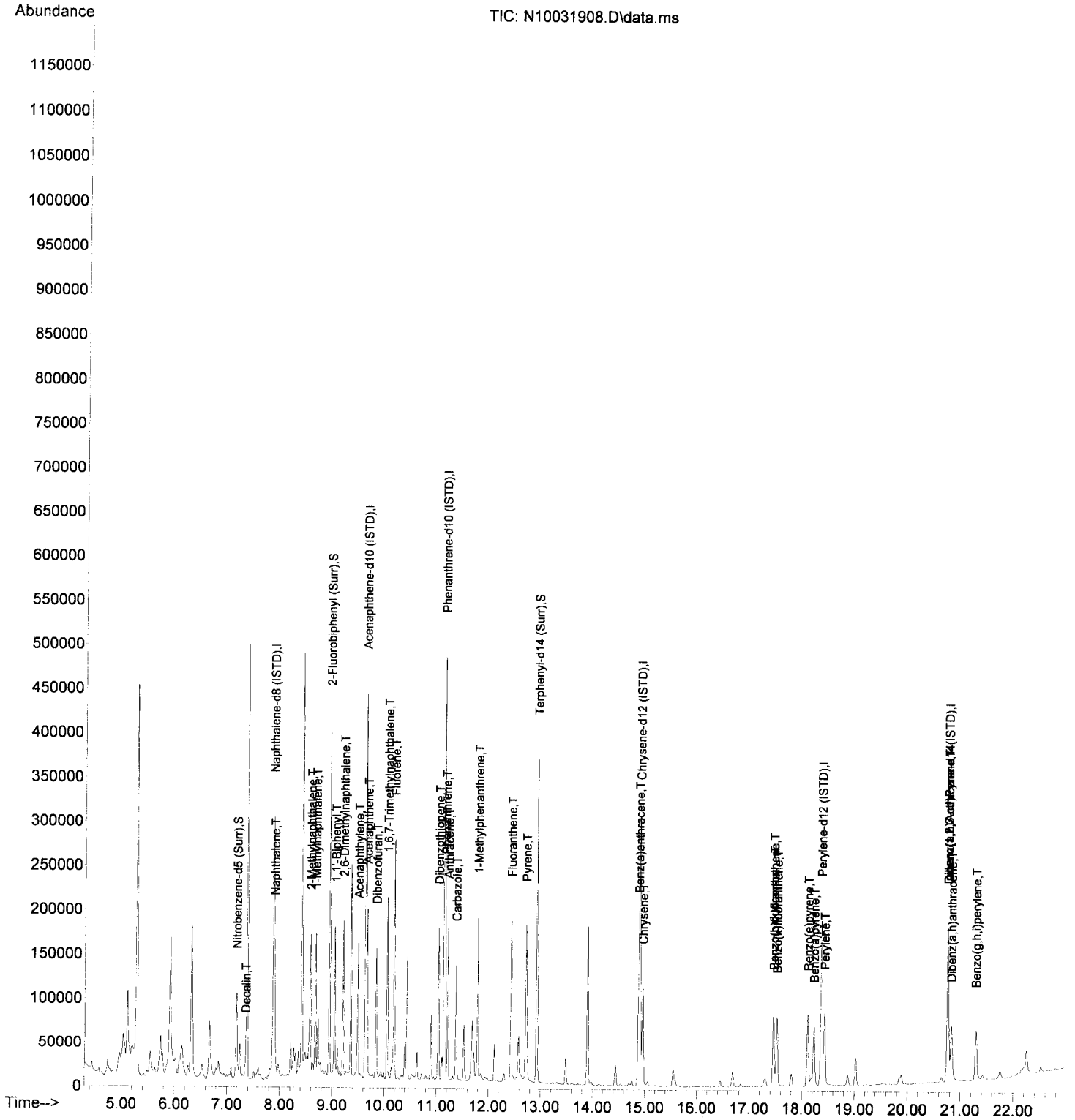
(#) = qualifier out of range (m) = manual integration (+) = signals summed

J

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031908.D
Acq On : 03 Oct 2019 12:21 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-BS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 12:47:12 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1

AMS 10/7/19 MOS

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

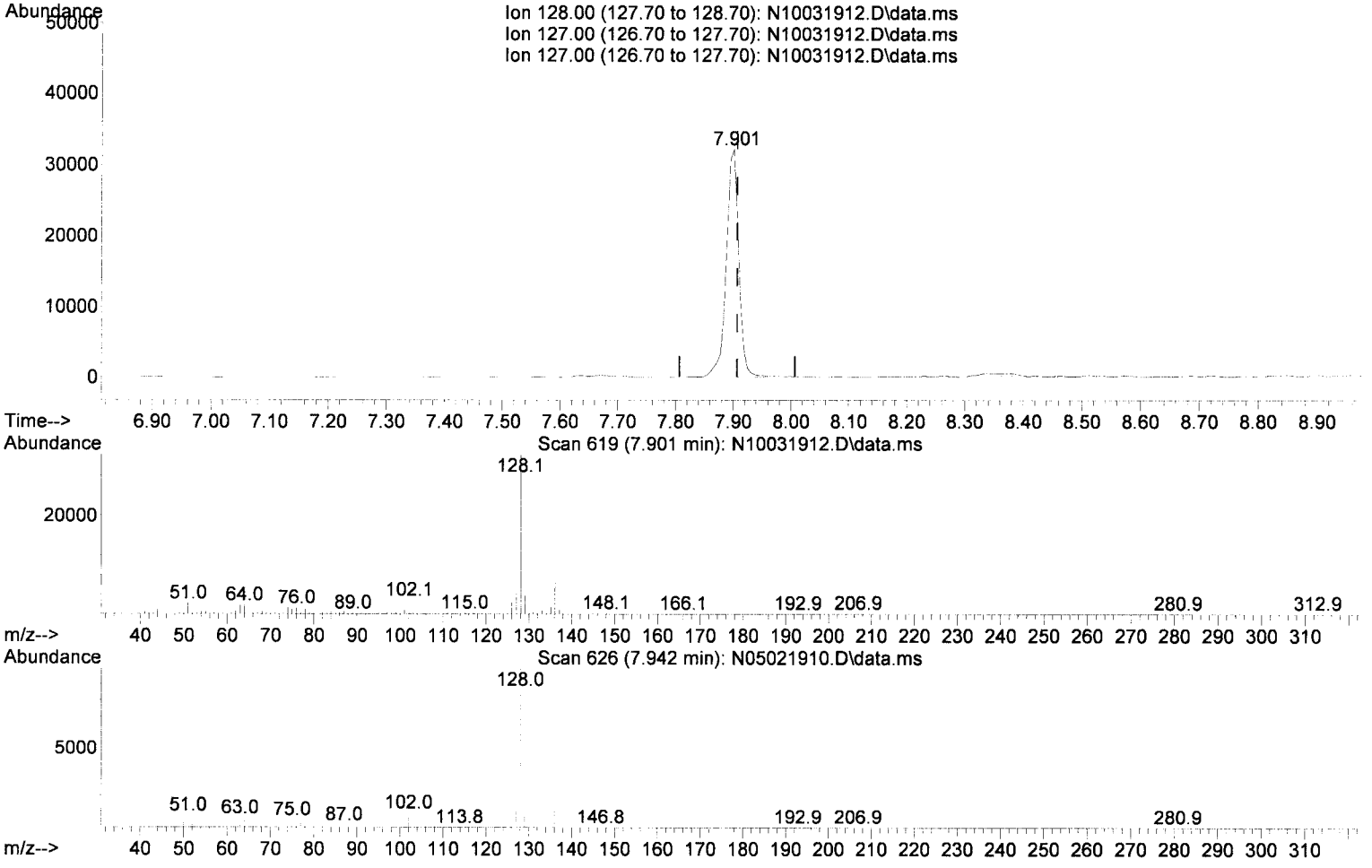
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	203645	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	133157	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	255349	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	222460	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	193394	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	137795	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	72	0.11	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	228	0.11	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1471	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	420	0.18	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.901	128	48753	21.71	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	79194	41.61	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	47576	25.00	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	4009	1.57	ng/ml	92
8) 2,6-Dimethylnaphthalene	9.212	156	22398	11.98	ng/ml	98
12) Acenaphthylene	9.492	152	19696	6.81	ng/ml	96
13) Acenaphthene	9.667	153	104102	54.98	ng/ml	99
14) Dibenzofuran	9.842	168	12204	5.15	ng/ml	92
15) 1,6,7-Trimethylnaphtha...	10.051	170	8776	5.53	ng/ml	91
16) Fluorene	10.185	166	66172	34.15	ng/ml	99
18) Dibenzothiopene	11.036	184	83972	31.44	ng/ml	97
19) Phenanthrene	11.165	178	603393	201.94	ng/ml	100
20) Anthracene	11.217	178	116951	42.08	ng/ml	99
21) Carbazole	11.375	167	11784	5.24	ng/ml	95
22) 1-Methylphenanthrene	11.788	192	41277	19.89	ng/ml	95
23) Fluoranthene	12.430	202	521262	173.15	ng/ml	97
25) Pyrene	12.721	202	639714	184.06	ng/ml	99
27) Benz(a)anthracene	14.878	228	119826	46.39	ng/ml#	62
28) Chrysene	14.959	228	145250	59.43	ng/ml	99
30) Benzo(b)fluoranthene	17.465	252	133835	59.97	ng/ml	94
31) Benzo(k)fluoranthene	~~17.465~~	~~252~~	~~164339~~	~~74.80~~	~~ng/ml~~	~~93~~ MI-MOS
32) Benzo(b+k)fluoranthene	17.465	252	188496	82.58	ng/ml	93
34) Benzo(e)pyrene	18.112	252	89904	39.84	ng/ml	98
35) Benzo(a)pyrene	18.229	252	131952	69.08	ng/ml	98
36) Perylene	18.433	252	41654	17.71	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	78791	46.36	ng/ml	86
39) Dibenz(a,h)anthracene	20.823	278	8492	5.32	ng/ml	90
40) Benzo(g,h,i)perylene	21.295	276	101003	56.03	ng/ml	85

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(4) Naphthalene (T)

7.901min (-0.006) 21.71 ng/ml

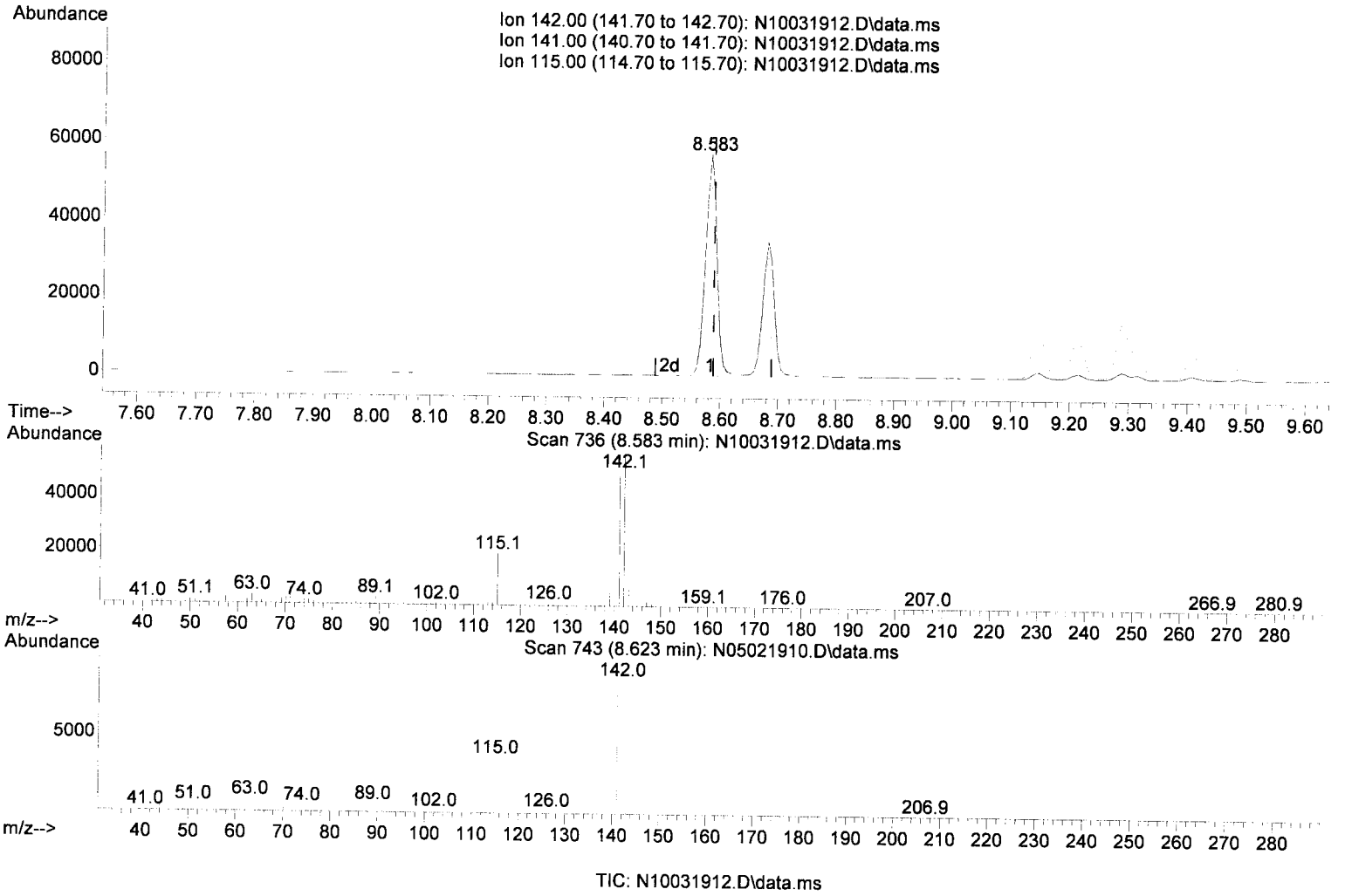
response 48753

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.78
127.00	12.60	12.78
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(5) 2-Methylnaphthalene (T)

8.583min (-0.006) 41.61 ng/ml

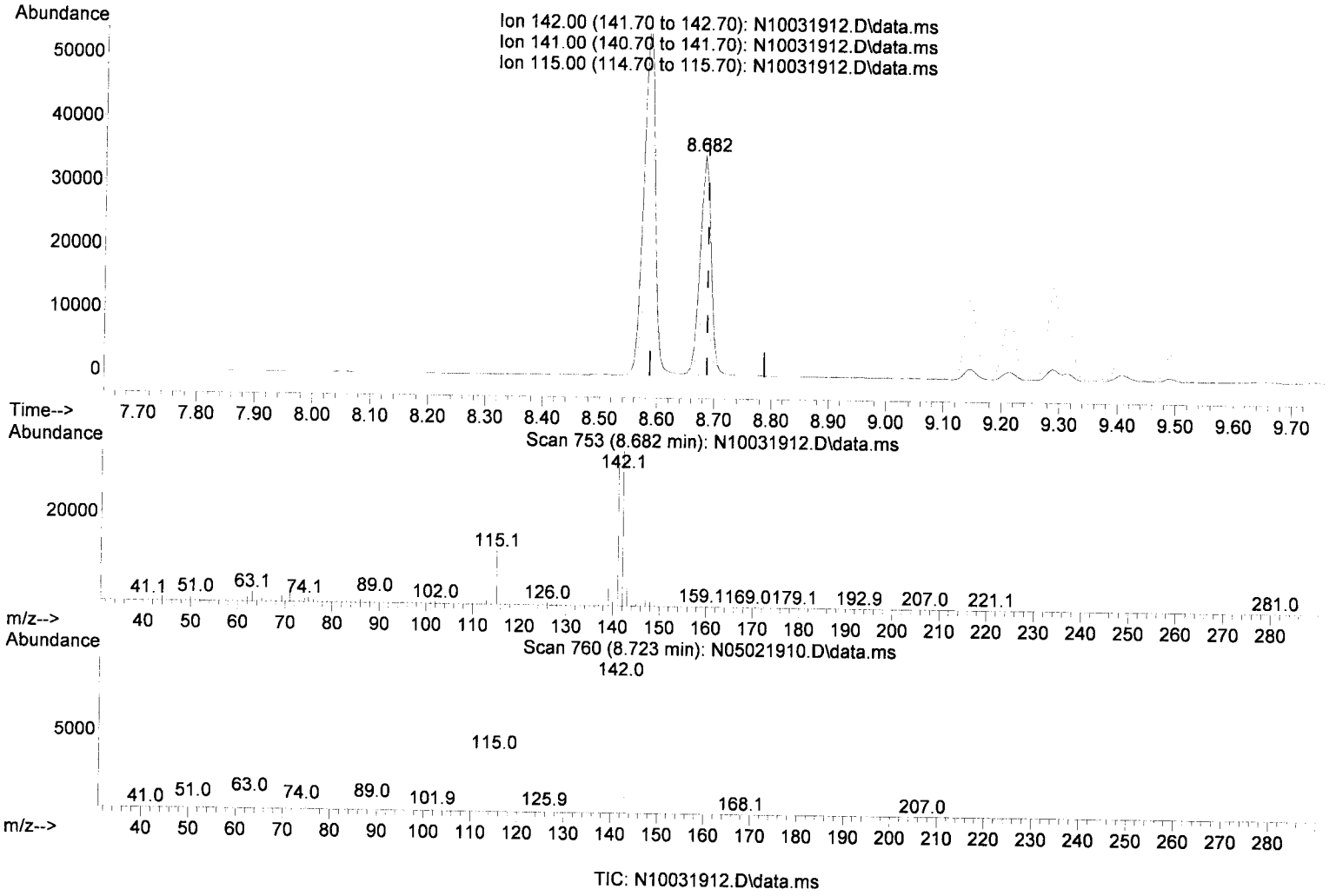
response 79194

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	86.05
115.00	35.70	33.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(6) 1-Methylnaphthalene (T)

8.682min (-0.006) 25.00 ng/ml

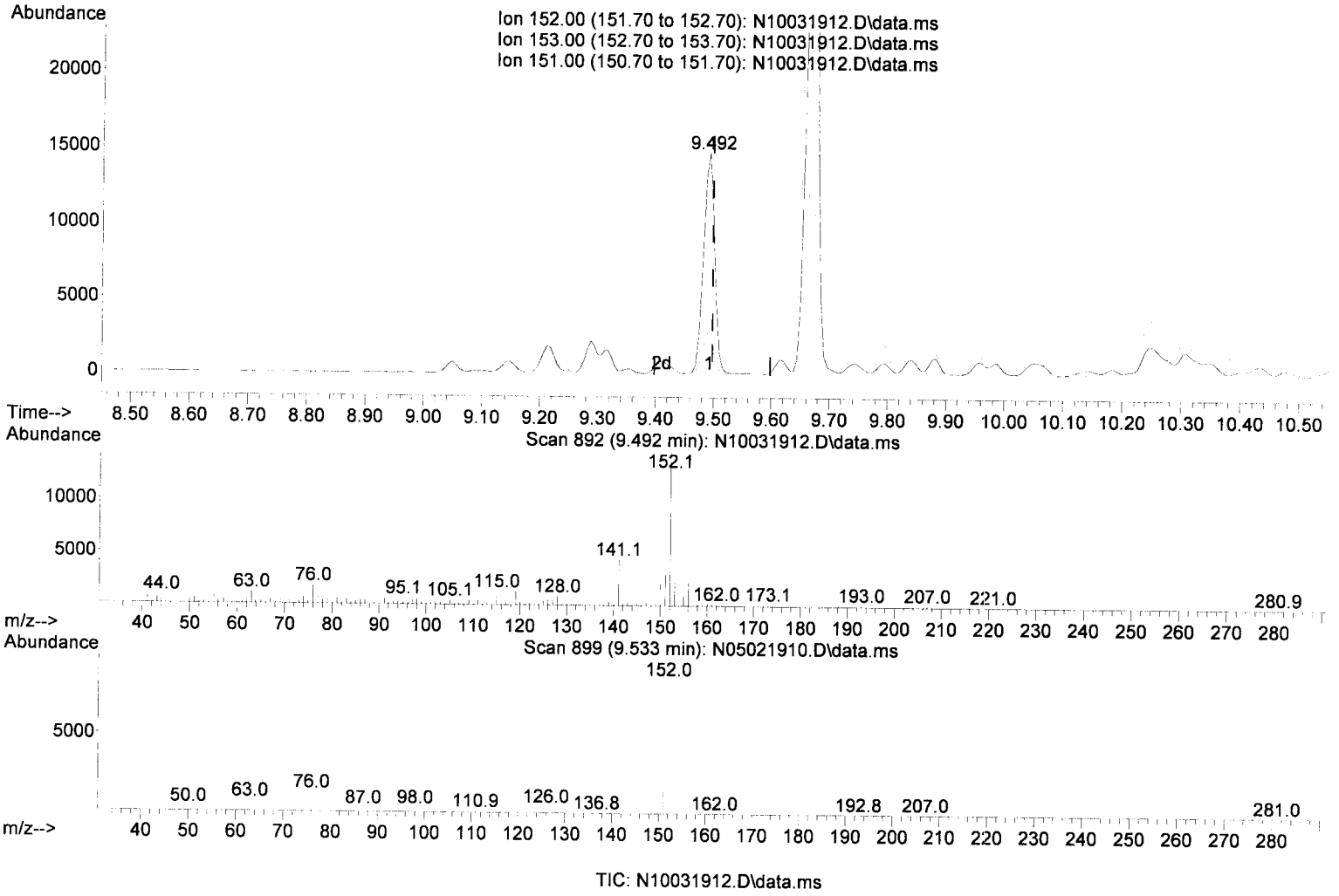
response 47576

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	89.14
115.00	37.80	34.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(12) Acenaphthylene (T)

9.492min (-0.006) 6.81 ng/ml

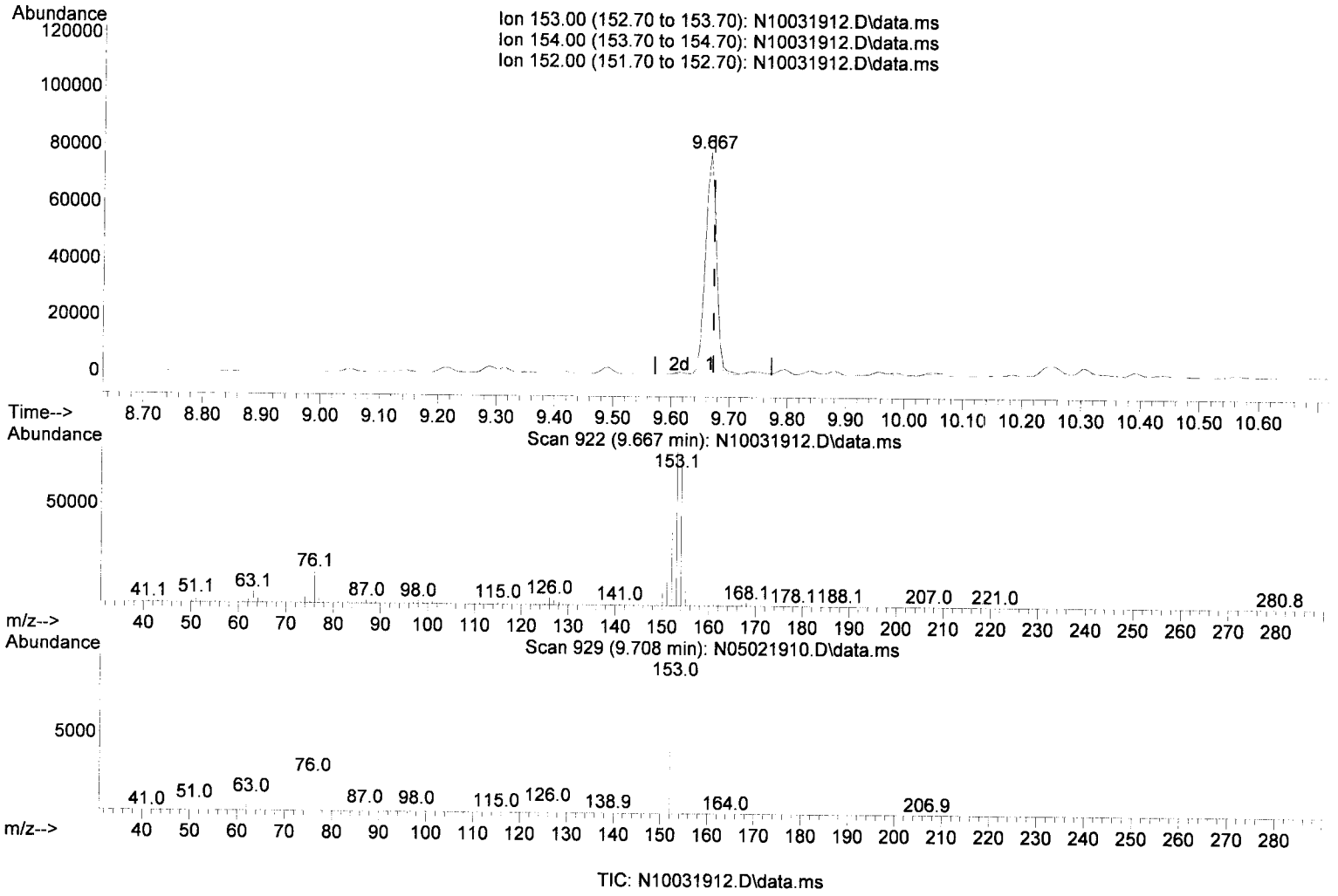
response 19696

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	15.72
151.00	19.30	20.05
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(13) Acenaphthene (T)

9.667min (-0.006) 54.98 ng/ml

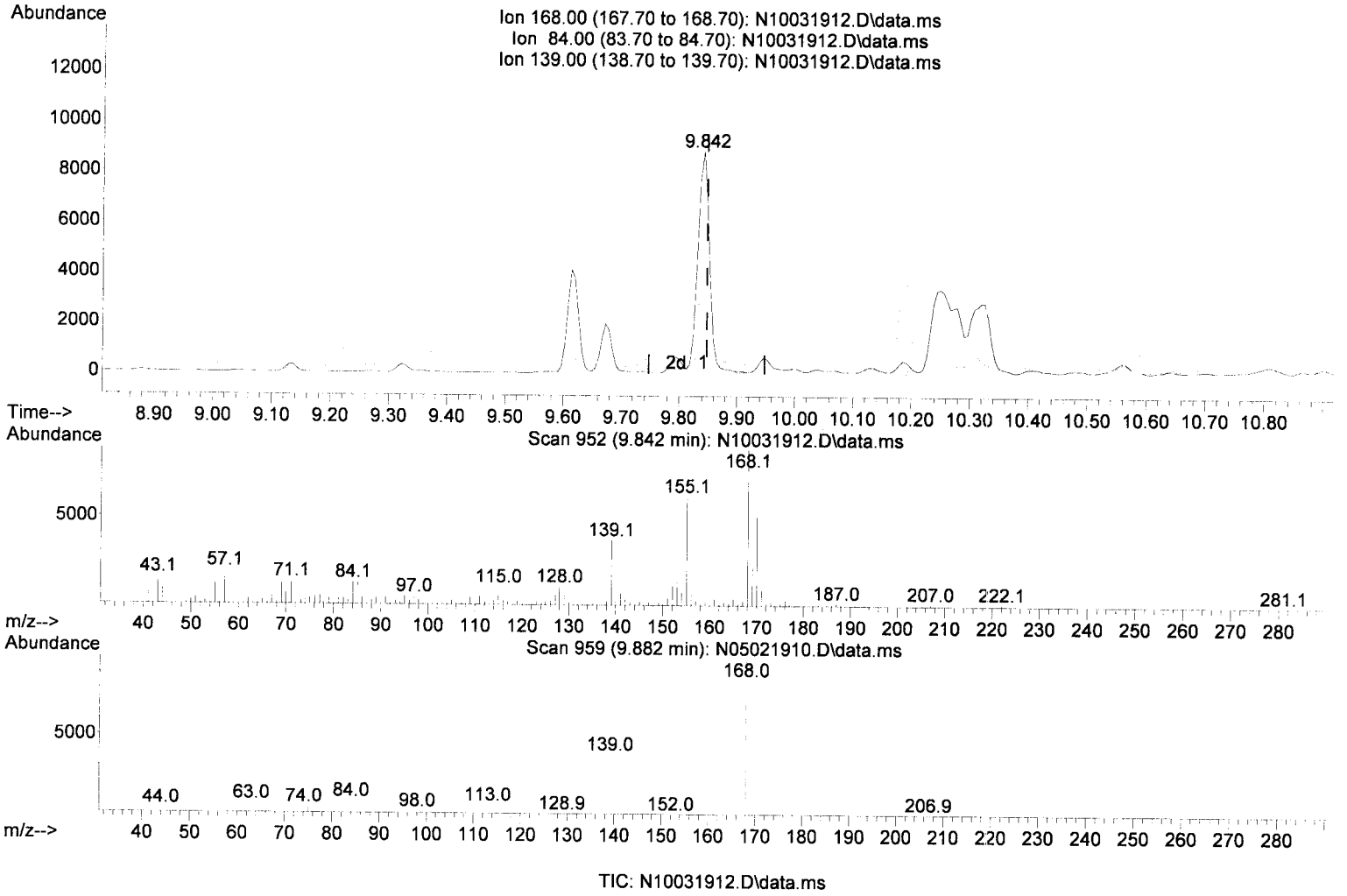
response 104102

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.54
152.00	46.80	47.58
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(14) Dibenzofuran (T)

9.842min (-0.006) 5.15 ng/ml

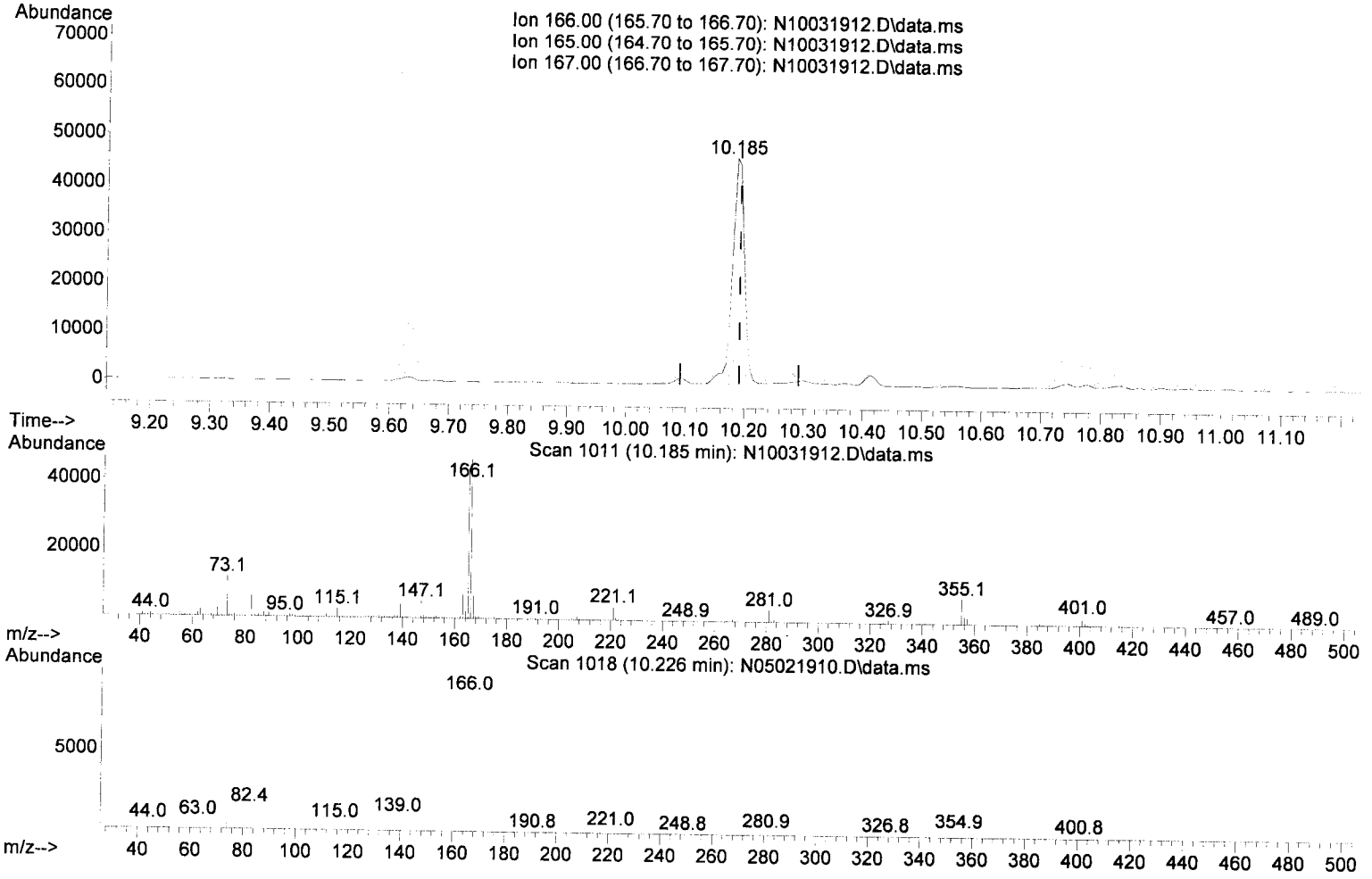
response 12204

Ion	Exp%	Act%
168.00	100.00	100.00
84.00	7.70	14.49
139.00	38.40	42.12
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(16) Fluorene (T)

10.185min (-0.006) 34.15 ng/ml

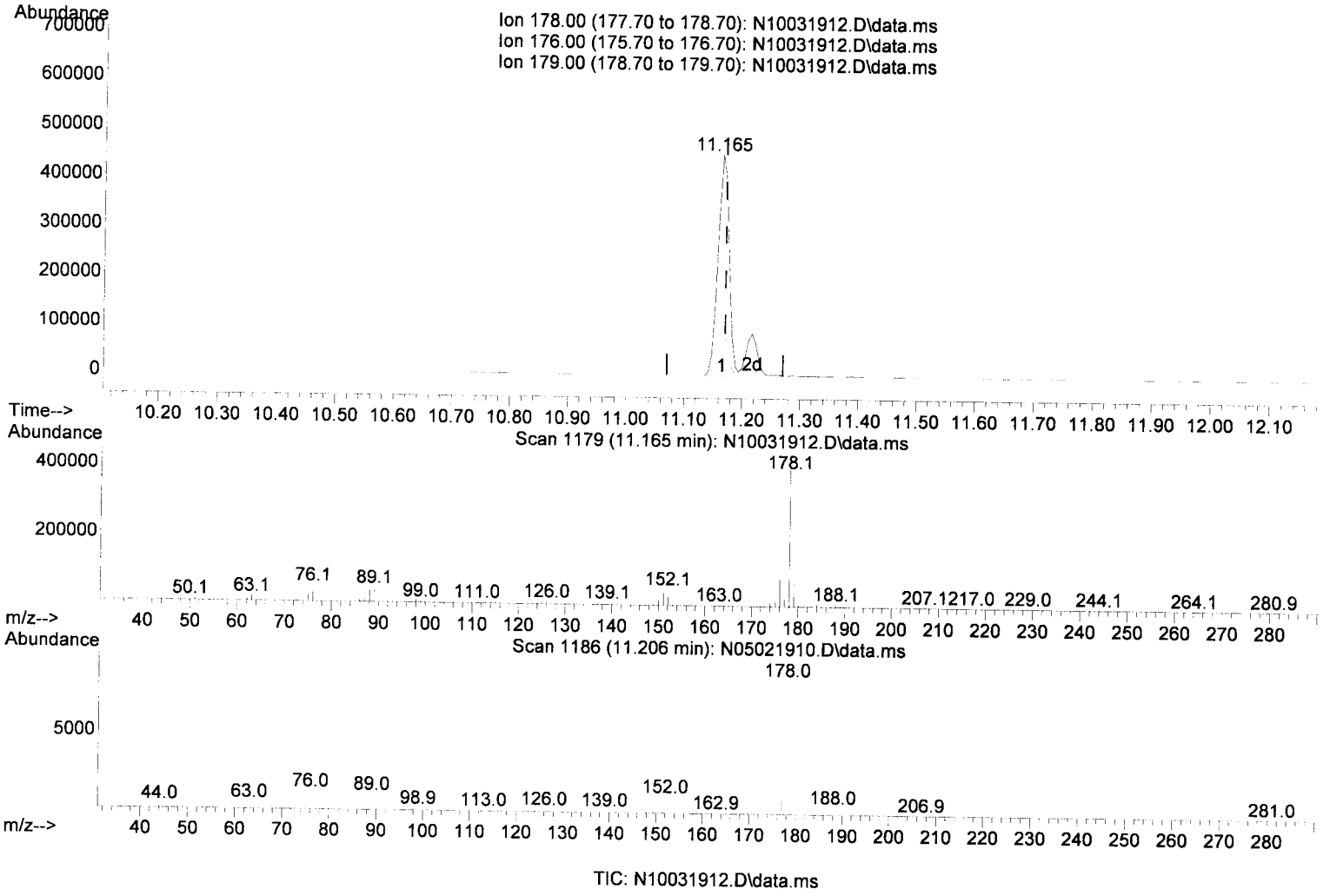
response 66172

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.73
167.00	13.60	14.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(19) Phenanthrene (T)

11.165min (-0.006) 201.94 ng/ml

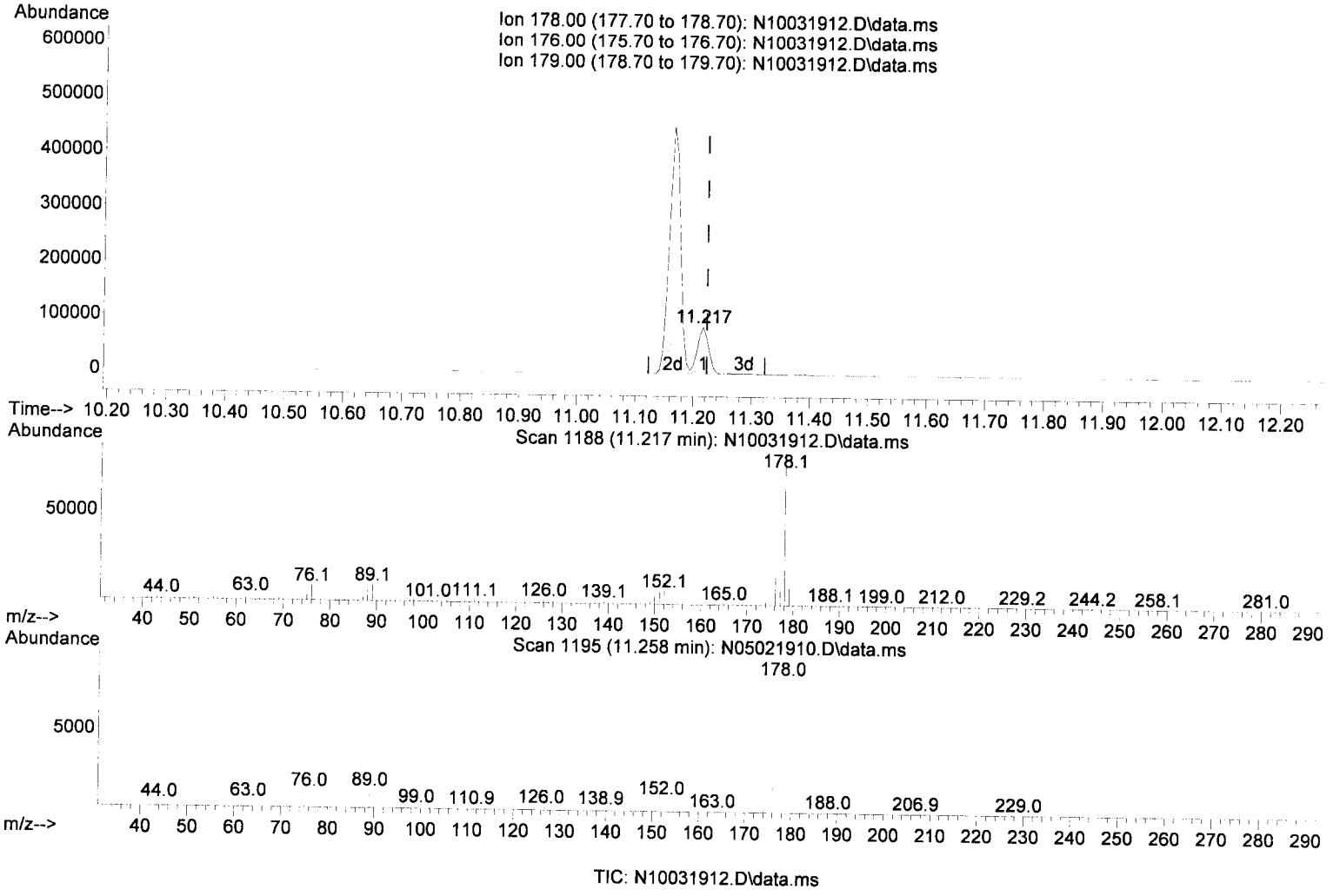
response 603393

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.99
179.00	15.10	15.41
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(20) Anthracene (T)

11.217min (-0.006) 42.08 ng/ml

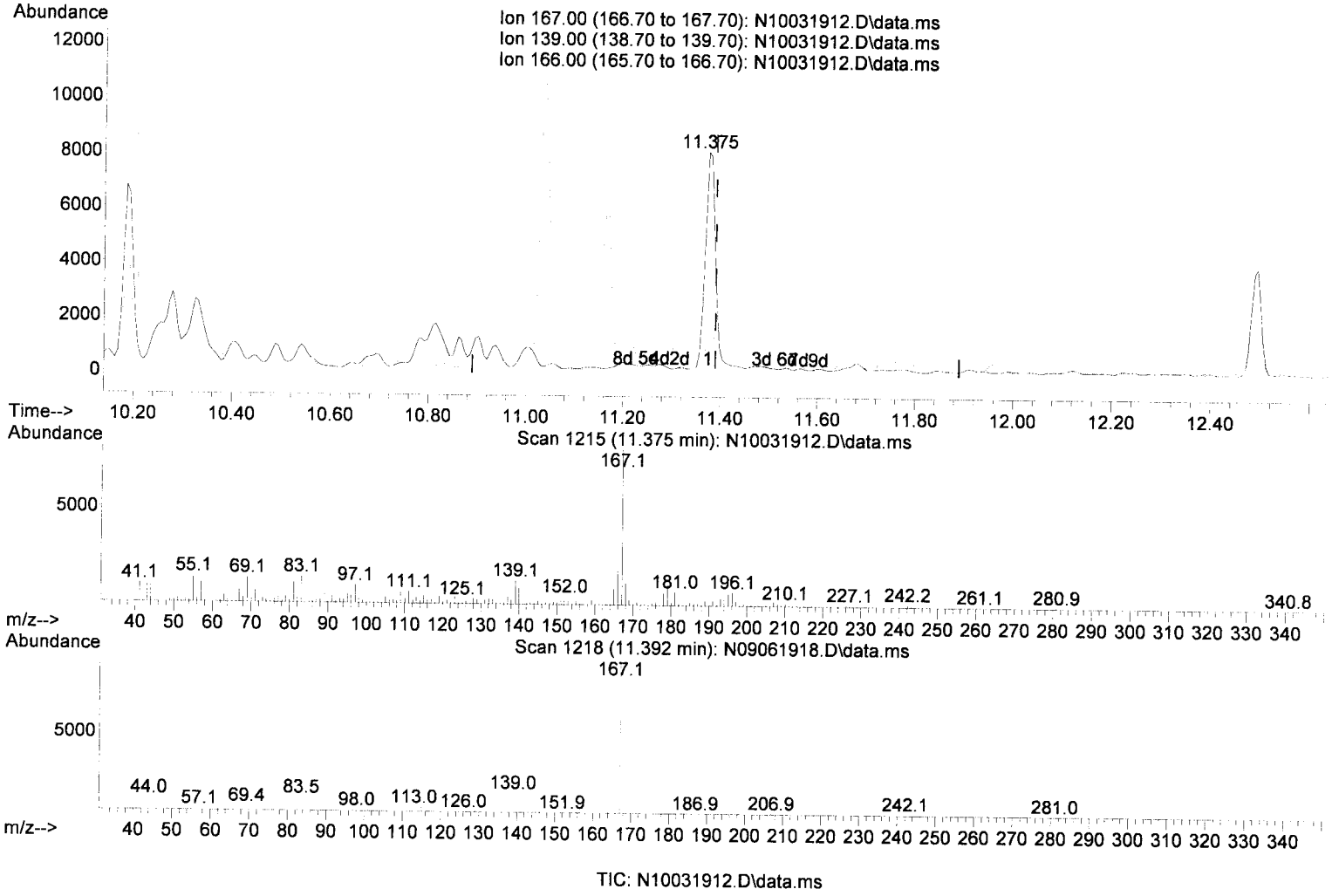
response 116951

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.28
179.00	15.30	15.72
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(21) Carbazole (T)

11.375min (-0.015) 5.24 ng/ml

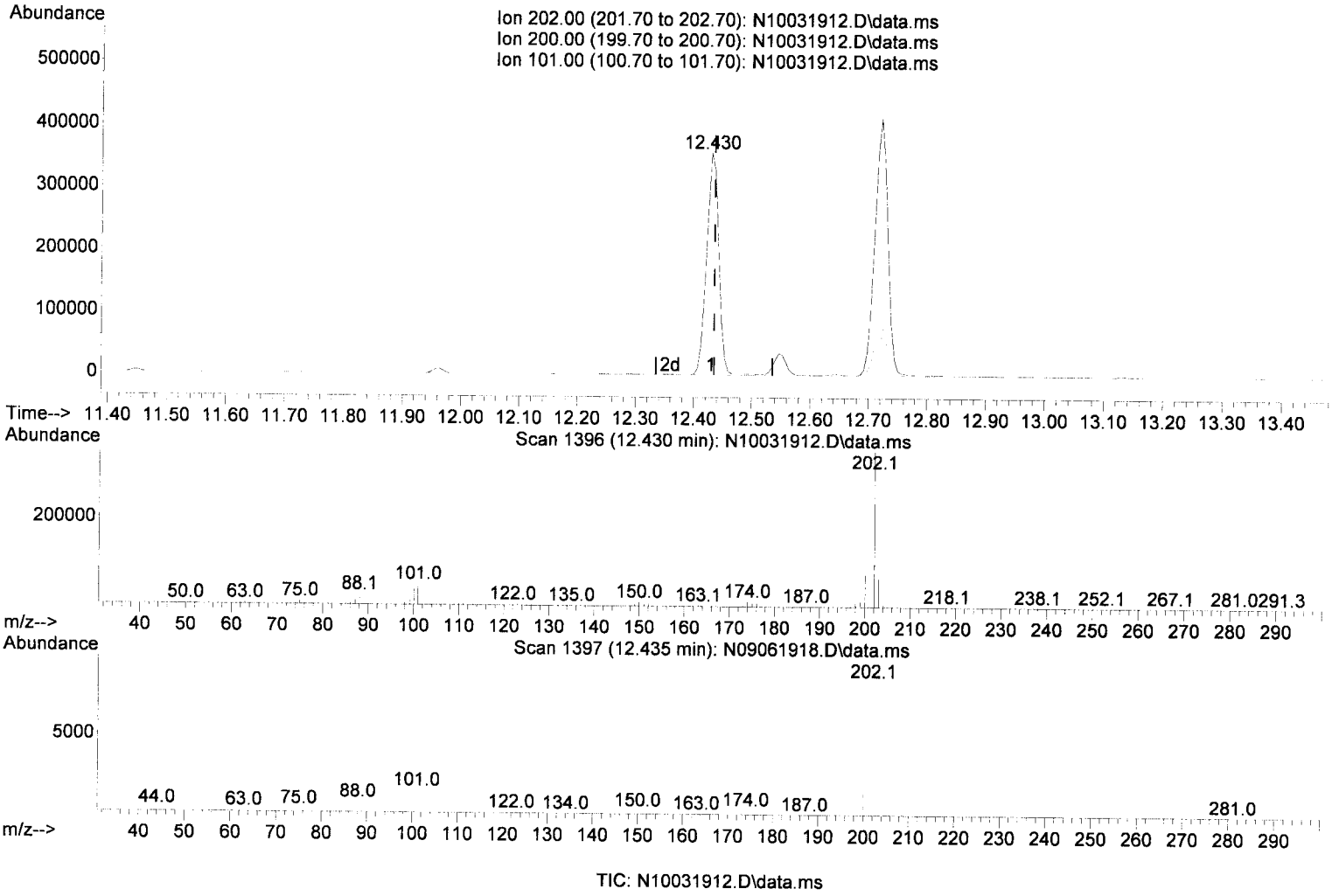
response 11784

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	15.39
166.00	21.10	23.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(23) Fluoranthene (T)

12.430min (-0.005) 173.15 ng/ml

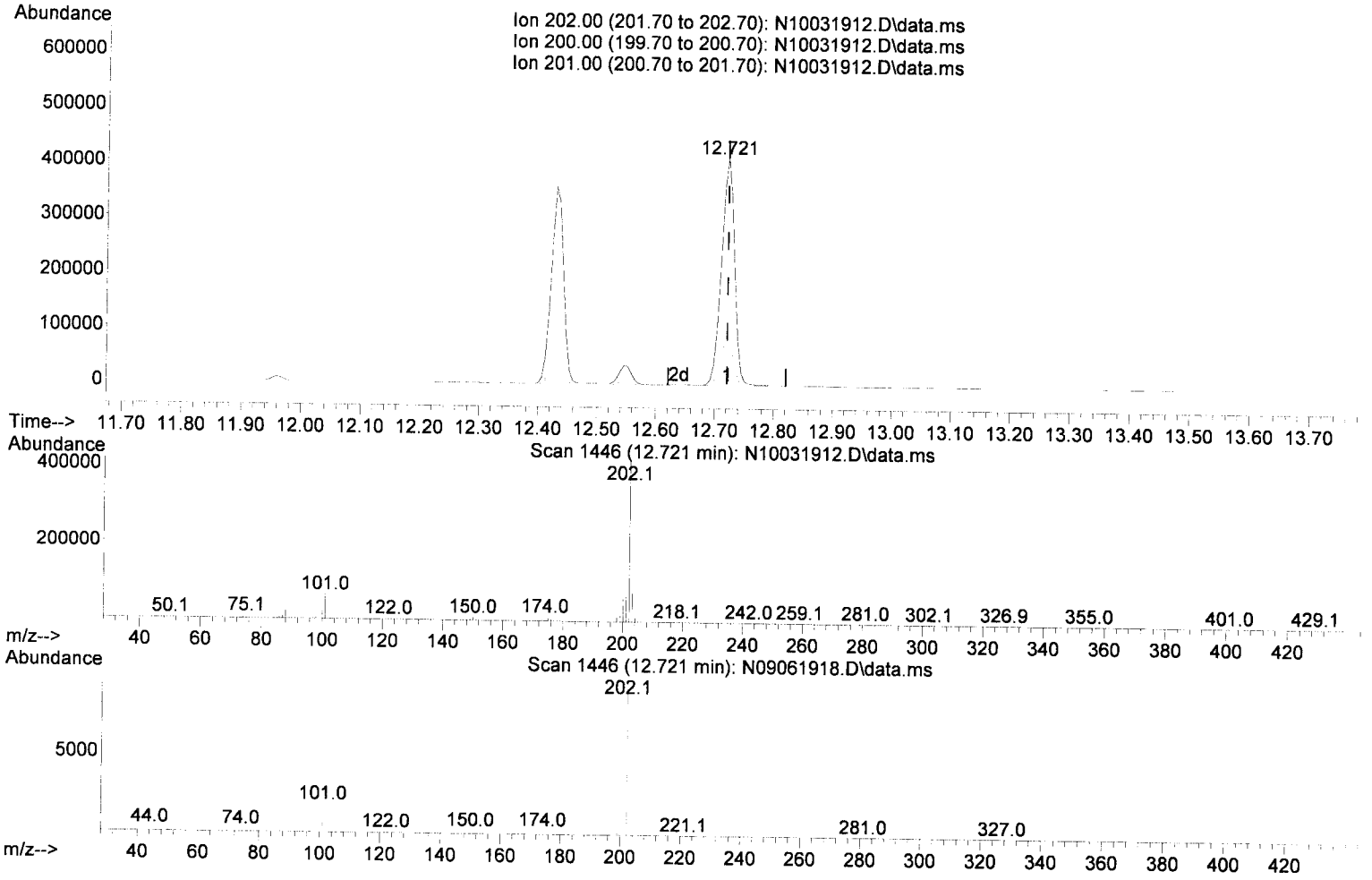
response 521262

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.28
101.00	15.30	13.20
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(25) Pyrene (T)

12.721min (-0.000) 184.06 ng/ml

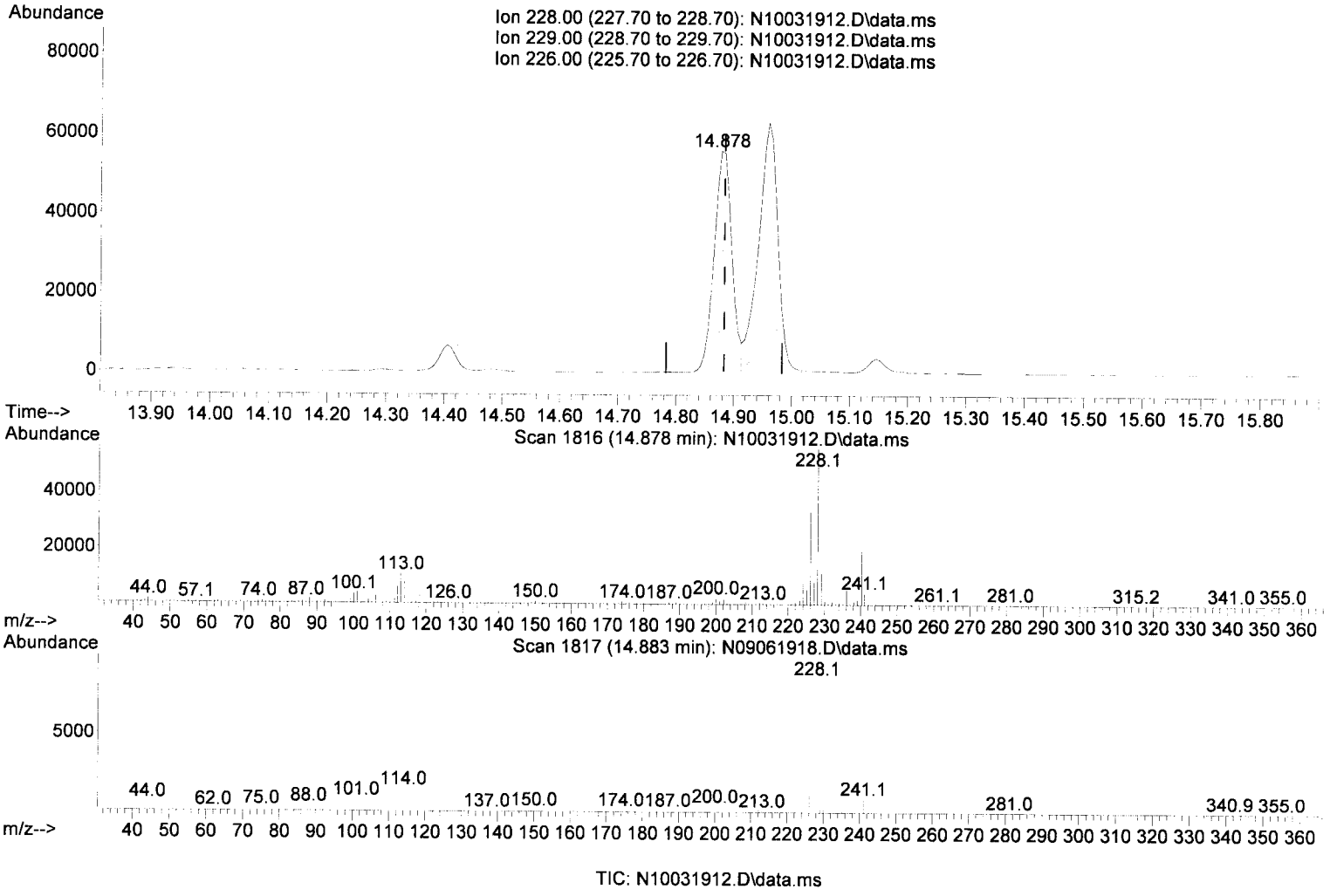
response 639714

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.42
201.00	16.80	17.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(27) Benz(a)anthracene (T)

14.878min (-0.005) 46.39 ng/ml

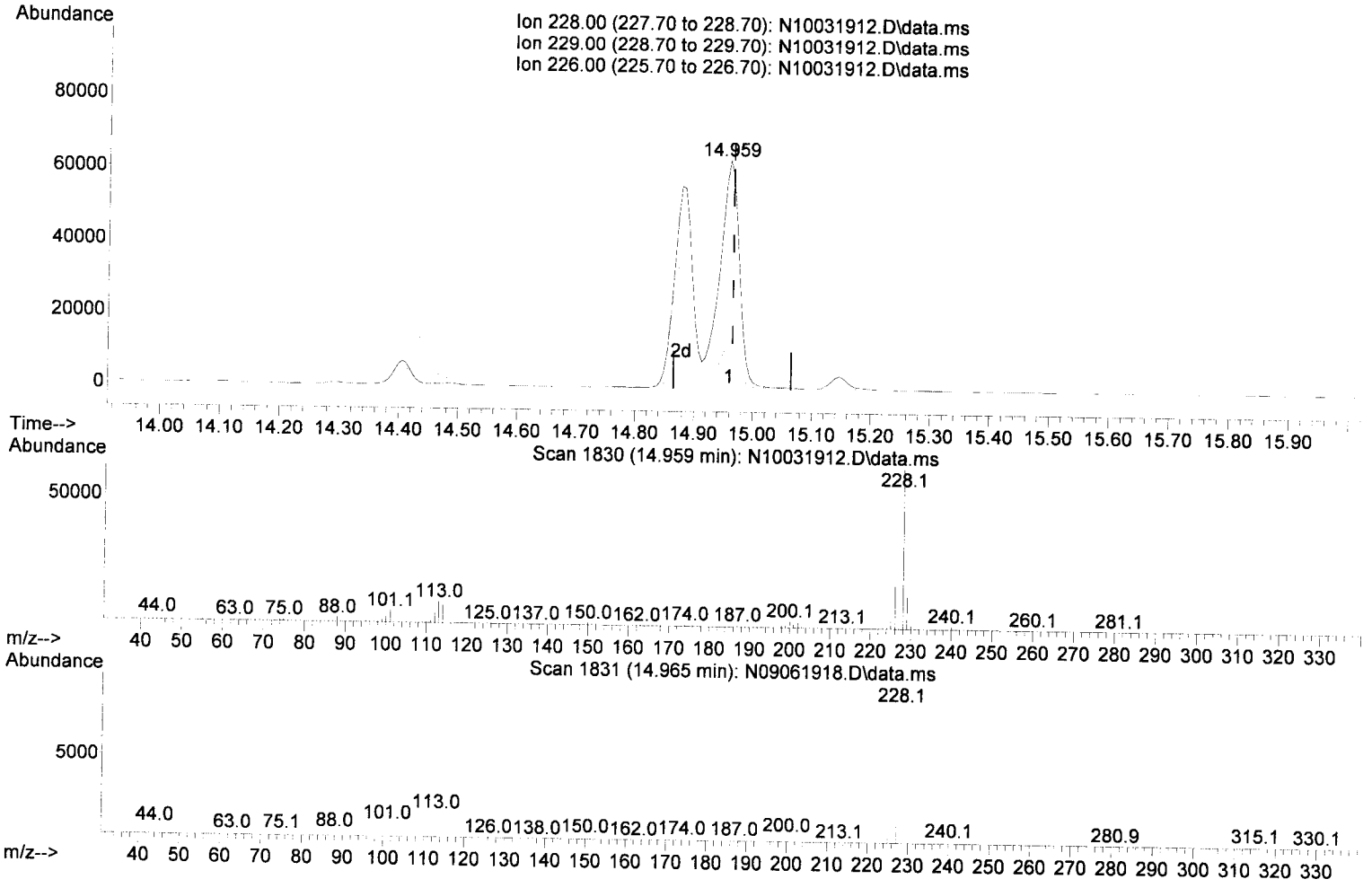
response 119826

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.27
226.00	26.20	59.38#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(28) Chrysene (T)

14.959min (-0.006) 59.43 ng/ml

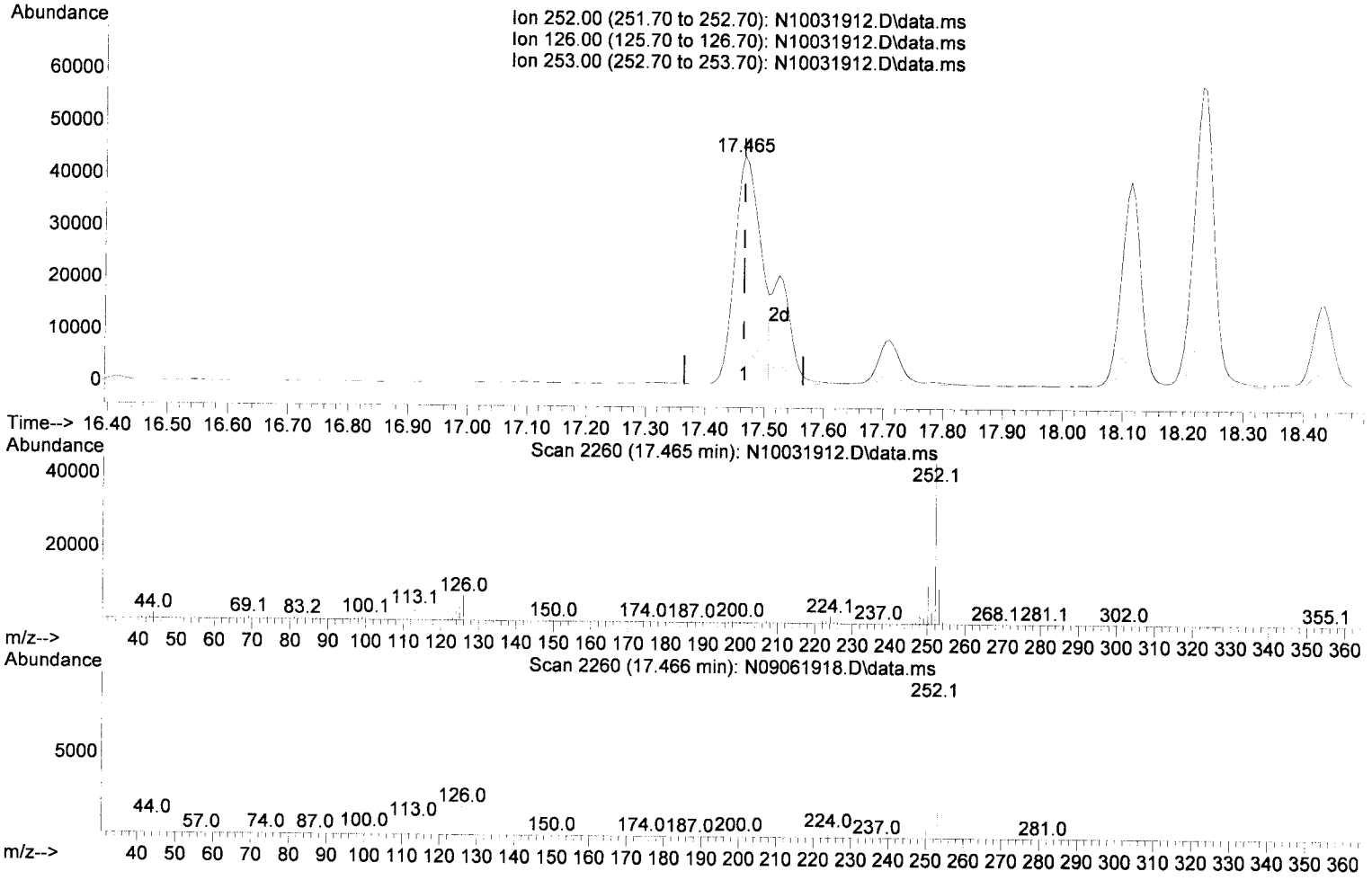
response 145250

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.20
226.00	28.60	29.08
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.465min (+ 0.000) 59.97 ng/ml

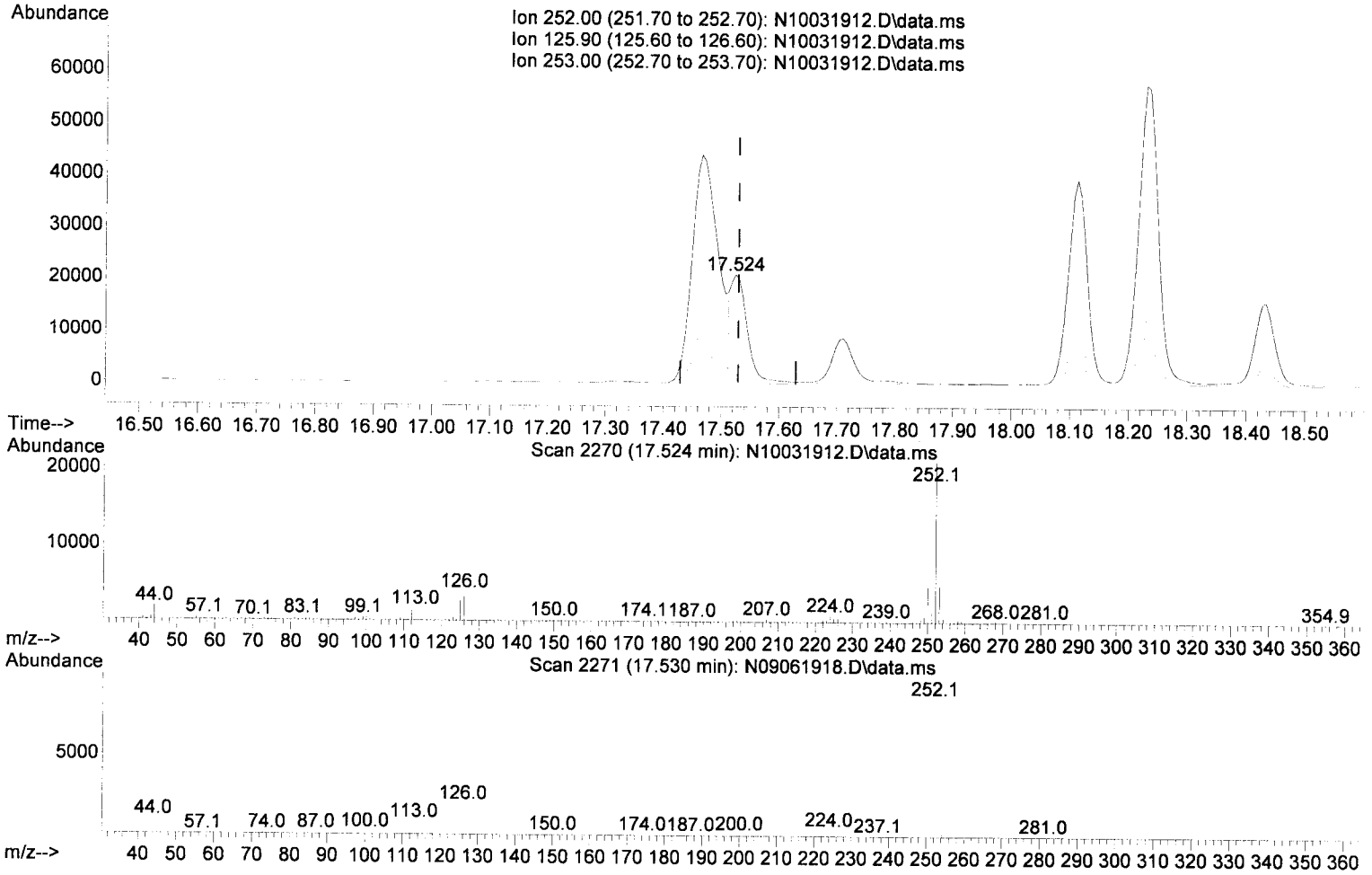
response 133835

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.55
253.00	21.10	21.88
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.524min (-0.005) 18.61 ng/ml m

AMS 10/7/19

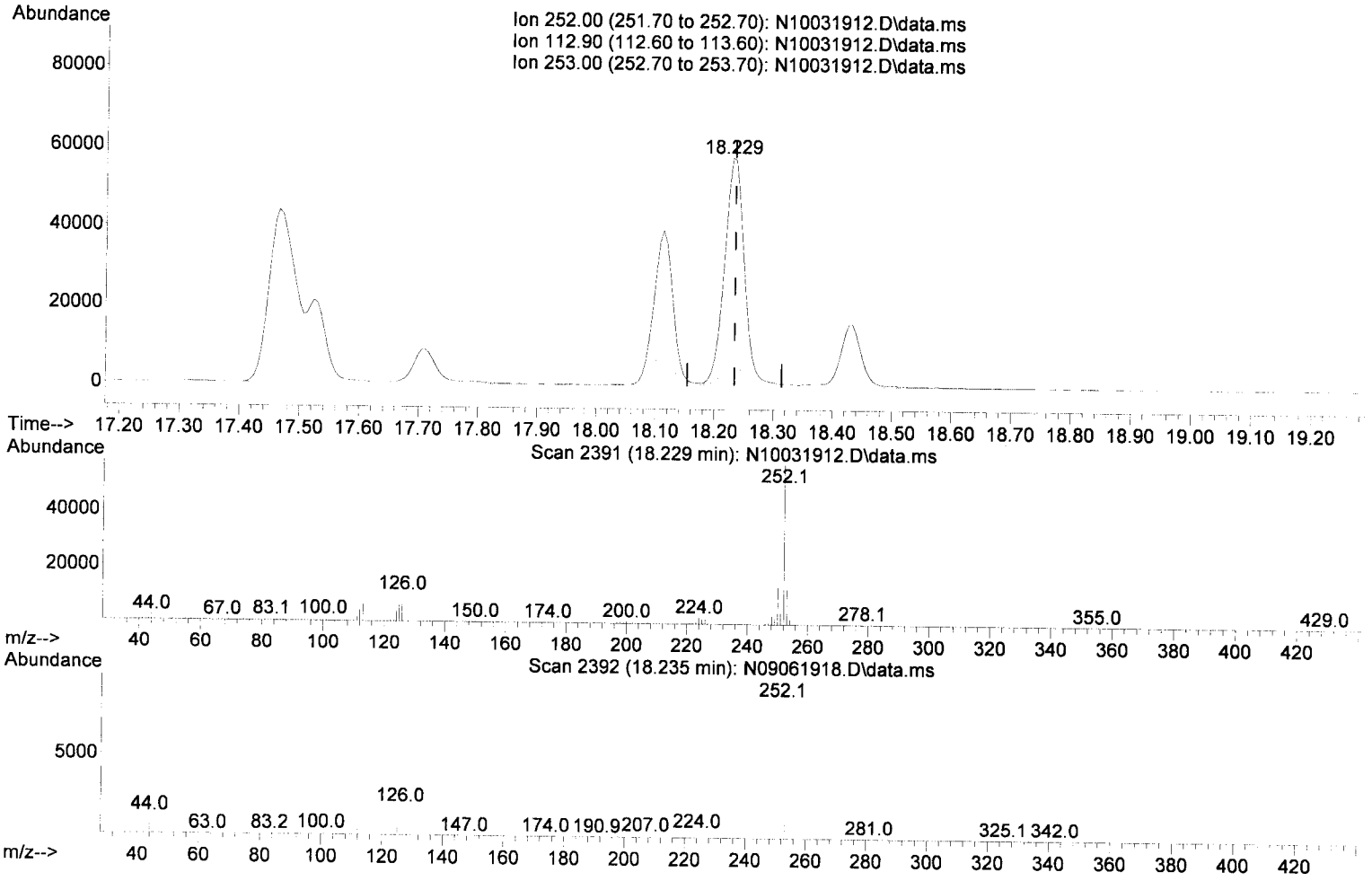
response 40890

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	18.10
253.00	21.50	22.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(35) Benzo(a)pyrene (T)

18.229min (-0.005) 69.08 ng/ml

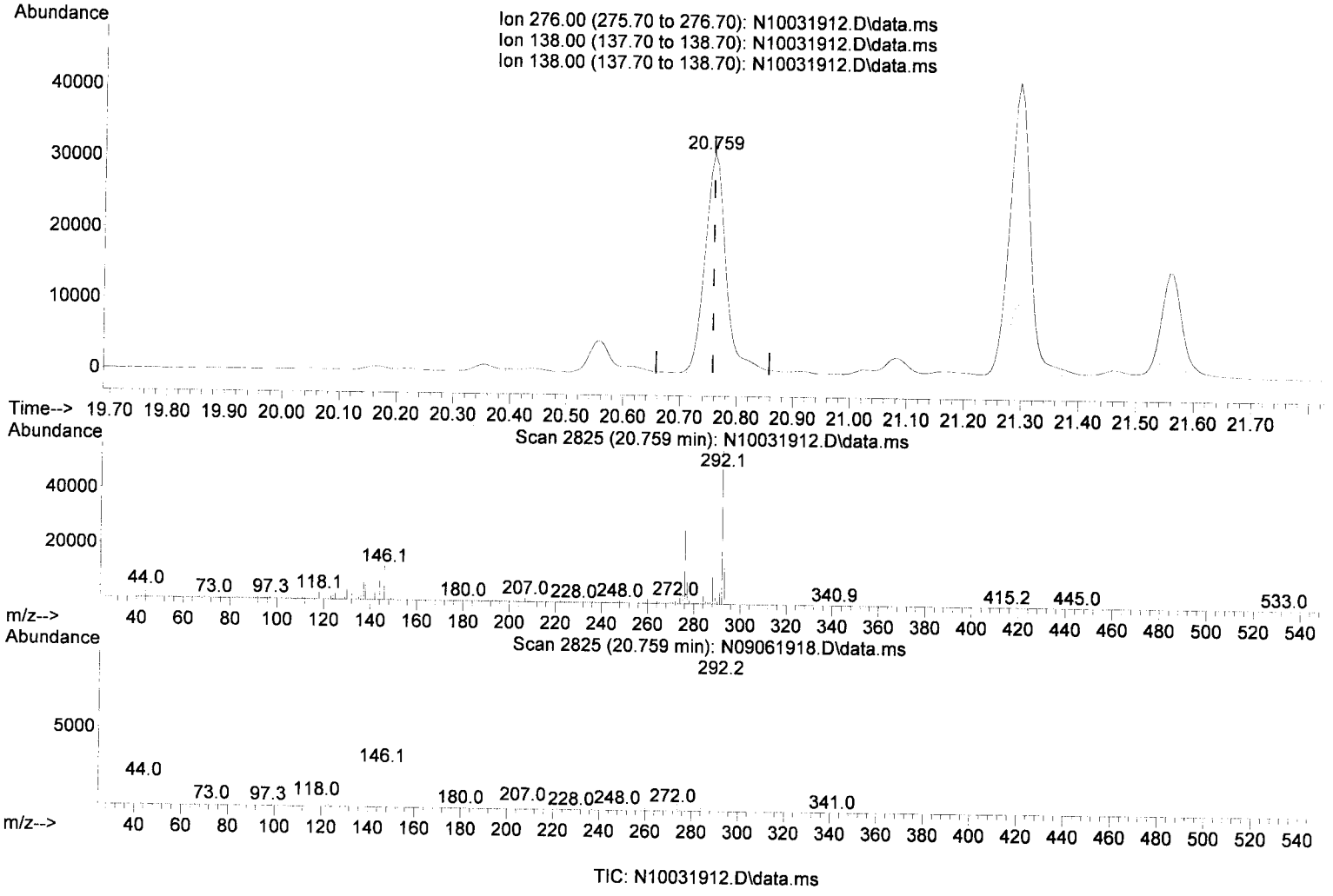
response 131952

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.48
253.00	21.90	21.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.759min (+ 0.001) 46.36 ng/ml

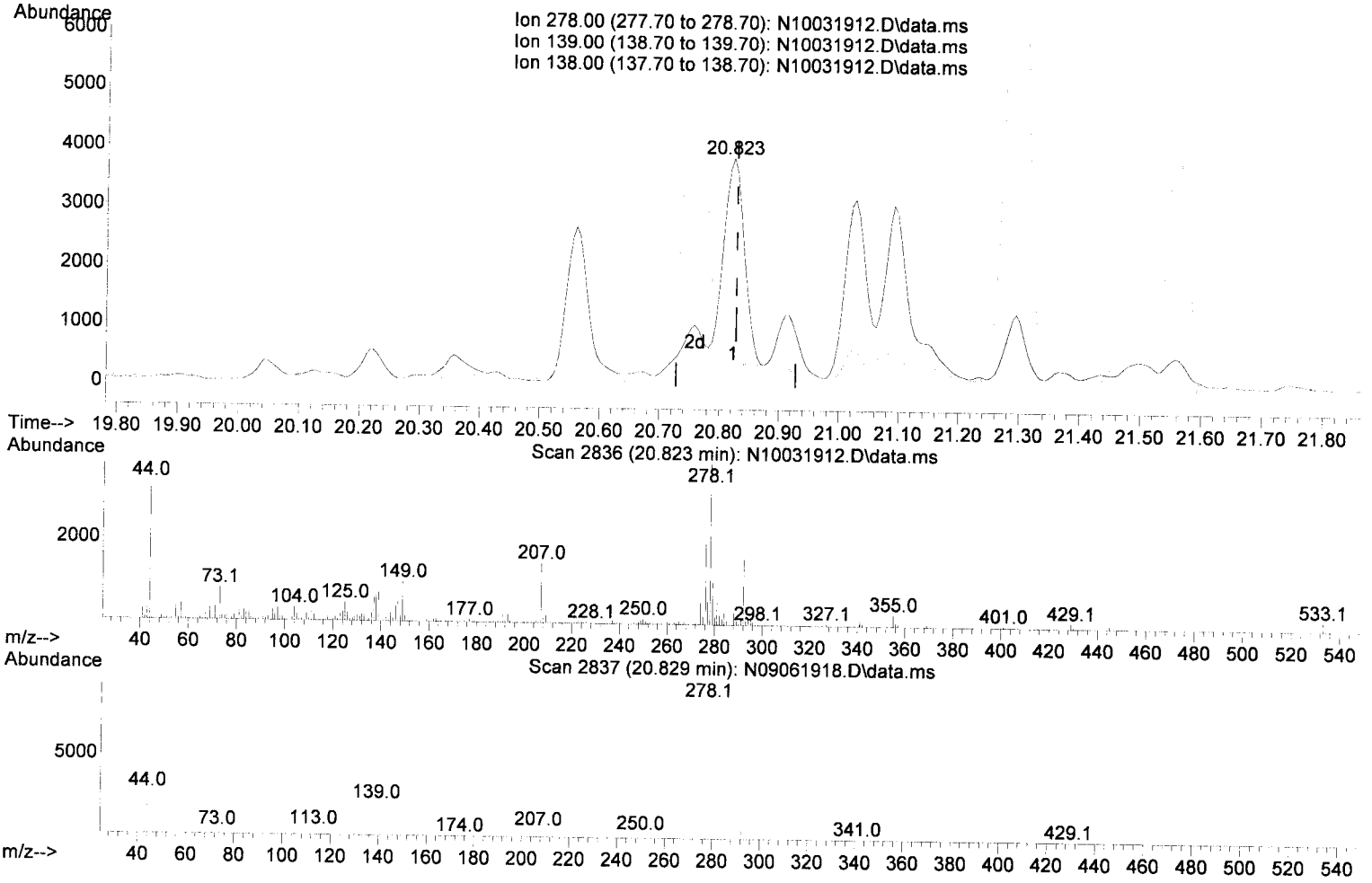
response 78791

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	23.92
138.00	31.60	23.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(39) Dibenz(a,h)anthracene (T)

20.823min (-0.005) 5.32 ng/ml

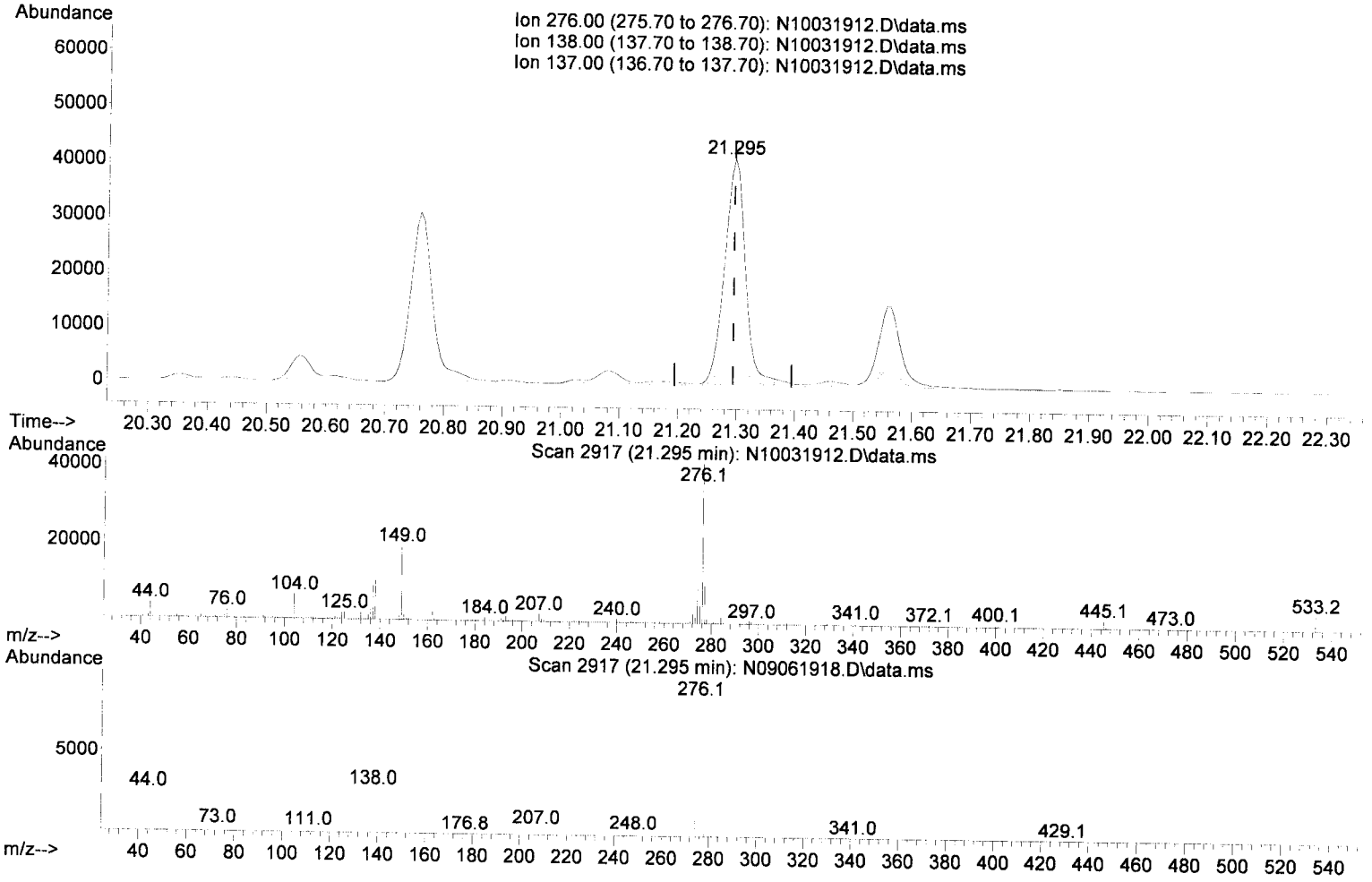
response 8492

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.27
138.00	19.90	21.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031912.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.295min (+ 0.001) 56.03 ng/ml

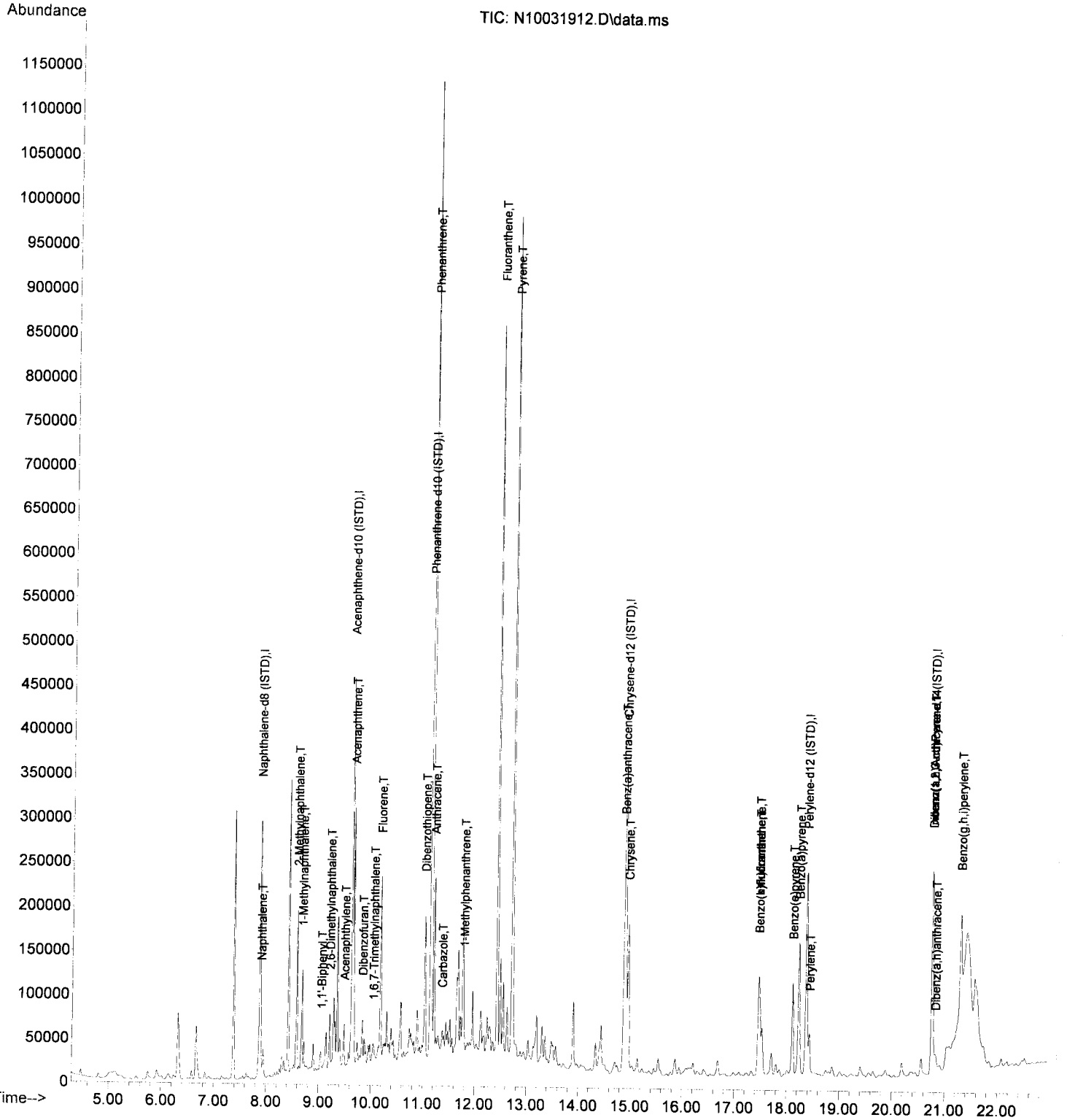
response 101003

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	24.98
137.00	28.60	21.42
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031912.D
Acq On : 03 Oct 2019 02:30 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-05RE1@1000
Misc : 1000x, 8270D LL PAH ONLY
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 04 12:47:27 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	204909	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	138373	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.142	188	265662	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	220434	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	181949	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	132749	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	59129	86.84	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	181013	87.69	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	957	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	210483	90.79	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.341	138	661	4.33	ng/ml#	33
4) Naphthalene	7.901	128	94917	42.00	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	68640	35.84	ng/ml	97
6) 1-Methylnaphthalene	8.682	142	36556	19.09	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	21257	8.25	ng/ml	96
8) 2,6-Dimethylnaphthalene	9.212	156	16143	8.58	ng/ml	98
12) Acenaphthylene	9.492	152	8209	2.73	ng/ml J	89
13) Acenaphthene	9.667	153	82757	42.06	ng/ml	99
14) Dibenzofuran	9.842	168	8664	3.52	ng/ml J	94
15) 1,6,7-Trimethylnaphtha...	10.052	170	4212	2.55	ng/ml	82
16) Fluorene	10.191	166	21377	10.62	ng/ml	98
18) Dibenzothiopene	11.037	184	37385	13.46	ng/ml	98
19) Phenanthrene	11.165	178	129224	41.57	ng/ml	99
20) Anthracene	11.217	178	27112	9.38	ng/ml	98
21) Carbazole	11.380	167	2698	1.15	ng/ml	91
22) 1-Methylphenanthrene	11.777	192	12180	5.64	ng/ml#	13
23) Fluoranthene	12.430	202	42075	13.43	ng/ml	98
25) Pyrene	12.721	202	569187	165.27	ng/ml	100
27) Benz(a)anthracene	14.883	228	12302	4.81	ng/ml	68
28) Chrysene	14.959	228	15795	6.52	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	9784	4.66	ng/ml	93
31) Benzo(k)fluoranthene	~~17.466~~	~~252~~	~~11753~~	~~5.69~~	~~ng/ml~~	~~91~~ MI - I ND
32) Benzo(b+k)fluoranthene	17.466	252	13533	6.30	ng/ml	91
34) Benzo(e)pyrene	18.113	252	6589	3.10	ng/ml	99
35) Benzo(a)pyrene	18.229	252	8267	4.60	ng/ml	99
36) Perylene	18.433	252	3836	1.73	ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.759	276	6198	3.79	ng/ml	96
39) Dibenz(a,h)anthracene	20.823	278	693	0.45	ng/ml	72
40) Benzo(g,h,i)perylene	21.295	276	7356	4.24	ng/ml	87

AMS 10/7/19

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

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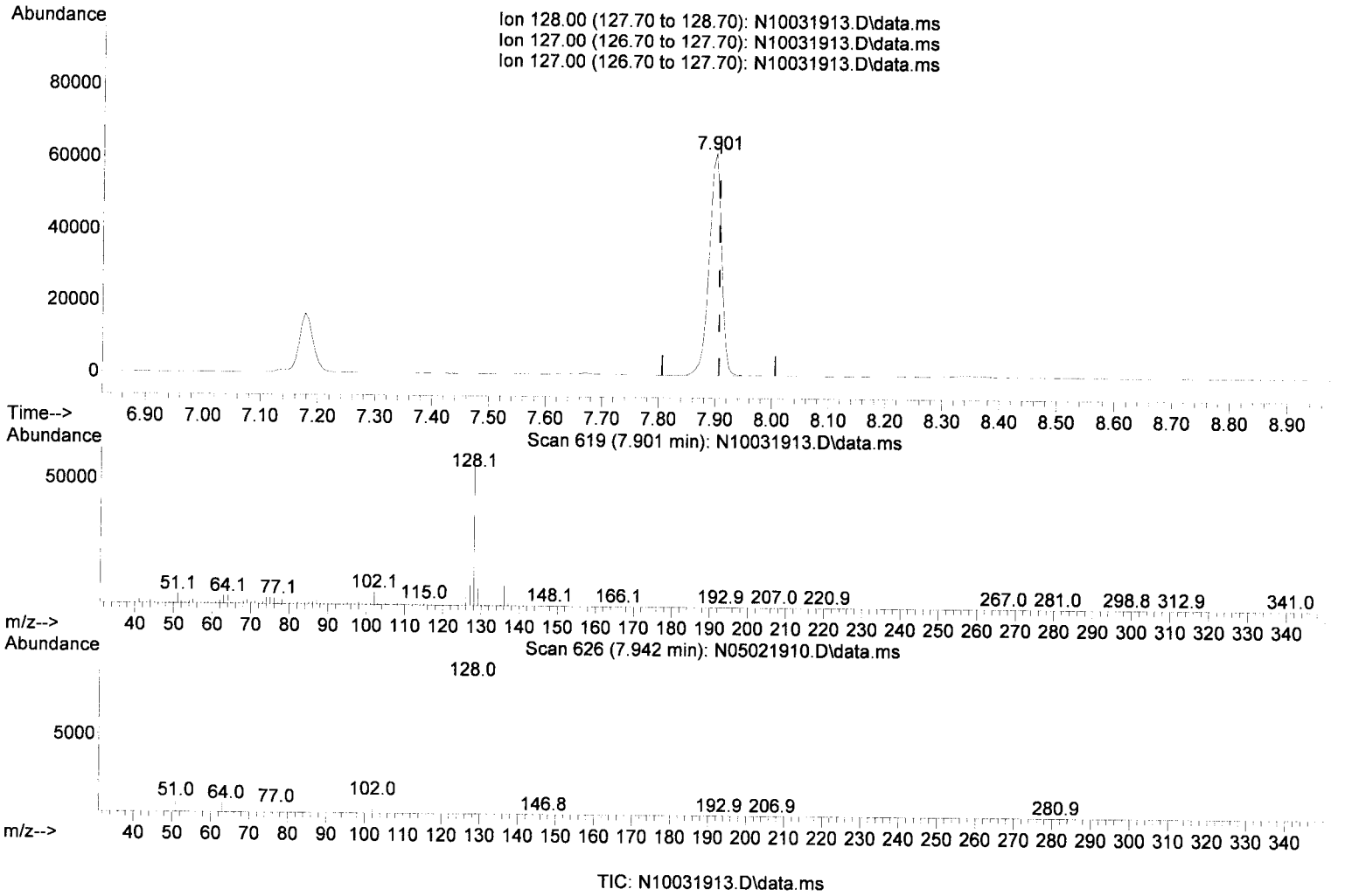
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(4) Naphthalene (T)

7.901min (-0.006) 42.00 ng/ml

response 94917

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.82
127.00	12.60	12.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
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Operator : JK/ AMS/ DTH
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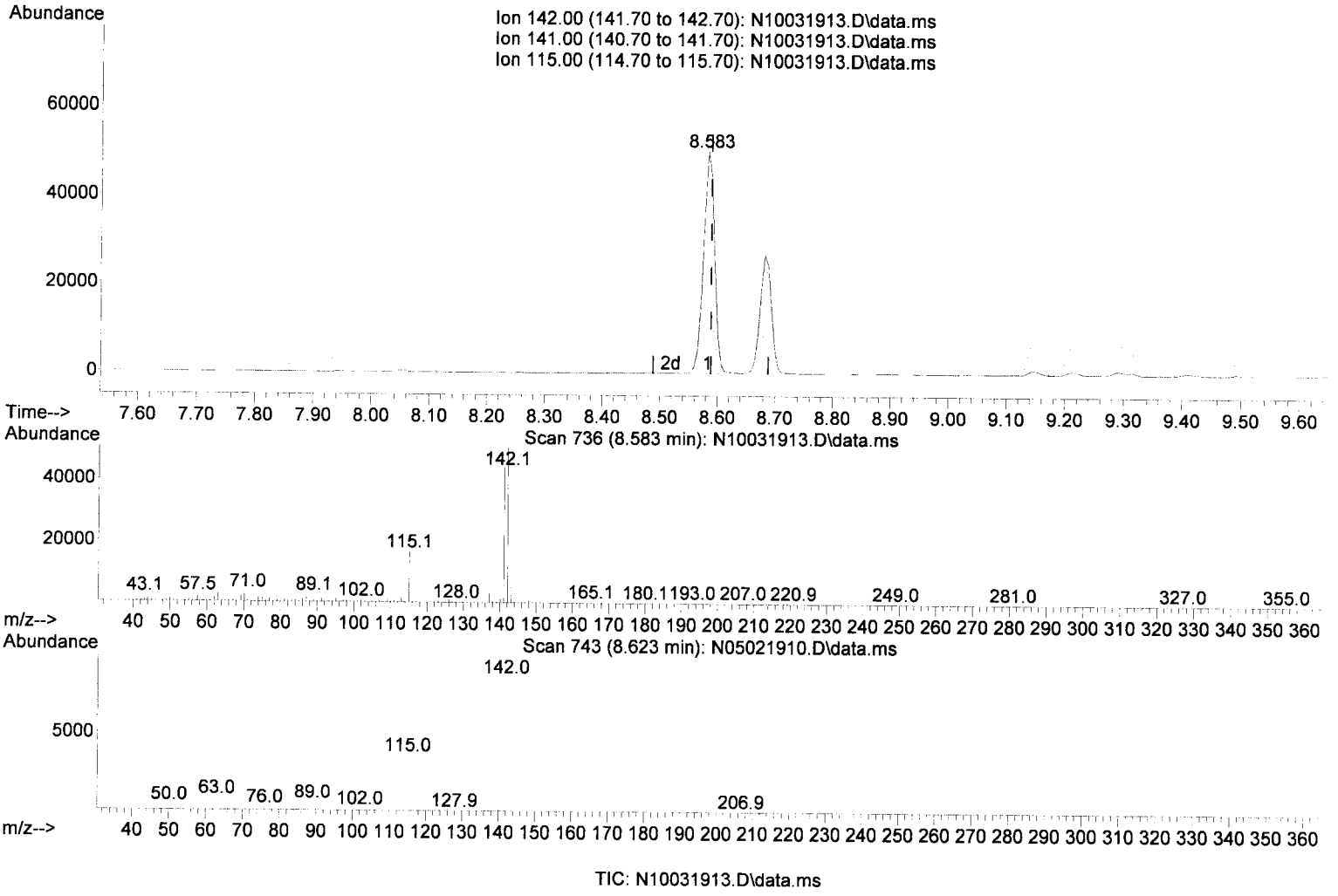
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(5) 2-Methylnaphthalene (T)

8.583min (-0.006) 35.84 ng/ml

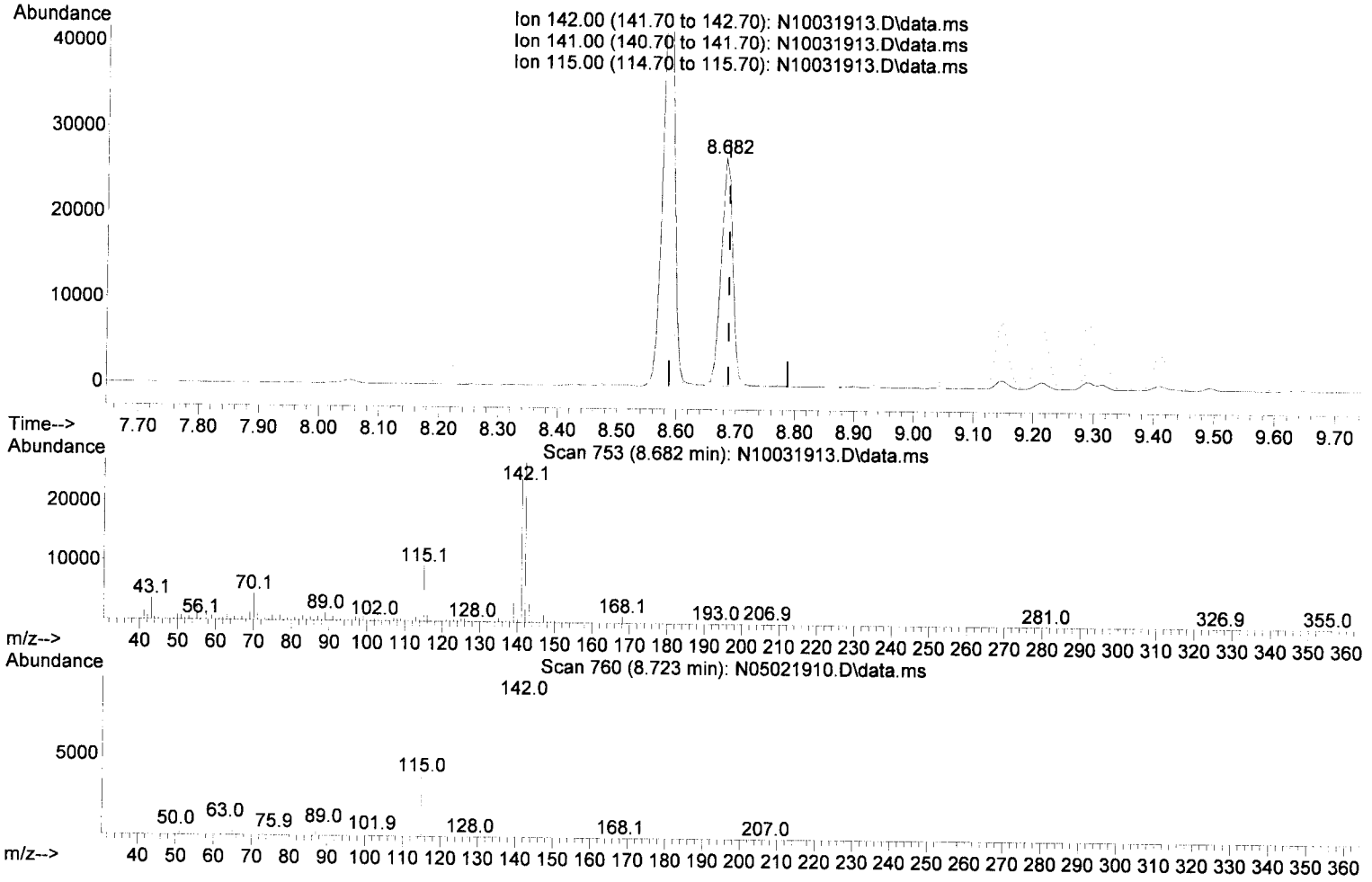
response 68640

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	88.25
115.00	35.70	32.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(6) 1-Methylnaphthalene (T)

8.682min (-0.006) 19.09 ng/ml

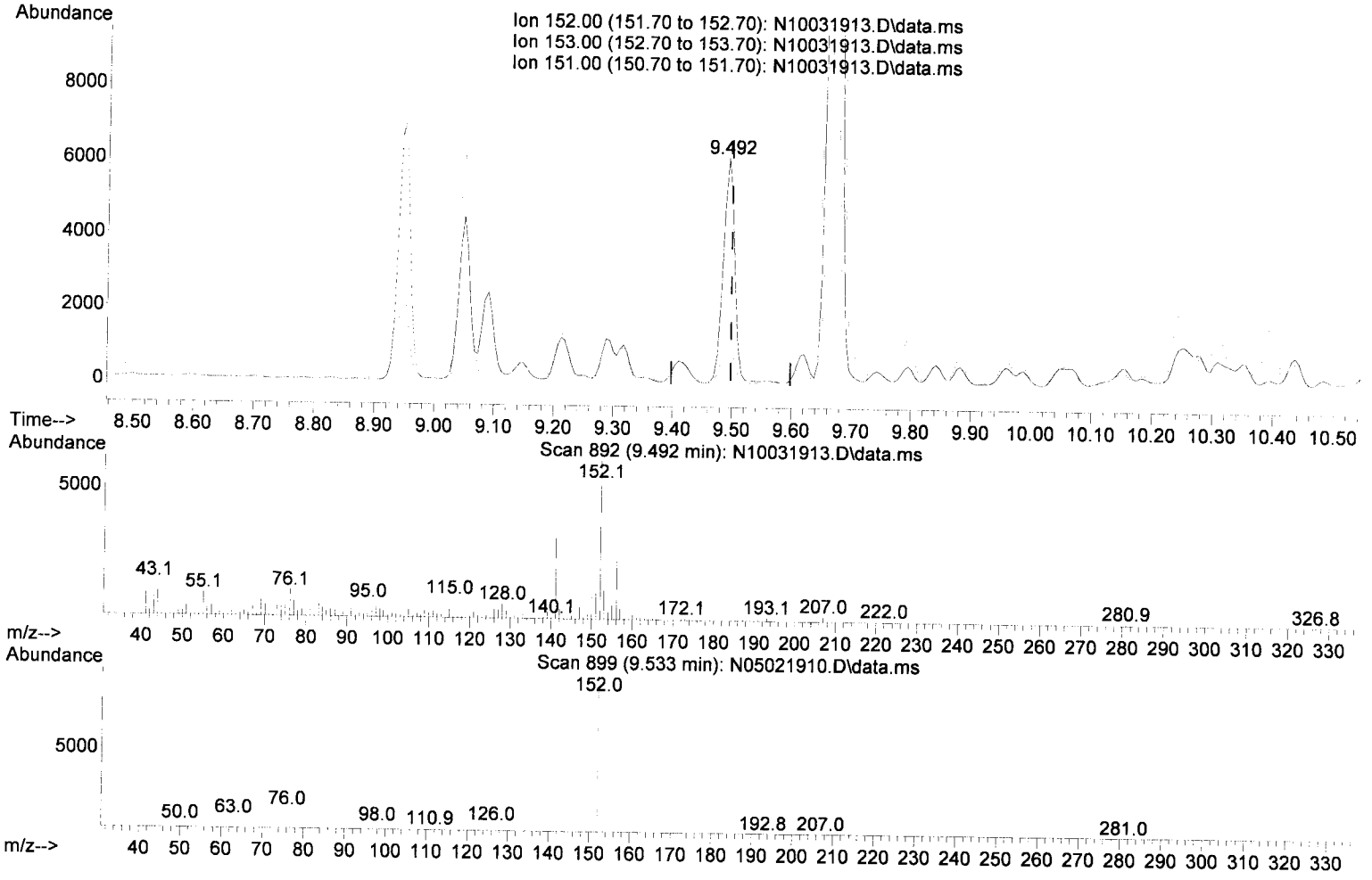
response 36556

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	89.82
115.00	37.80	34.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(12) Acenaphthylene (T)

9.492min (-0.006) 2.73 ng/ml

response 8209

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	19.44
151.00	19.30	22.82
0.00	0.00	0.00

Quantitation Report (Qedit)

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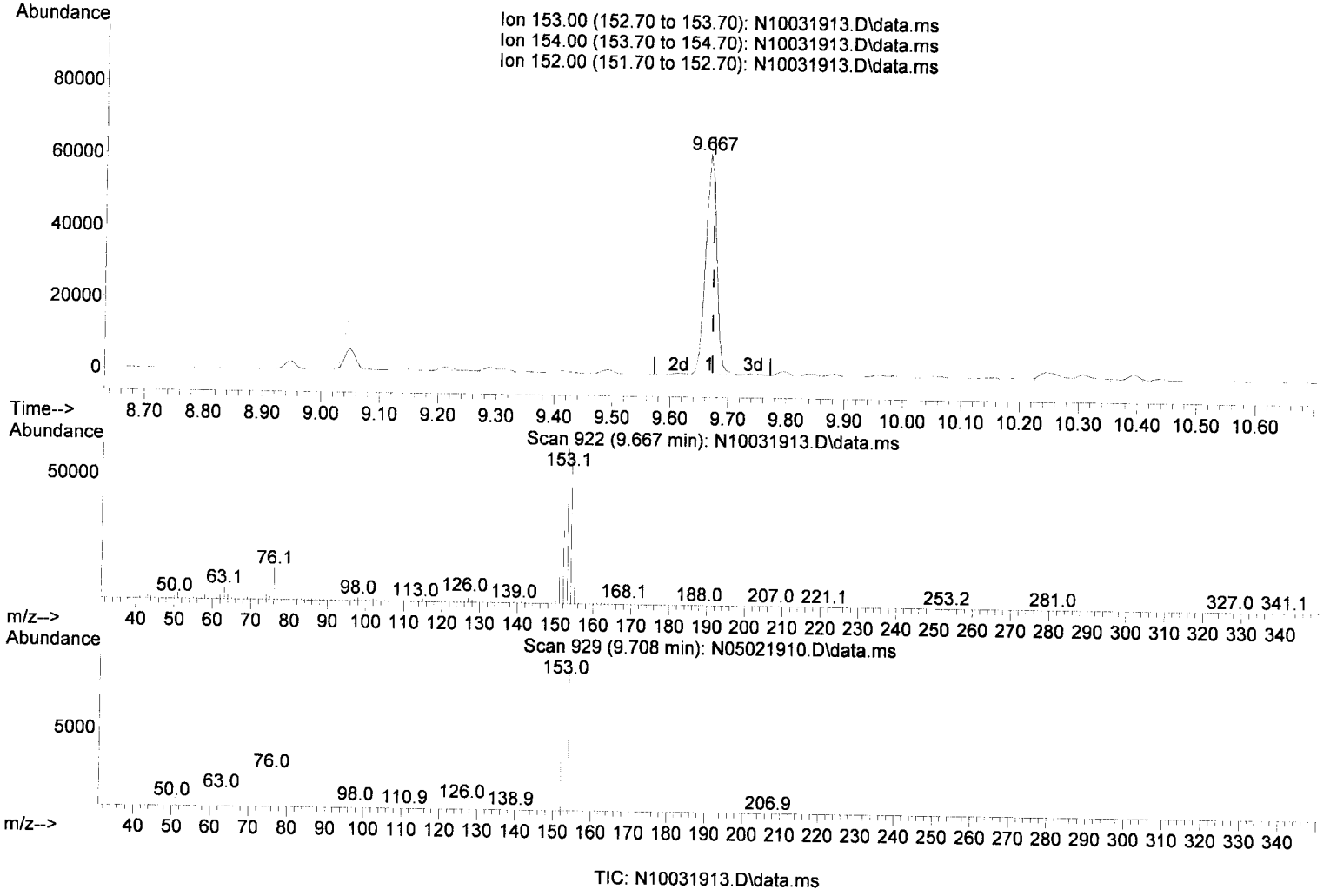
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(13) Acenaphthene (T)

9.667min (-0.006) 42.06 ng/ml

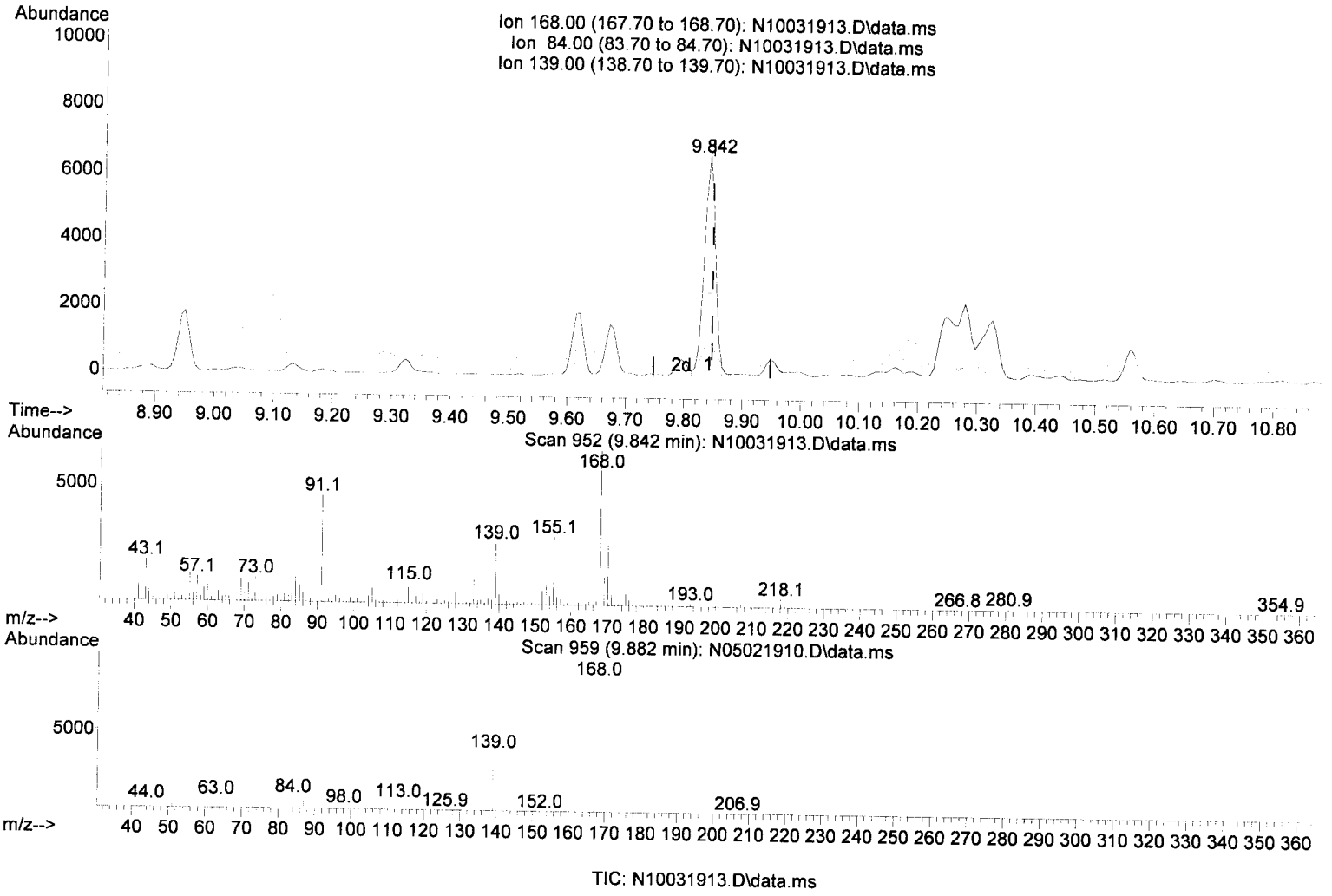
response 82757

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.73
152.00	46.80	47.58
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(14) Dibenzofuran (T)

9.842min (-0.006) 3.52 ng/ml

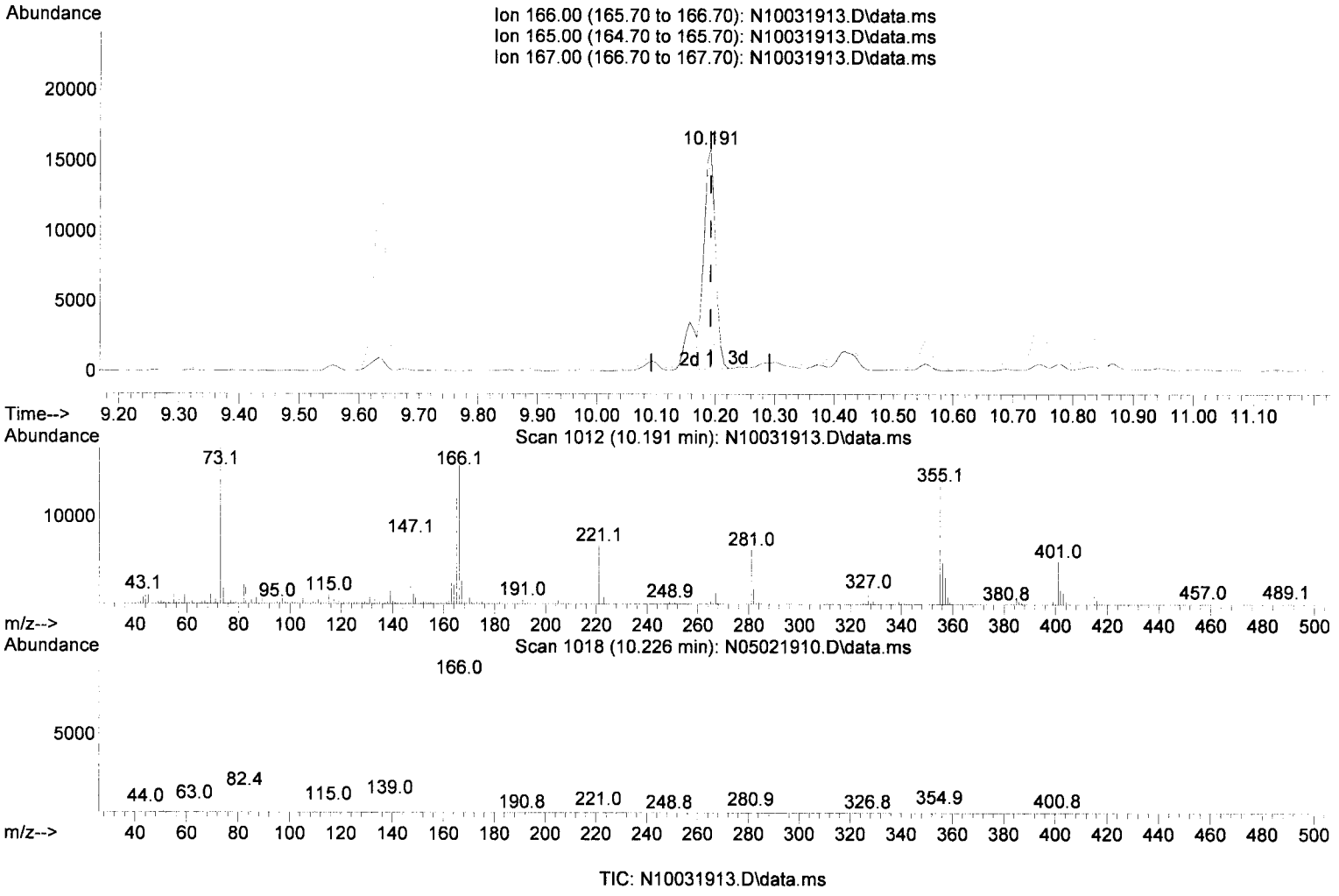
response 8664

Ion	Exp%	Act%
168.00	100.00	100.00
84.00	7.70	16.00
139.00	38.40	39.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(16) Fluorene (T)

10.191min (+ 0.000) 10.62 ng/ml

response 21377

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.70
167.00	13.60	16.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
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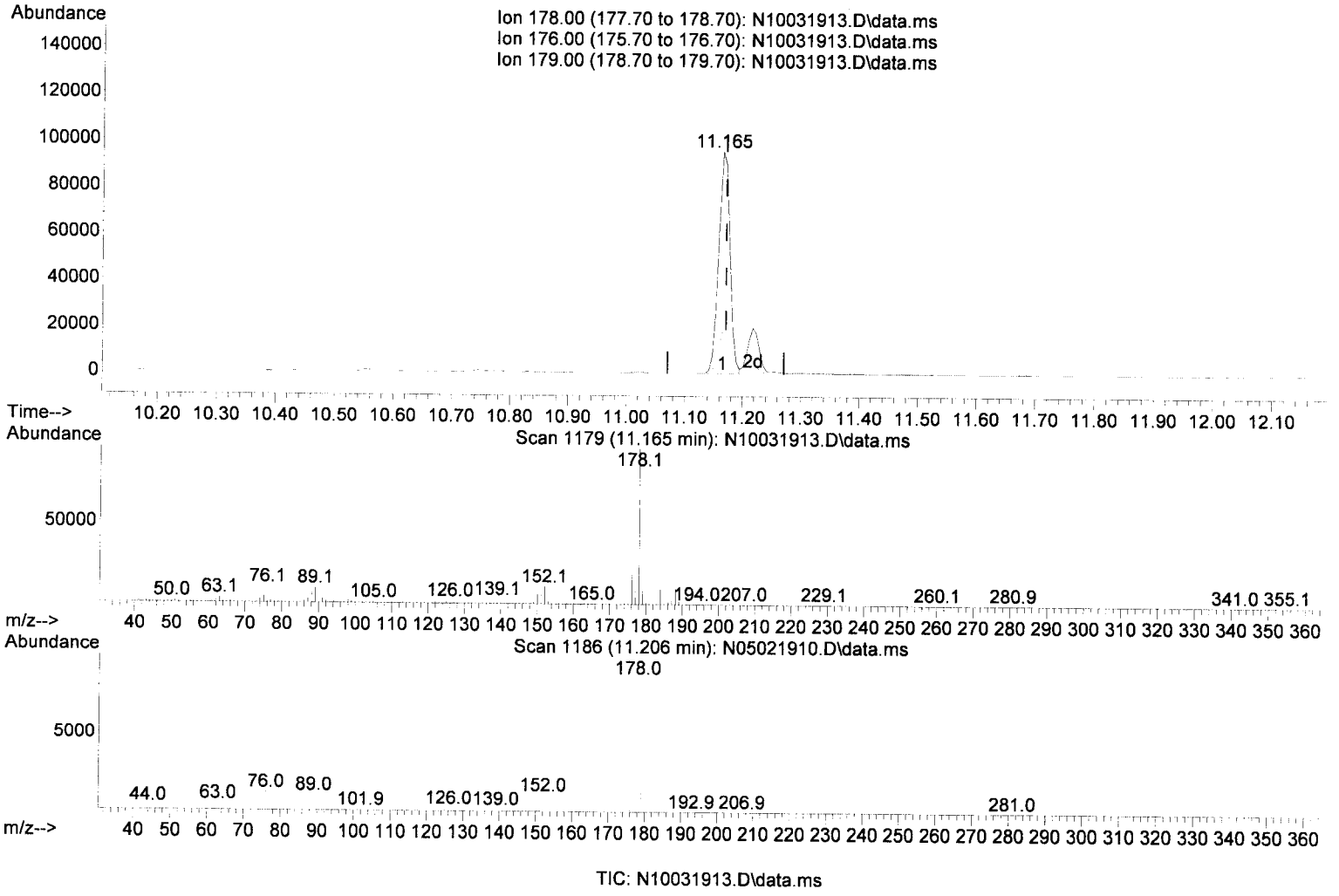
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(19) Phenanthrene (T)

11.165min (-0.006) 41.57 ng/ml

response 129224

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.26
179.00	15.10	15.75
0.00	0.00	0.00

Quantitation Report (Qedit)

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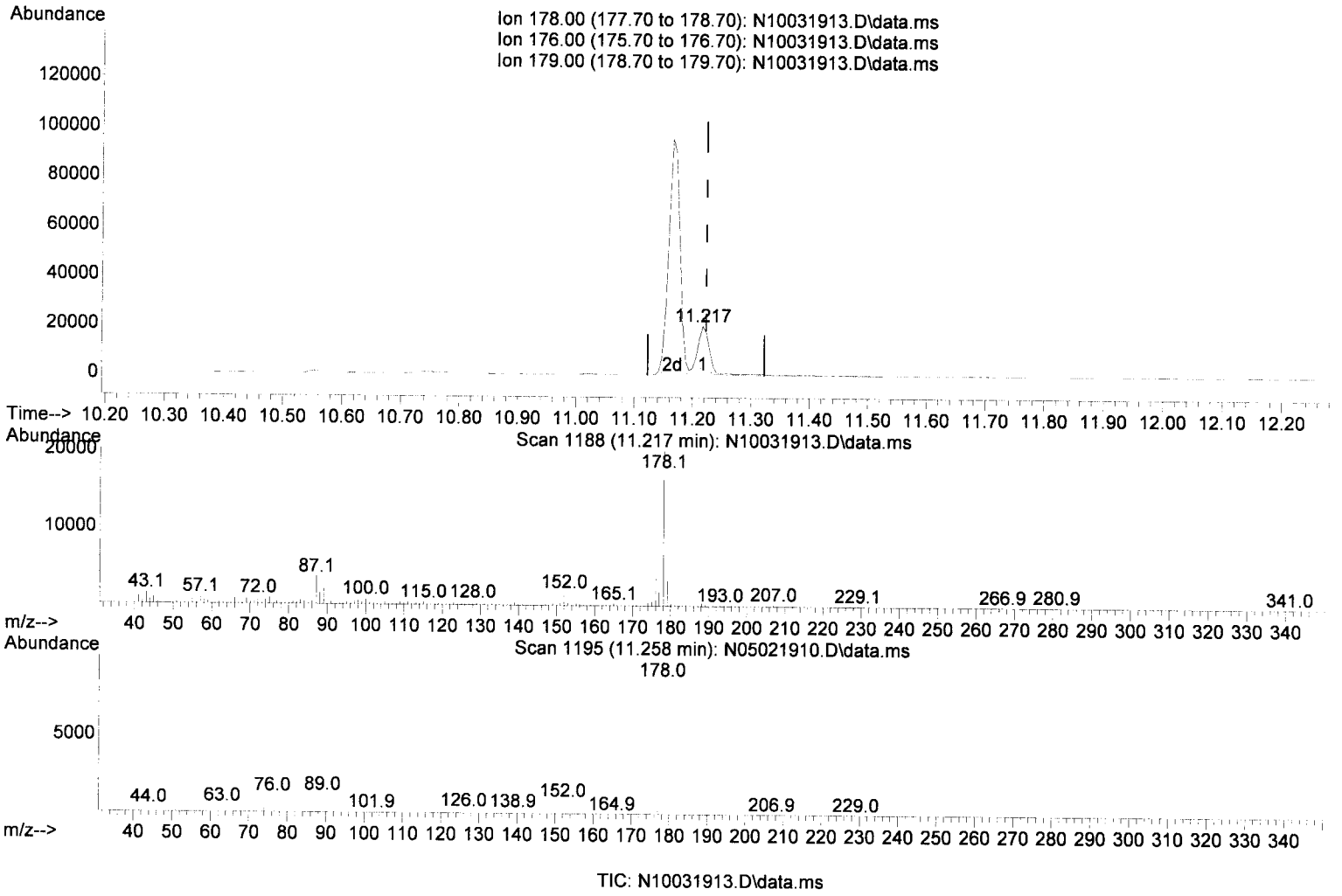
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(20) Anthracene (T)

11.217min (-0.006) 9.38 ng/ml

response 27112

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.17
179.00	15.30	16.17
0.00	0.00	0.00

Quantitation Report (Qedit)

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DataAcq Meth:LVI14_BNA_ACQ.M

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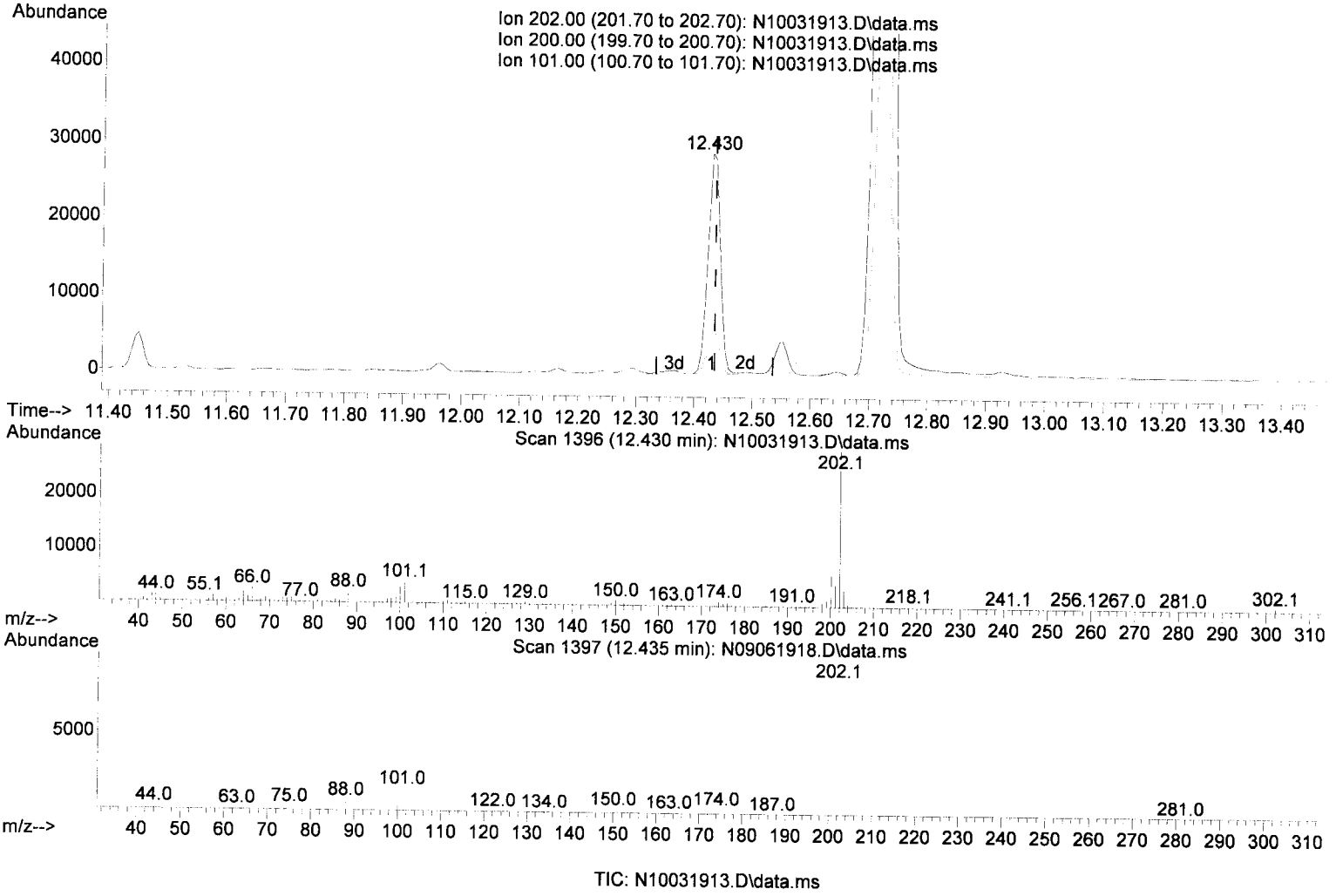
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(23) Fluoranthene (T)

12.430min (-0.005) 13.43 ng/ml

response 42075

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.36
101.00	15.30	13.89
0.00	0.00	0.00

Quantitation Report (Qedit)

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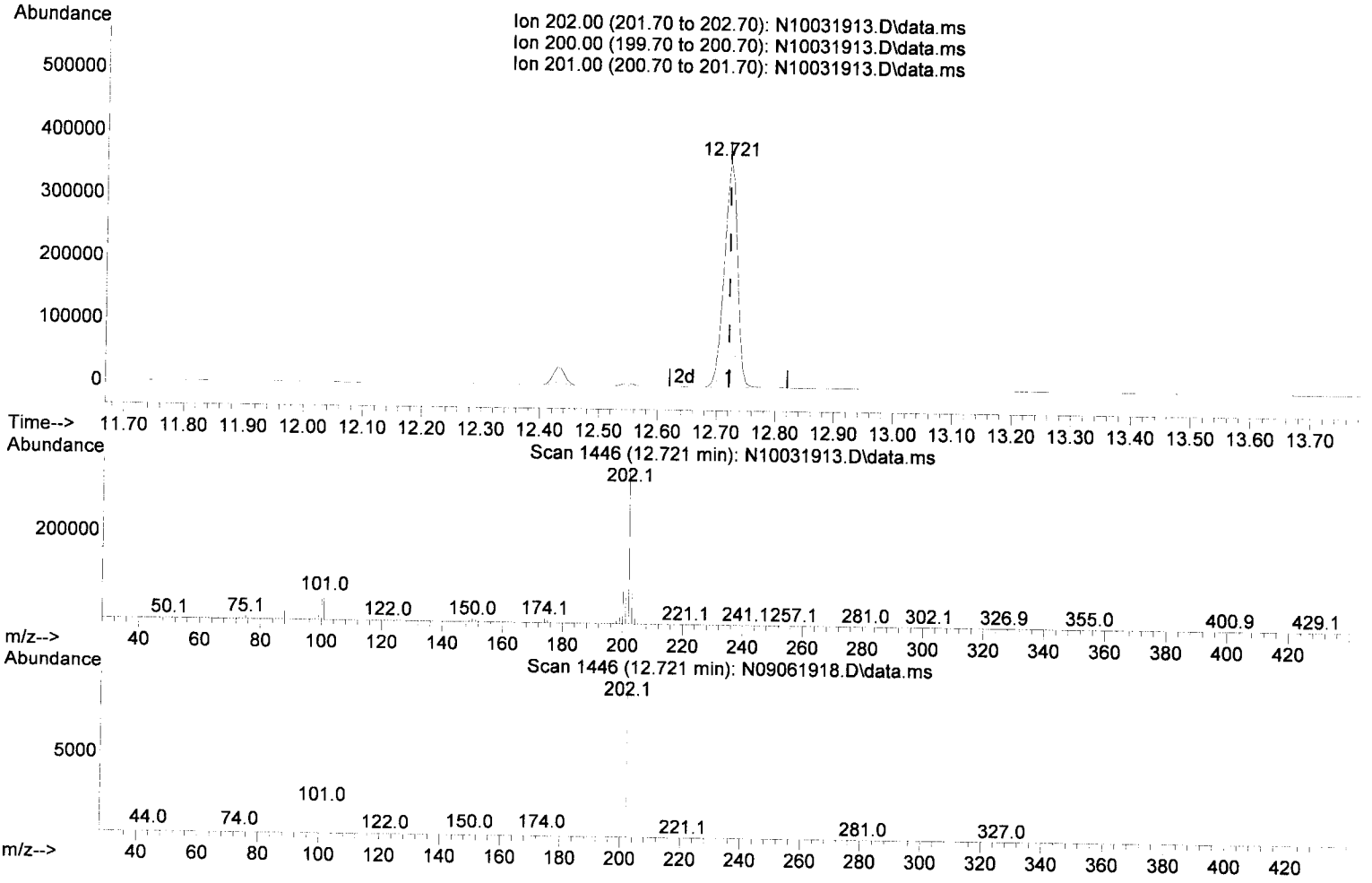
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(25) Pyrene (T)

12.721min (+ 0.000) 165.27 ng/ml

response 569187

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.55
201.00	16.80	17.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
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Sample : A9I0885-01RE1
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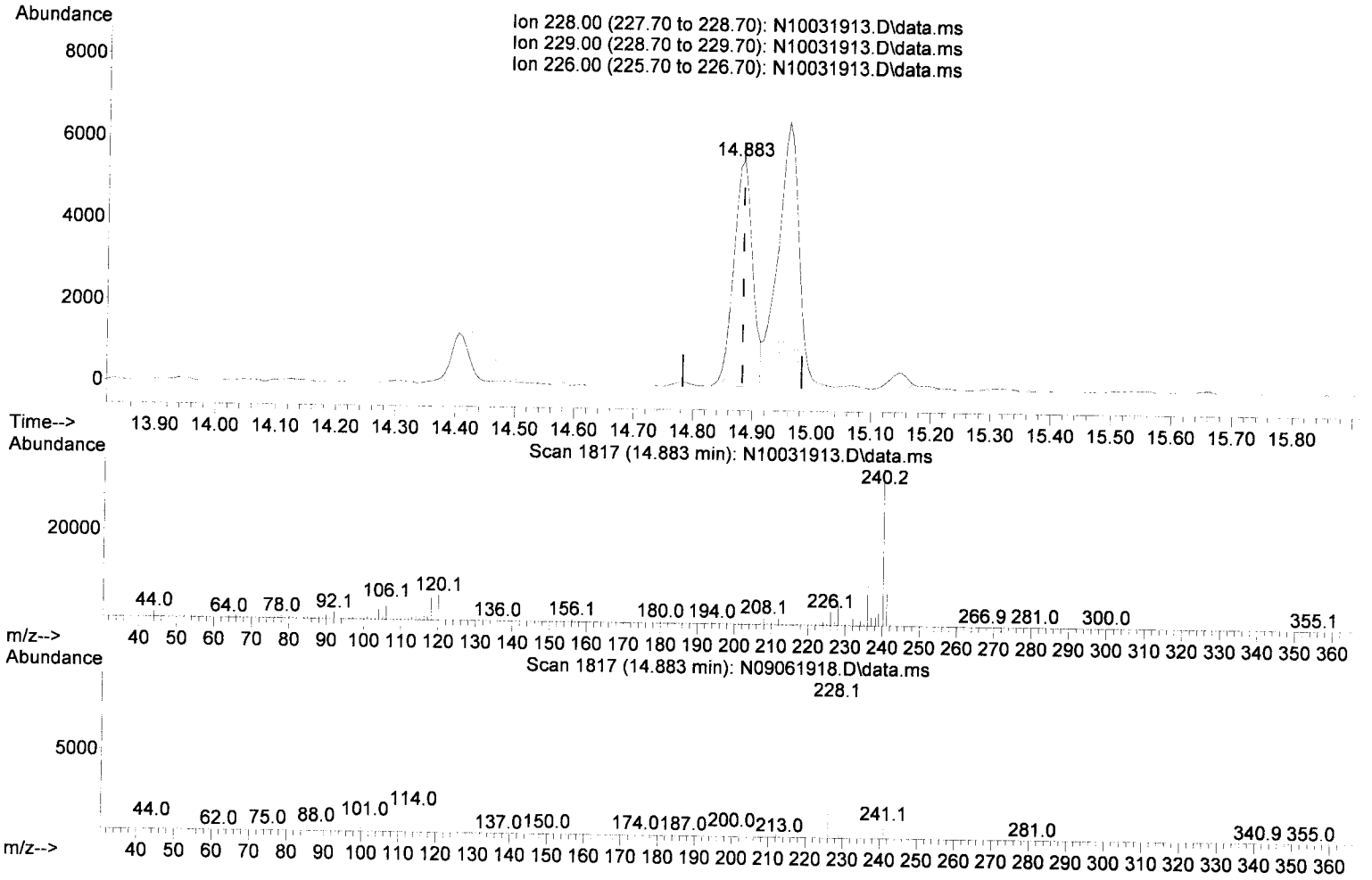
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(27) Benz(a)anthracene (T)

14.883min (+ 0.000) 4.81 ng/ml

response 12302

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.54
226.00	26.20	54.92
0.00	0.00	0.00

Quantitation Report (Qedit)

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Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
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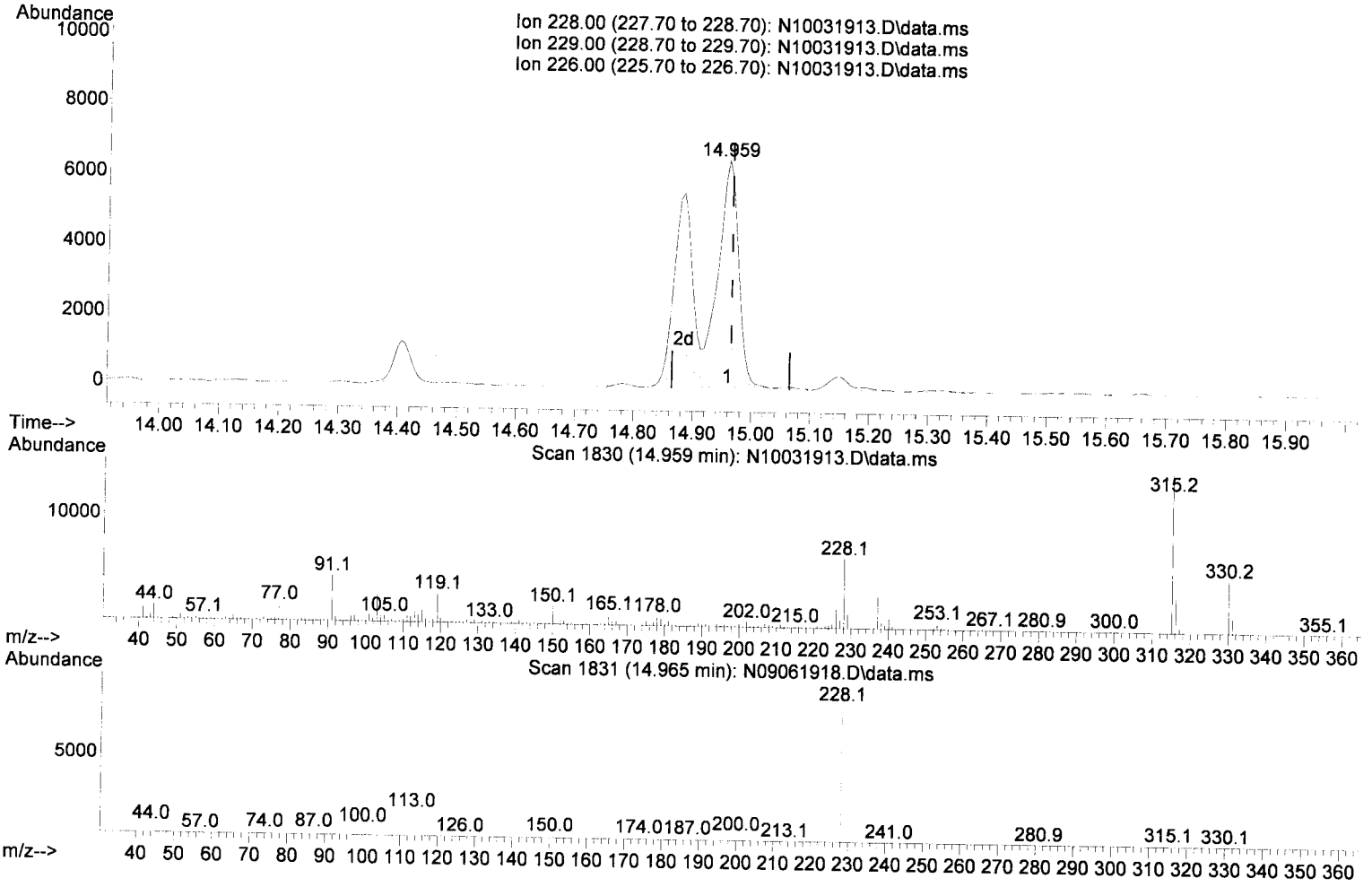
Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(28) Chrysene (T)

14.959min (-0.006) 6.52 ng/ml

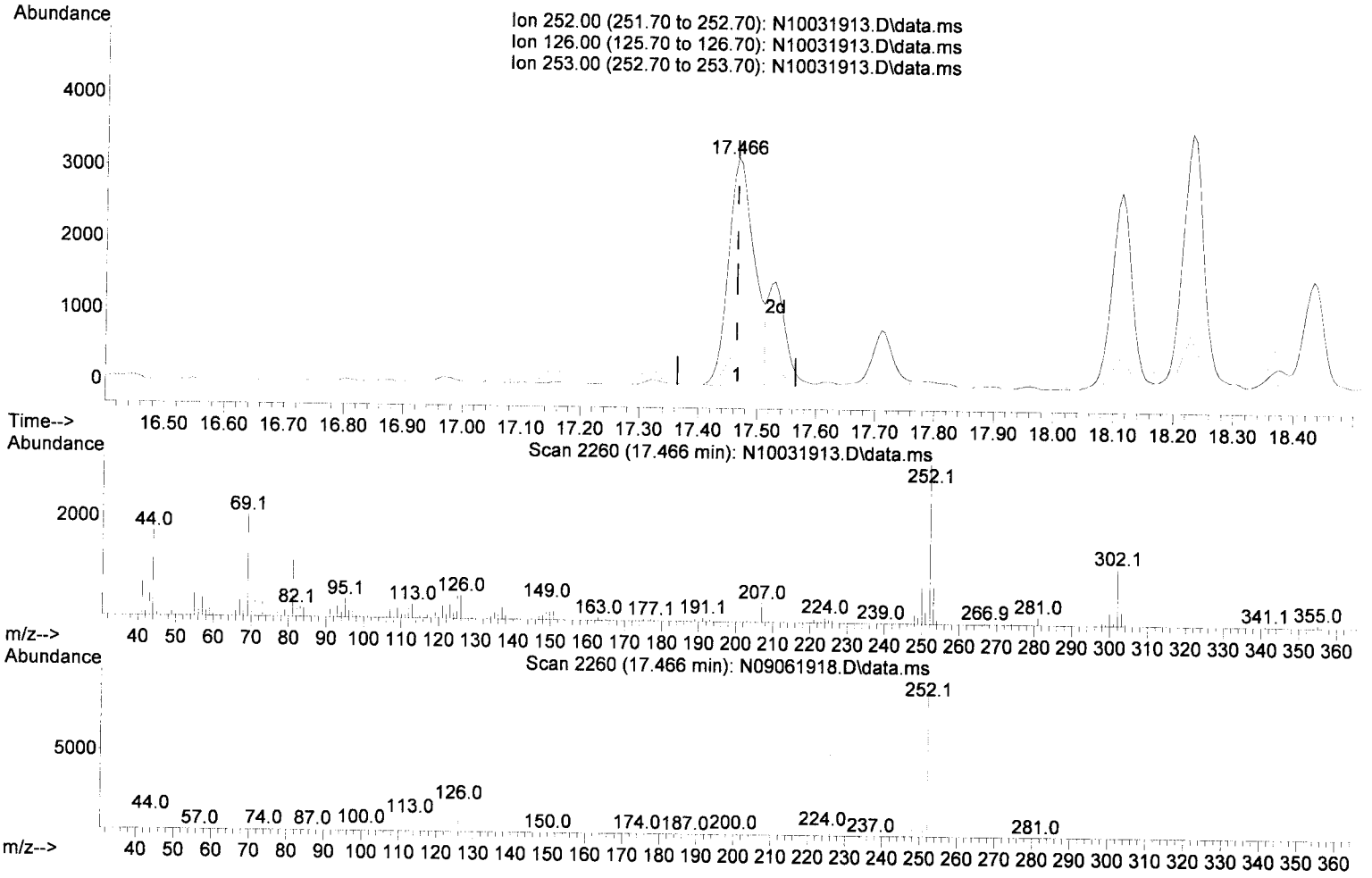
response 15795

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.24
226.00	28.60	27.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.466min (+ 0.001) 4.66 ng/ml

response 9784

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.18
253.00	21.10	23.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
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Misc : 1x, 8270D LL PAH ONLY
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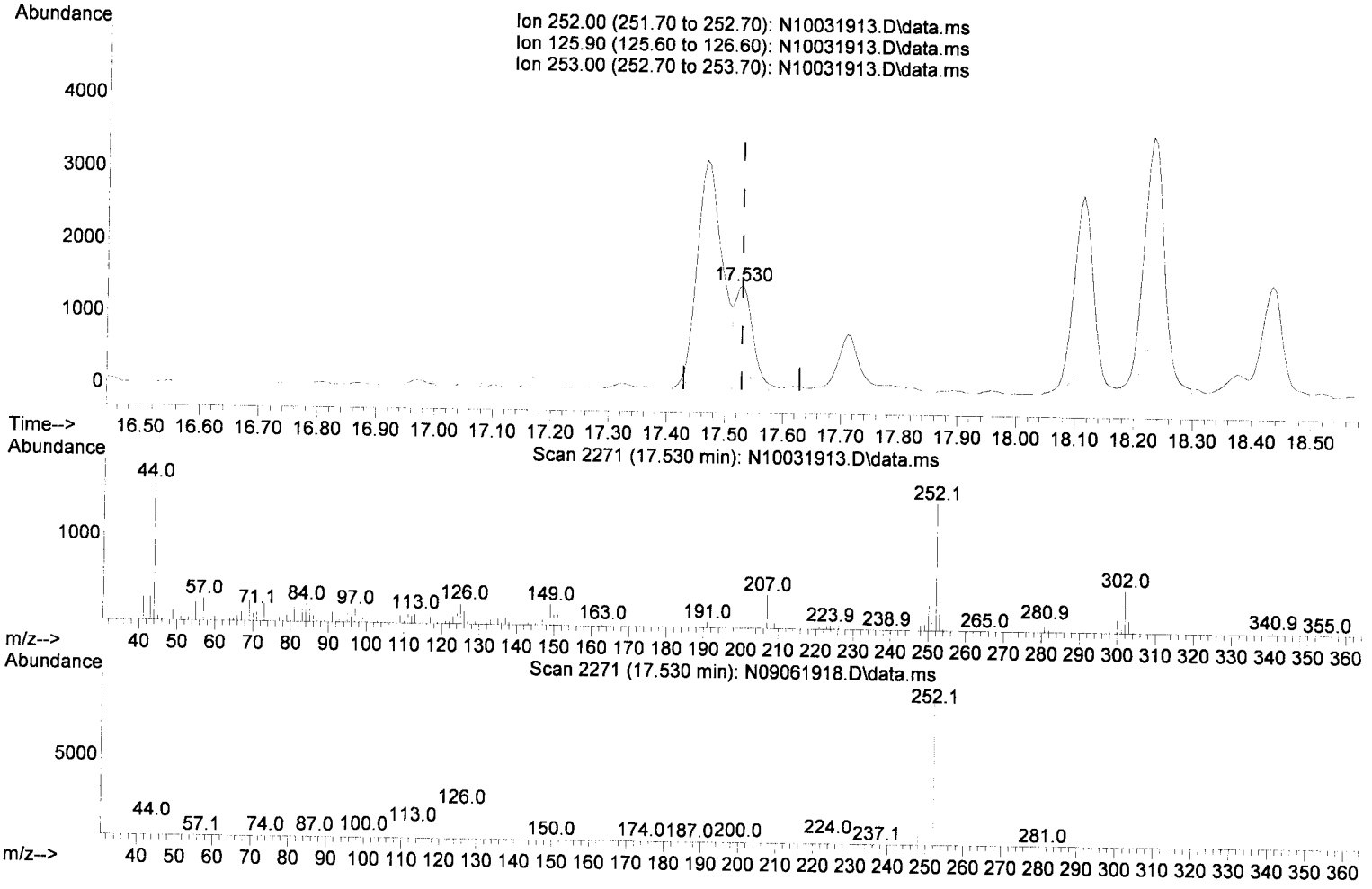
Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.530min (+ 0.001) 1.47 ng/ml m

response 3037

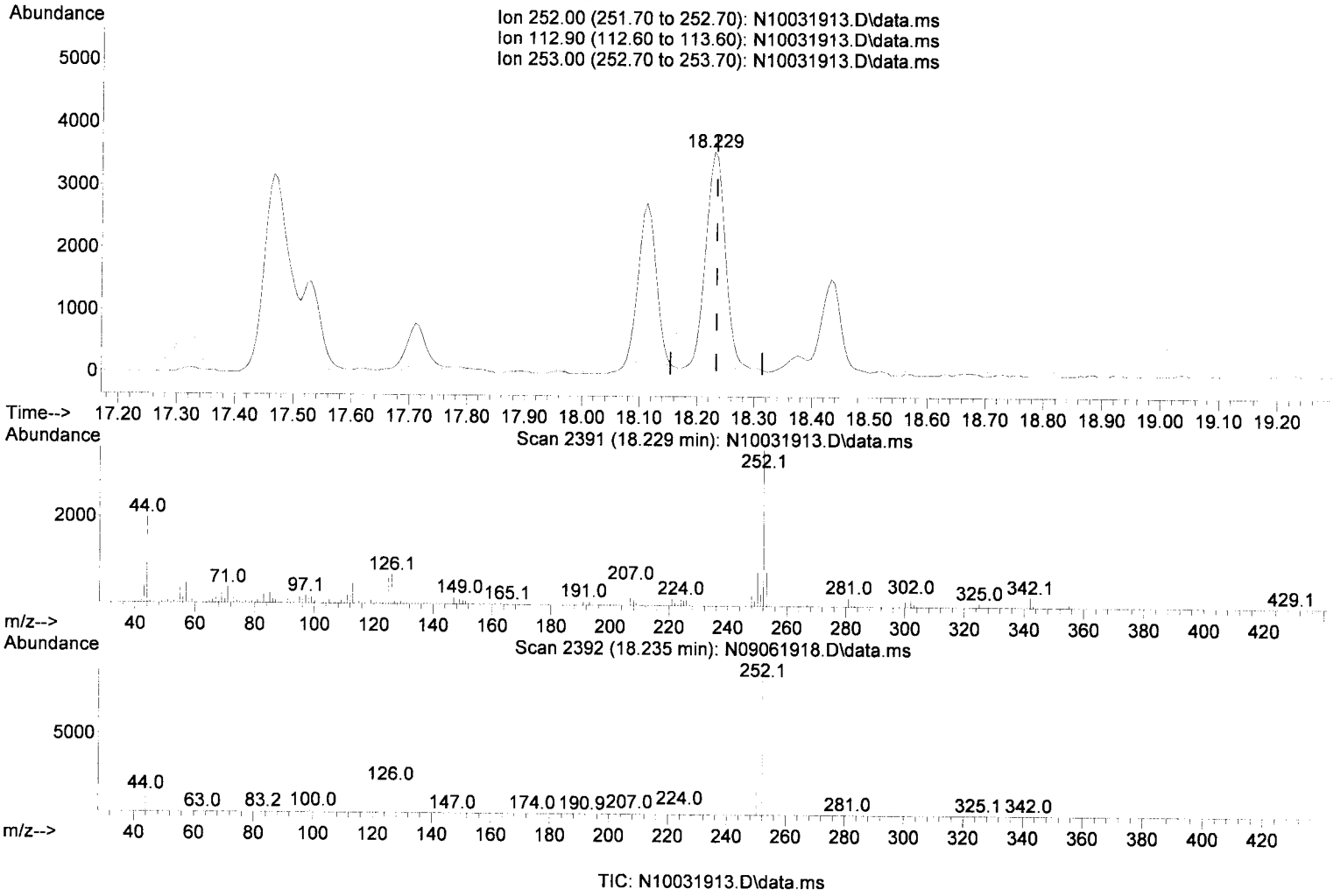
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	17.50
253.00	21.50	23.88
0.00	0.00	0.00

10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(35) Benzo(a)pyrene (T)

18.229min (-0.005) 4.60 ng/ml

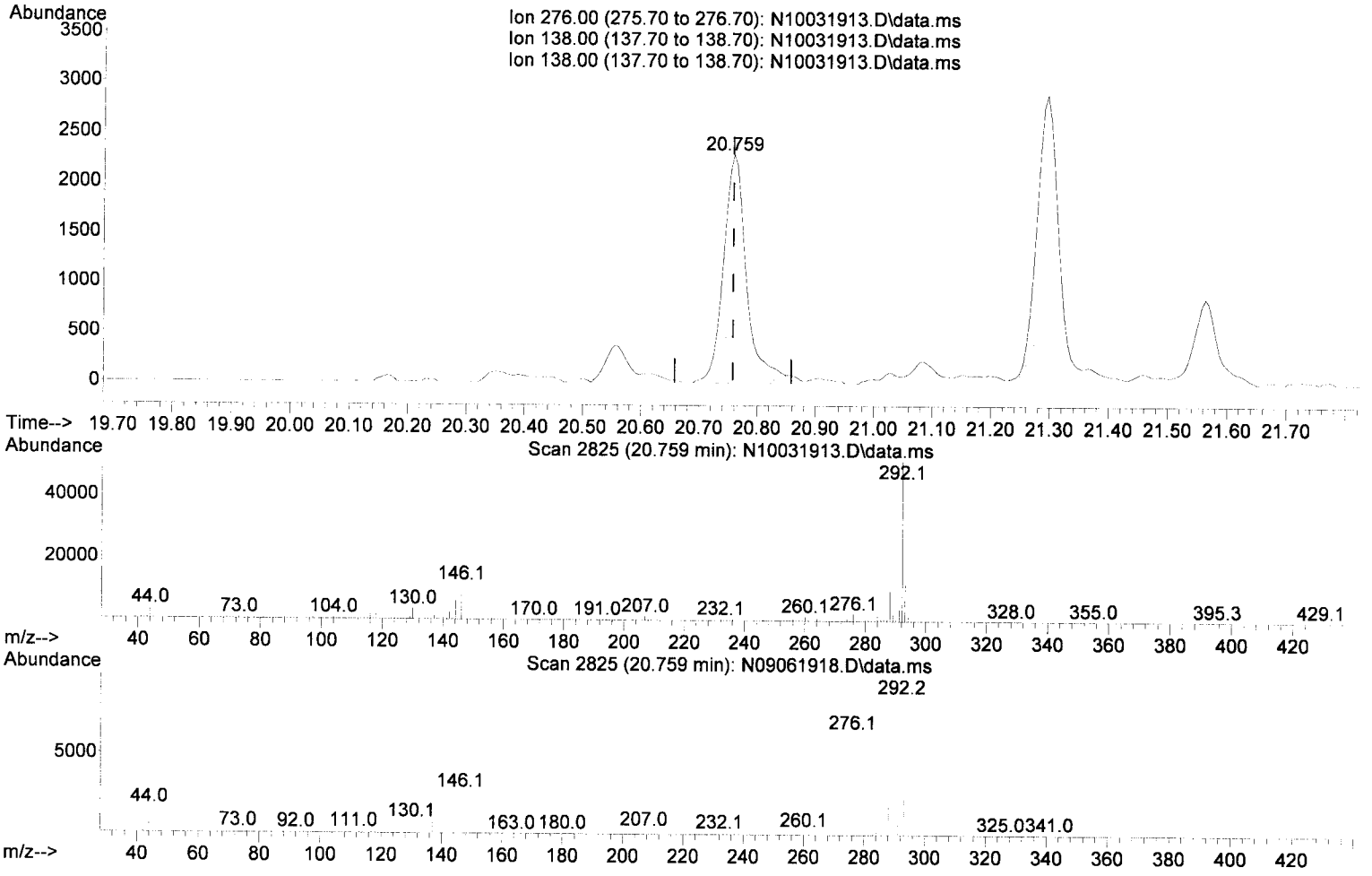
response 8267

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	13.40
253.00	21.90	21.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.759min (+ 0.001) 3.79 ng/ml

response 6198

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	34.09
138.00	31.60	34.09
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031913.D
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Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
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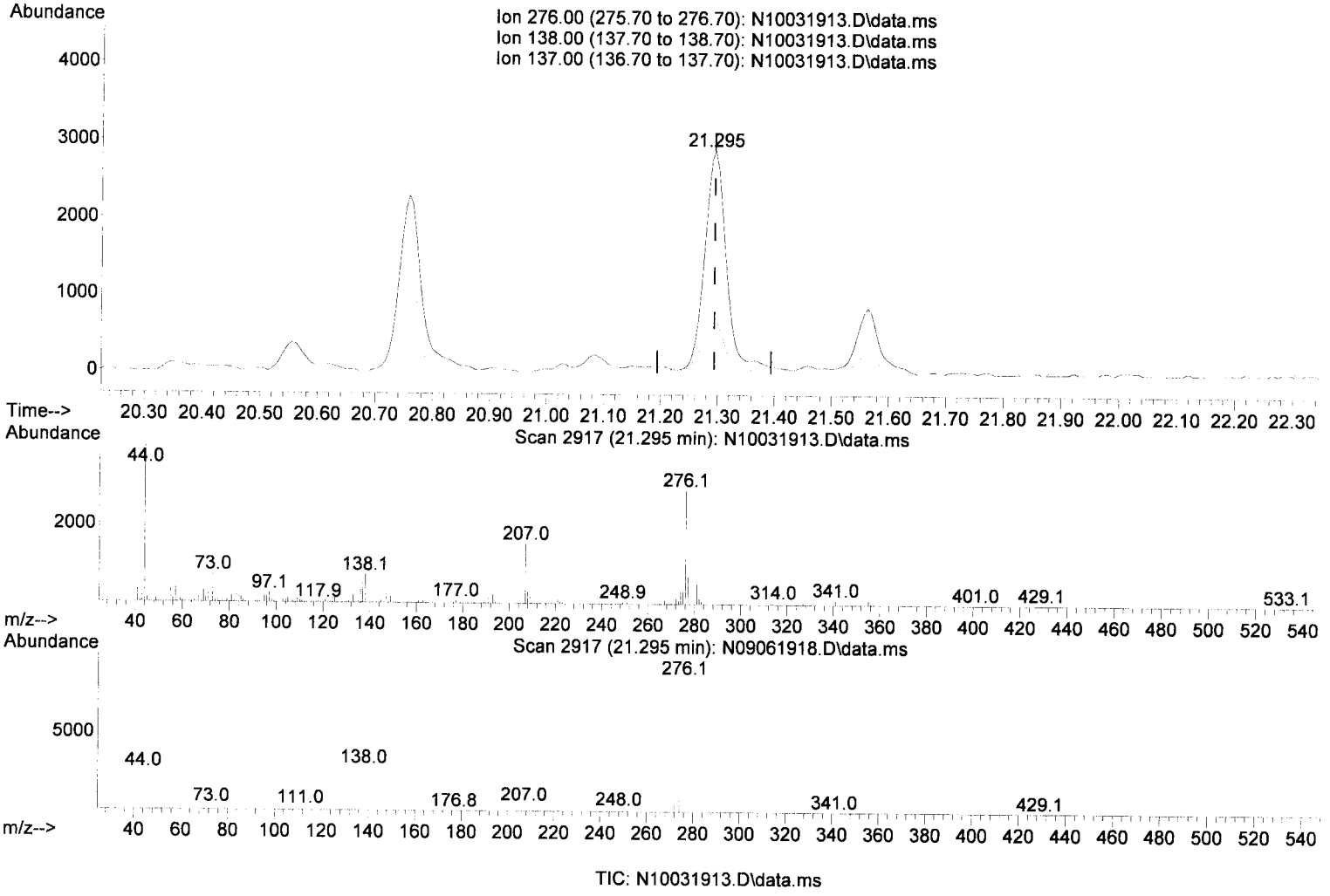
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031913.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.295min (+ 0.001) 4.24 ng/ml

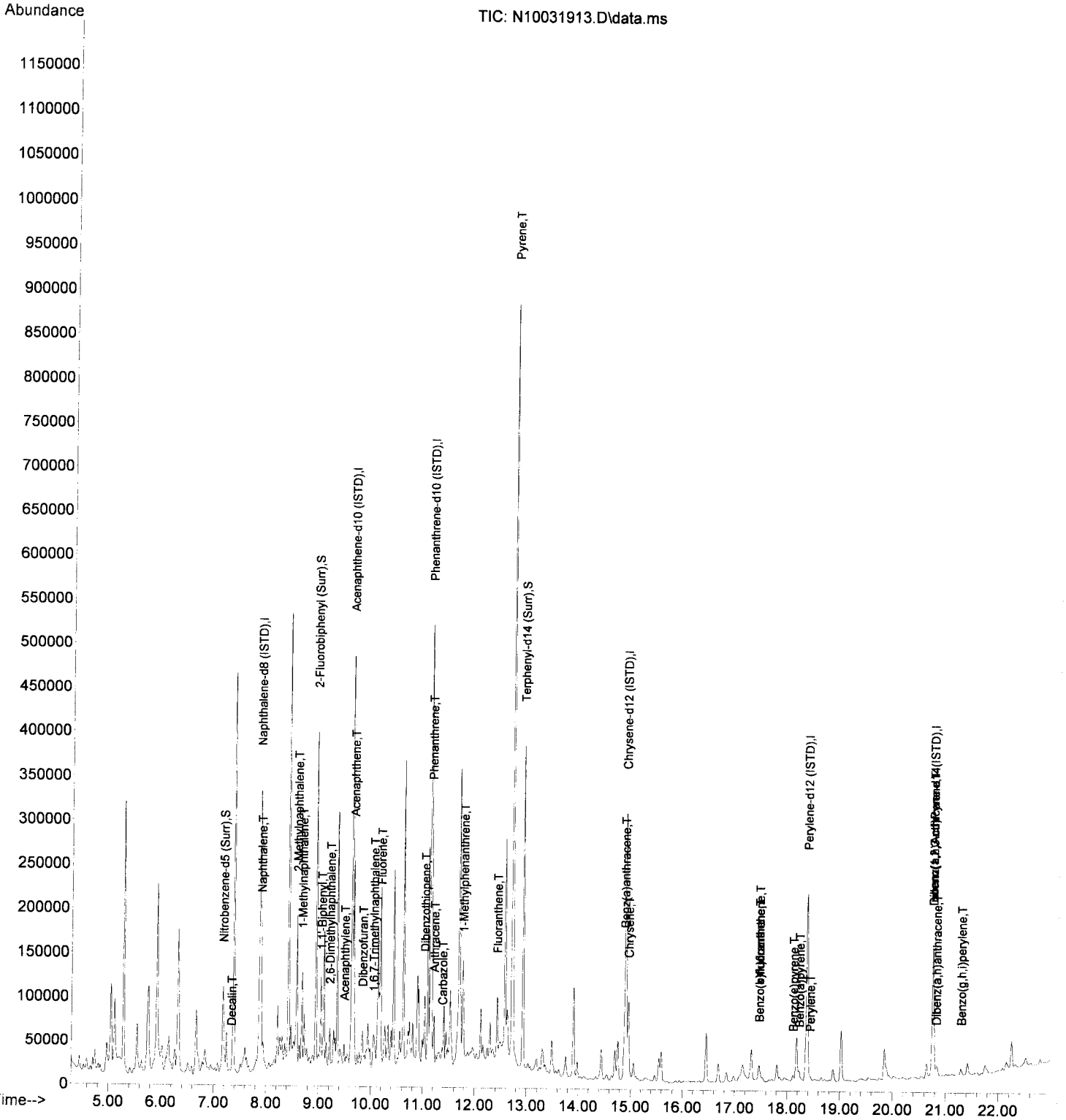
response 7356

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	25.33
137.00	28.60	23.81
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031913.D
Acq On : 03 Oct 2019 03:03 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-01RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 04 12:47:31 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

AMS 10/7/19

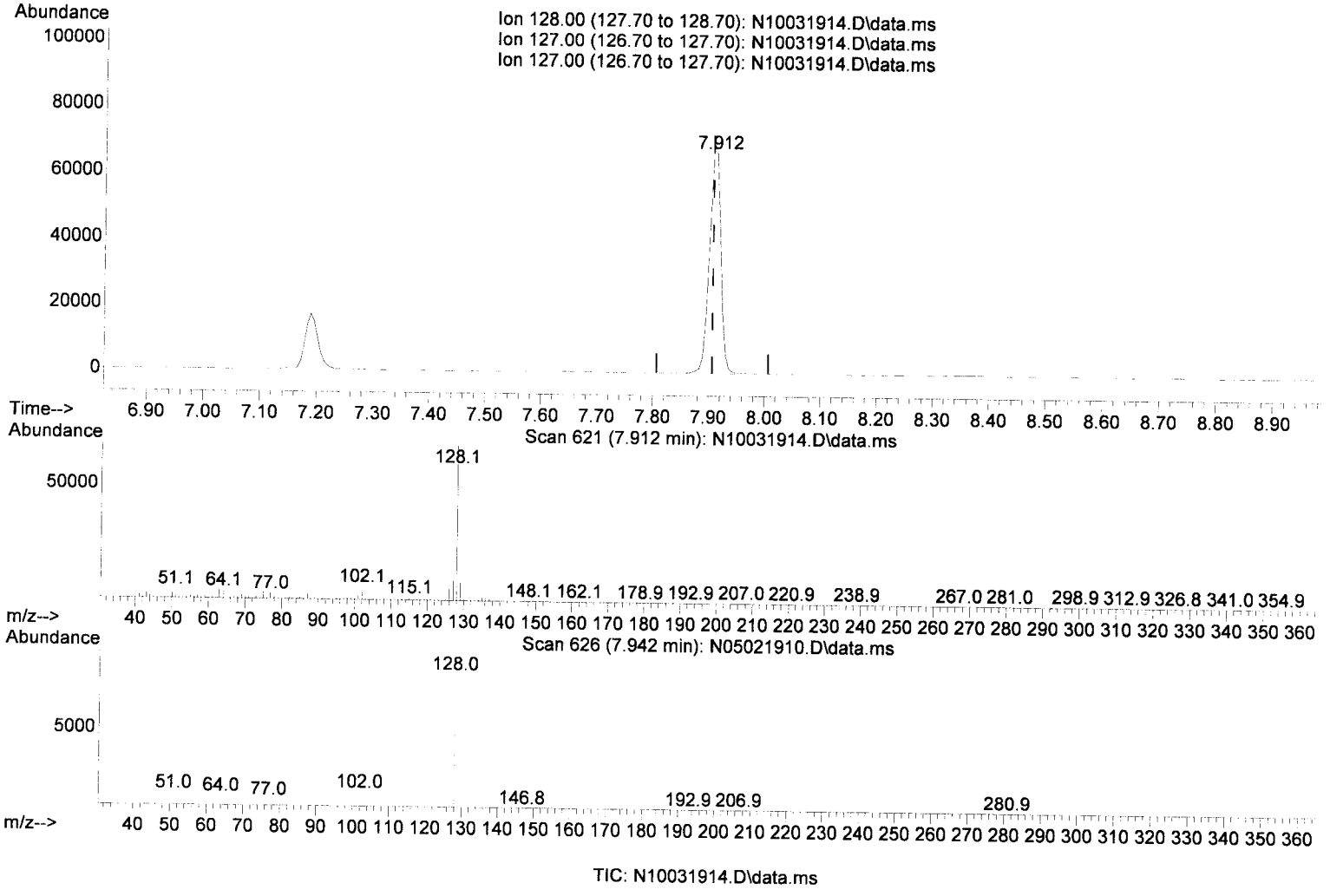
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	217435	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	141643	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.153	188	272751	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	236949	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.386	264	201706	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.770	292	154548	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.189	82	56415	78.08	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	155186	73.44	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	1225	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.937	244	158196	63.48	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.347	138	328	2.03	ng/ml#	62
4) Naphthalene	7.912	128	96901	40.41	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	2618	1.29	ng/ml	94
6) 1-Methylnaphthalene	8.693	142	35582	17.51	ng/ml	99
7) 1,1'-Biphenyl	9.055	154	9524	3.48	ng/ml	96
8) 2,6-Dimethylnaphthalene	9.224	156	1526	0.76	ng/ml	84
12) Acenaphthylene	9.498	152	9798	3.19	ng/ml	88
13) Acenaphthene	9.678	153	181667	90.20	ng/ml	100
14) Dibenzofuran	9.847	168	5945	2.36	ng/ml	93
15) 1,6,7-Trimethylnaphtha...	10.051	170	3291	1.95	ng/ml	76
16) Fluorene	10.197	166	11683	5.67	ng/ml	96
18) Dibenzothiopene	11.048	184	64264	22.53	ng/ml	97
19) Phenanthrene	11.170	178	24861	7.79	ng/ml	98
20) Anthracene	11.223	178	10875	J 3.66	ng/ml J	95
21) Carbazole	11.386	167	5324	2.22	ng/ml	98
22) 1-Methylphenanthrene	11.782	192	7238	3.26	ng/ml#	1
23) Fluoranthene	12.441	202	11928	J 3.71	ng/ml J	97
25) Pyrene	12.727	202	296439	80.08	ng/ml	100
27) Benz(a)anthracene	14.895	228	5381	1.96	ng/ml	73
28) Chrysene	14.971	228	7493	2.88	ng/ml	94
30) Benzo(b)fluoranthene	17.477	252	5629	2.42	ng/ml	94
31) Benzo(k)fluoranthene	~~17.477~~	~~252~~	~~7210~~	~~3.15~~	~~ng/ml~~	~~92~~ MI-ND
32) Benzo(b+k)fluoranthene	17.477	252	7830	3.29	ng/ml	92
34) Benzo(e)pyrene	18.124	252	3875	1.65	ng/ml	98
35) Benzo(a)pyrene	18.241	252	5203	2.61	ng/ml	99
36) Perylene	18.445	252	4653	1.90	ng/ml	97
38) Indeno(1,2,3-cd)Pyrene	20.770	276	3932	2.06	ng/ml	96
39) Dibenz(a,h)anthracene	20.834	278	529	N.D.		
40) Benzo(g,h,i)perylene	21.306	276	4945	2.45	ng/ml	92

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(4) Naphthalene (T)

7.912min (+ 0.006) 40.41 ng/ml

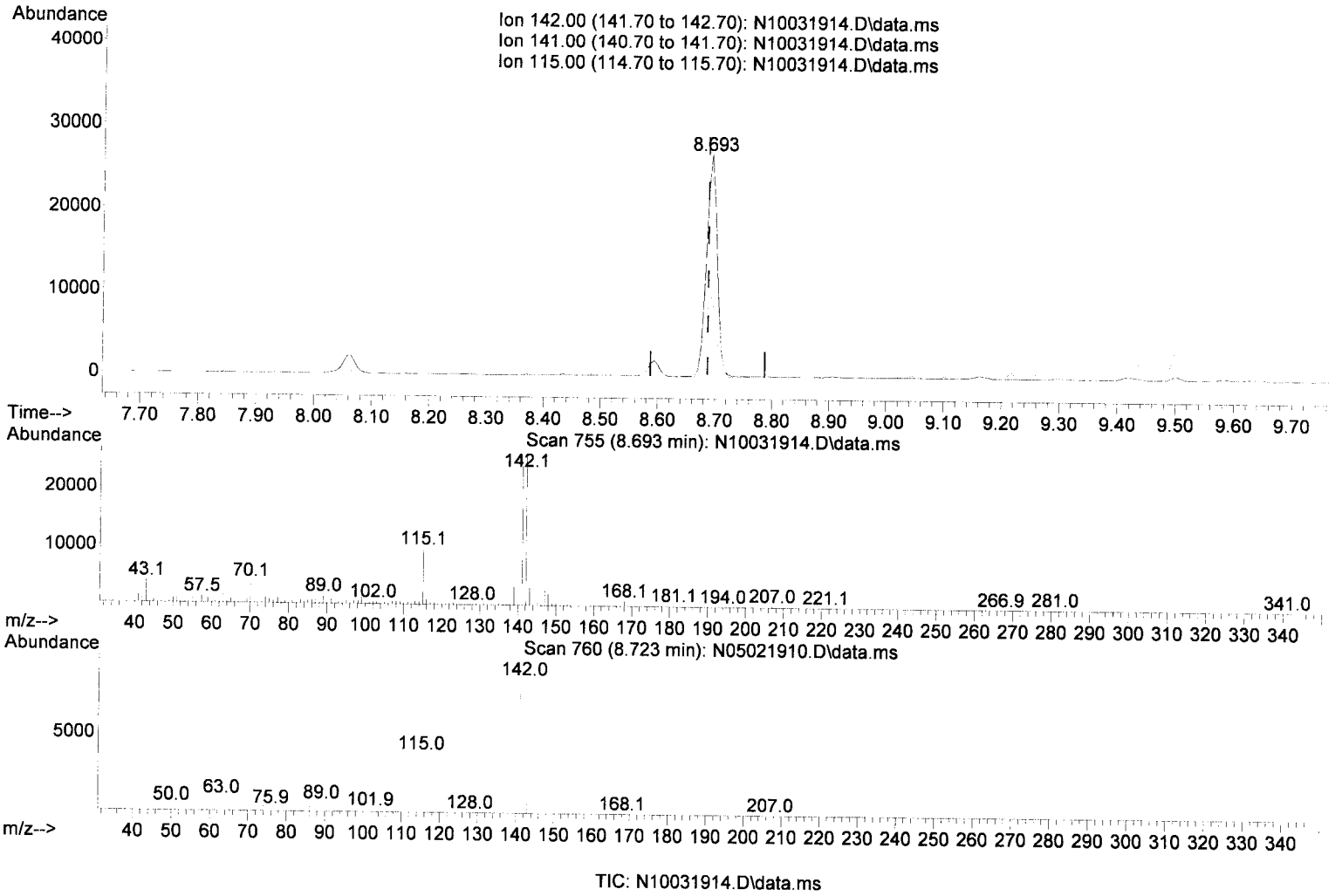
response 96901

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.87
127.00	12.60	12.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 17.51 ng/ml

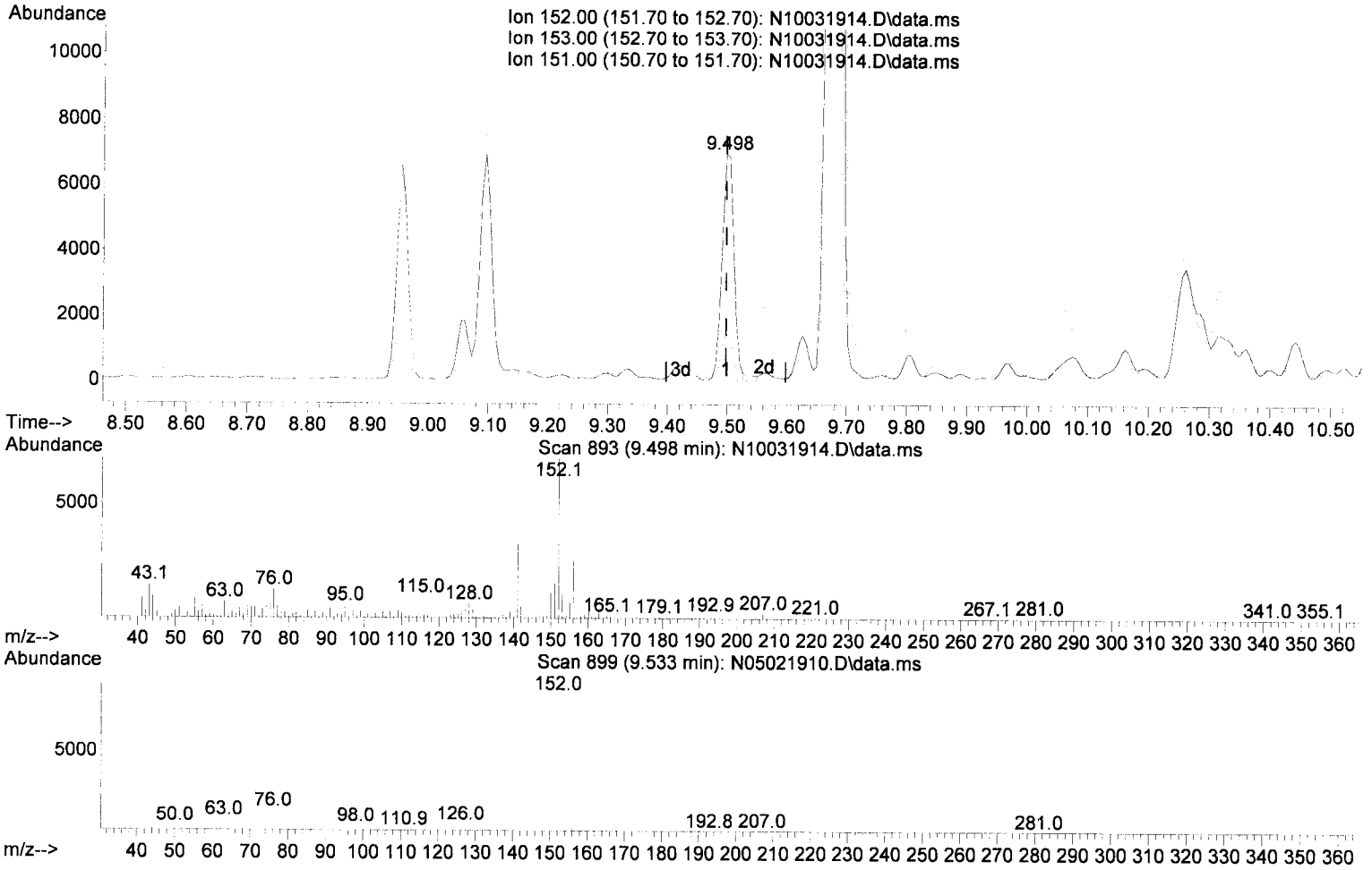
response 35582

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	89.93
115.00	37.80	35.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(12) Acenaphthylene (T)

9.498min (-0.000) 3.19 ng/ml

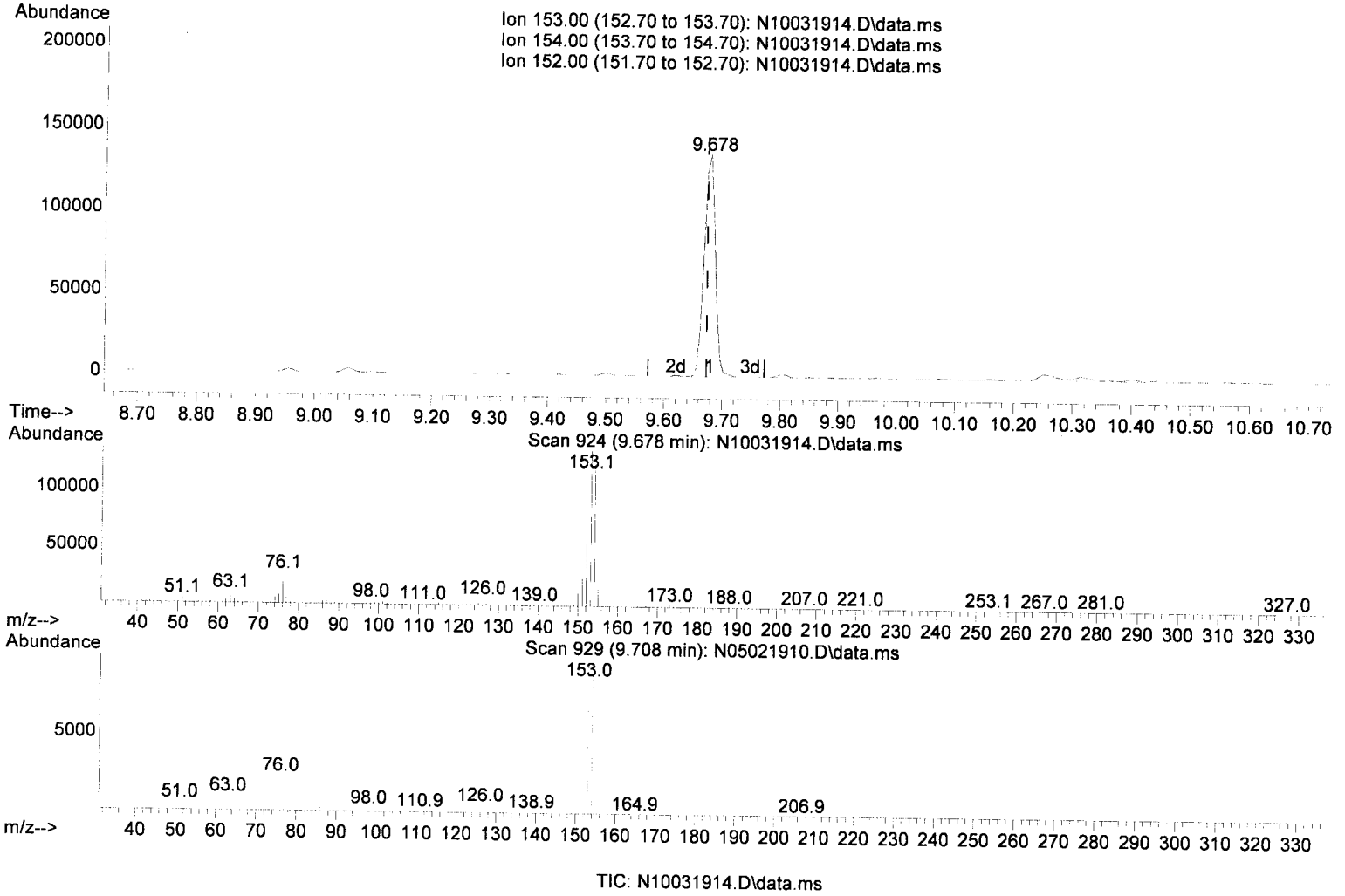
response 9798

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	20.83
151.00	19.30	21.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(13) Acenaphthene (T)

9.678min (+ 0.006) 90.20 ng/ml

response 181667

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.56
152.00	46.80	46.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
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Operator : JK/ AMS/ DTH
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Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
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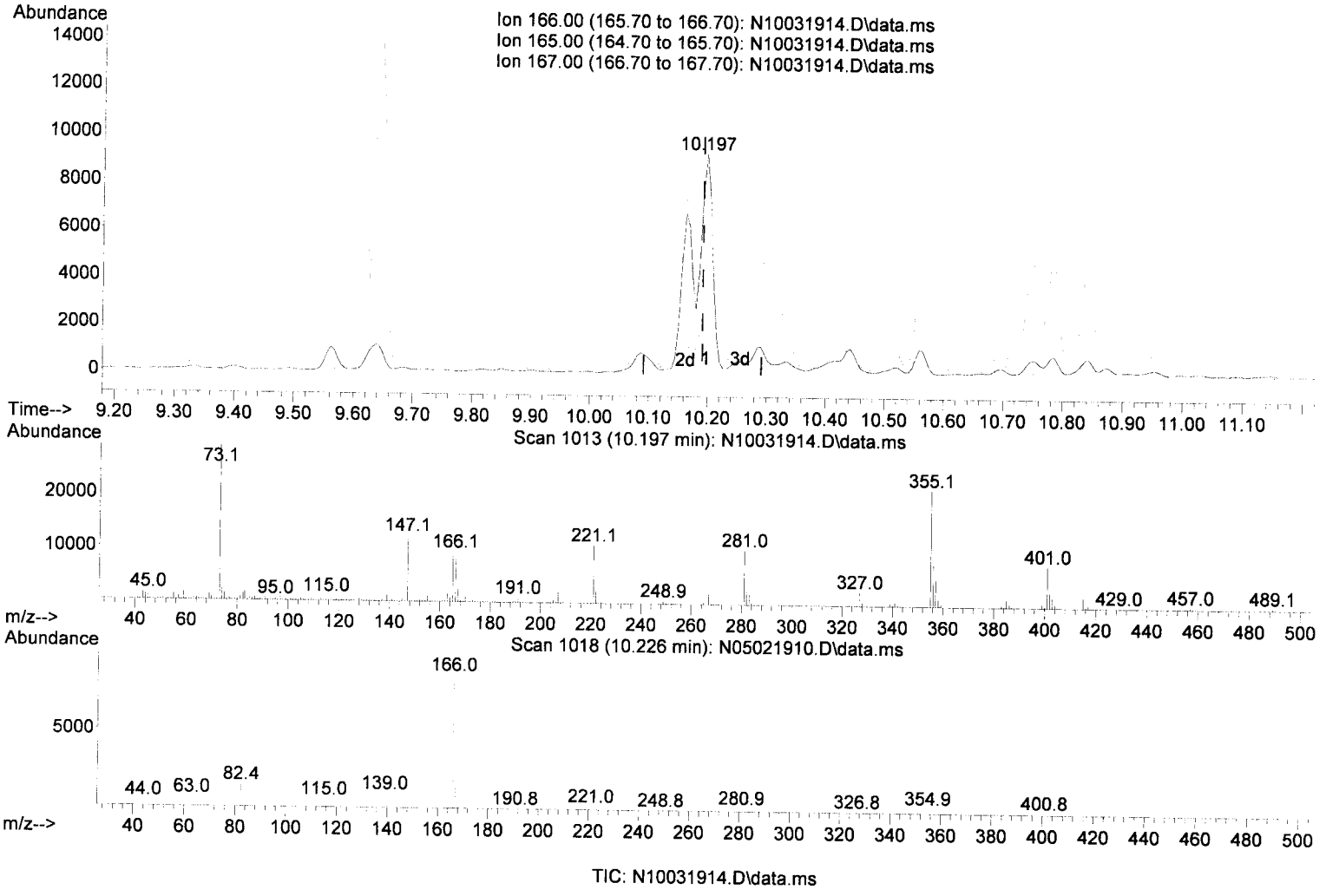
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 5.67 ng/ml

response 11683

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	95.07
167.00	13.60	24.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
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Operator : JK/ AMS/ DTH
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DataAcq Meth:LVI14_BNA_ACQ.M

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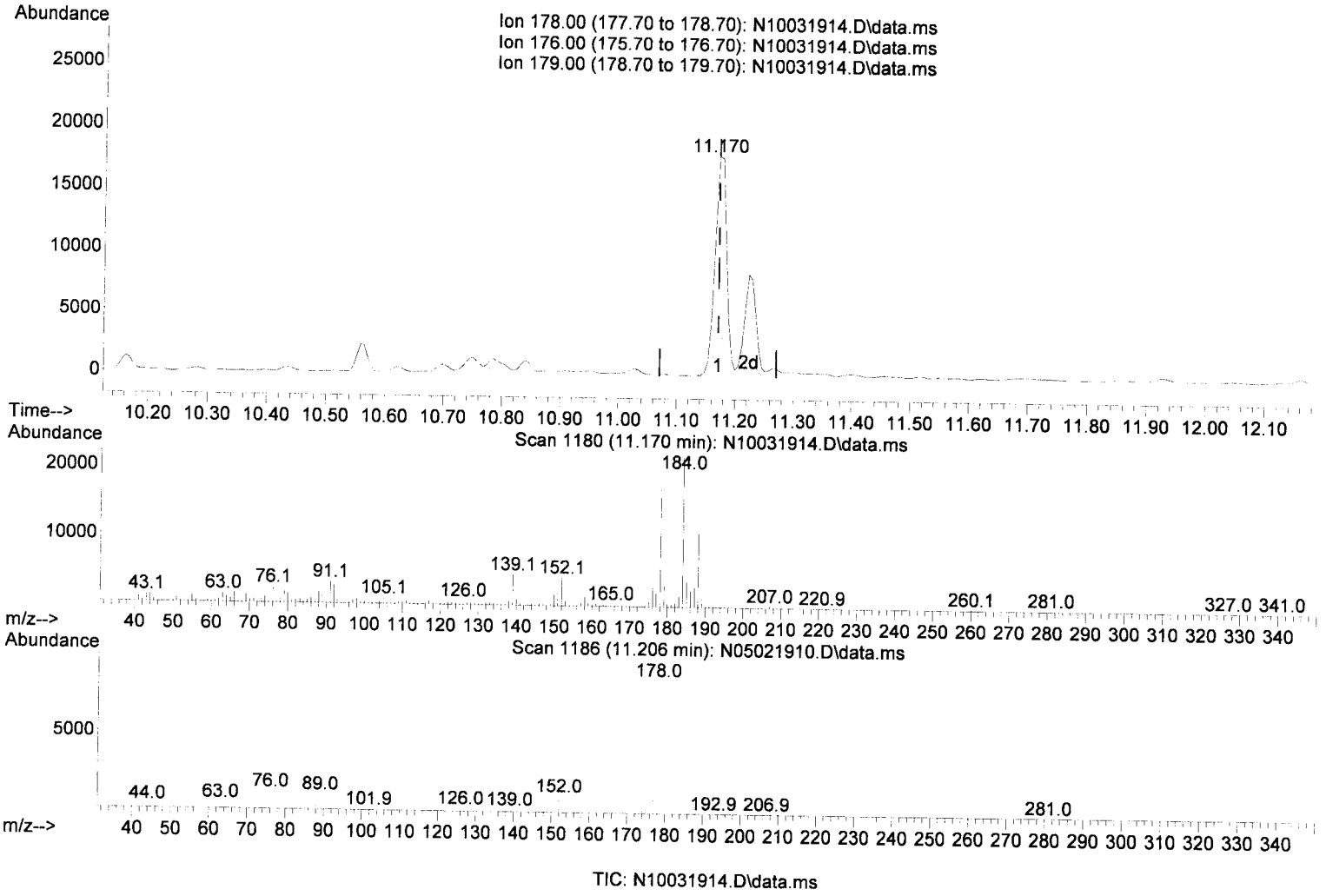

TIC: N10031914.D\data.ms

(19) Phenanthrene (T)

11.170min (-0.000) 7.79 ng/ml

response 24861

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.29
179.00	15.10	16.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
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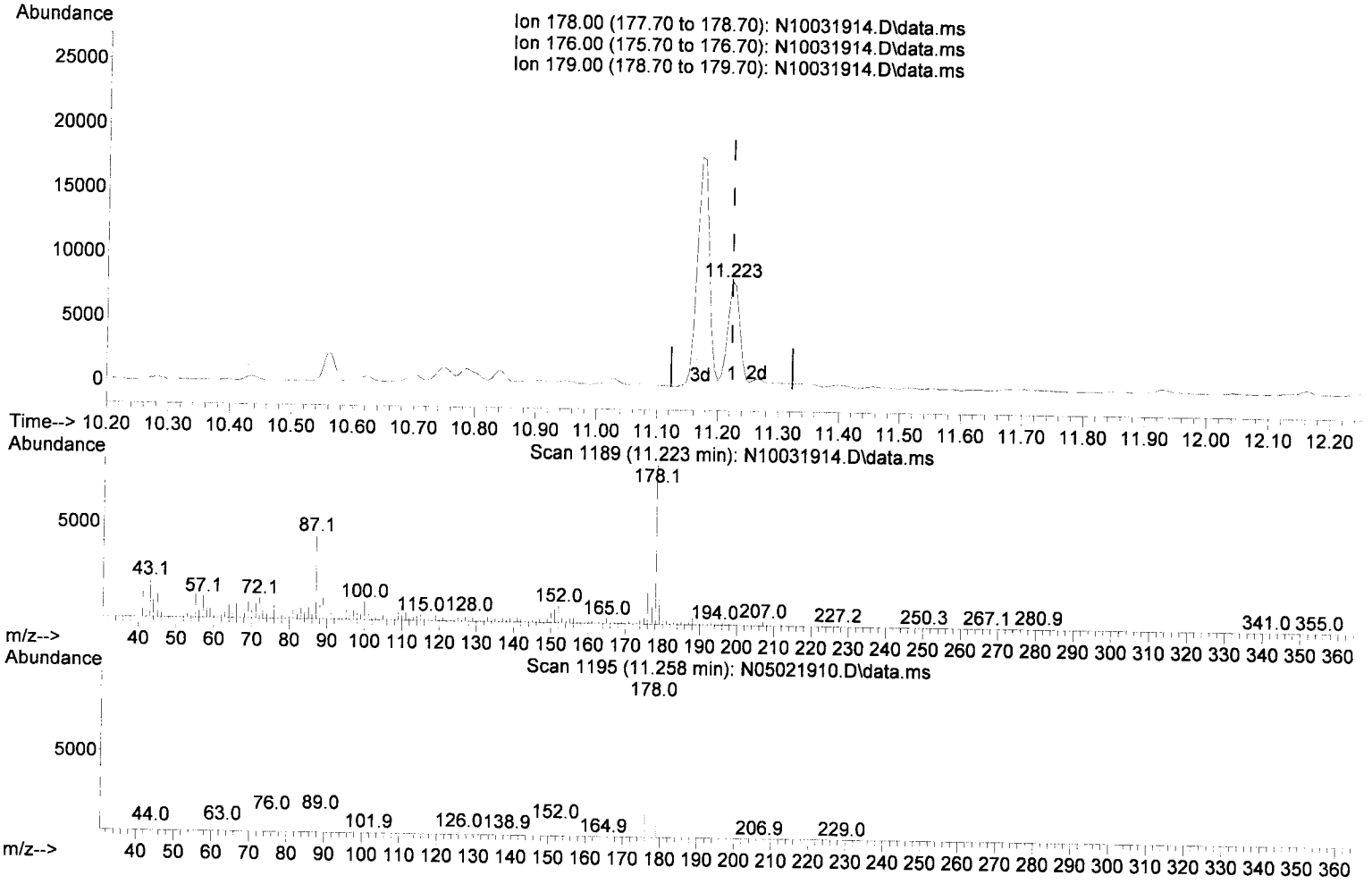

TIC: N10031914.D\data.ms

(20) Anthracene (T)

11.223min (-0.000) 3.66 ng/ml

response 10875

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	19.86
179.00	15.30	18.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
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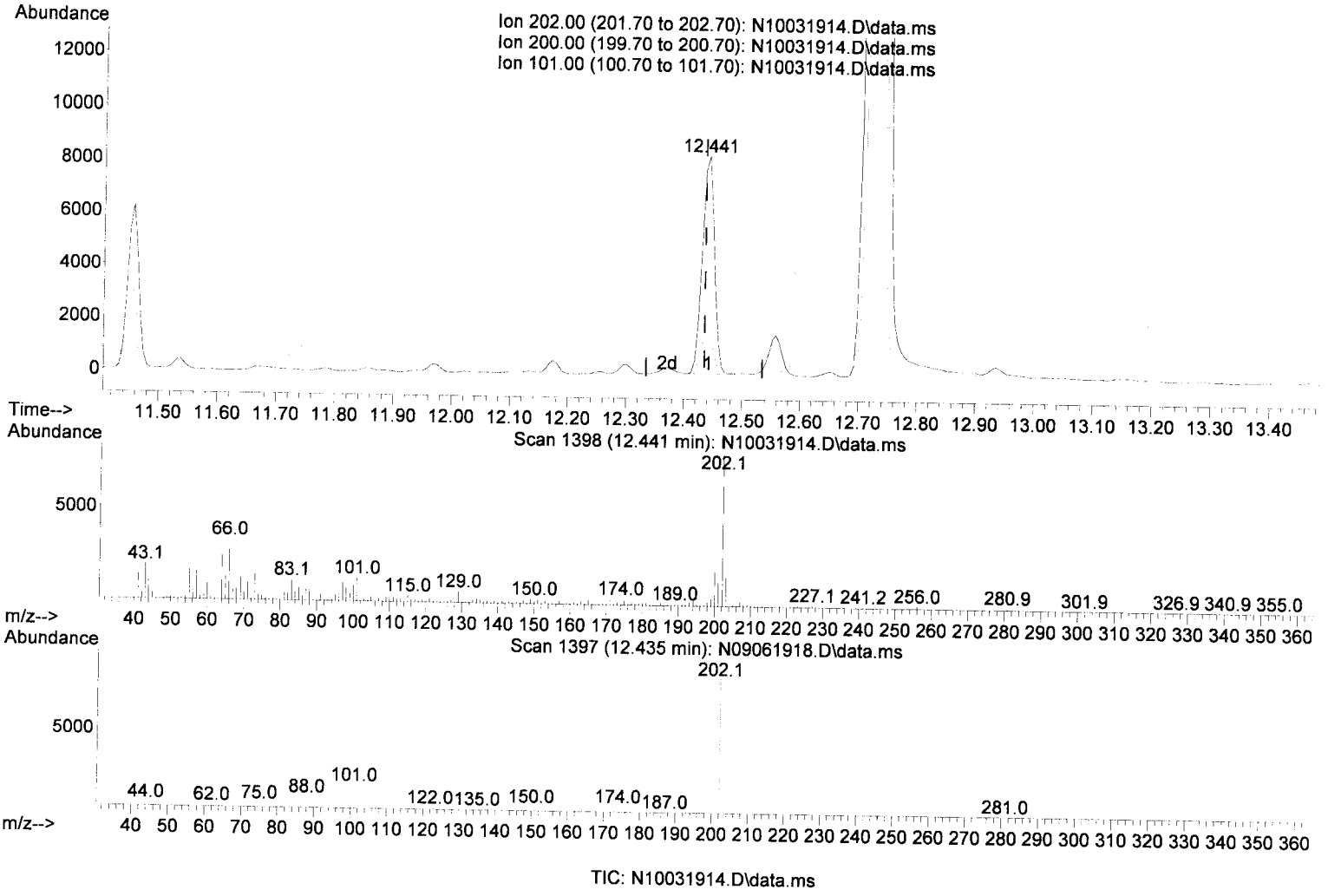
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(23) Fluoranthene (T)

12.441min (+ 0.006) 3.71 ng/ml

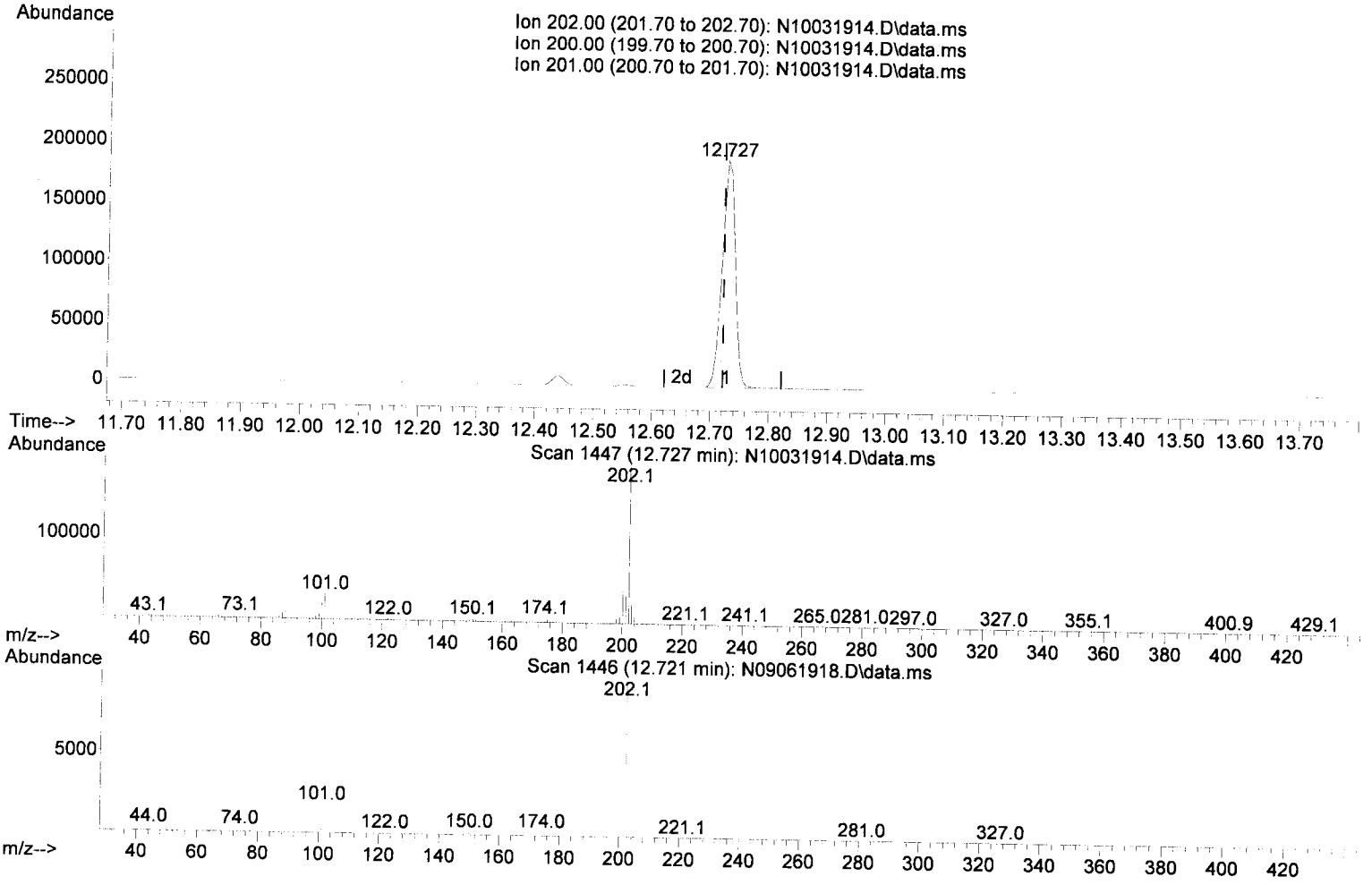
response 11928

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	21.80
101.00	15.30	15.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(25) Pyrene (T)

12.727min (+ 0.006) 80.08 ng/ml

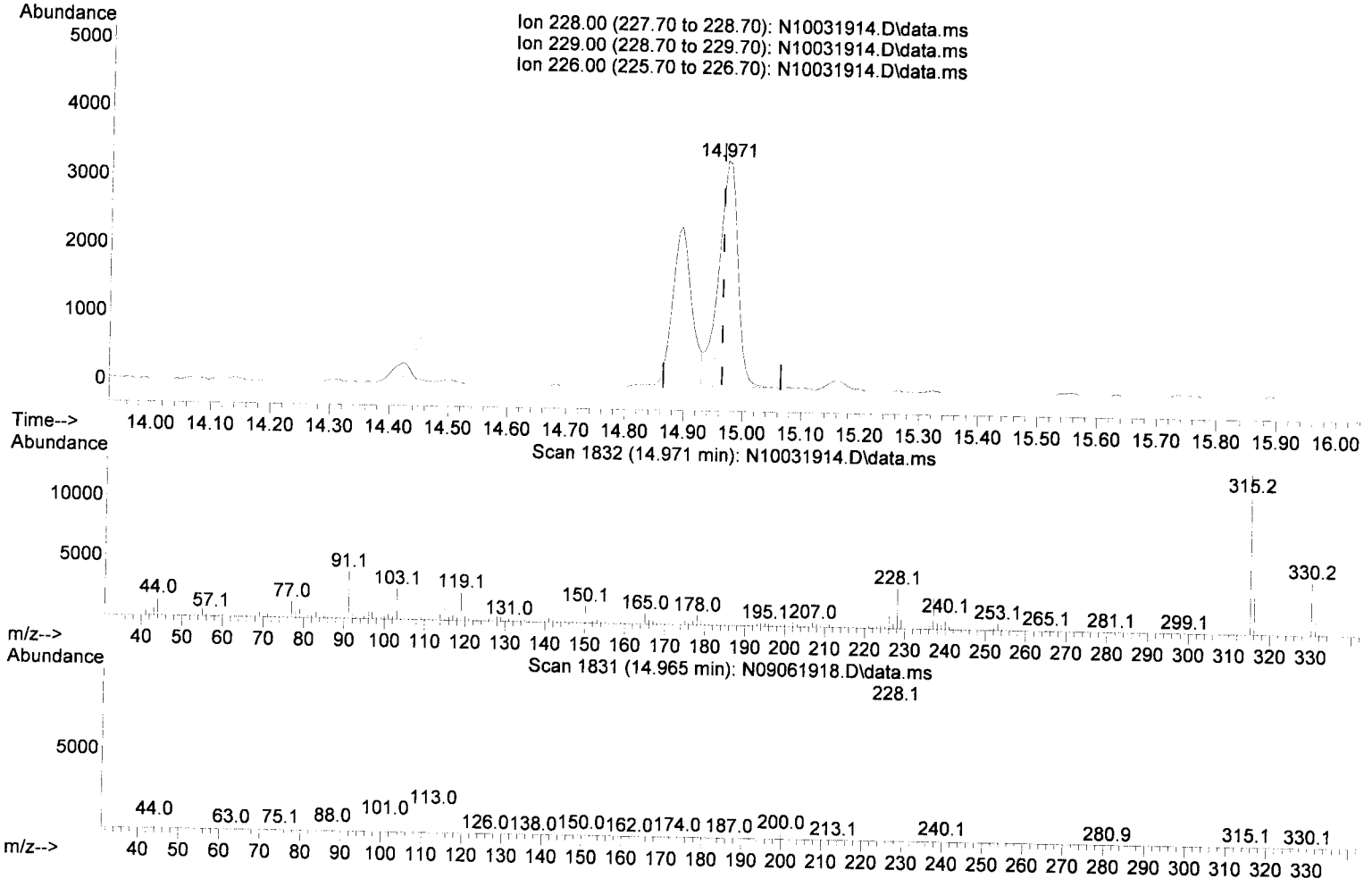
response 296439

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.63
201.00	16.80	17.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(28) Chrysene (T)

14.971min (+ 0.006) 2.88 ng/ml

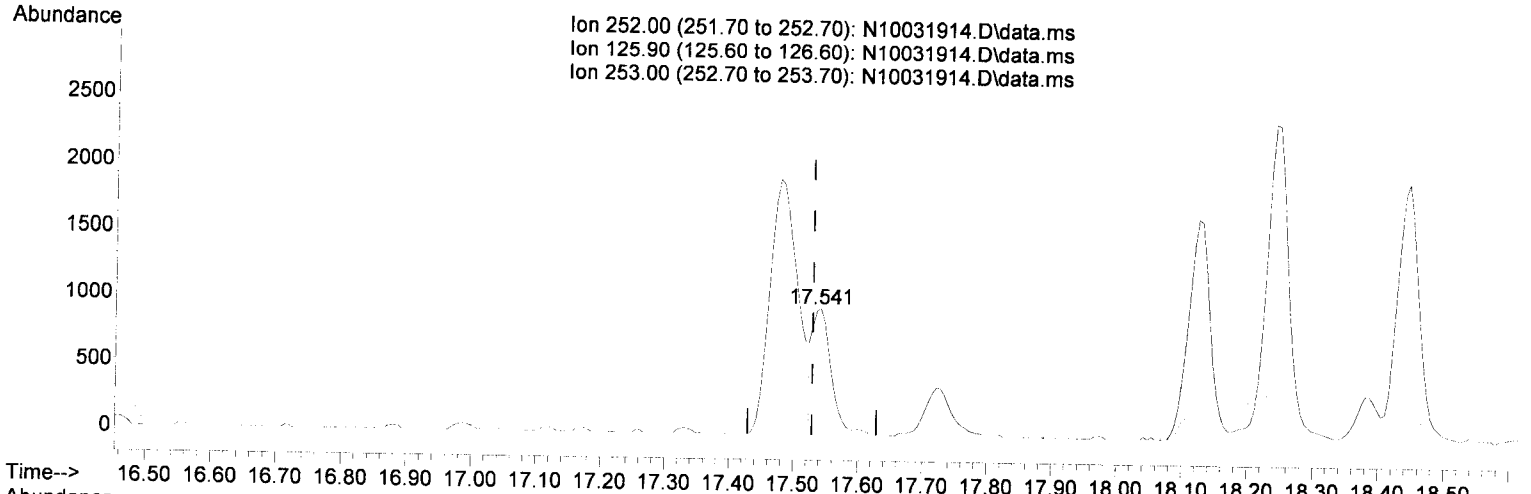
response 7493

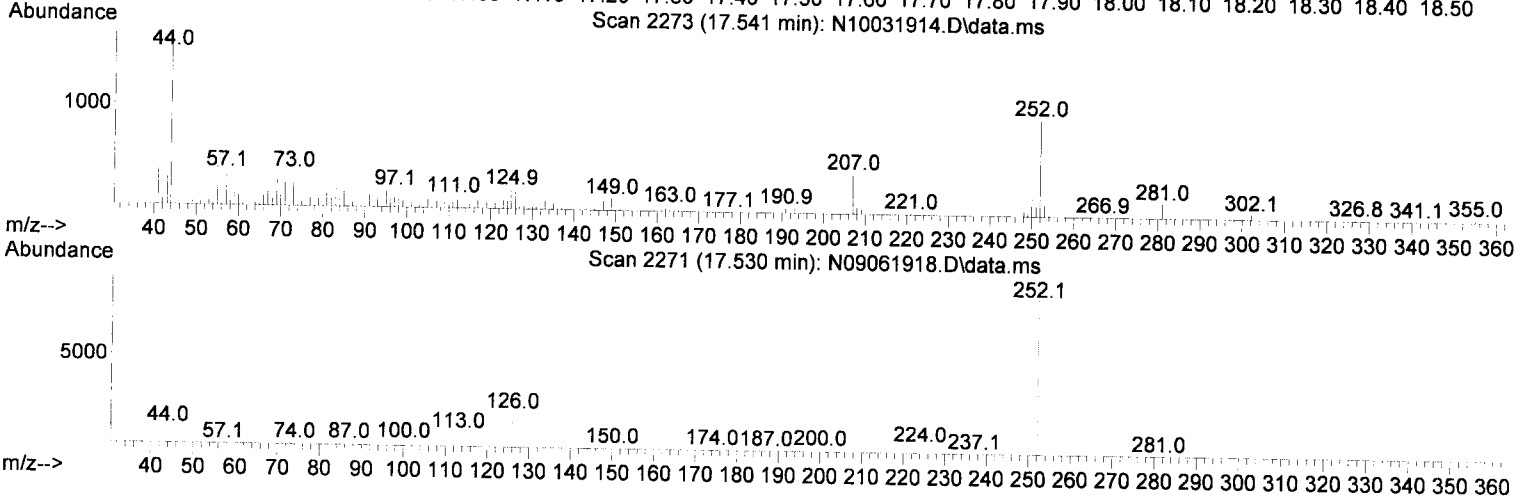
Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	23.02
226.00	28.60	31.03
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14





TIC: N10031914.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.541min (+ 0.012) 0.84 ng/ml m

response 1934

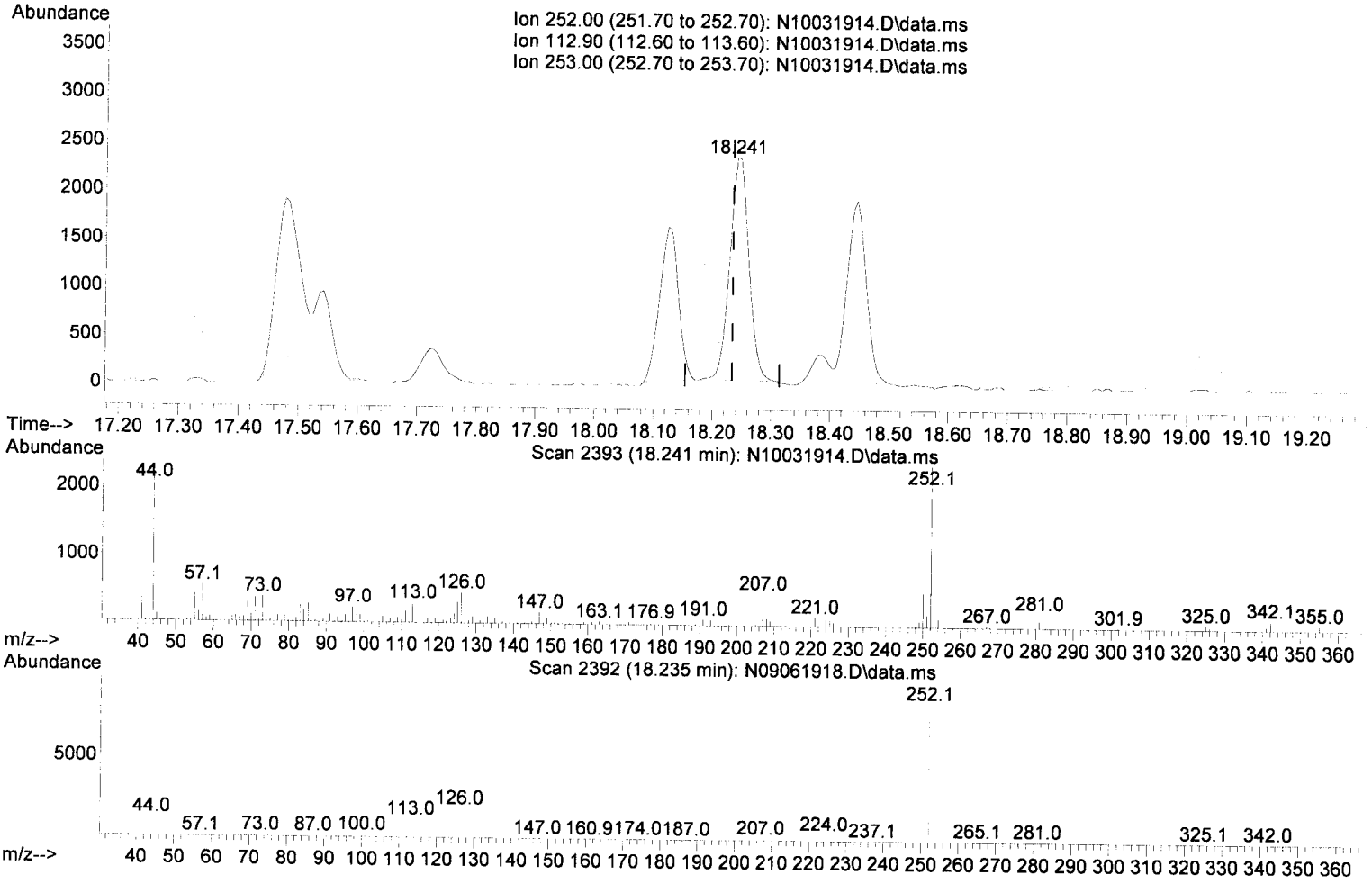
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	22.00
253.00	21.50	22.11
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031914.D\data.ms

(35) Benzo(a)pyrene (T)

18.241min (+ 0.007) 2.61 ng/ml

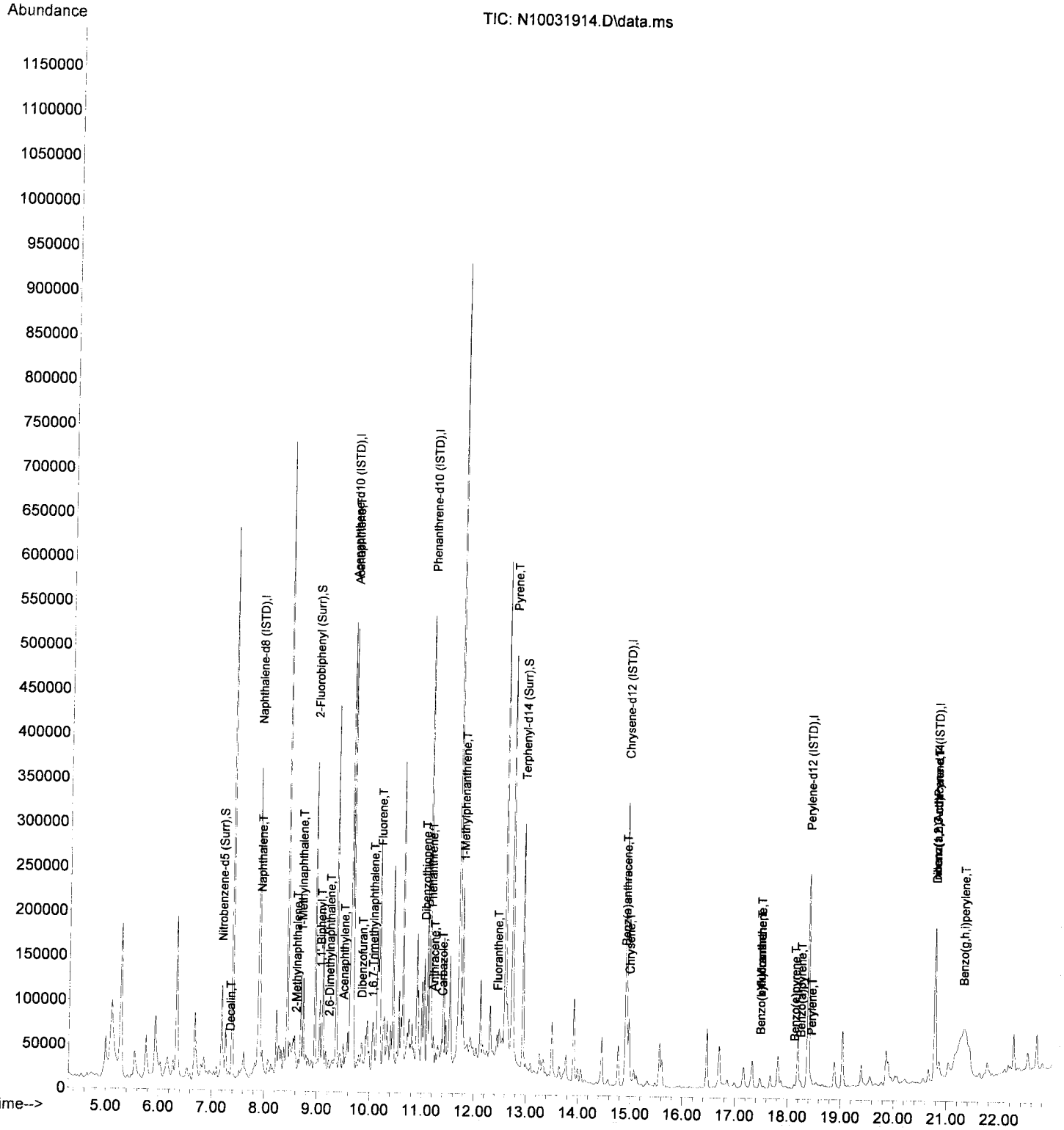
response 5203

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	13.03
253.00	21.90	22.07
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031914.D
Acq On : 03 Oct 2019 03:35 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-02RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 04 12:47:35 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	204649	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	133488	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	255722	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	219010	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.386	264	184224	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.770	292	140274	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.190	82	53694	78.96	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	149475	75.06	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	1287	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	166070	72.10	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.347	138	257	1.69	ng/ml#	63
4) Naphthalene	7.907	128	8940	3.96	ng/ml	96
5) 2-Methylnaphthalene	8.594	142	2101	1.10	ng/ml	92
6) 1-Methylnaphthalene	8.693	142	1566	0.82	ng/ml	91
7) 1,1'-Biphenyl	9.055	154	1253	0.49	ng/ml	72
8) 2,6-Dimethylnaphthalene	9.224	156	1029	0.55	ng/ml	93
12) Acenaphthylene	9.498	152	3543	1.22	ng/ml	87
13) Acenaphthene	9.673	153	36663	19.32	ng/ml	100
14) Dibenzofuran	9.847	168	581	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.057	170	655	0.41	ng/ml#	1
16) Fluorene	10.197	166	6418	3.30	ng/ml	99
18) Dibenzothiopene	11.042	184	4671	1.75	ng/ml	97
19) Phenanthrene	11.171	178	12976	4.34	ng/ml	98
20) Anthracene	11.223	178	2779	1.00	ng/ml	92
21) Carbazole	11.386	167	1041	0.46	ng/ml	83
22) 1-Methylphenanthrene	11.794	192	1387	0.67	ng/ml	85
23) Fluoranthene	12.441	202	24708	8.20	ng/ml	99
25) Pyrene	12.727	202	37008	10.82	ng/ml	99
27) Benz(a)anthracene	14.889	228	6734	2.65	ng/ml	68
28) Chrysene	14.971	228	8634	3.59	ng/ml	96
30) Benzo(b)fluoranthene	17.477	252	6712	3.16	ng/ml	97
31) Benzo(k)fluoranthene	~~17.477~~	~~252~~	~~8035~~	~~3.84~~	~~ng/ml~~	~~95~~ MJ-ND
32) Benzo(b+k)fluoranthene	17.477	252	9222	4.24	ng/ml	95
34) Benzo(e)pyrene	18.124	252	4296	2.00	ng/ml	94
35) Benzo(a)pyrene	18.241	252	5705	3.14	ng/ml	94
36) Perylene	18.439	252	5441	2.43	ng/ml	94
38) Indeno(1,2,3-cd)Pyrene	20.770	276	4085	2.36	ng/ml	98
39) Dibenz(a,h)anthracene	20.834	278	617	N.D		
40) Benzo(g,h,i)perylene	21.301	276	5108	2.78	ng/ml	93

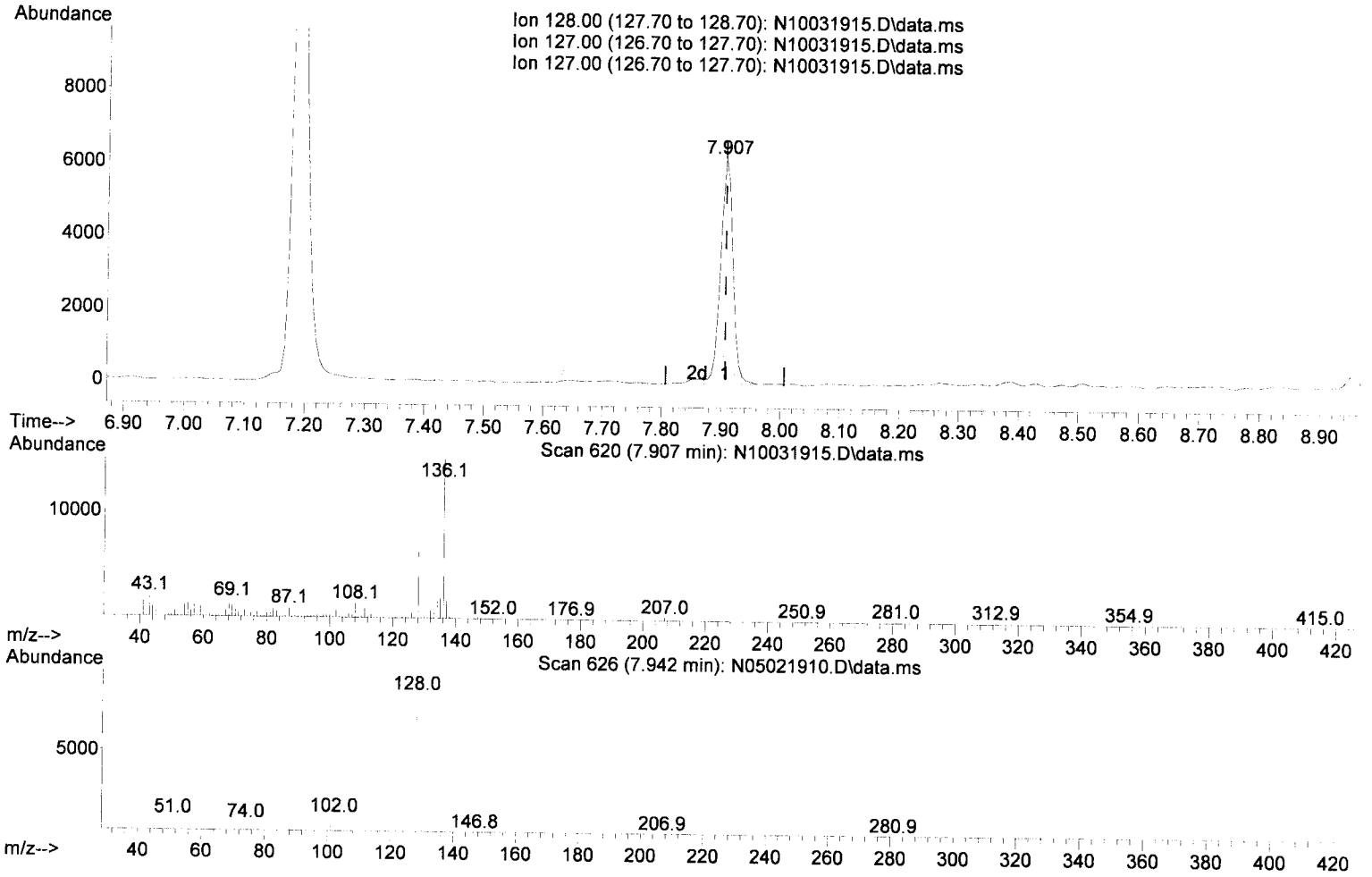
J

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(4) Naphthalene (T)

7.907min (-0.000) 3.96 ng/ml

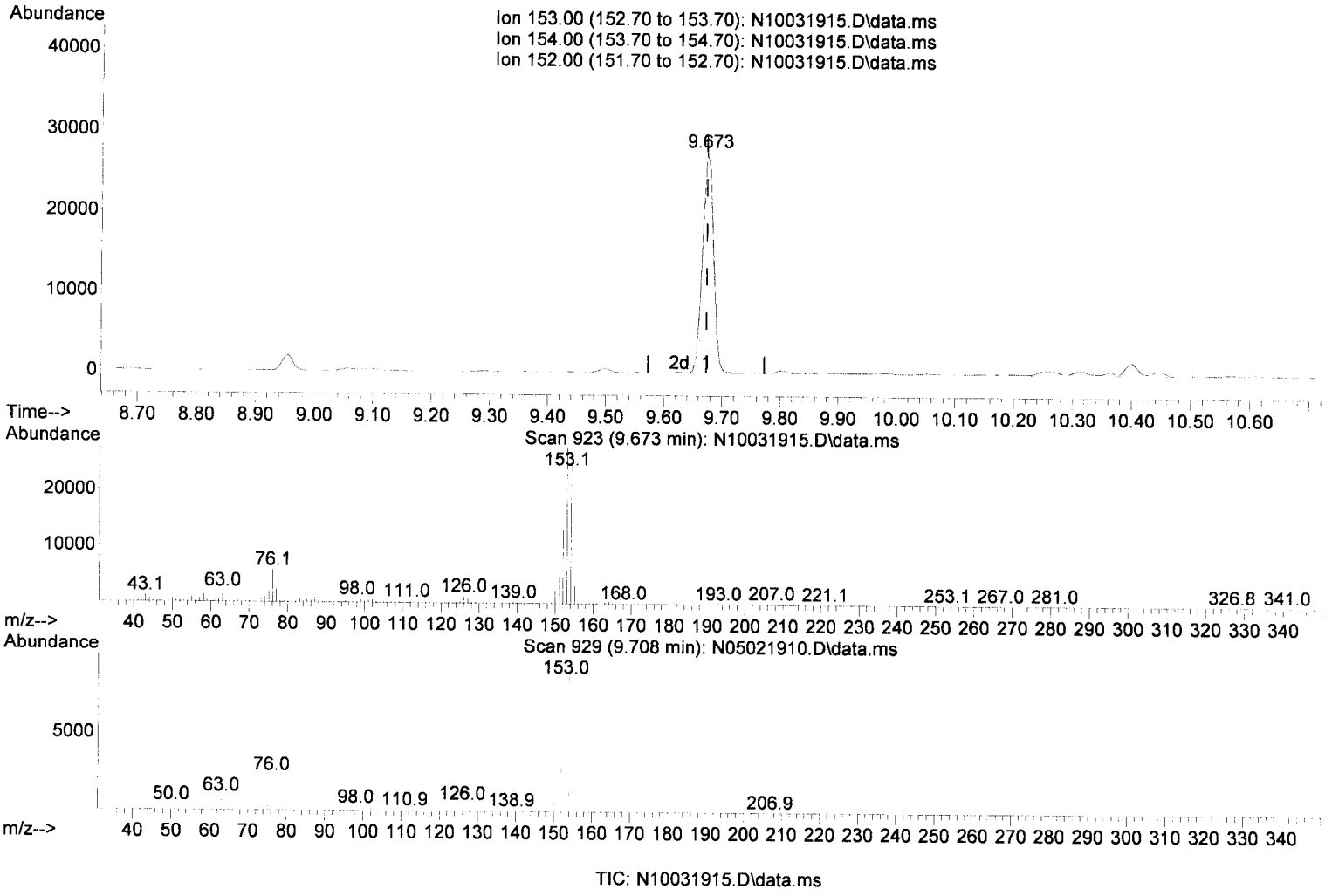
response 8940

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	14.11
127.00	12.60	14.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(13) Acenaphthene (T)

9.673min (-0.000) 19.32 ng/ml

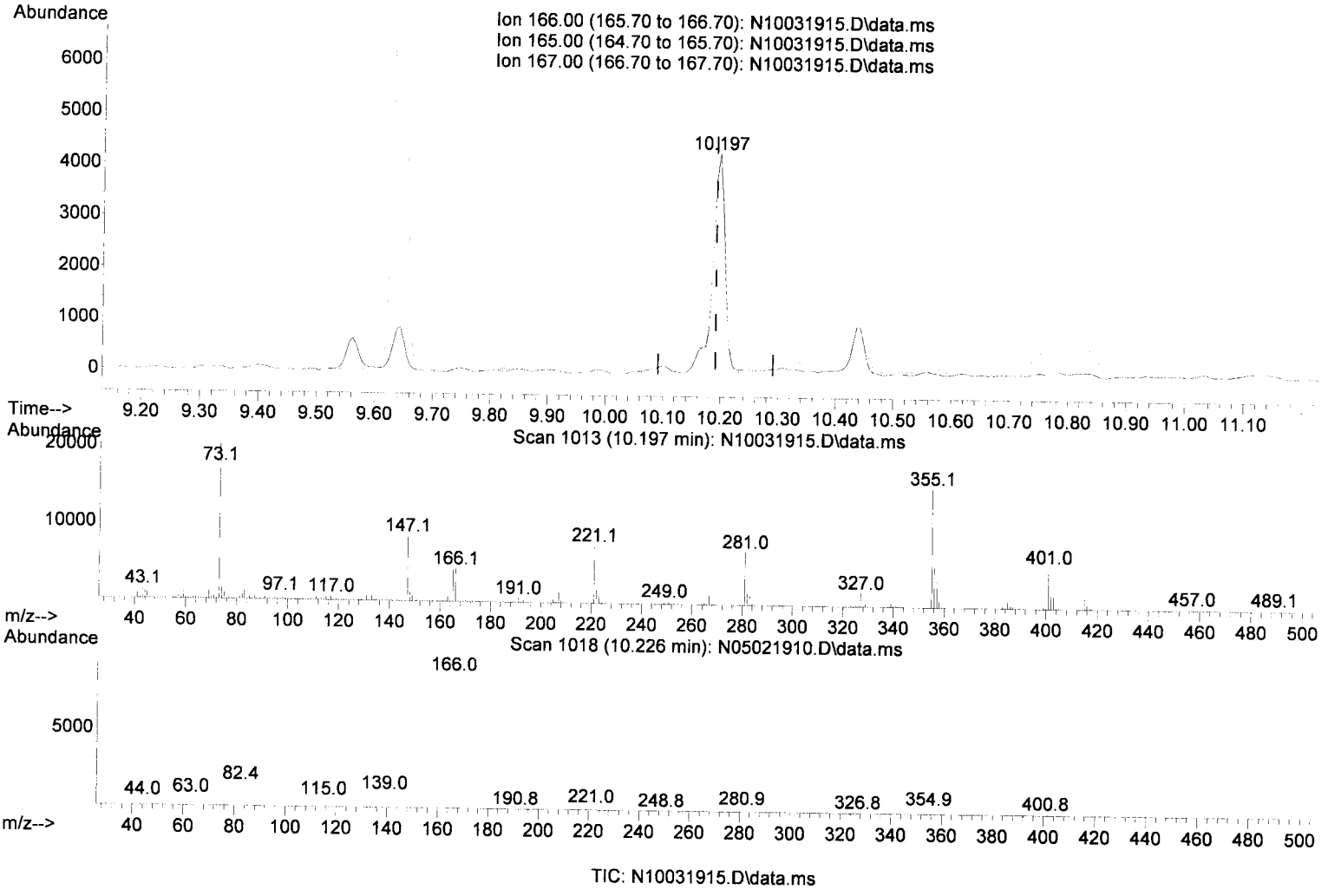
response 36663

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.04
152.00	46.80	47.12
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 3.30 ng/ml

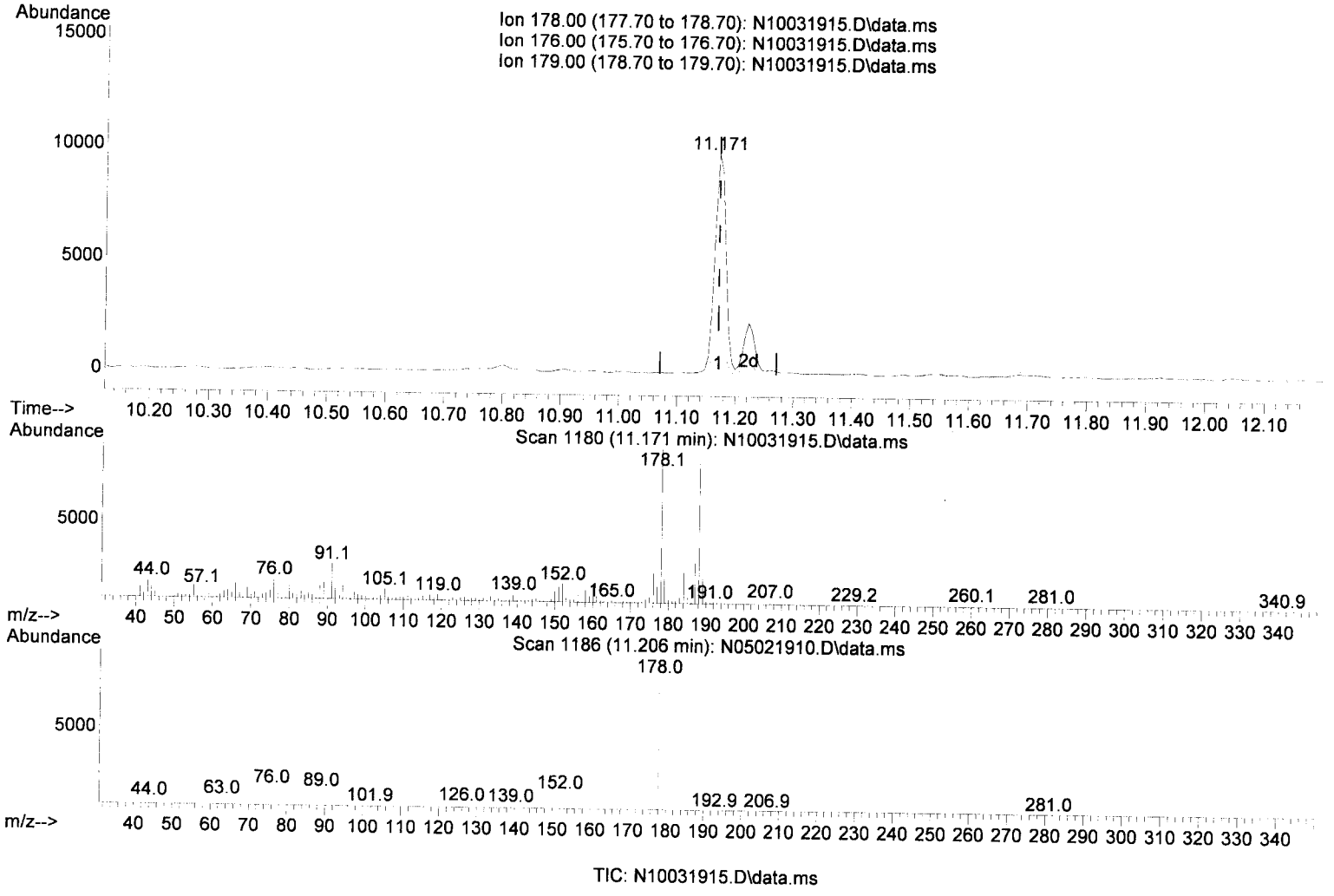
response 6418

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	96.75
167.00	13.60	14.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(19) Phenanthrene (T)

11.171min (-0.000) 4.34 ng/ml

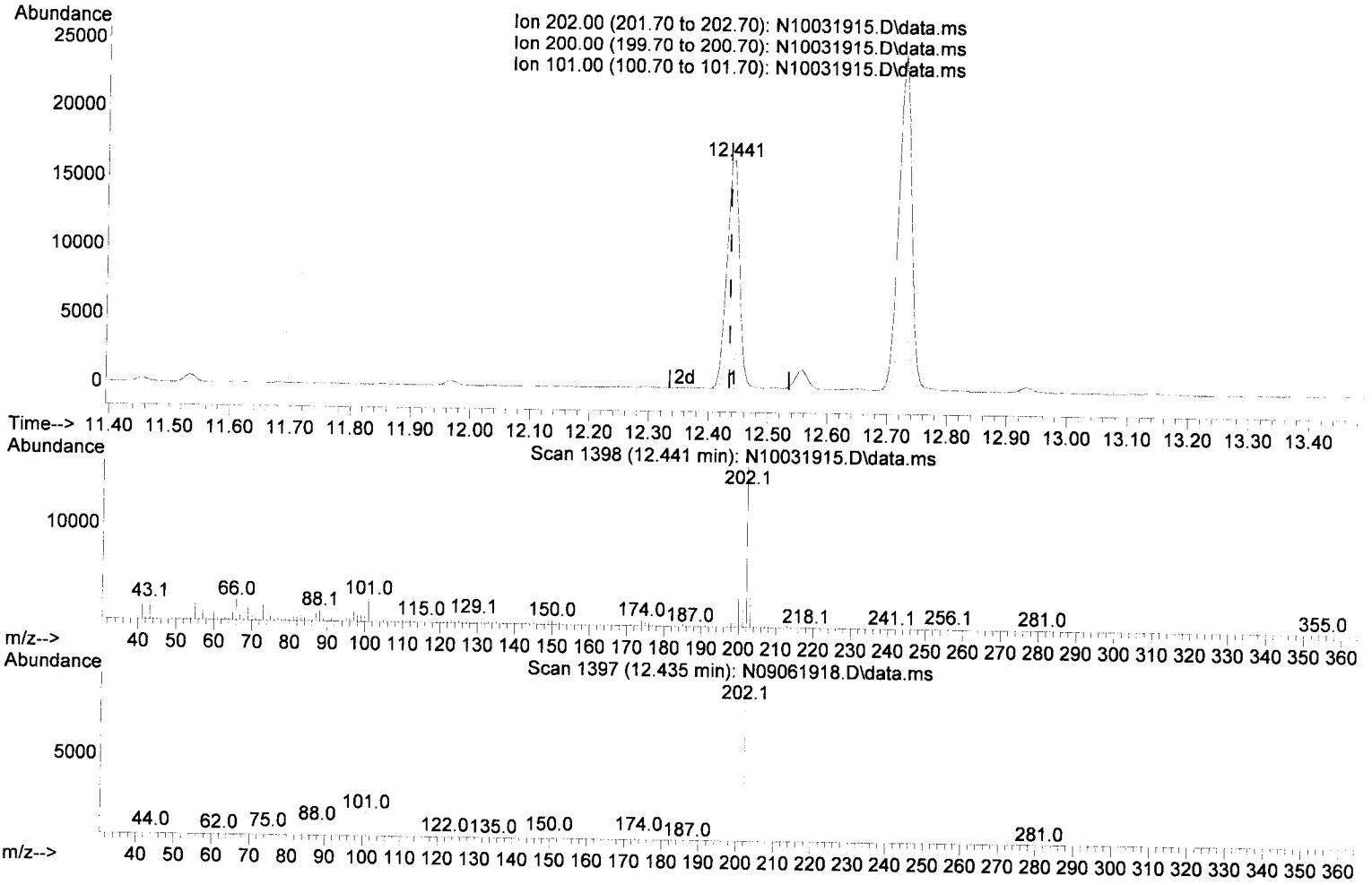
response 12976

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.59
179.00	15.10	16.69
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(23) Fluoranthene (T)

12.441min (+ 0.006) 8.20 ng/ml

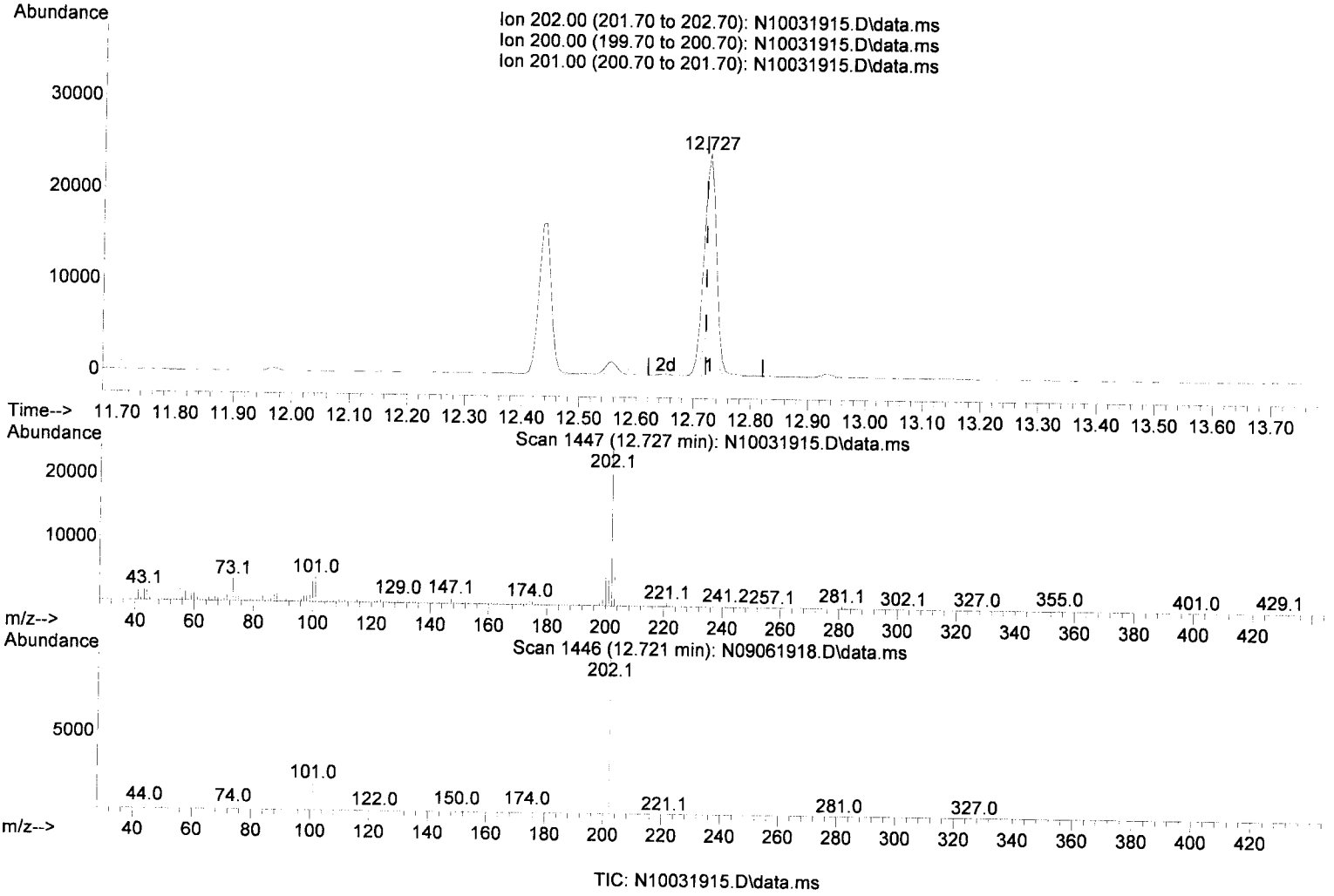
response 24708

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	19.73
101.00	15.30	14.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(25) Pyrene (T)

12.727min (+ 0.006) 10.82 ng/ml

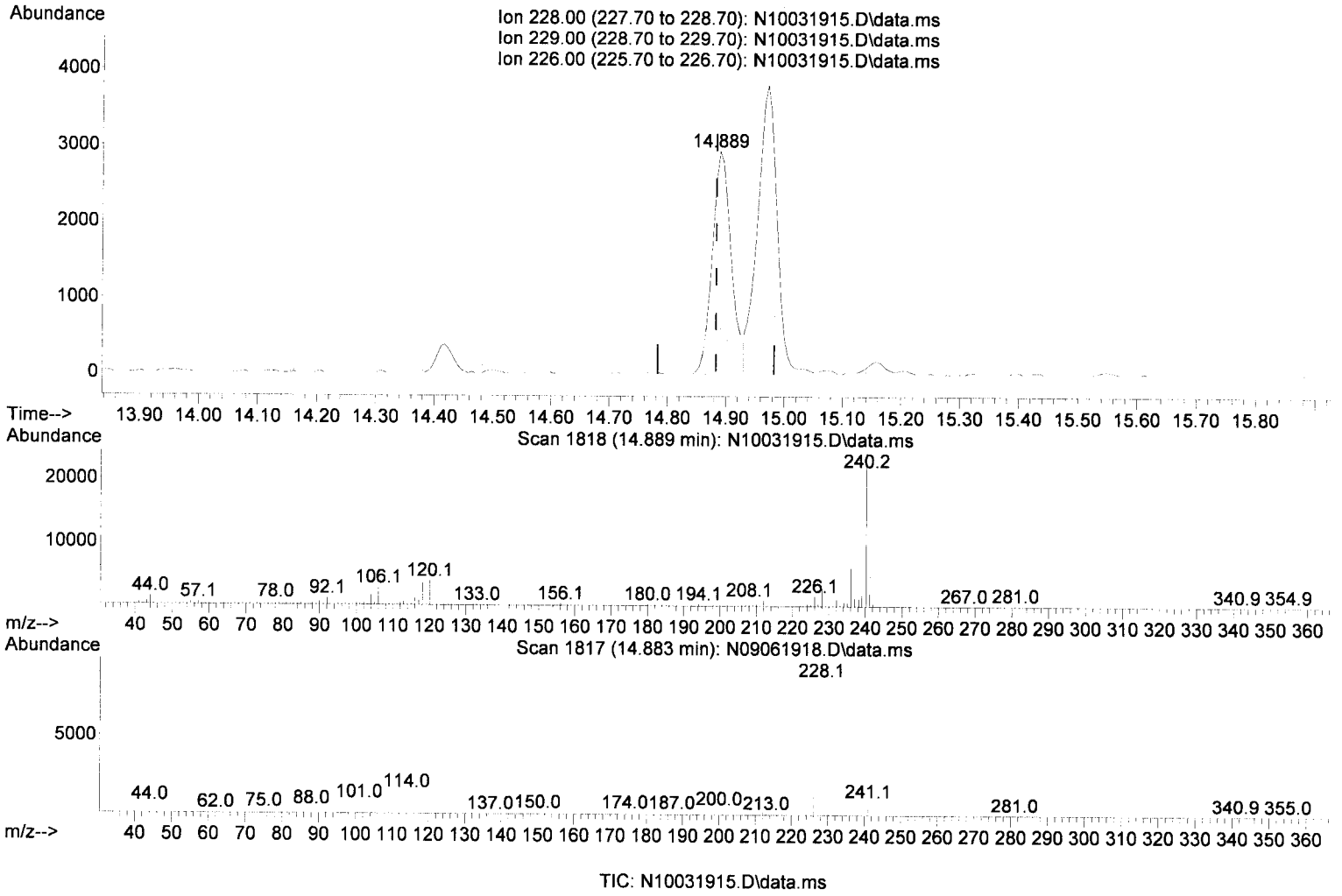
response 37008

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	21.14
201.00	16.80	16.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(27) Benz(a)anthracene (T)

14.889min (+ 0.006) 2.65 ng/ml

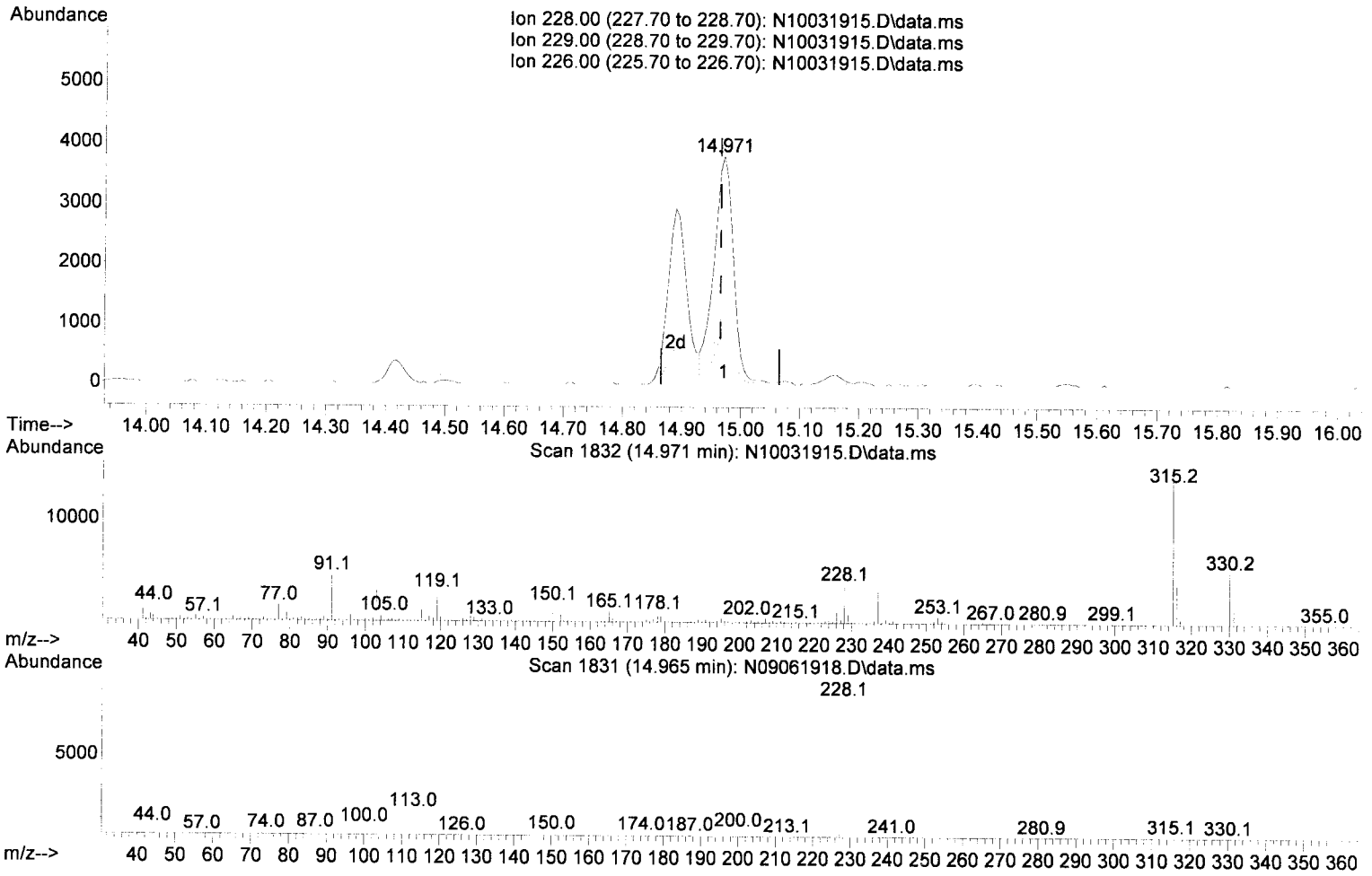
response 6734

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.78
226.00	26.20	53.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(28) Chrysene (T)

14.971min (+ 0.006) 3.59 ng/ml

response 8634

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	21.76
226.00	28.60	30.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
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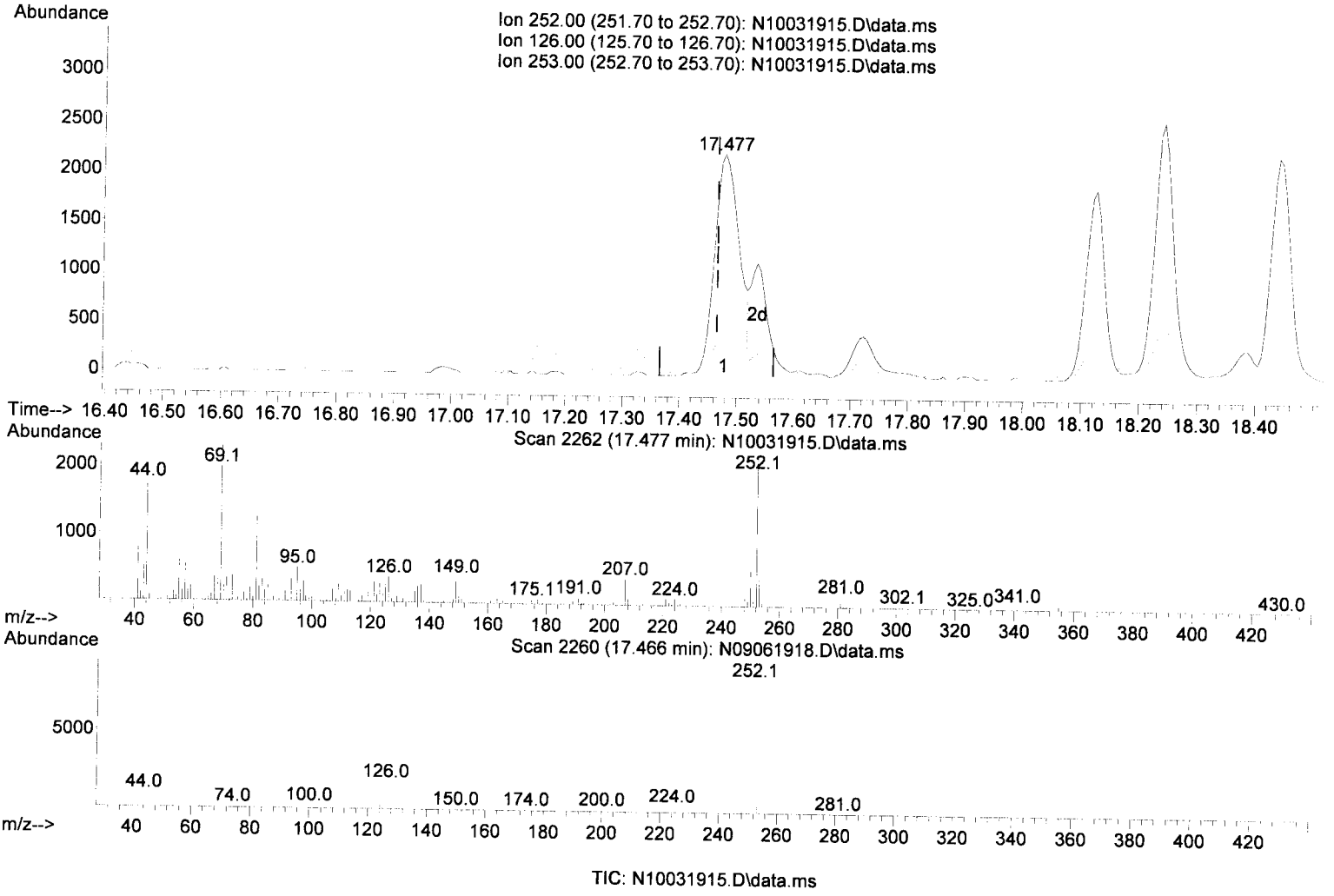
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.477min (+ 0.012) 3.16 ng/ml

response 6712

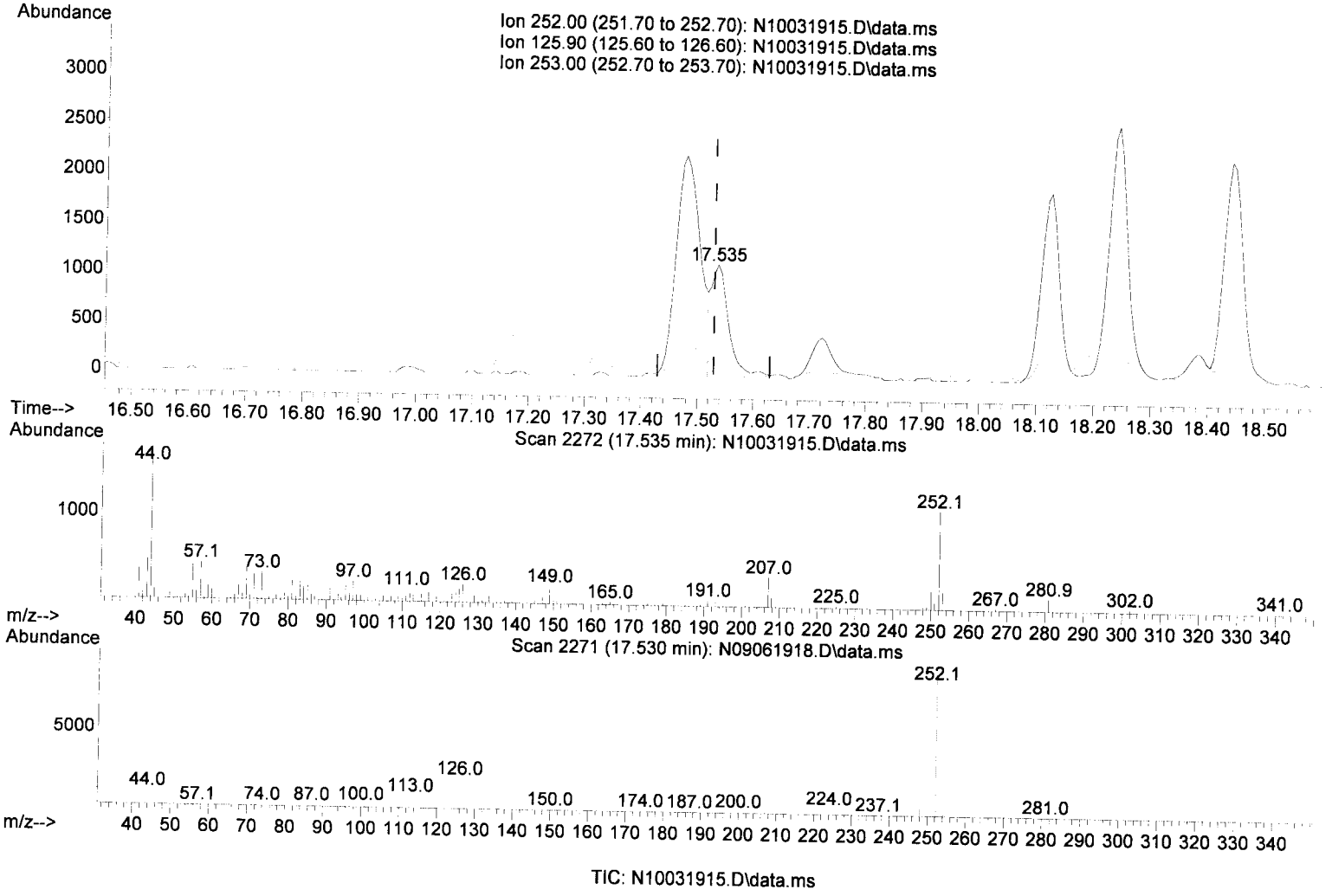
Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	17.60
253.00	21.10	20.94
0.00	0.00	0.00

J

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.535min (+ 0.006) 1.17 ng/ml m

response 2445

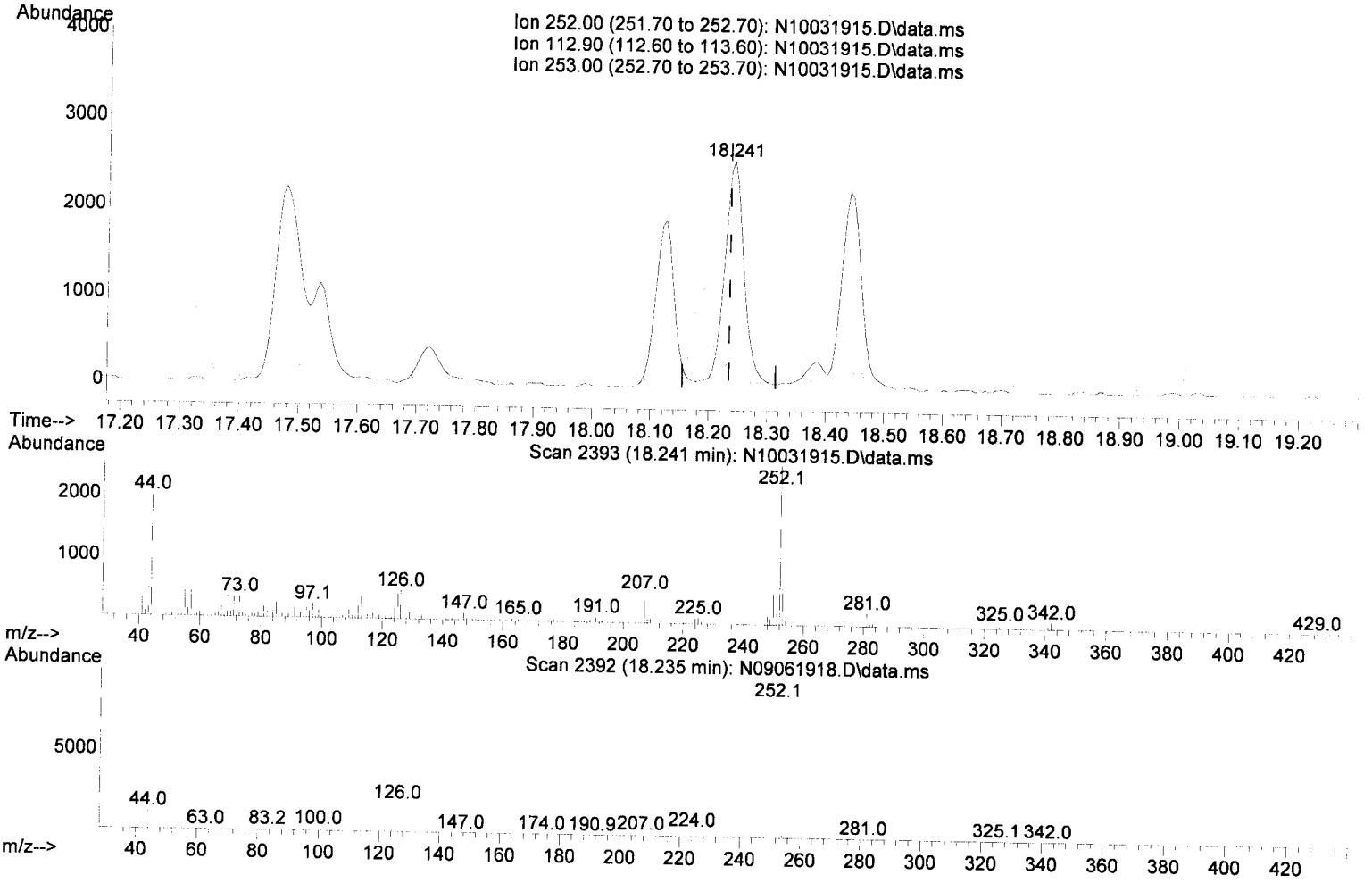
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	19.79
253.00	21.50	19.43
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(35) Benzo(a)pyrene (T)

18.241min (+ 0.007) 3.14 ng/ml

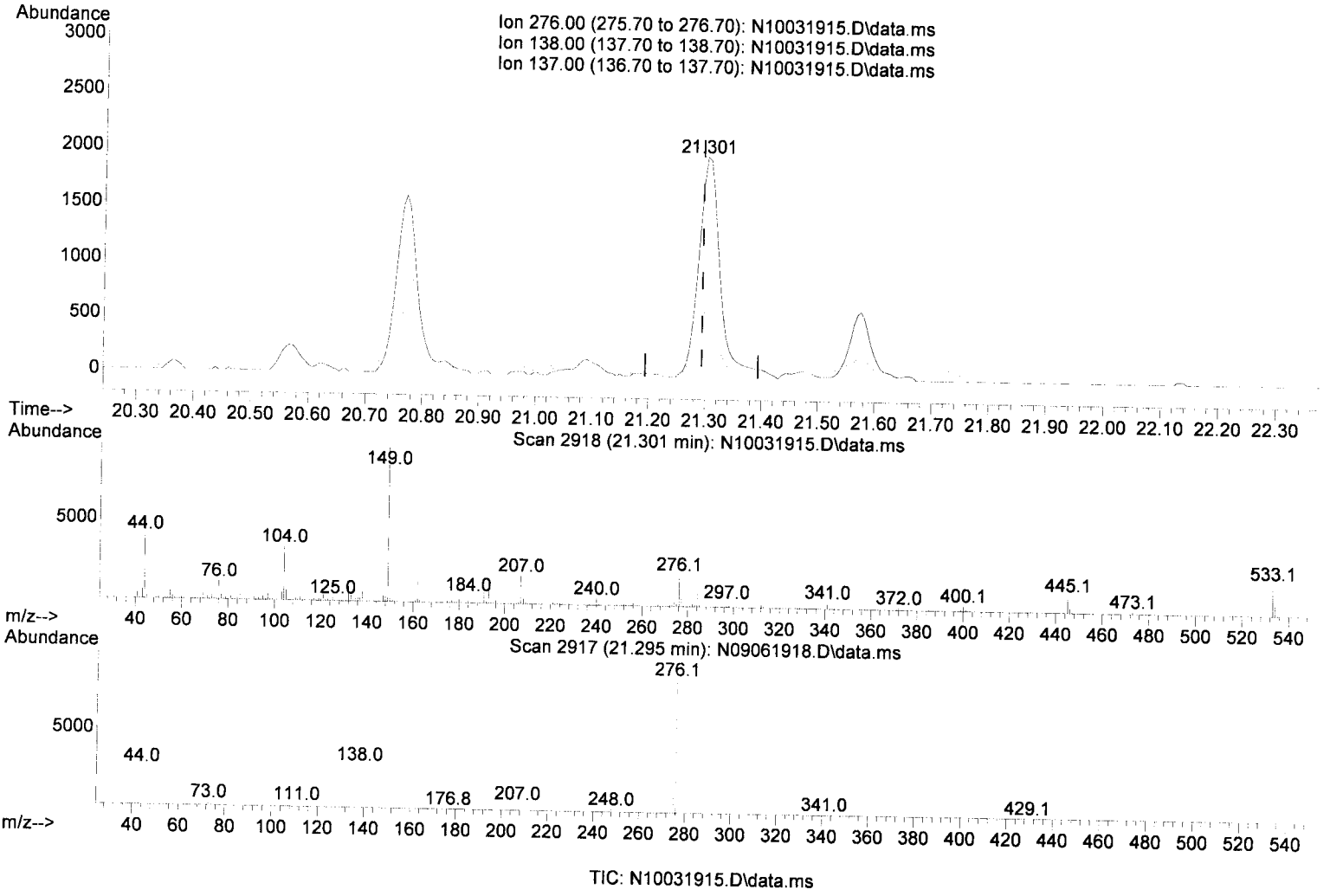
response 5705

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	14.33
253.00	21.90	25.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031915.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.301min (+ 0.007) 2.78 ng/ml

response 5108

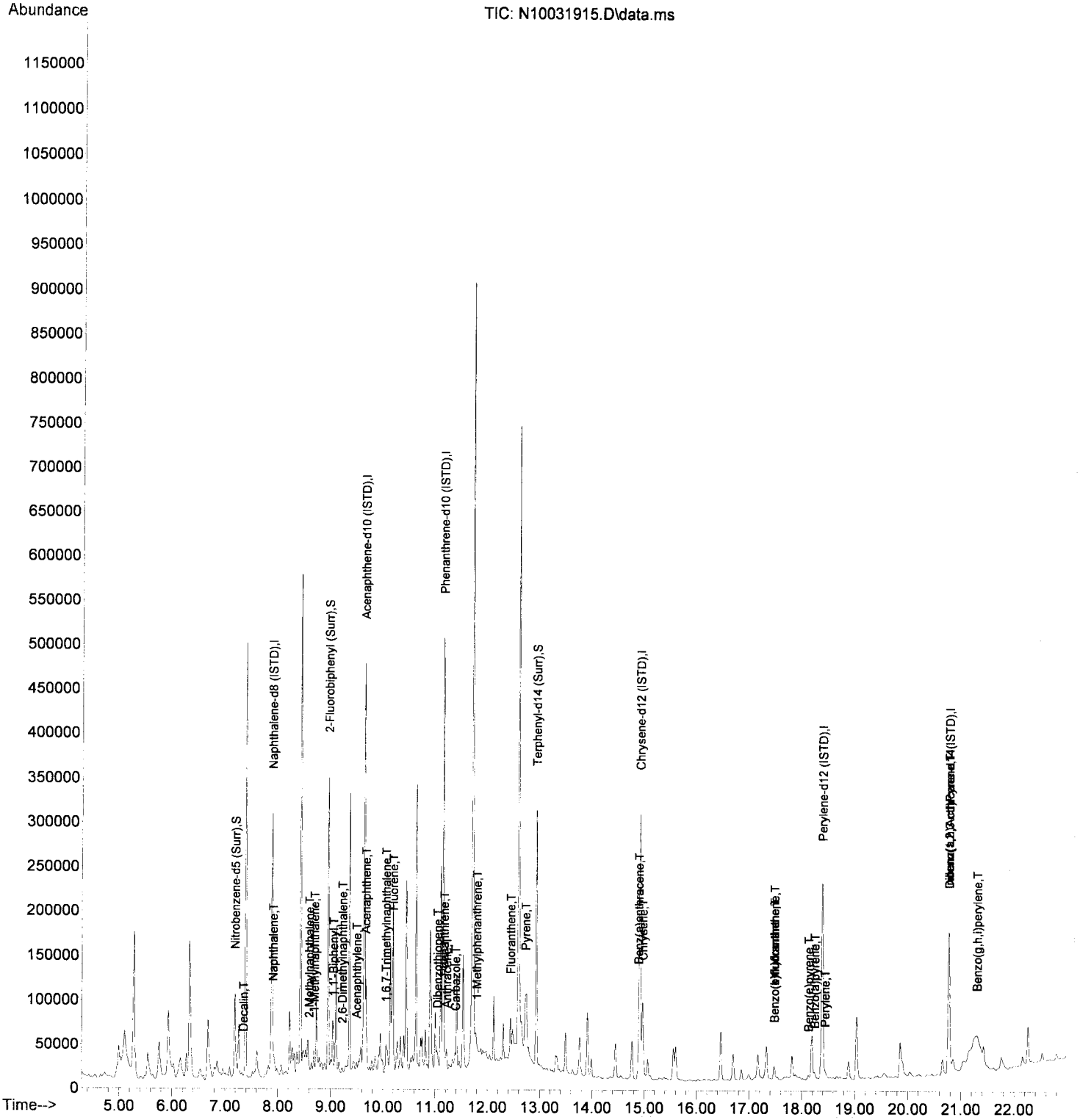
Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	30.65
137.00	28.60	24.37
0.00	0.00	0.00

J

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031915.D
Acq On : 03 Oct 2019 04:07 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-04RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 04 12:47:39 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

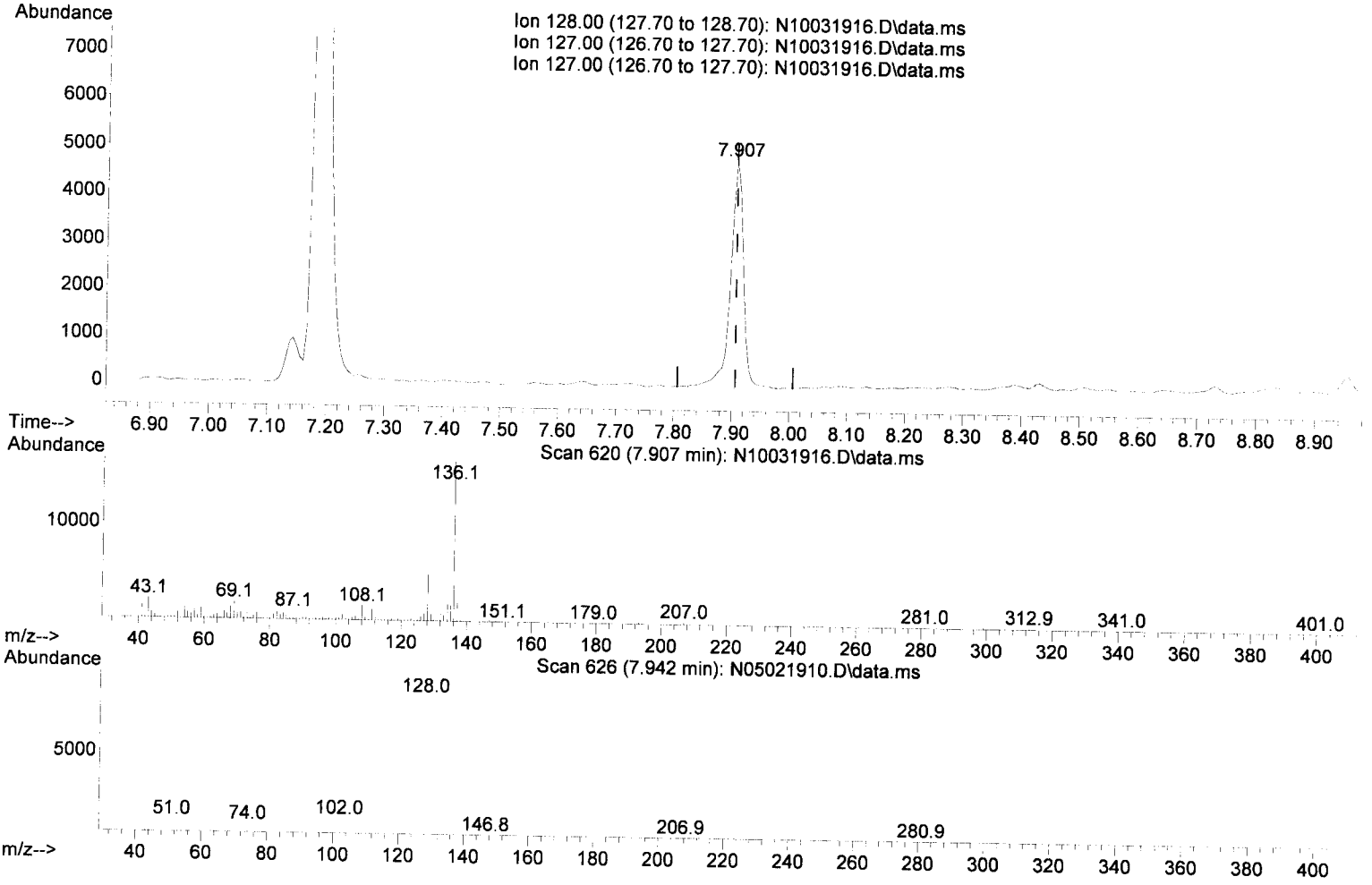
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.889	136	229791	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	141820	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	269795	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	225071	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	193221	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	150250	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.190	82	58508	76.62 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	178832	84.52 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	1219	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	205140	86.66 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.353	138	174	1.02 ng/ml#	63
4) Naphthalene	7.907	128	7599	(3.00) ng/ml	92
5) 2-Methylnaphthalene	8.594	142	2686	1.25 ng/ml	99
6) 1-Methylnaphthalene	8.693	142	2510	1.17 ng/ml	95
7) 1,1'-Biphenyl	9.055	154	996	N.D.	
8) 2,6-Dimethylnaphthalene	9.218	156	954	0.45 ng/ml	86
12) Acenaphthylene	9.498	152	3396	1.10 ng/ml	82
13) Acenaphthene	9.673	153	80372	[39.85] ng/ml	99
14) Dibenzofuran	9.847	168	678	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.057	170	3071	1.82 ng/ml	69
16) Fluorene	~~10.197~~	~~166~~	~~28507~~	~~13.81 ng/ml~~	~~99~~ MI- HIT
18) Dibenzothiopene	11.042	184	48834	17.31 ng/ml	98
19) Phenanthrene	11.171	178	14969	(4.74) ng/ml	98
20) Anthracene	11.223	178	4899	1.67 ng/ml	95
21) Carbazole	11.386	167	2178	0.92 ng/ml	94
22) 1-Methylphenanthrene	11.777	192	3322	1.51 ng/ml#	1
23) Fluoranthene	12.435	202	10303	(3.24) ng/ml	97
25) Pyrene	12.727	202	18417	[5.24] ng/ml	99
27) Benz(a)anthracene	14.889	228	2422	0.93 ng/ml	78
28) Chrysene	14.971	228	2813	1.14 ng/ml	94
30) Benzo(b)fluoranthene	17.477	252	2235	1.00 ng/ml	93
31) Benzo(k)fluoranthene	17.477	252	2778	1.27 ng/ml	95
32) Benzo(b+k)fluoranthene	17.477	252	2867	1.26 ng/ml	95
34) Benzo(e)pyrene	18.124	252	1353	0.60 ng/ml	93
35) Benzo(a)pyrene	18.241	252	1623	0.85 ng/ml	89
36) Perylene	18.439	252	3332	1.42 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.770	276	1335	0.72 ng/ml	56
39) Dibenz(a,h)anthracene	20.834	278	187	N.D.	
40) Benzo(g,h,i)perylene	21.301	276	1627	0.83 ng/ml	99

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(4) Naphthalene (T)

7.907min (-0.000) 3.00 ng/ml

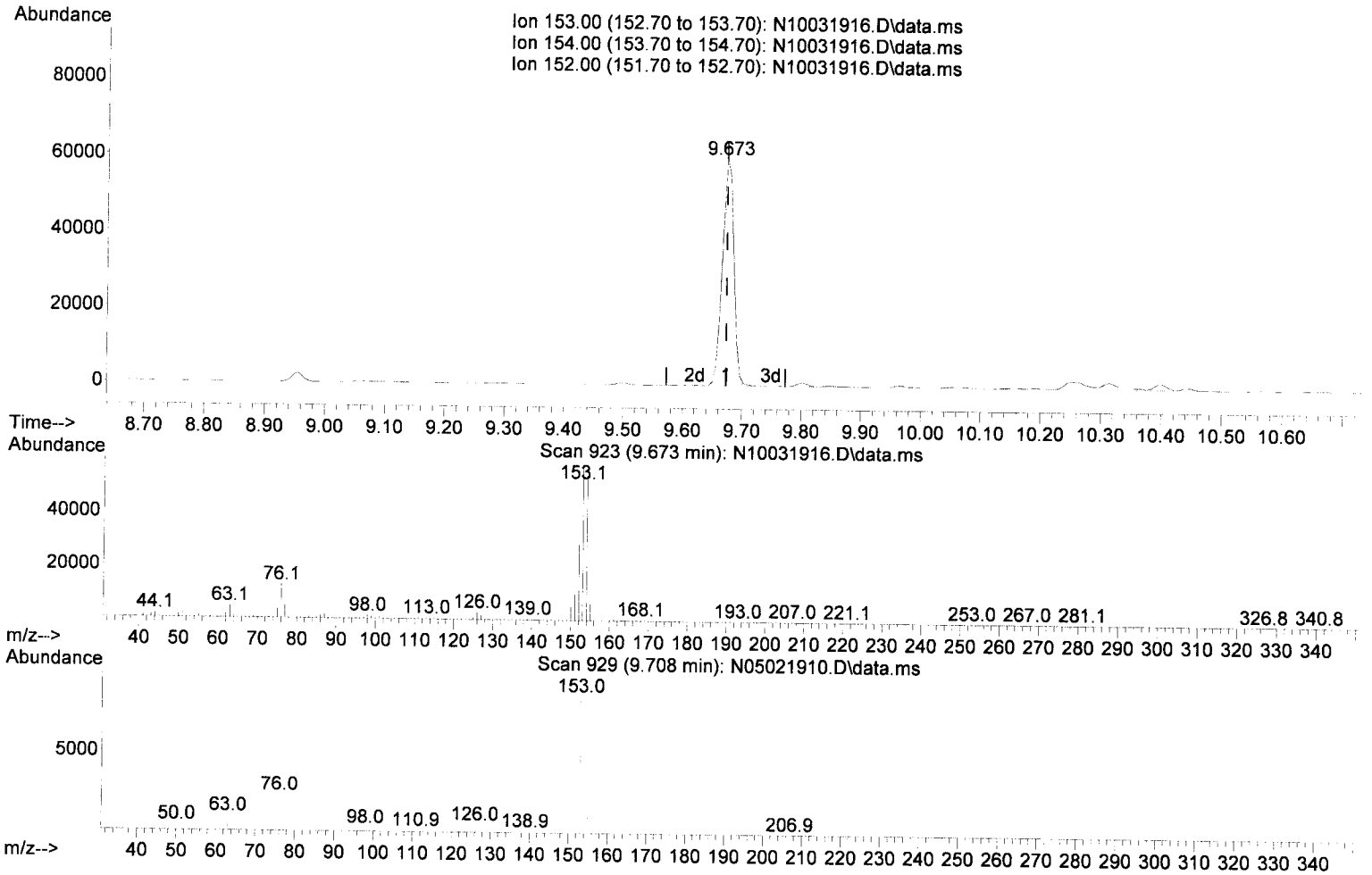
response 7599

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	15.66
127.00	12.60	15.66
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(13) Acenaphthene (T)

9.673min (-0.000) 39.85 ng/ml

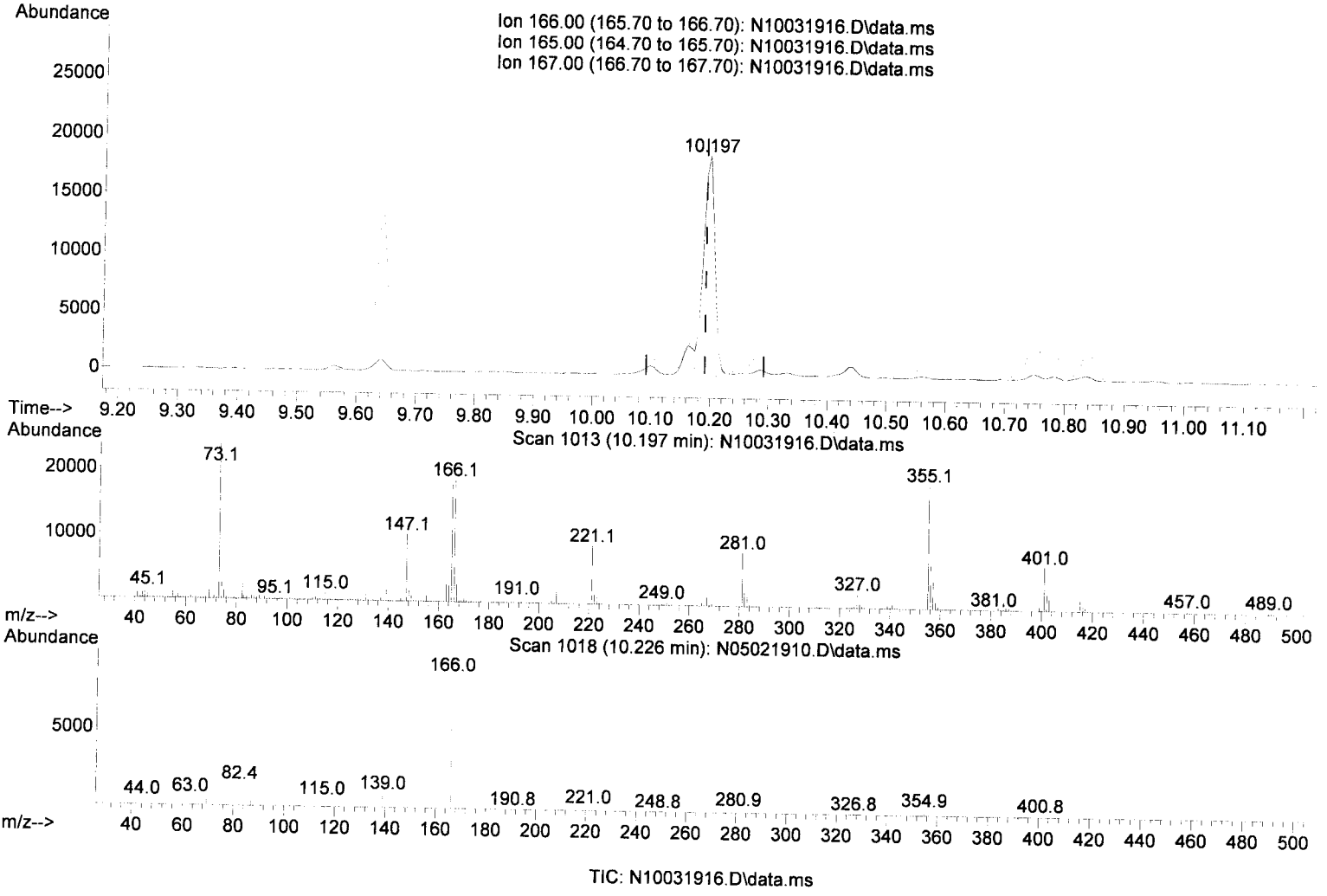
response 80372

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.31
152.00	46.80	47.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 12.30 ng/ml m

response 25373

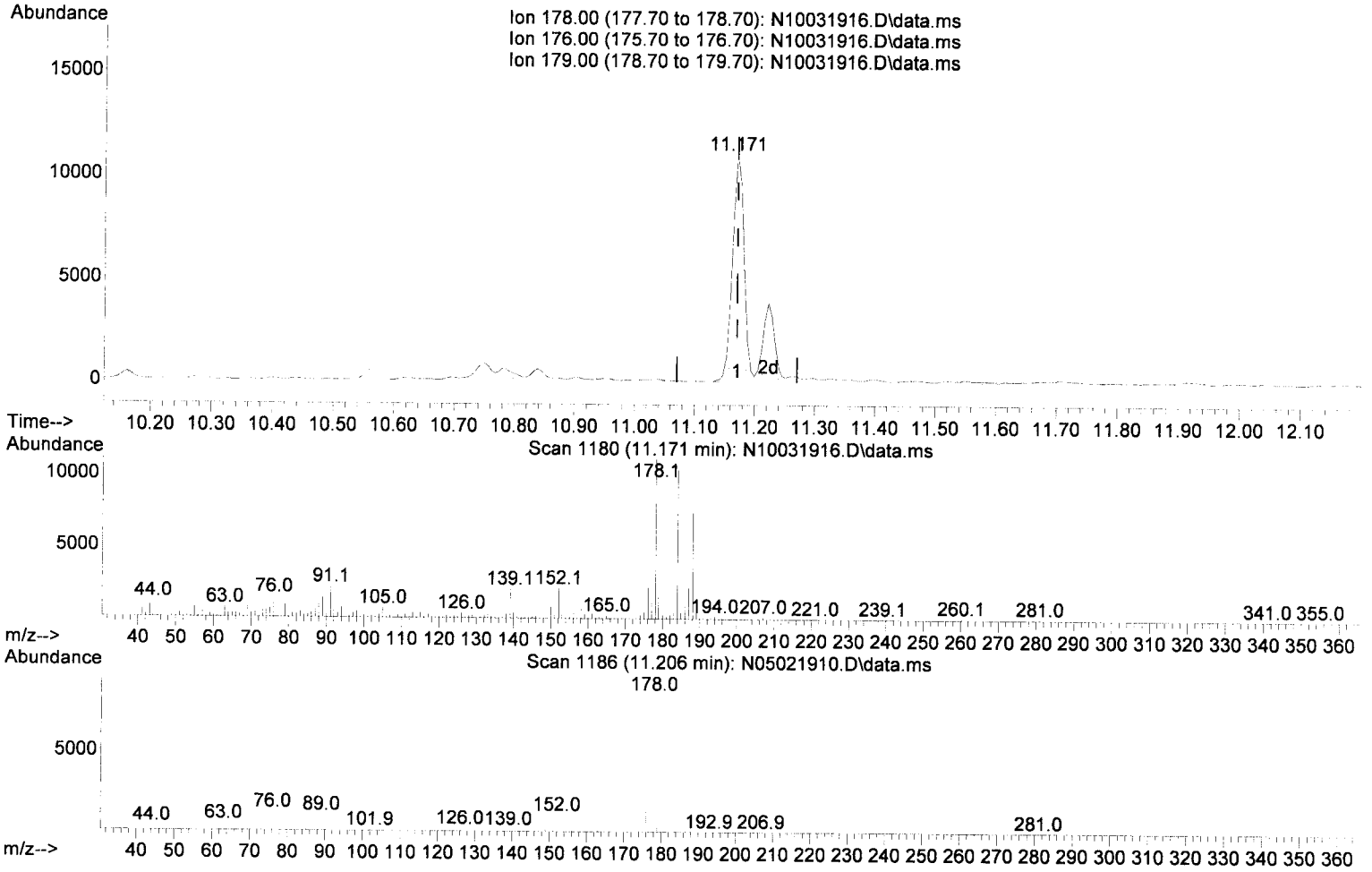
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	96.42
167.00	13.60	14.84
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(19) Phenanthrene (T)

11.171min (-0.000) 4.74 ng/ml

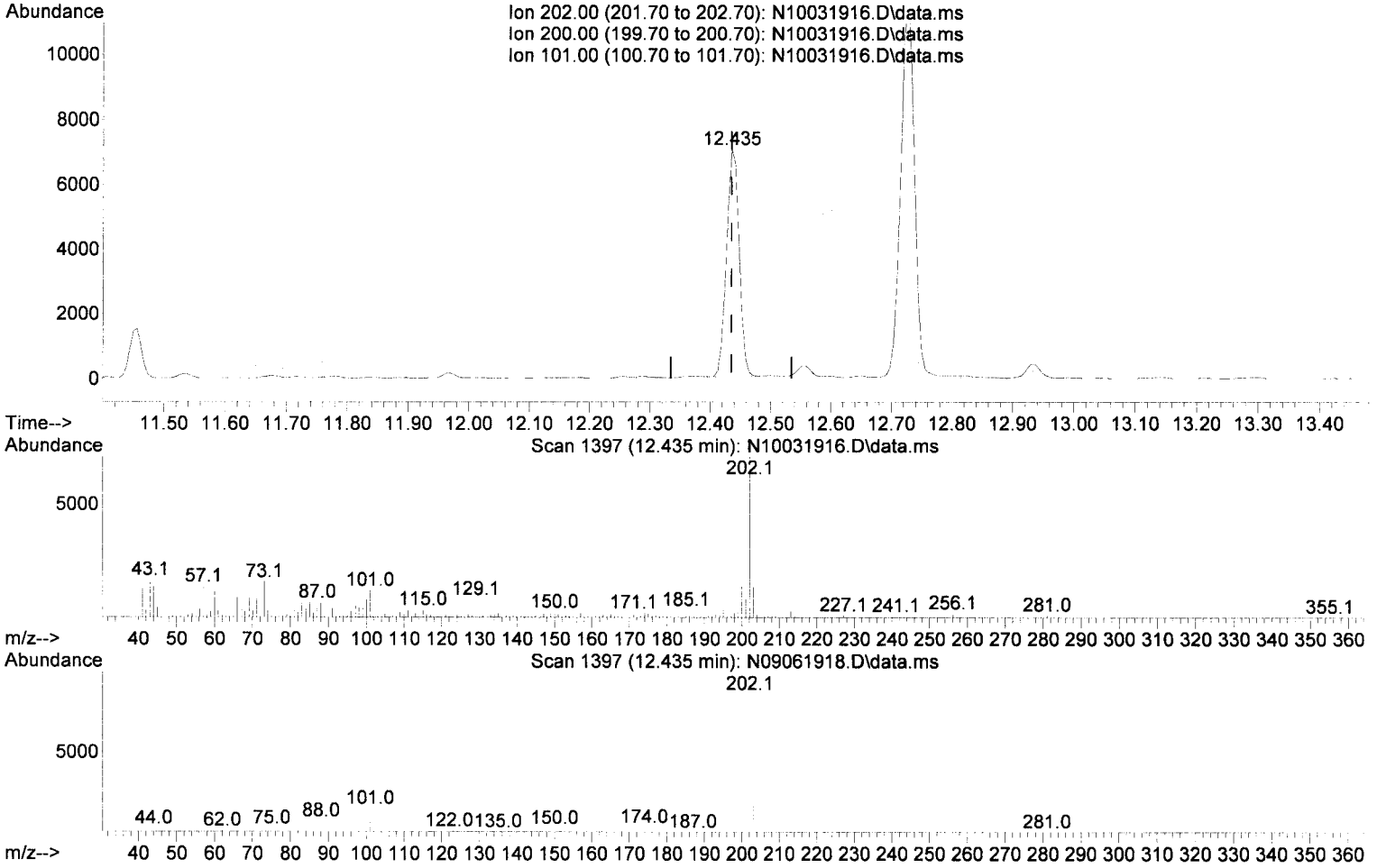
response 14969

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.74
179.00	15.10	16.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(23) Fluoranthene (T)

12.435min (+ 0.000) 3.24 ng/ml

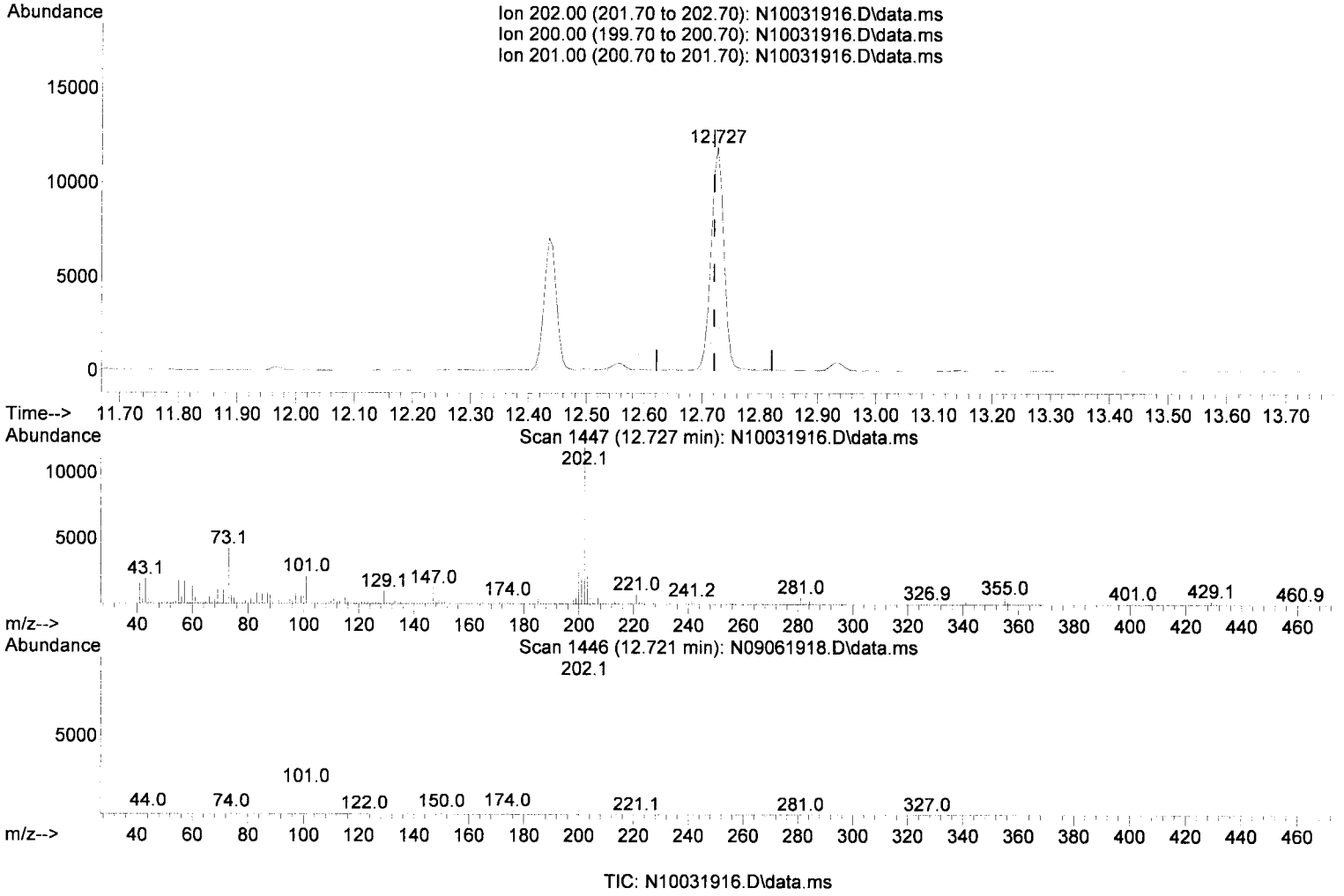
response 10303

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	21.25
101.00	15.30	16.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031916.D\data.ms

(25) Pyrene (T)

12.727min (+ 0.006) 5.24 ng/ml

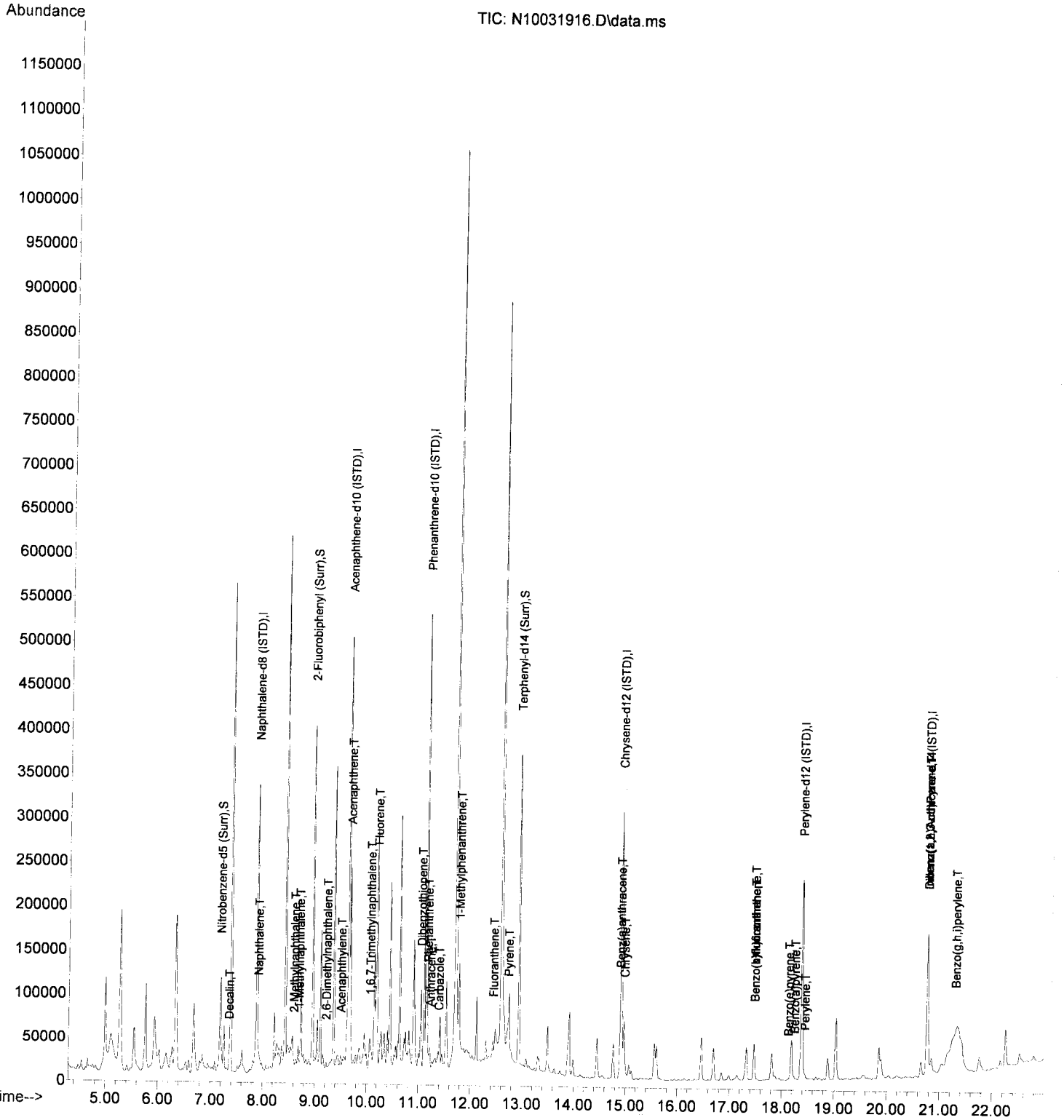
response 18417

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	21.30
201.00	16.80	17.49
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031916.D
Acq On : 03 Oct 2019 04:39 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-06RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 04 12:47:43 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	218204	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	135990	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	254893	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	200486	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	160979	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	115857	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.178	82	59144	81.57 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	176903	87.20 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1138	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	203568	96.54 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.341	138	331	2.04 ng/ml#	35
4) Naphthalene	7.901	128	7135	(2.96) ng/ml	96
5) 2-Methylnaphthalene	8.588	142	2602	1.28 ng/ml	96
6) 1-Methylnaphthalene	8.687	142	1746	0.86 ng/ml	86
7) 1,1'-Biphenyl	9.049	154	858	N.D.	
8) 2,6-Dimethylnaphthalene	9.218	156	1019	0.51 ng/ml	94
12) Acenaphthylene	9.492	152	5242	1.78 ng/ml	94
13) Acenaphthene	9.673	153	60263	31.16 ng/ml	99
14) Dibenzofuran	9.847	168	706	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.046	170	1335	0.82 ng/ml	77
16) Fluorene	~~10.191~~	~~166~~	~~14111~~	~~7.13 ng/ml~~	~~100~~ MI-N
18) Dibenzothiopene	11.042	184	12775	4.79 ng/ml	98
19) Phenanthrene	11.170	178	23185	17.77 ng/ml	100
20) Anthracene	11.217	178	5675	2.05 ng/ml	92
21) Carbazole	11.380	167	800	N.D.	
22) 1-Methylphenanthrene	11.794	192	2854	1.38 ng/ml	97
23) Fluoranthene	12.435	202	45588	15.17 ng/ml	97
25) Pyrene	12.721	202	64912	20.72 ng/ml	99
27) Benz(a)anthracene	14.883	228	12066	5.18 ng/ml	70
28) Chrysene	14.965	228	13563	6.16 ng/ml	96
30) Benzo(b)fluoranthene	17.471	252	14039	7.56 ng/ml	94
31) Benzo(k)fluoranthene	~~17.471~~	~~252~~	~~17526~~	~~9.58 ng/ml~~	~~93~~ MI-J
32) Benzo(b+k)fluoranthene	17.471	252	19725	10.38 ng/ml	93
34) Benzo(e)pyrene	18.118	252	9021	4.80 ng/ml	98
35) Benzo(a)pyrene	18.235	252	12477	7.85 ng/ml	98
36) Perylene	18.433	252	6096	3.11 ng/ml	95
38) Indeno(1,2,3-cd)Pyrene	20.764	276	8759	6.13 ng/ml	85
39) Dibenz(a,h)anthracene	20.823	278	966	0.72 ng/ml	82
40) Benzo(g,h,i)perylene	21.295	276	10768	7.10 ng/ml	88

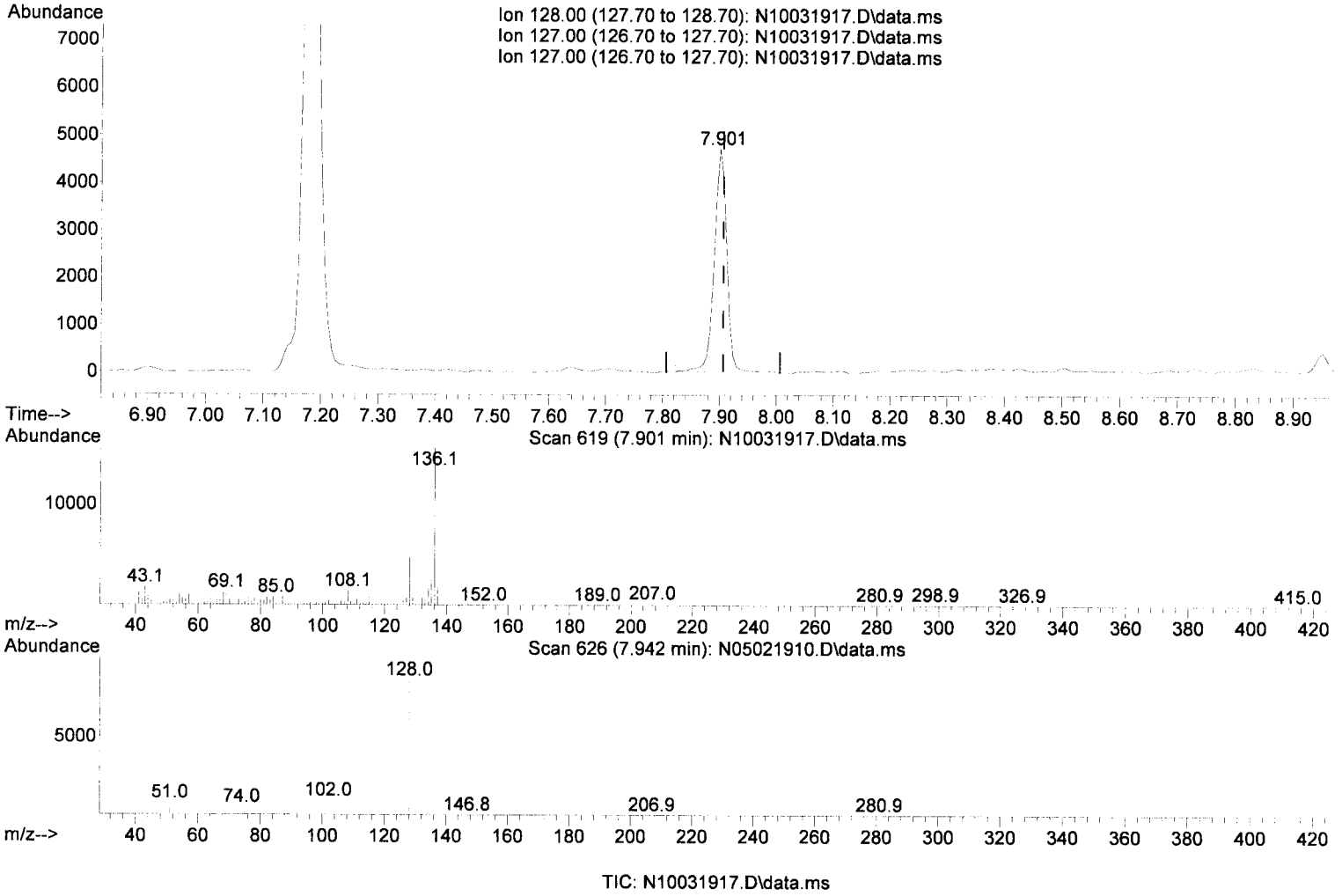
AMS 10/7/19 HIT

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(4) Naphthalene (T)

7.901min (-0.006) 2.96 ng/ml

response 7135

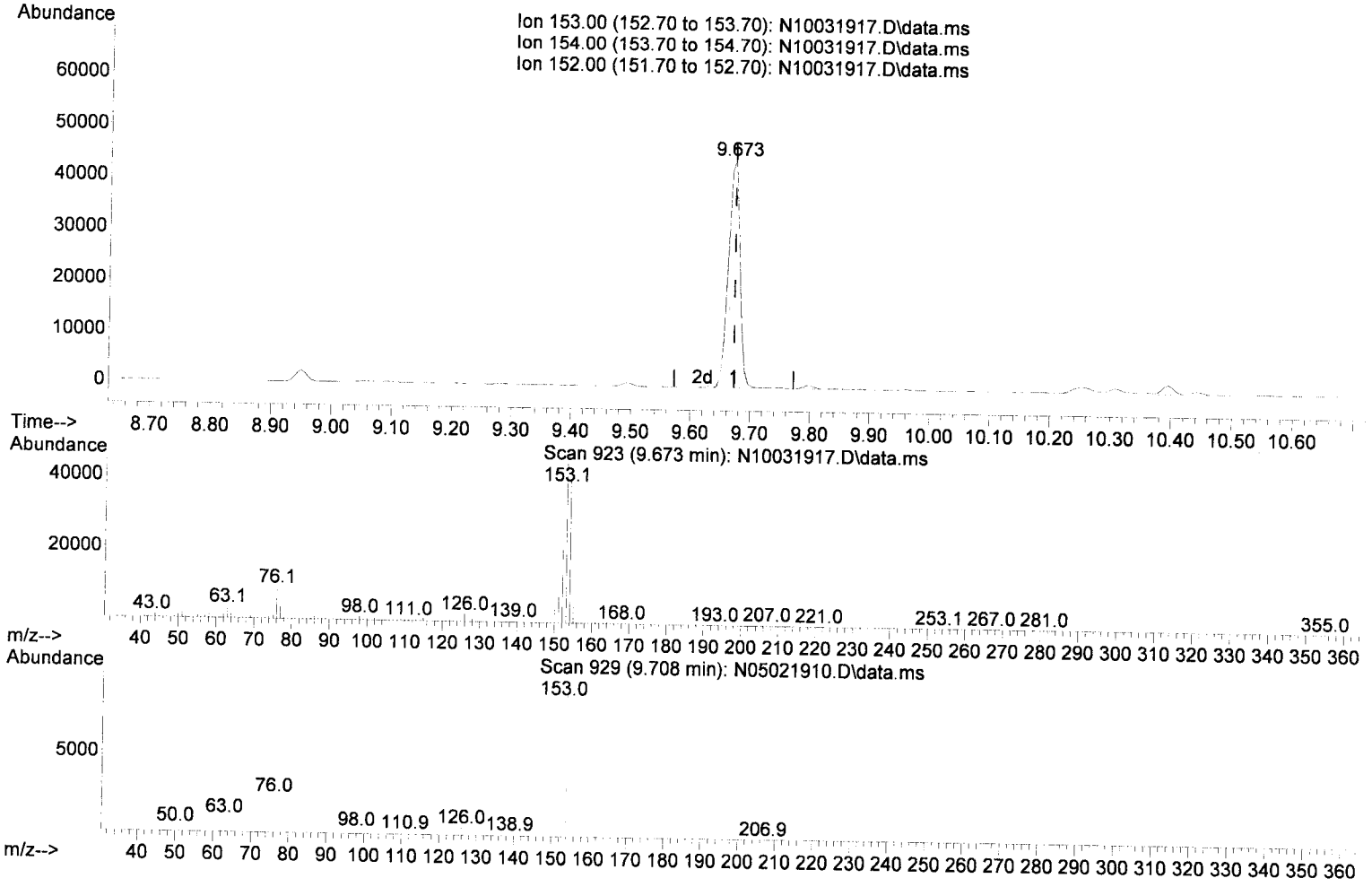
Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	14.36
127.00	12.60	14.36
0.00	0.00	0.00

J

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(13) Acenaphthene (T)

9.673min (-0.000) 31.16 ng/ml

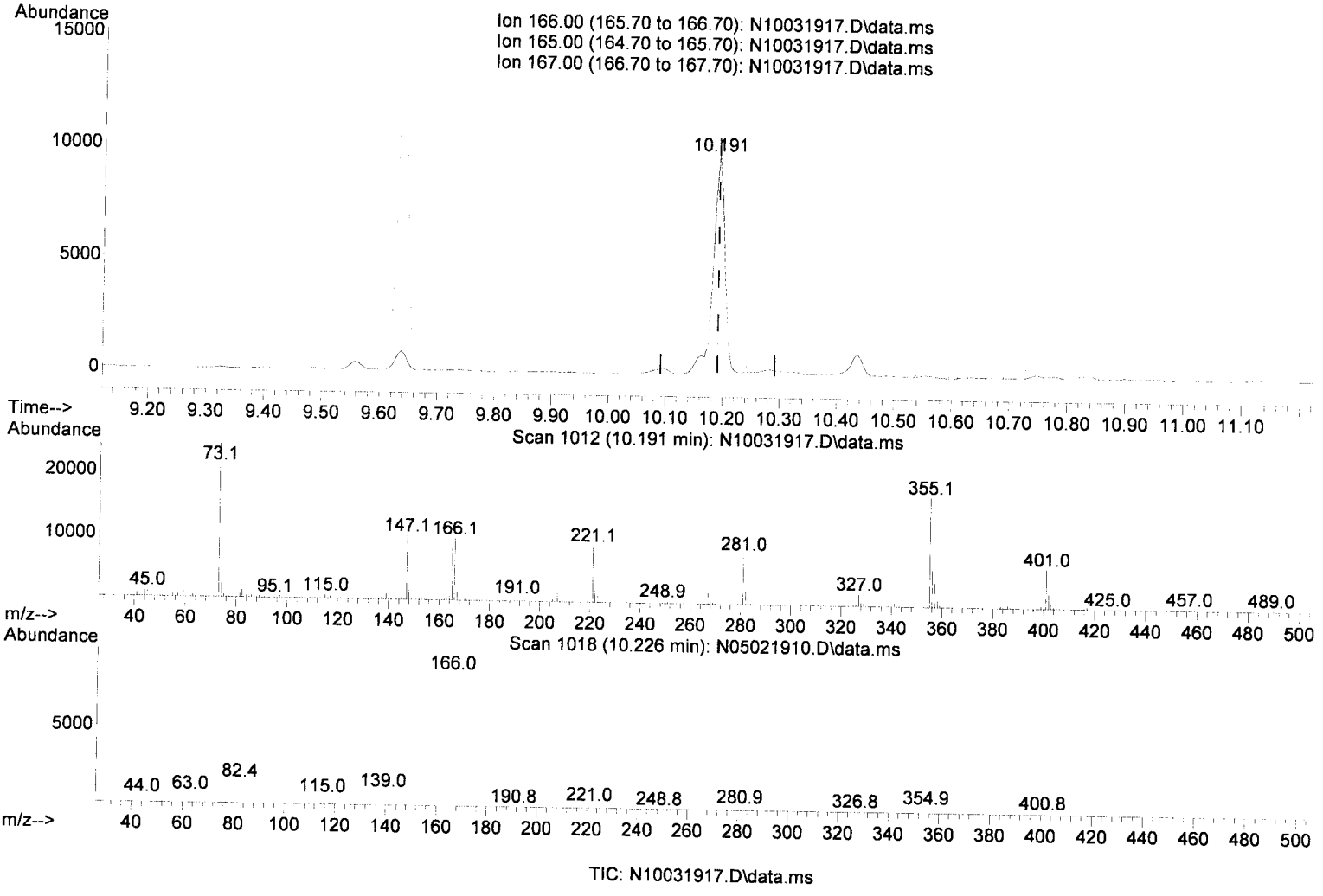
response 60263

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.13
152.00	46.80	45.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(16) Fluorene (T)

10.191min (-0.000) 6.63 ng/ml m

response 13120

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	95.48
167.00	13.60	14.49
0.00	0.00	0.00

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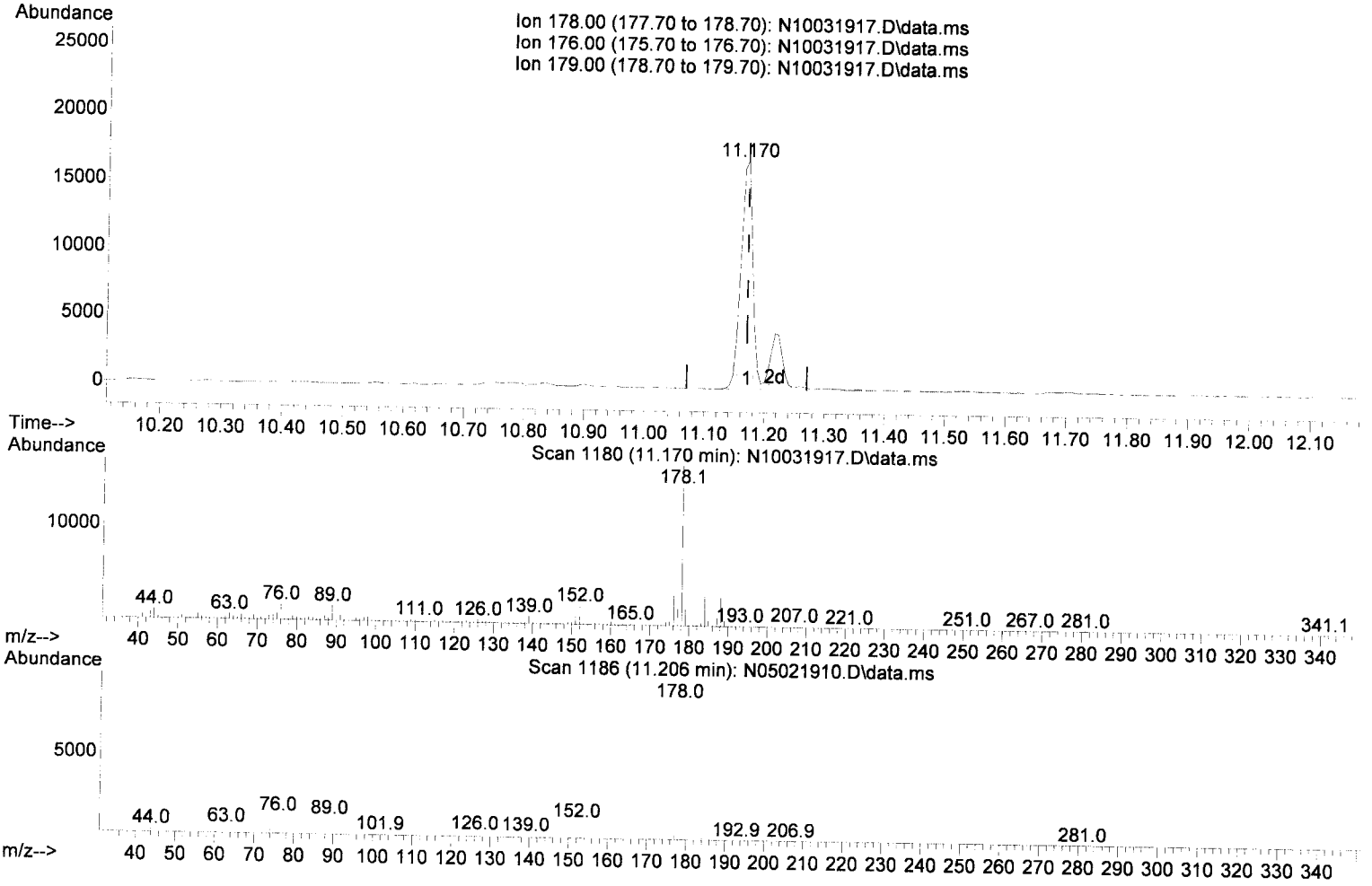
Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(19) Phenanthrene (T)

11.170min (-0.000) 7.77 ng/ml

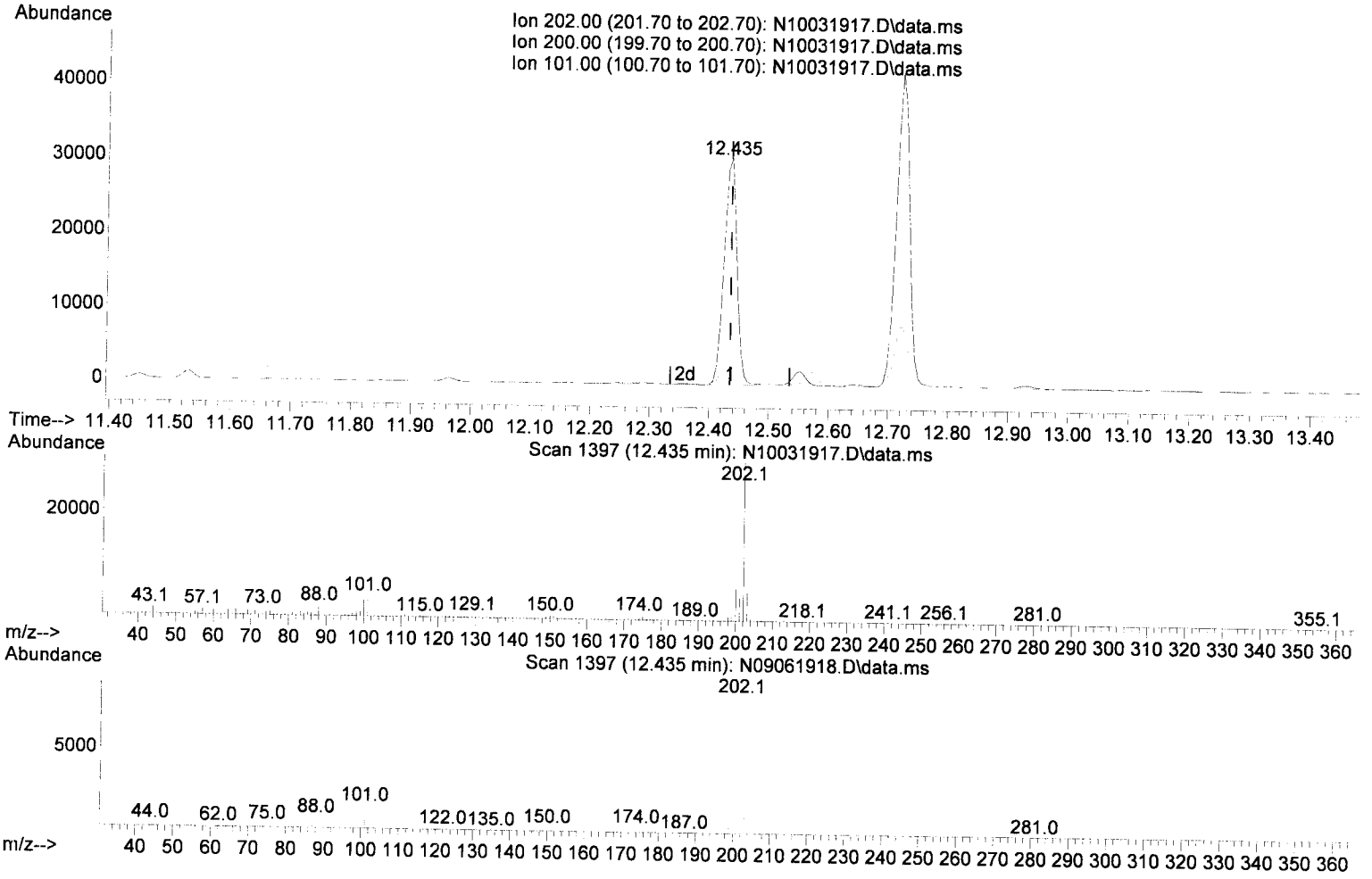
response 23185

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.86
179.00	15.10	15.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(23) Fluoranthene (T)

12.435min (+ 0.000) 15.17 ng/ml

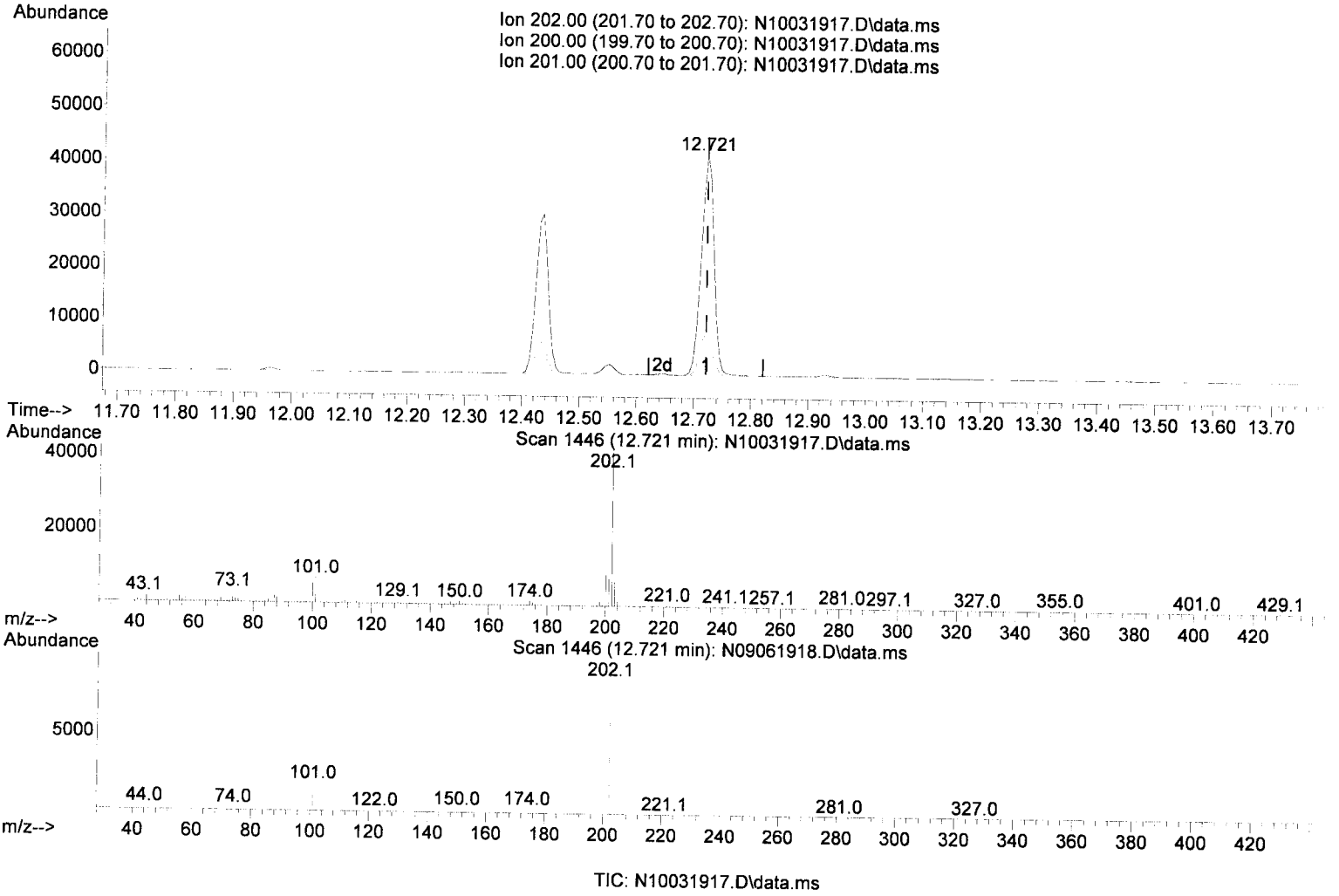
response 45588

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.24
101.00	15.30	13.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(25) Pyrene (T)

12.721min (-0.000) 20.72 ng/ml

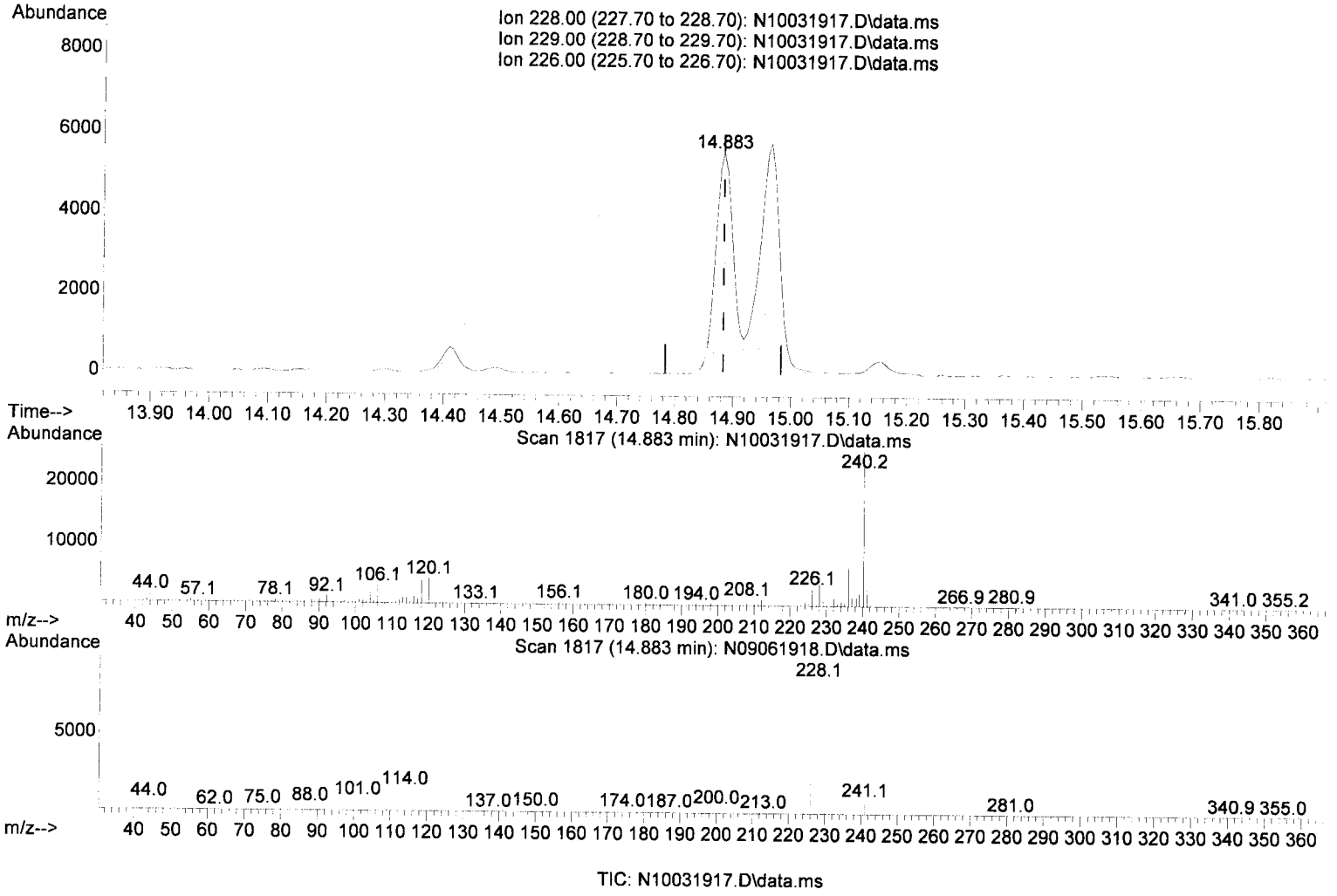
response 64912

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.11
201.00	16.80	17.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(27) Benz(a)anthracene (T)

14.883min (+ 0.000) 5.18 ng/ml

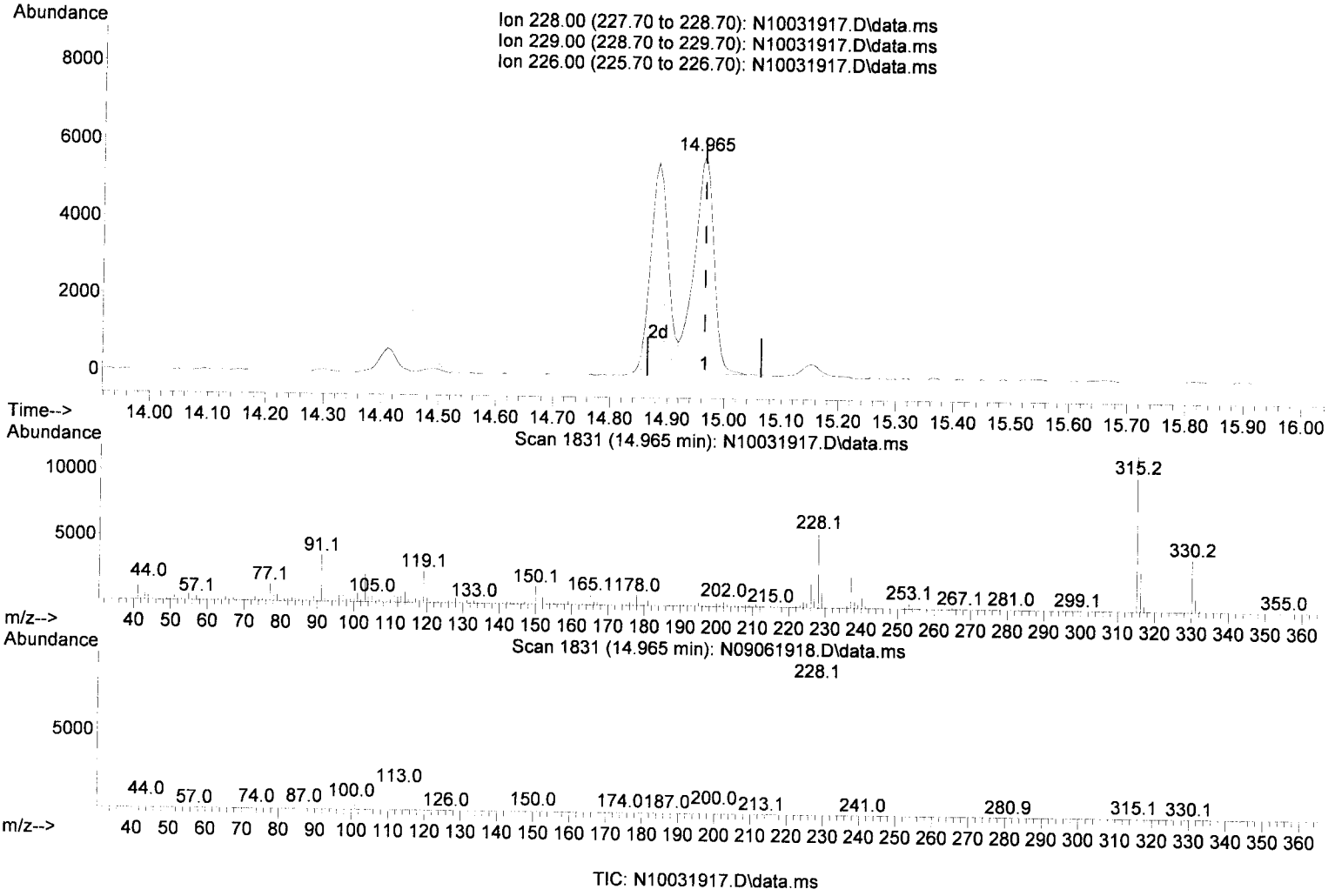
response 12066

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.26
226.00	26.20	52.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(28) Chrysene (T)

14.965min (-0.000) 6.16 ng/ml

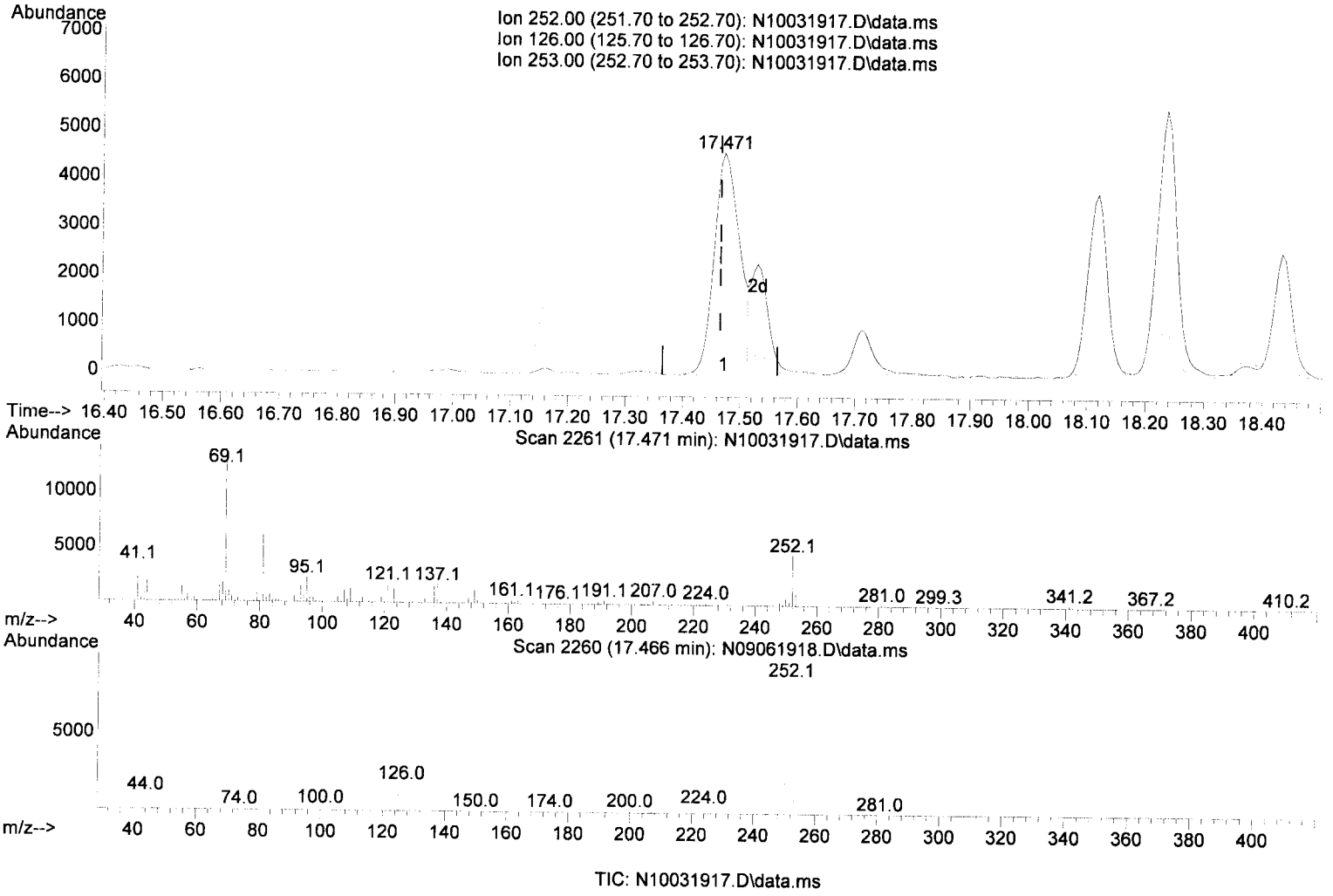
response 13563

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.36
226.00	28.60	31.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.471min (+ 0.006) 7.56 ng/ml

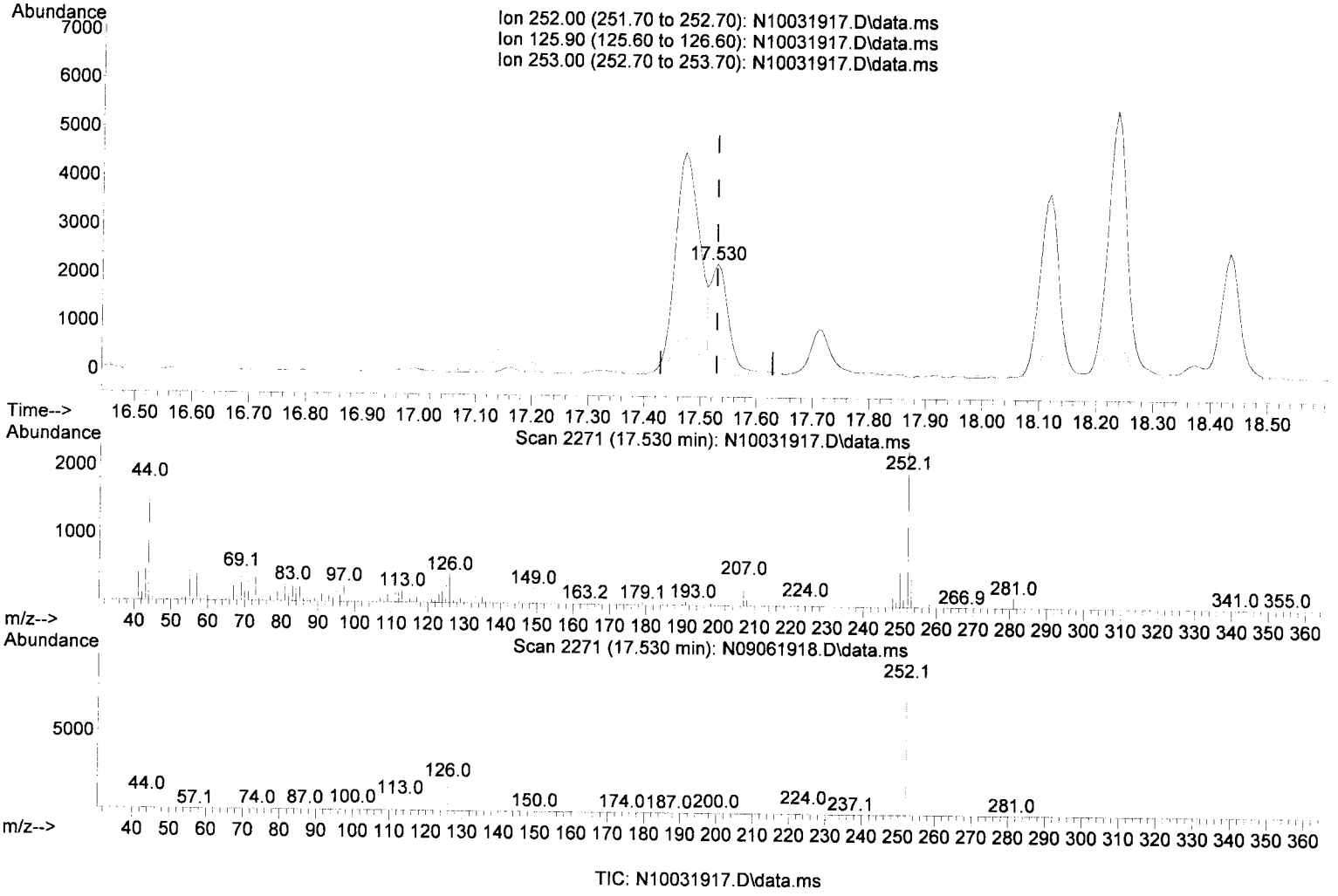
response 14039

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	17.09
253.00	21.10	23.47
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.530min (+ 0.001) 2.70 ng/ml m

response 4942

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	18.89
253.00	21.50	18.76
0.00	0.00	0.00

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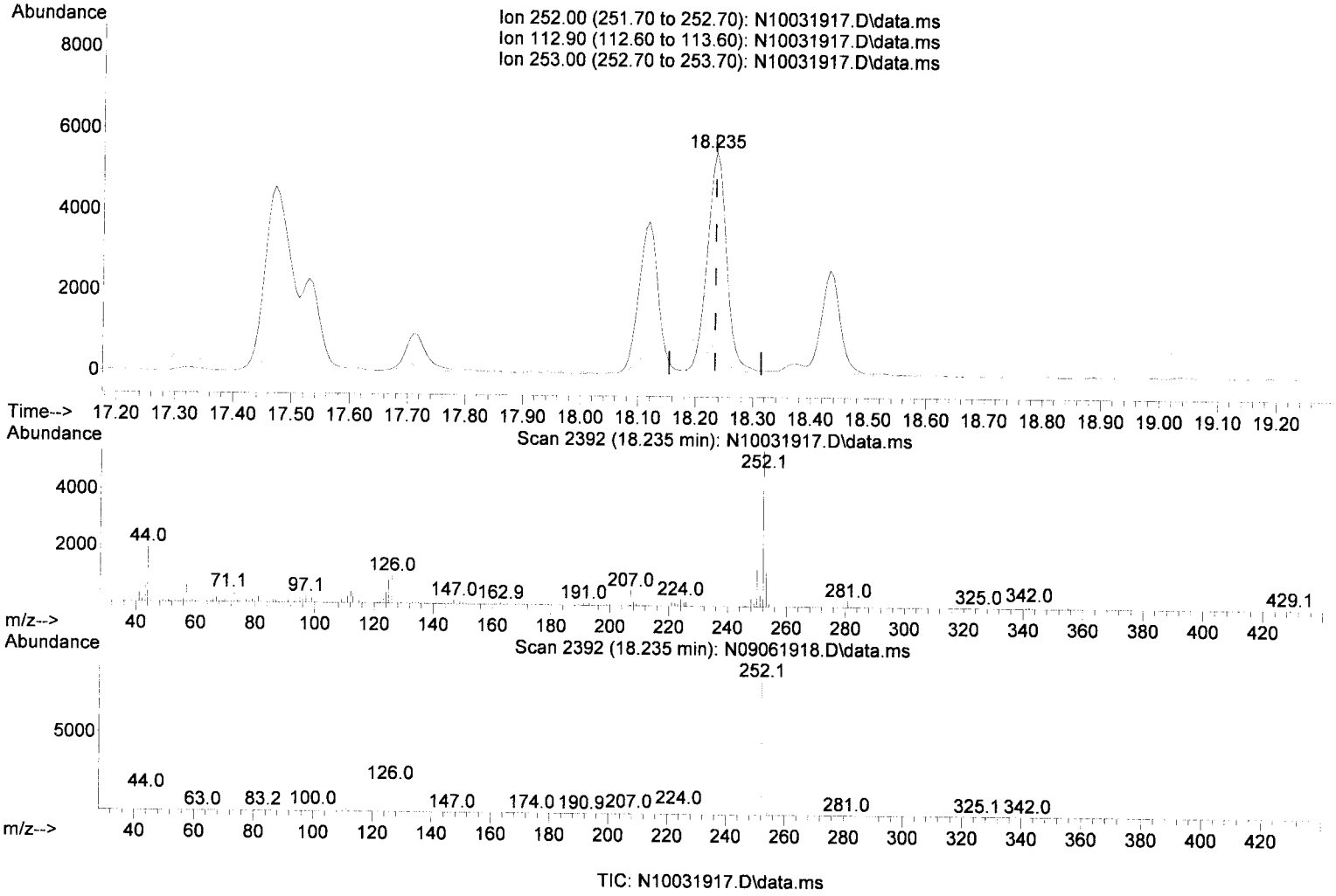
Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(35) Benzo(a)pyrene (T)

18.235min (+ 0.001) 7.85 ng/ml

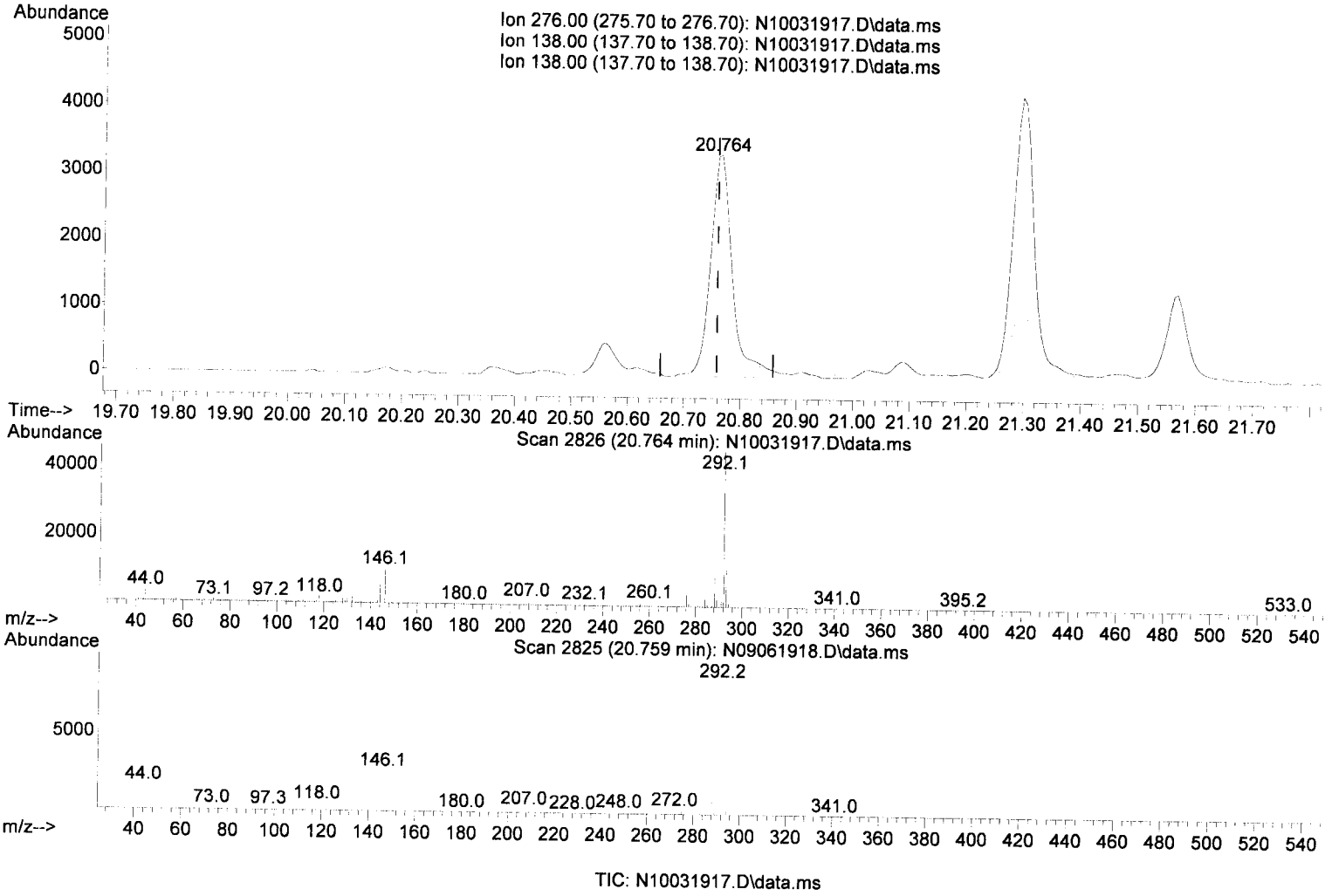
response 12477

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	12.77
253.00	21.90	23.44
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031917.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.764min (+ 0.006) 6.13 ng/ml

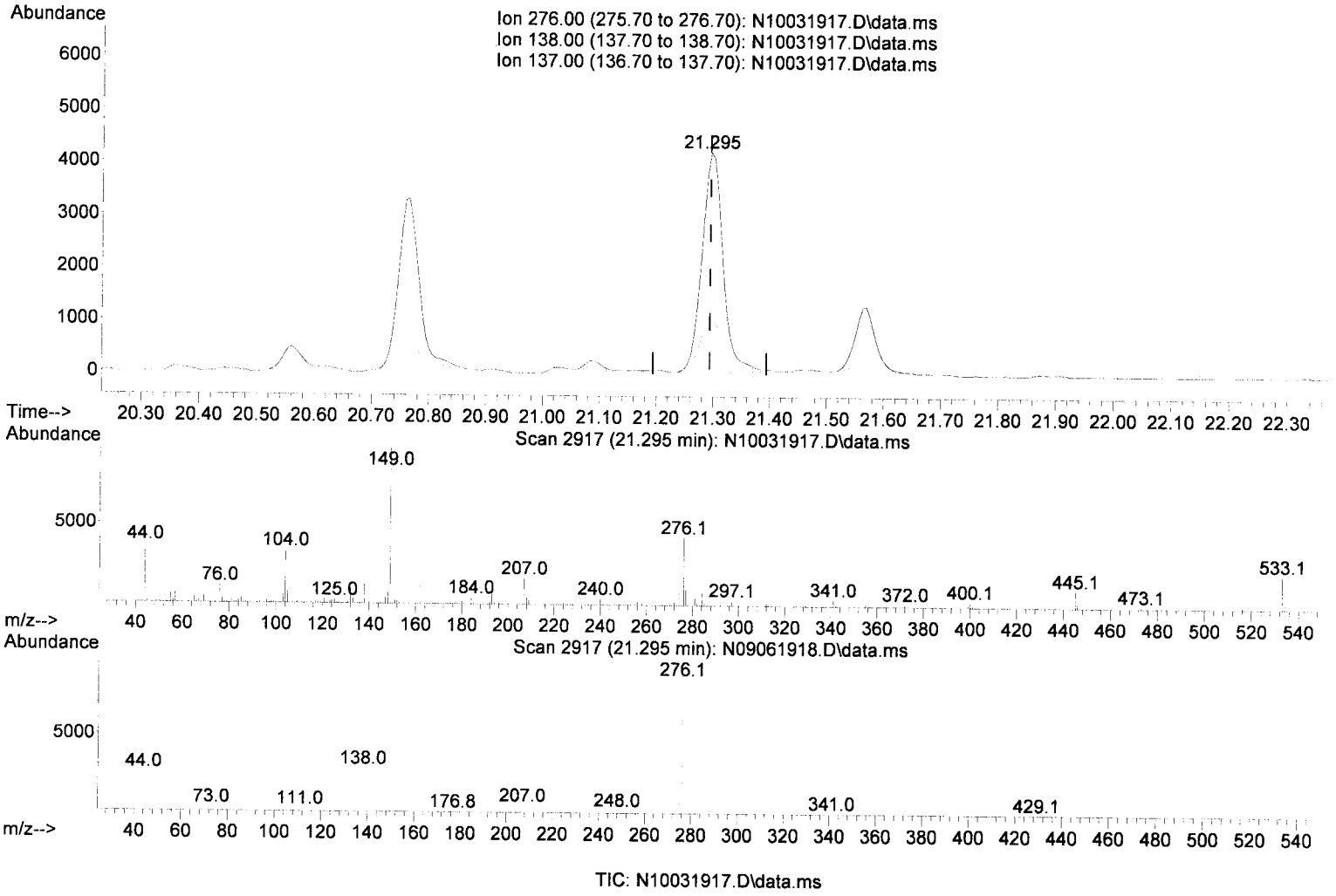
response 8759

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	23.18
138.00	31.60	23.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

21.295min (+ 0.001) 7.10 ng/ml

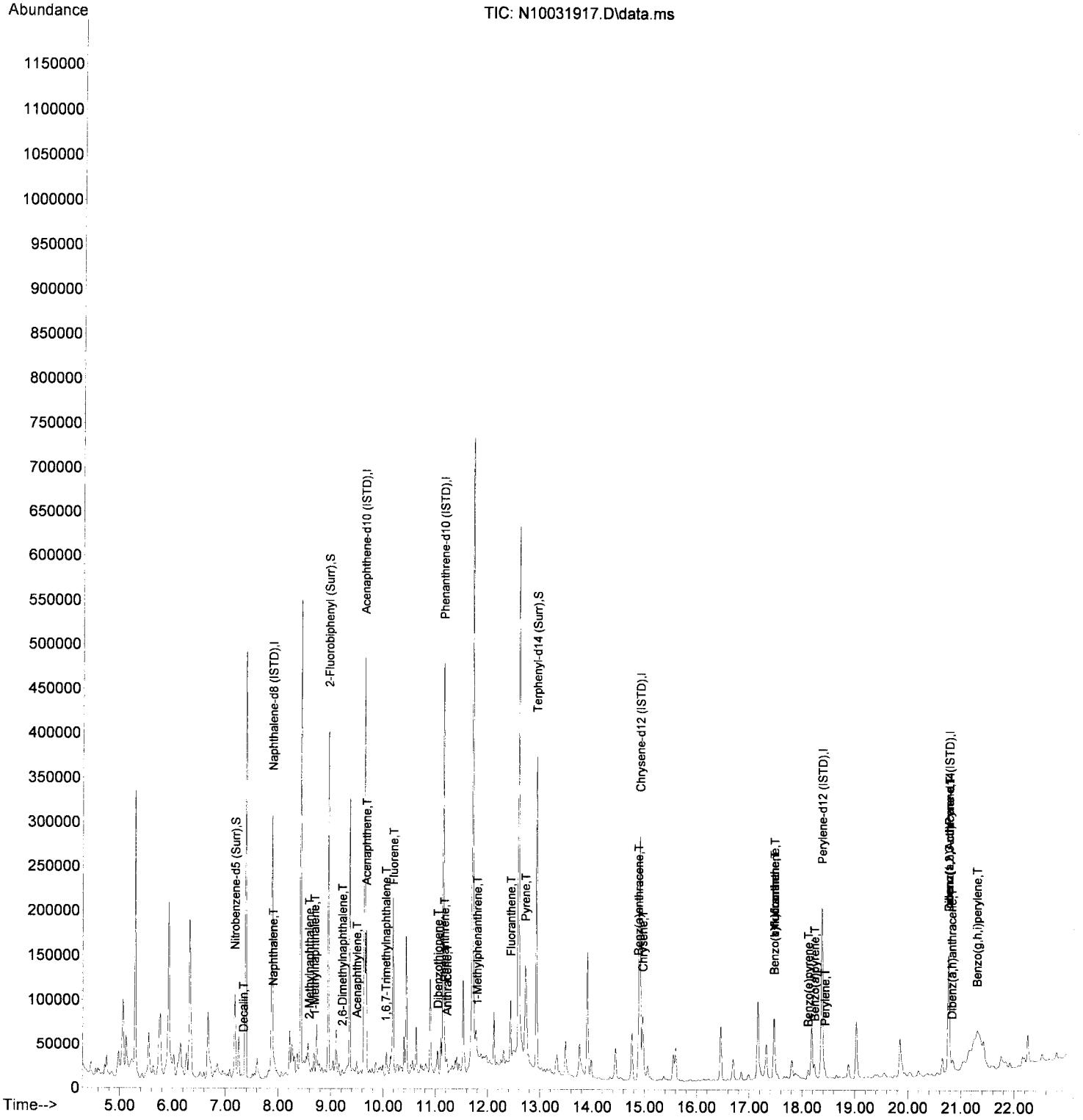
response 10768

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	27.99
137.00	28.60	21.71
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031917.D
Acq On : 03 Oct 2019 05:11 pm
Operator : JK/ AMS/ DTH
Sample : A9I0885-07RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 04 12:47:47 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Semivolatile Organic Compounds (PAHs) by EPA 8270D
Calibration Data

Sequence 9I06028 (Cal ID A9I1001) SV-GCMS14

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9I06028	Instrument:	SV-GCMS14
Date:	09/06/19 15:37	Calibration:	A9I1001

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I06028-TUN1	Sediment	QC	QC			A19I102	A19H414
2	9I06028-ICB1	Sediment	QC	QC			A19I102	
3	9I06028-CAL1	Sediment	QC	QC			A19I102	A19I015
4	9I06028-CAL2	Sediment	QC	QC			A19I102	A19I016
5	9I06028-CAL3	Sediment	QC	QC			A19I102	A19I017
6	9I06028-CAL4	Sediment	QC	QC			A19I102	A19I018
7	9I06028-CAL5	Sediment	QC	QC			A19I102	A19I019
8	9I06028-CAL6	Sediment	QC	QC			A19I102	A19I020
9	9I06028-CAL7	Sediment	QC	QC			A19I102	A19I021
10	9I06028-CAL8	Sediment	QC	QC			A19I102	A19I022
11	9I06028-CAL9	Sediment	QC	QC			A19I102	A19I023
12	9I06028-CALA	Sediment	QC	QC			A19I102	A19I024
13	9I06028-IBL1	Sediment	QC	QC			A19I102	
14	9I06028-ICV1	Sediment	QC	QC			A19I102	A19I025
15	9I06028-IBL2	Sediment	QC	QC			A19I102	

Data Entered By: 9/10/19

Data Reviewed By: 9/11/19

Comments:

Calibration Status Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

A9I1001
9/9/19

#	ID	Conc	ISTD Conc	Path\File
1	1.0	1	100	N:\data\2019-09\9I06028\N09061913.D
2	2.5	3	100	N:\data\2019-09\9I06028\N09061914.D
3	5.0	5	100	N:\data\2019-09\9I06028\N09061915.D
4	10.0	10	100	N:\data\2019-09\9I06028\N09061916.D
5	25.0	25	100	N:\data\2019-09\9I06028\N09061917.D
6	50.0	50	100	N:\data\2019-09\9I06028\N09061918.D
7	100	100	100	N:\data\2019-09\9I06028\N09061919.D
8	200	200	100	N:\data\2019-09\9I06028\N09061920.D
9	300	300	100	N:\data\2019-09\9I06028\N09061921.D
10	400	400	100	N:\data\2019-09\9I06028\N09061922.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1.0	Sep 09 14:58 2019	Sep 09 14:46 2019	06 Sep 2019 04:51 pm
2	2.5	Sep 09 14:58 2019	Sep 09 14:46 2019	06 Sep 2019 05:23 pm
3	5.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 05:55 pm
4	10.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 06:27 pm
5	25.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 07:00 pm
6	50.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 07:32 pm
7	100	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 08:04 pm
8	200	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 08:37 pm
9	300	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 09:09 pm
10	400	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 09:41 pm

SV14_090619_PAH.M Mon Sep 09 15:05:37 2019

Compound List Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

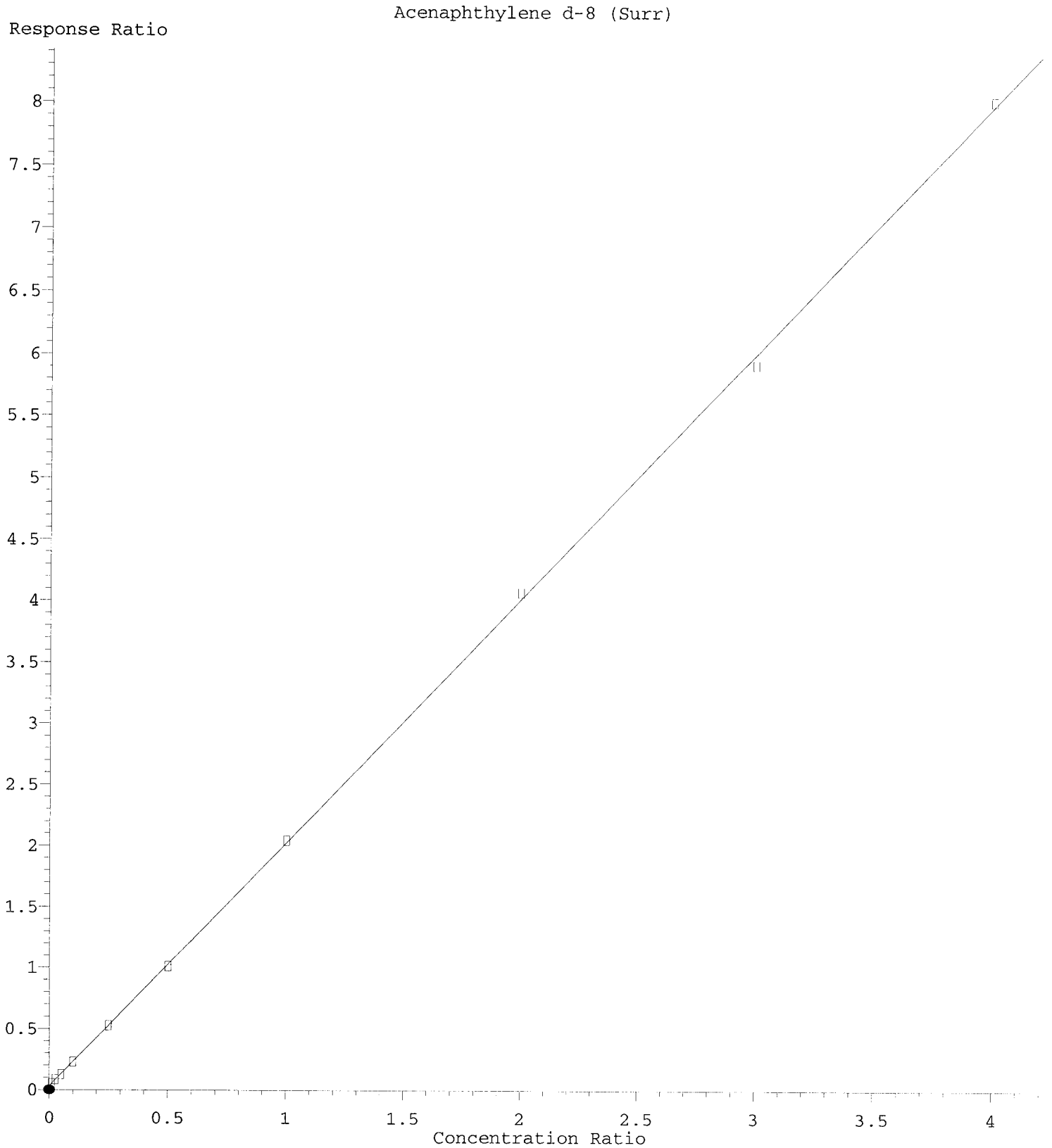
9/9/19

Total Cpnds : 40

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Naphthalene-d8 (ISTD)	136	7.883	1.000	A	2	A	B
2	S	Nitrobenzene-d5 (Surr)	82	7.184	0.911	A	1	A	R
3	T	Decalin	138	7.364	0.934	A	2	A	B
4	T	Naphthalene	128	7.907	1.003	A	2	A	R
5	T	2-Methylnaphthalene	142	8.589	1.089	A	2	A	R
6	T	1-Methylnaphthalene	142	8.688	1.102	A	2	A	R
7	T	1,1'-Biphenyl	154	9.055	1.149	A	2	A	B
8	T	2,6-Dimethylnaphthalene	156	9.212	1.169	A	2	A	R
9	I	Acenaphthene-d10 (ISTD)	162	9.638	1.000	A	2	A	R
10	S	2-Fluorobiphenyl (Surr)	172	8.950	0.929	A	2	A	R
11	S	Acenaphthylene d-8 (Surr)	160	9.480	0.984	Q	2	A	R
12	T	Acenaphthylene	152	9.498	0.985	A	2	A	R
13	T	Acenaphthene	153	9.673	1.004	A	2	A	R
14	T	Dibenzofuran	168	9.848	1.022	A	2	A	R
15	T	1,6,7-Trimethylnaphthalene	170	10.057	1.044	A	2	A	R
16	T	Fluorene	166	10.191	1.057	A	2	A	R
17	I	Phenanthrene-d10 (ISTD)	188	11.147	1.000	A	2	A	R
18	T	Dibenzothiopene	184	11.042	0.991	A	3	A	R
19	T	Phenanthrene	178	11.171	1.002	A	2	A	R
20	T	Anthracene	178	11.223	1.007	A	2	A	R
21	T	Carbazole	167	11.390	1.022	A	2	A	R
22	T	1-Methylphenanthrene	192	11.794	1.058	A	2	A	R
23	T	Fluoranthene	202	12.435	1.116	A	2	A	R
24	I	Chrysene-d12 (ISTD)	240	14.906	1.000	A	2	A	R
25	T	Pyrene	202	12.721	0.853	A	2	A	R
26	S	Terphenyl-d14 (Surr)	244	12.930	0.867	A	2	A	R
27	T	Benz(a)anthracene	228	14.883	0.998	A	2	A	R
28	T	Chrysene	228	14.965	1.004	A	2	A	R
29	I	Perylene-d12 (ISTD)	264	18.374	1.000	A	2	A	R
30	T	Benzo(b)fluoranthene	252	17.465	0.951	A	2	A	R
31	T	Benzo(k)fluoranthene	252	17.529	0.954	A	2	A	R
32	T	Benzo(b+k)fluoranthene	252	17.529	0.954	A	2	A	R
33	S	Benzo(a)pyrene d-12 (Surr)	264	18.176	0.989	A	2	A	B
34	T	Benzo(e)pyrene	252	18.118	0.986	A	2	A	R
35	T	Benzo(a)pyrene	252	18.234	0.992	A	2	A	R
36	T	Perylene	252	18.433	1.003	A	2	A	R
37	I	Dibenz(a,h)Anthrcene-d14(ISTD)	292	20.764	1.000	A	2	A	R
38	T	Indeno(1,2,3-cd)Pyrene	276	20.758	1.000	A	2	A	R
39	T	Dibenz(a,h)anthracene	278	20.828	1.003	A	2	A	R
40	T	Benzo(g,h,i)perylene	276	21.294	1.026	A	2	A	R

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

SV14_090619_PAH.M Mon Sep 09 15:05:30 2019

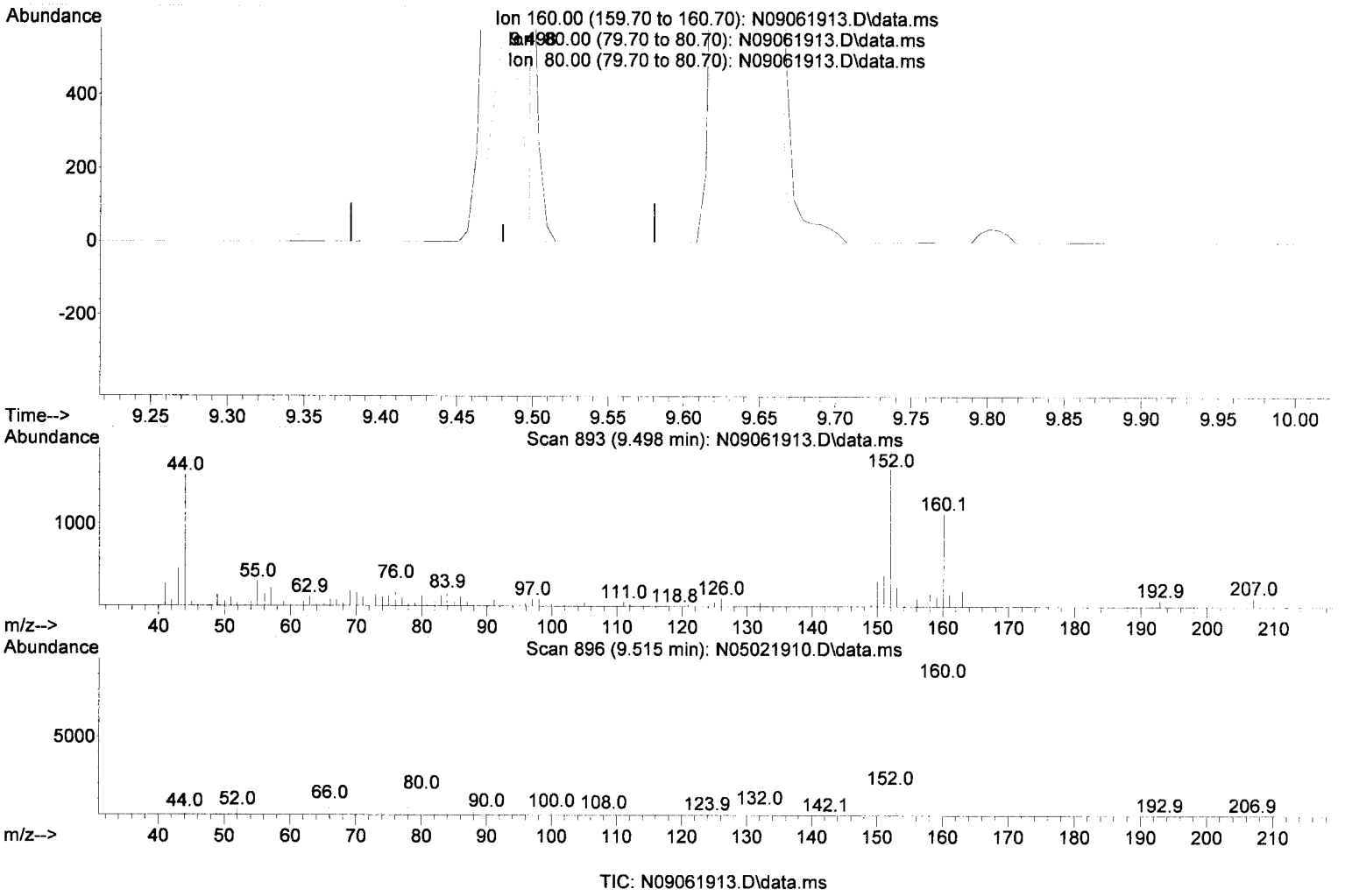


R = -2.27e-003 A*A + 2.00e+000 A + 2.92e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a^2)
Method Name: N:\methods\SV14_090619_PAH.M
Calibration Table Last Updated: Mon Sep 09 15:00:15 2019

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\REQUANT\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 15:06:04 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061913.D\data.ms

(11) Acenaphthylene d-8 (Surr) (S)

9.498min (+ 0.017) -1.00 ng/ml m

response 111

Ion	Exp%	Act%
160.00	100.00	100.00
80.00	14.40	12.44
80.00	14.40	12.44
0.00	0.00	0.00

Response Factor Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

9/9/19

Calibration Files
1.0 =N09061913.D 2.5 =N09061914.D 5.0 =N09061915.D 10.0=N09061916.D 25.0=N09061917.D 50.0=N09061918.D 100 =N09061919.D
200 =N09061920.D 300 =N09061921.D 400 =N09061922.D

		Compound	1.0	2.5	5.0	10.0	25.0	50.0	100	200	300	400	Avg	%RSD	
															6.52
1)	I	Naphthalene-d8 (ISTD)	----------ISTD----------												
2)	S	Nitrobenzene-d...	0.391	0.340	0.316	0.315	0.306	0.324	0.323	0.334	0.338	0.337	0.332	7.09	Not used
3)	T	Decalin		0.076	0.070	0.069	0.070	0.075	0.077	0.077	0.075	0.081	0.074	5.47	Not used
4)	T	Naphthalene	1.158	1.135	1.098	1.123	1.090	1.083	1.082	1.092	1.078	1.090	1.103	2.42	✓
5)	T	2-Methylnaphth...	0.893	0.907	0.881	0.886	0.895	0.941	0.965	1.001	1.001	0.975	0.935	5.16	✓
6)	T	1-Methylnaphth...	0.821	0.875	0.837	0.916	0.923	0.964	0.986	1.025	1.016	0.981	0.934	7.70	✓
7)	T	1,1'-Biphenyl	1.222	1.201	1.123	1.186	1.195	1.259	1.326	1.389	1.390	1.279	1.257	7.10	Not used
8)	T	2,6-Dimethylna...	0.823	0.850	0.815	0.851	0.892	0.943	0.994	1.034	1.033	0.946	0.918	9.12	Not used
															2.97
9)	I	Acenaphthene-d10 (...	----------ISTD----------												
10)	S	2-Fluorobiphen...	1.424	1.562	1.481	1.499	1.500	1.482	1.499	1.496	1.477	1.498	1.492	2.26	✓
11)	S	Acenaphthylene...	4.877	3.301	2.497	2.282	2.108	2.021	2.043	2.031	1.970	2.004	2.513	36.74	Not used (Surrogate)
12)	T	Acenaphthylene	2.050	2.174	2.139	2.171	2.195	2.172	2.248	2.243	2.161	2.158	2.171	2.55	✓
13)	T	Acenaphthene	1.439	1.487	1.404	1.417	1.419	1.394	1.443	1.431	1.388	1.396	1.422	2.10	✓
14)	T	Dibenzofuran	1.760	1.773	1.736	1.780	1.790	1.777	1.831	1.827	1.771	1.765	1.781	1.63	✓
15)	T	1,6,7-Trimethy...	1.249	1.207	1.173	1.178	1.169	1.168	1.213	1.212	1.178	1.178	1.193	2.23	Not used
16)	T	Fluorene	1.369	1.405	1.409	1.422	1.461	1.447	1.526	1.545	1.493	1.476	1.455	3.85	✓
															5.33
17)	I	Phenanthrene-d10 (...	----------ISTD----------												
18)	T	Dibenzothiopene	1.030	1.080	1.056	1.038	1.030	1.033	1.050	1.056	1.042	1.043	1.046	1.46	Not used
19)	T	Phenanthrene	1.287	1.194	1.137	1.165	1.154	1.152	1.158	1.178	1.134	1.143	1.170	3.85	✓
20)	T	Anthracene	1.097	1.089	1.049	1.062	1.069	1.076	1.110	1.115	1.102	1.115	1.088	2.16	✓
21)	T	Carbazole	0.872	0.830	0.810	0.818	0.866	0.871	0.905	0.945	0.940	0.950	0.881	5.99	✓
22)	T	1-Methylphenan...	0.803	0.804	0.781	0.794	0.802	0.805	0.824	0.842	0.826	0.847	0.813	2.60	Not used
23)	T	Fluoranthene	1.194	1.127	1.104	1.124	1.162	1.171	1.202	1.227	1.218	1.261	1.179	4.30	✓
															15.52
24)	I	Chrysene-d12 (ISTD)	----------ISTD----------												
25)	T	Pyrene	1.634	1.742	1.585	1.636	1.580	1.571	1.560	1.478	1.416	1.421	1.562	6.48	✓
26)	S	Terphenyl-d14 ...	1.150	1.092	1.037	1.058	1.060	1.046	1.049	1.021	0.993	1.012	1.052	4.22	✓
27)	T	Benz(a)anthracene	1.394	1.221	1.088	1.093	1.114	1.098	1.142	1.149	1.139	1.173	1.161	7.87	✓
28)	T	Chrysene	1.134	1.107	1.087	1.087	1.098	1.082	1.095	1.103	1.080	1.114	1.099	1.52	✓
															18.95
29)	I	Perylene-d12 (ISTD)	----------ISTD----------												
30)	T	Benzo(b)fluora...	1.117	1.085	1.065	1.092	1.128	1.164	1.194	1.231	1.217	1.246	1.154	5.68	✓
31)	T	Benzo(k)fluora...	1.067	1.082	1.086	1.036	1.128	1.118	1.196	1.221	1.198	1.228	1.136	6.13	✓
32)	T	Benzo(b+k)fluo...	2.224	2.236	2.233	2.230	2.344	2.357	2.457	2.518	2.473	2.532	2.361	5.36	✓
33)	S	Benzo(a)pyrene...	0.639	0.751	0.745	0.759	0.782	0.808	0.845	0.885	0.880	0.902	0.800	10.15	Not used (Surrogate)
34)	T	Benzo(e)pyrene	1.244	1.173	1.075	1.091	1.139	1.151	1.184	1.213	1.188	1.210	1.167	4.61	Not used
35)	T	Benzo(a)pyrene	0.983	0.860	0.859	0.902	0.977	1.004	1.043	1.085	1.068	1.095	0.988	9.00	✓
36)	T	Perylene	1.038	1.226	1.199	1.189	1.232	1.218	1.248	1.282	1.254	1.278	1.216	5.74	Not used

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics

~~2.69~~ 2.60 JL 9/10/19

37)	I	Dibenz(a,h)Anthrce...	----------ISTD----------										
38)	T	Indeno(1,2,3-c...	1.208	1.280	1.185	1.191	1.192	1.223	1.260	1.262	1.249	1.283	1.233	3.08
39)	T	Dibenz(a,h)ant...	1.173	1.144	1.121	1.116	1.120	1.144	1.178	1.194	1.182	1.217	1.159	3.01
40)	T	Benzo(g,h,i)pe...	1.245	1.185	1.241	1.251	1.289	1.328	1.388	1.395	1.368	1.394	1.308	5.85

(#) = Out of Range

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I06028

Analysis Included
8270D LL PAH Only (Scan)

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed
9I06028-TUN1	MS Tune	Sediment	A19H414	A19I102	9/6/2019 3:51:00PM
9I06028-ICB1	Initial Cal Blank	Sediment		A19I102	9/6/2019 4:18:00PM
9I06028-CAL1	Cal Standard	Sediment	A19I015	"	9/6/2019 4:51:00PM
9I06028-CAL2	Cal Standard	Sediment	A19I016	"	9/6/2019 5:23:00PM
9I06028-CAL3	Cal Standard	Sediment	A19I017	"	9/6/2019 5:55:00PM
9I06028-CAL4	Cal Standard	Sediment	A19I018	"	9/6/2019 6:27:00PM
9I06028-CAL5	Cal Standard	Sediment	A19I019	"	9/6/2019 7:00:00PM
9I06028-CAL6	Cal Standard	Sediment	A19I020	"	9/6/2019 7:32:00PM
9I06028-CAL7	Cal Standard	Sediment	A19I021	"	9/6/2019 8:04:00PM
9I06028-CAL8	Cal Standard	Sediment	A19I022	"	9/6/2019 8:37:00PM
9I06028-CAL9	Cal Standard	Sediment	A19I023	"	9/6/2019 9:09:00PM
9I06028-CALA	Cal Standard	Sediment	A19I024	"	9/6/2019 9:41:00PM
9I06028-ICV1	Initial Cal Check	Sediment	A19I025	"	9/6/2019 10:45:00PM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9I1001** Instrument: **SV-GCMS14**

8270D LL PAH Only (Scan) Sequence: **9I06028** Matrix: **Sediment**

9I06028-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I06028

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I1001** Instrument: **SV-GCMS14**

8270D LL PAH Only (Scan) Sequence: **9I06028** Matrix: **Sediment**

9I06028-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

Evaluate Continuing Calibration Report

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 10 10:28:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/10/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	123	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	46.212	7.6	116	0.00
3	T	Decalin	50.000	48.753	2.5	118	0.00
4	T	Naphthalene	50.000	49.942	0.1	125	0.00
5	T	2-Methylnaphthalene	50.000	46.827	6.3	114	0.00
6	T	1-Methylnaphthalene	50.000	47.766	4.5	113	0.00
7	T	1,1'-Biphenyl	50.000	46.341	7.3	113	0.00
8	T	2,6-Dimethylnaphthalene	50.000	45.797	8.4	109	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	106	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	49.669	0.7	106	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	49.308	1.4	106	0.00
12	T	Acenaphthylene	50.000	51.950	-3.9	110	0.00
13	T	Acenaphthene	50.000	50.335	-0.7	109	0.00
14	T	Dibenzofuran	50.000	50.914	-1.8	108	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	50.151	-0.3	109	0.00
16	T	Fluorene	50.000	50.867	-1.7	109	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	107	0.00
18	T	Dibenzothiopene	50.000	49.794	0.4	108	0.00
19	T	Phenanthrene	50.000	50.398	-0.8	110	0.00
20	T	Anthracene	50.000	51.792	-3.6	112	0.00
21	T	Carbazole	50.000	50.683	-1.4	110	-0.02
22	T	1-Methylphenanthrene	50.000	51.441	-2.9	111	0.00
23	T	Fluoranthene	50.000	50.556	-1.1	109	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	111	0.00
25	T	Pyrene	50.000	49.139	1.7	109	0.00
26	S	Terphenyl-d14 (Surr)	50.000	48.699	2.6	109	0.00
27	T	Benz(a)anthracene	50.000	48.477	3.0	114	0.00
28	T	Chrysene	50.000	52.375	-4.8	118	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	114	0.00
30	T	Benzo(b)fluoranthene	50.000	50.587	-1.2	115	0.00
31	T	Benzo(k)fluoranthene	50.000	49.972	0.1	116	0.00
32	T	Benzo(b+k)fluoranthene	100.000	100.734	-0.7	115	0.00
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	53.210	-6.4	120	0.00
34	T	Benzo(e)pyrene	50.000	50.277	-0.6	117	0.00
35	T	Benzo(a)pyrene	50.000	51.177	-2.4	115	0.00
36	T	Perylene	50.000	50.891	-1.8	116	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	117	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	49.977	0.0	118	0.00
39	T	Dibenz(a,h)anthracene	50.000	49.339	1.3	117	0.00
40	T	Benzo(g,h,i)perylene	50.000	53.580	-7.2	123	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.613	150	163761	2.00	ug/mL	# 0.00
2) Naphthalene-d8	7.825	136	486548	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	255378	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.101	188	470705	2.00	ug/mL	0.00
11) Chrysene-d12	14.779	240	413133	2.00	ug/mL	# 0.00
12) Perylene-d12	16.830	264	372325	2.00	ug/mL	# 0.00
13) Dibenz(a,h)anthracene-...	18.060	292	295670	2.00	ug/mL	0.00
Target Compounds						Qvalue
4) Pentachlorophenol	10.920	266	1134816	47.06	ug/mL	93
6) DFTPP	11.404	442	1326743	34.91	ug/mL	90
7) Benzidine	12.558	184	4304187	25.70	ug/mL	97
8) 4,4-DDE	12.808	TIC	375170	No Calib		
9) 4,4-DDD	13.310	TIC	188617	No Calib		
10) 4,4-DDT	13.869	TIC	15944082	33.03	ug/mL	98

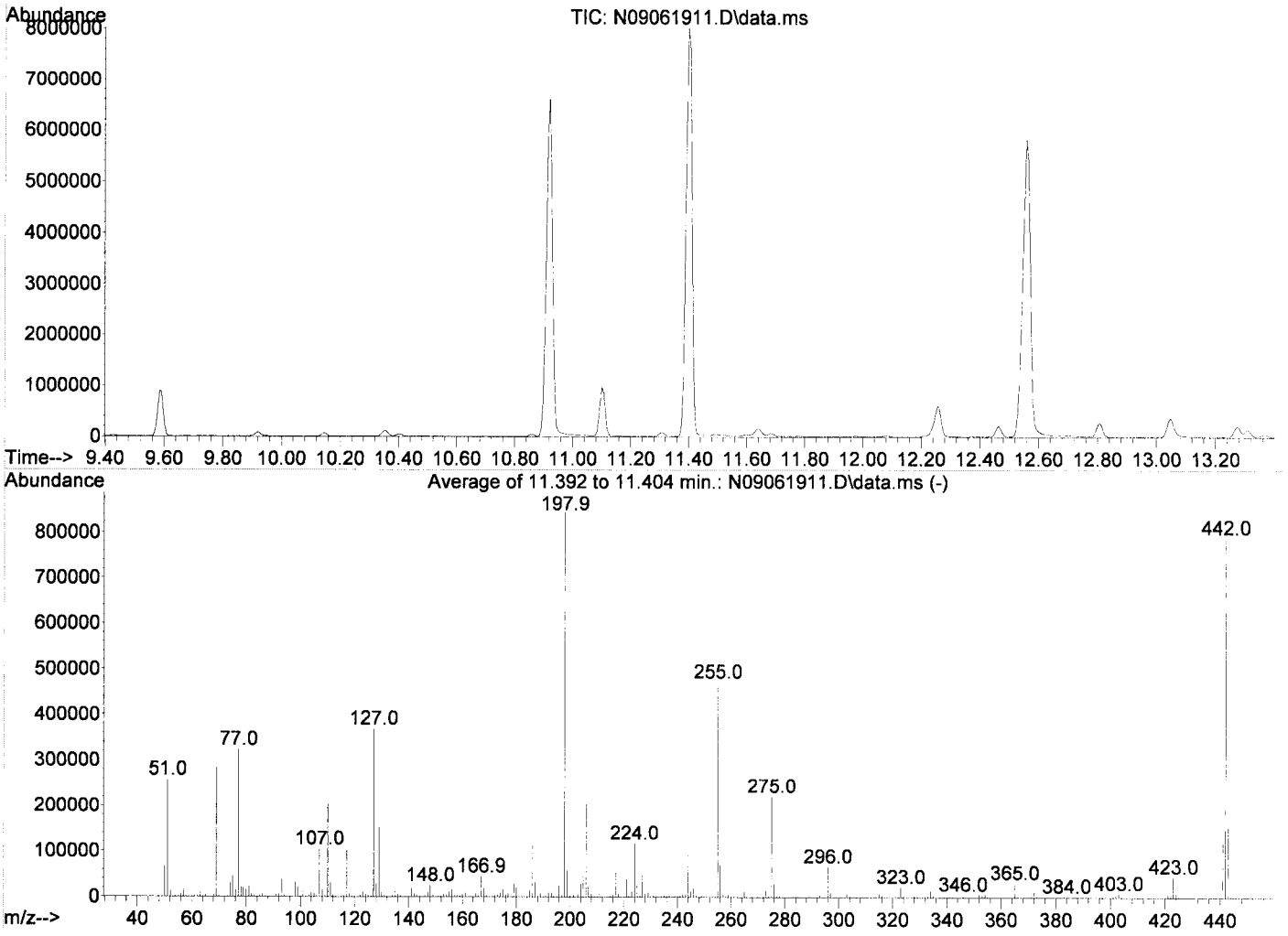
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : N:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019

9/2 9/9/19



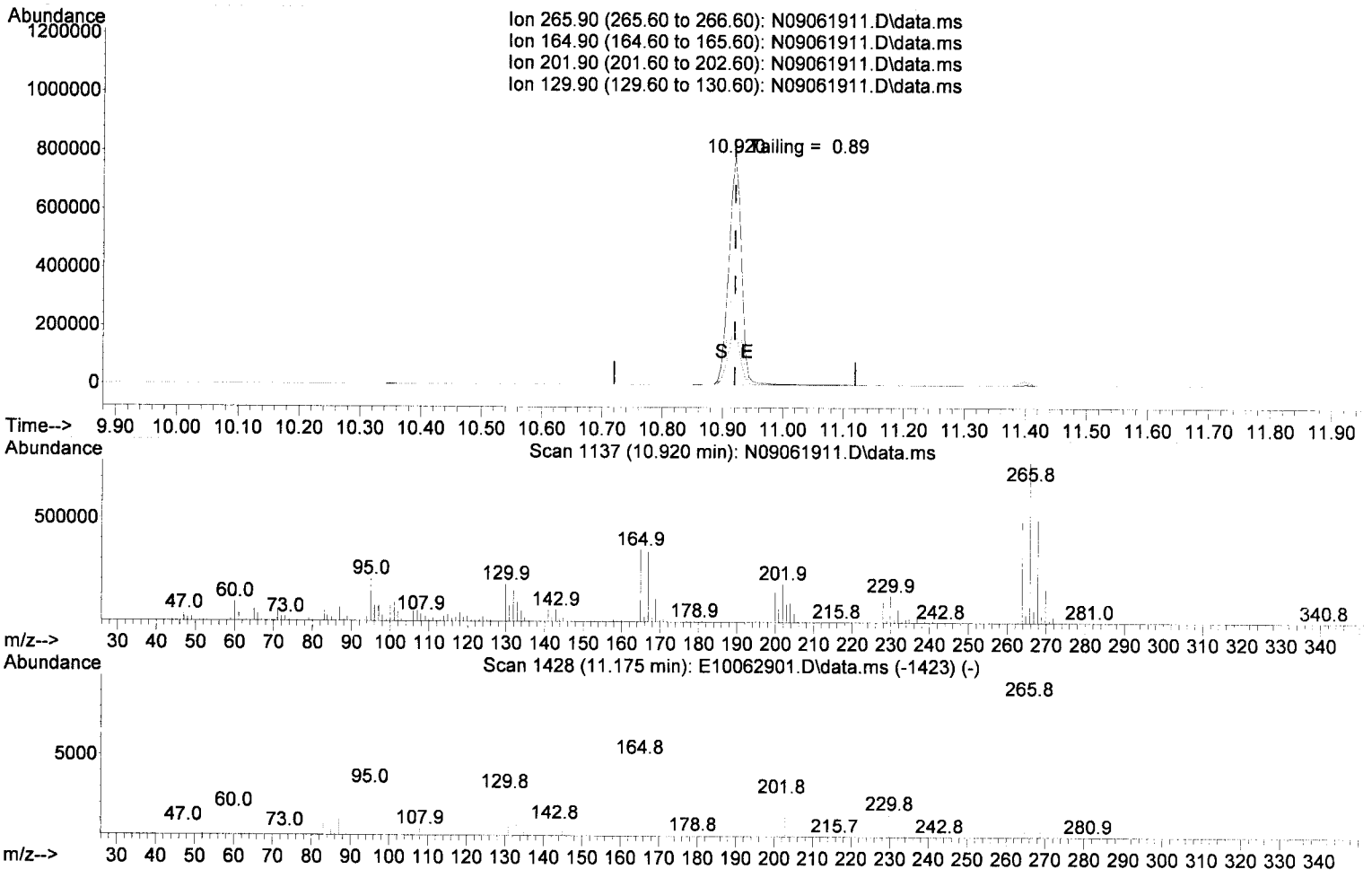
AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1212

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.5	4348	PASS
69	69	100	100	100.0	283608	PASS
70	69	0.00	2	0.5	1319	PASS
197	198	0.00	2	0.5	4054	PASS
198	198	100	100	100.0	845182	PASS
199	198	5	9	6.9	57976	PASS
365	198	1	100	3.6	30576	PASS
441	443	0.01	150	78.0	120320	PASS
442	198	0.10	200	93.1	787179	PASS
443	442	15	24	19.6	154213	PASS

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061911.D\data.ms

(4) Pentachlorophenol

10.920min (+ 0.000) 47.06 ug/mL

response 1134816

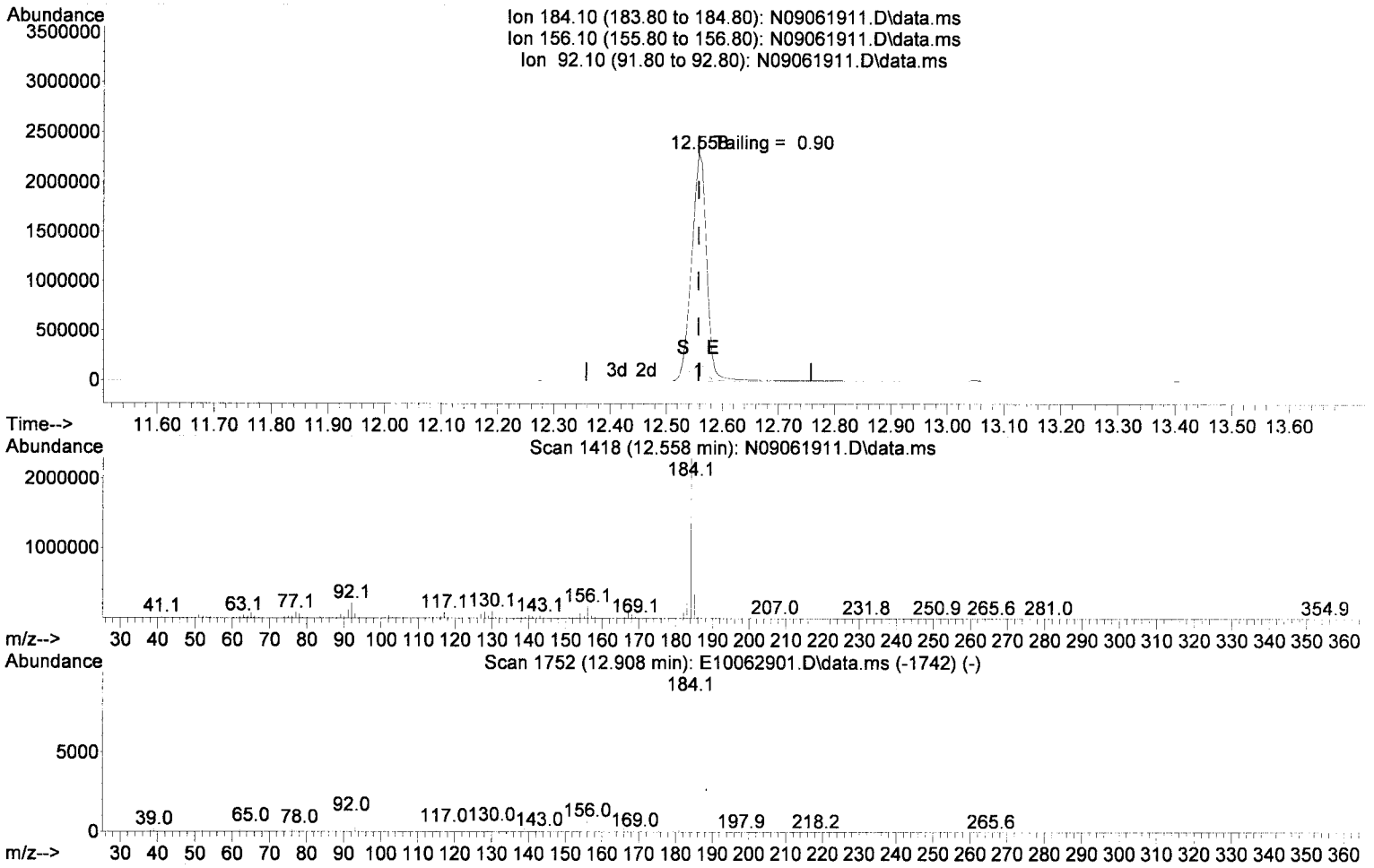
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	44.95
201.90	25.80	23.85
129.90	27.30	23.19

9/9/19

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061911.D\data.ms

(7) Benzidine

12.558min (+ 0.000) 25.70 ug/mL

response 4304187

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.39
92.10	8.20	9.56
0.00	0.00	0.00

9/9/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9I06028-TUN1
SV-GCMS14

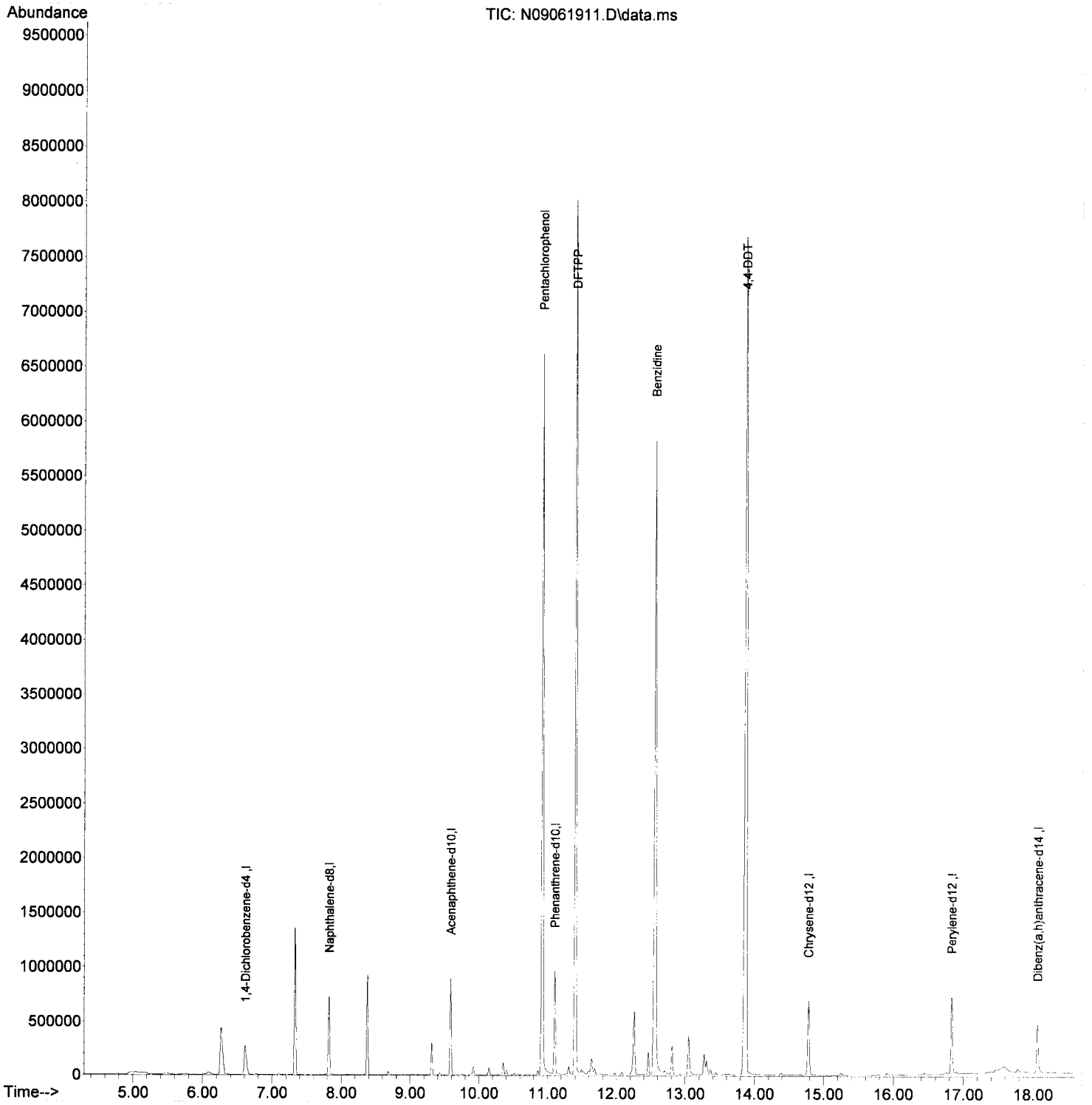
First Column Area Counts		Percent Breakdown	
DDE	375170		
DDD	188617		
DDT	15944082	**3.42**	**PASS**

Breakdown must be less than 20% to accept sample data.

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:43 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

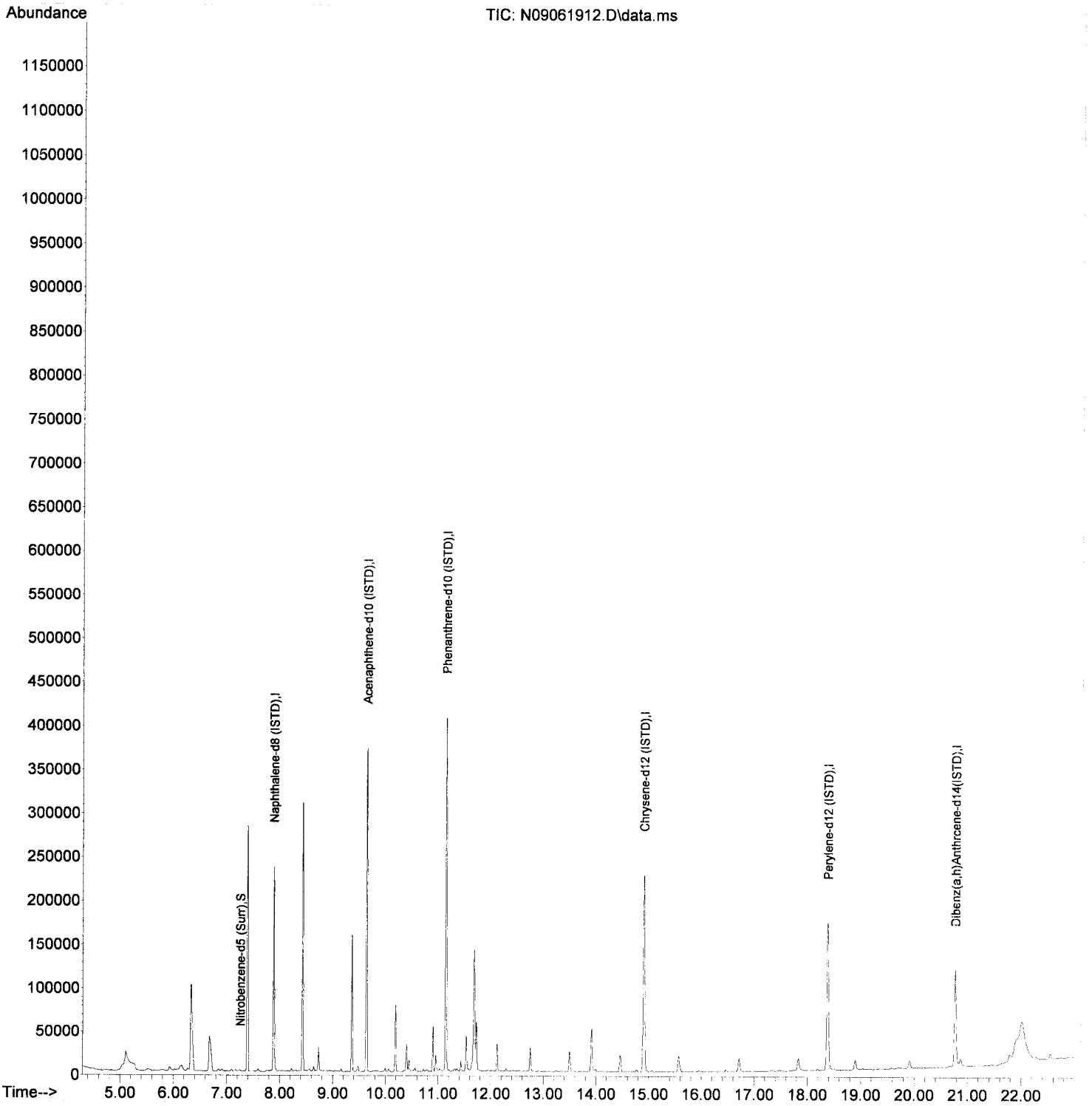
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	153621	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	109411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	203705	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	156122	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	131660	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	95634	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.254	82	241	0.47	ng/ml	0.07
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
11) Acenaphthylene d-8 (Surr)	9.486	160	3573	0.17	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	228	0.14	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	157	N.D.		
5) 2-Methylnaphthalene	0.000		0	N.D.		
6) 1-Methylnaphthalene	0.000		0	N.D.		
7) 1,1'-Biphenyl	0.000		0	N.D.		
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
12) Acenaphthylene	9.498	152	86	N.D.		
13) Acenaphthene	0.000		0	N.D.		
14) Dibenzofuran	0.000		0	N.D.		
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
16) Fluorene	0.000		0	N.D.		
18) Dibenzothiopene	11.042	184	87	N.D.		
19) Phenanthrene	11.171	178	288	N.D.		
20) Anthracene	11.223	178	75	N.D.		
21) Carbazole	11.380	167	333	No Calib		
22) 1-Methylphenanthrene	11.800	192	131	N.D.		
23) Fluoranthene	12.435	202	251	N.D.		
25) Pyrene	12.727	202	195	N.D.		
27) Benz(a)anthracene	14.901	228	646	N.D.		
28) Chrysene	14.965	228	290	N.D.		
30) Benzo(b)fluoranthene	17.466	252	208	N.D.		
31) Benzo(k)fluoranthene	17.524	252	168	N.D.		
32) Benzo(b+k)fluoranthene	17.524	252	168	N.D.		
34) Benzo(e)pyrene	18.113	252	178	N.D.		
35) Benzo(a)pyrene	0.000		0	N.D.		
36) Perylene	18.439	252	178	N.D.		
38) Indeno(1,2,3-cd)Pyrene	20.770	276	158	N.D.		
39) Dibenz(a,h)anthracene	20.834	278	121	N.D.		
40) Benzo(g,h,i)perylene	21.301	276	89	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:43 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Final Reagent

Quant Time: Sep 10 10:28:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/10/19

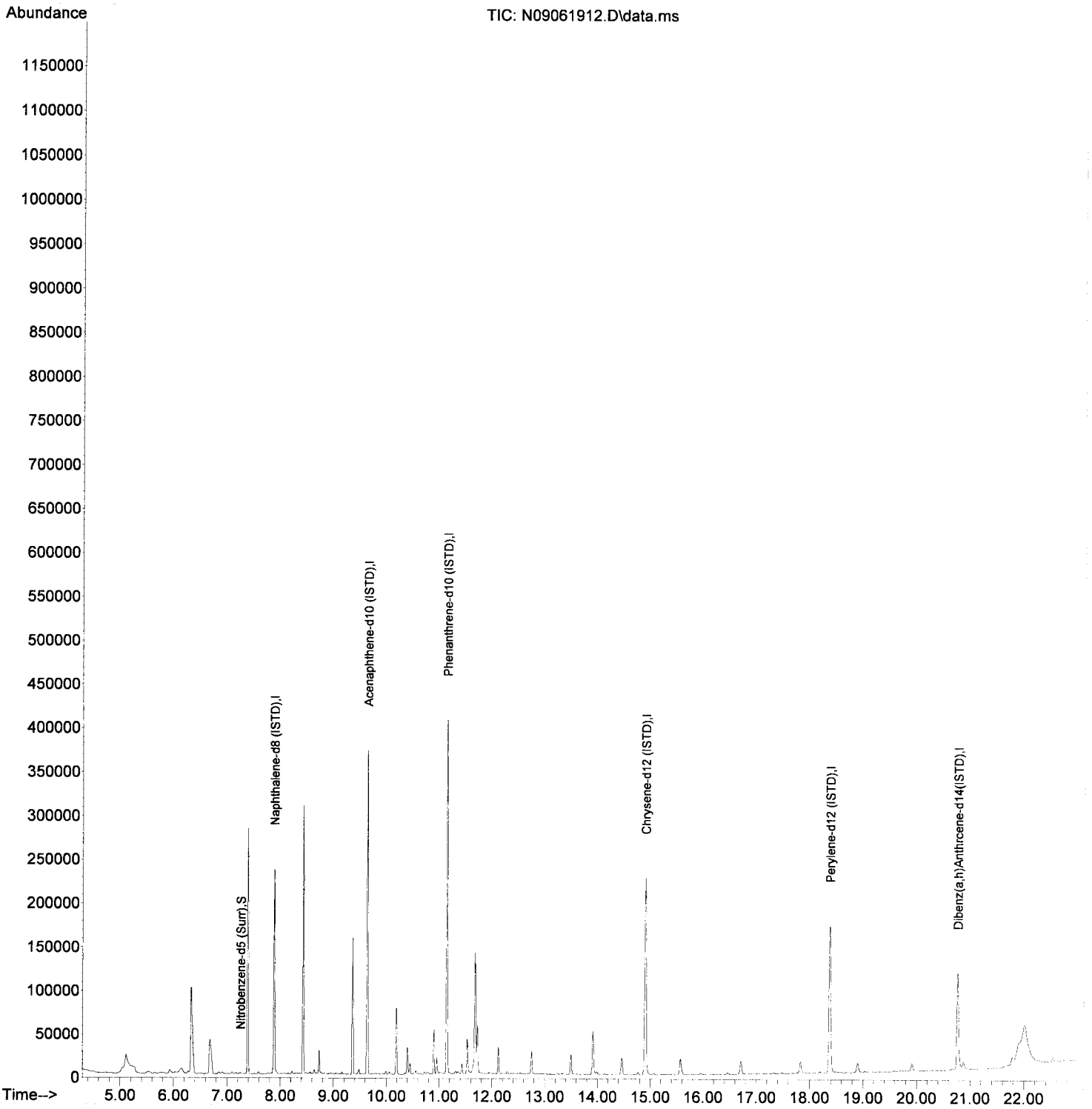
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	153621	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	109411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	203705	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	156122	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	131660	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	95634	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.254	82	241	0.47	ng/ml	0.07
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
11) Acenaphthylene d-8 (Surr)	9.486	160	3573	0.17	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	228	0.14	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	157	N.D.		
5) 2-Methylnaphthalene	0.000		0	N.D.		
6) 1-Methylnaphthalene	0.000		0	N.D.		
7) 1,1'-Biphenyl	0.000		0	N.D.		
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
12) Acenaphthylene	9.498	152	86	N.D.		
13) Acenaphthene	0.000		0	N.D.		
14) Dibenzofuran	0.000		0	N.D.		
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
16) Fluorene	0.000		0	N.D.		
18) Dibenzothiopene	11.042	184	87	N.D.		
19) Phenanthrene	11.171	178	288	N.D.		
20) Anthracene	11.223	178	75	N.D.		
21) Carbazole	11.380	167	333	N.D.		
22) 1-Methylphenanthrene	11.800	192	131	N.D.		
23) Fluoranthene	12.435	202	251	N.D.		
25) Pyrene	12.727	202	195	N.D.		
27) Benz(a)anthracene	14.901	228	646	N.D.		
28) Chrysene	14.965	228	290	N.D.		
30) Benzo(b)fluoranthene	17.466	252	208	N.D.		
31) Benzo(k)fluoranthene	17.524	252	168	N.D.		
32) Benzo(b+k)fluoranthene	17.524	252	168	N.D.		
34) Benzo(e)pyrene	18.113	252	178	N.D.		
35) Benzo(a)pyrene	0.000		0	N.D.		
36) Perylene	18.439	252	178	N.D.		
38) Indeno(1,2,3-cd)Pyrene	20.770	276	158	N.D.		
39) Dibenz(a,h)anthracene	20.834	278	121	N.D.		
40) Benzo(g,h,i)perylene	21.301	276	89	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 10 10:28:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:51 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

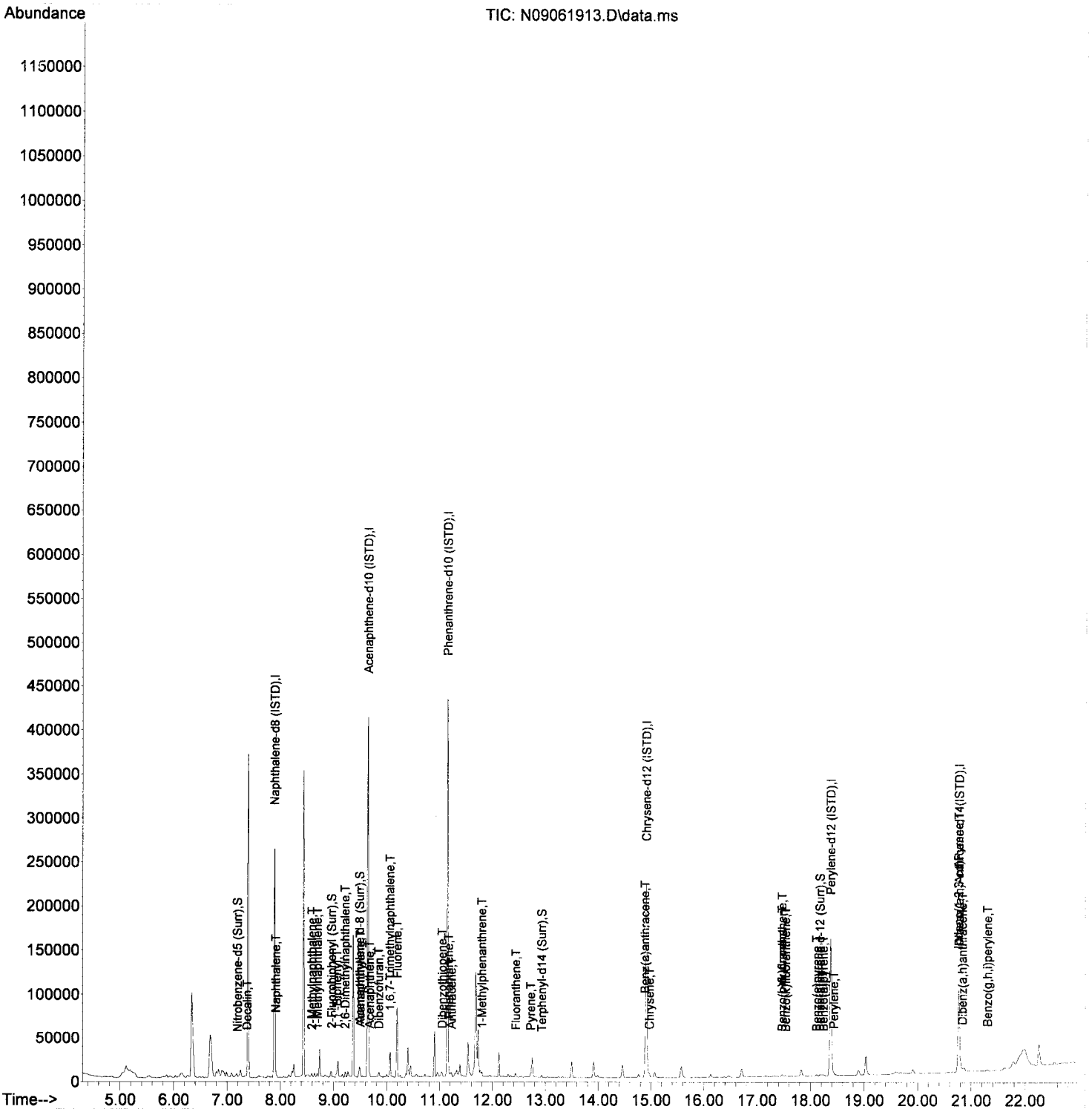
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	173610	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	119749	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	214815	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	149008	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	120943	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	80323	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.189	82	679	1.18	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	1705	0.95	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	5840	0.98	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	1714	1.09	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.176	264	773	0.80	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	87	0.67	ng/ml#	38
4) Naphthalene	7.906	128	2011	1.05	ng/ml	99
5) 2-Methylnaphthalene	8.588	142	1551	0.96	ng/ml	94
6) 1-Methylnaphthalene	8.687	142	1426	0.88	ng/ml	100
7) 1,1'-Biphenyl	9.055	154	2122	0.97	ng/ml	93
8) 2,6-Dimethylnaphthalene	9.212	156	1429	0.90	ng/ml	93
12) Acenaphthylene	9.498	152	2455	0.94	ng/ml	98
13) Acenaphthene	9.672	153	1723	1.01	ng/ml	97
14) Dibenzofuran	9.847	168	2108	0.99	ng/ml	91
15) 1,6,7-Trimethylnaphtha...	10.057	170	1496	1.05	ng/ml	75
16) Fluorene	10.197	166	1639	0.94	ng/ml	98
18) Dibenzothiopene	11.042	184	2213	0.99	ng/ml	95
19) Phenanthrene	11.170	178	2765	1.10	ng/ml	99
20) Anthracene	11.223	178	2357	1.01	ng/ml	97
21) Carbazole	11.380	167	1874	No Calib		
22) 1-Methylphenanthrene	11.794	192	1725	0.99	ng/ml	92
23) Fluoranthene	12.435	202	2565	1.01	ng/ml	98
25) Pyrene	12.721	202	2435	1.05	ng/ml	96
27) Benz(a)anthracene	14.883	228	2077	1.20	ng/ml	98
28) Chrysene	14.965	228	1690	1.03	ng/ml	96
30) Benzo(b)fluoranthene	17.465	252	1351	0.97	ng/ml	95
31) Benzo(k)fluoranthene	17.529	252	1291	0.94	ng/ml	96
32) Benzo(b+k)fluoranthene	17.465	252	2690	0.94	ng/ml	97
34) Benzo(e)pyrene	18.112	252	1505	1.07	ng/ml	94
35) Benzo(a)pyrene	18.235	252	1189	1.00	ng/ml	99
36) Perylene	18.433	252	1255	0.85	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	970	0.98	ng/ml	74
39) Dibenz(a,h)anthracene	20.828	278	942	1.01	ng/ml	86
40) Benzo(g,h,i)perylene	21.295	276	1000	0.95	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:51 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061914.D
Acq On : 06 Sep 2019 05:23 pm
Operator :
Sample : 9I06028-CAL2
Misc : 1x, A19I016@2.5
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:55 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

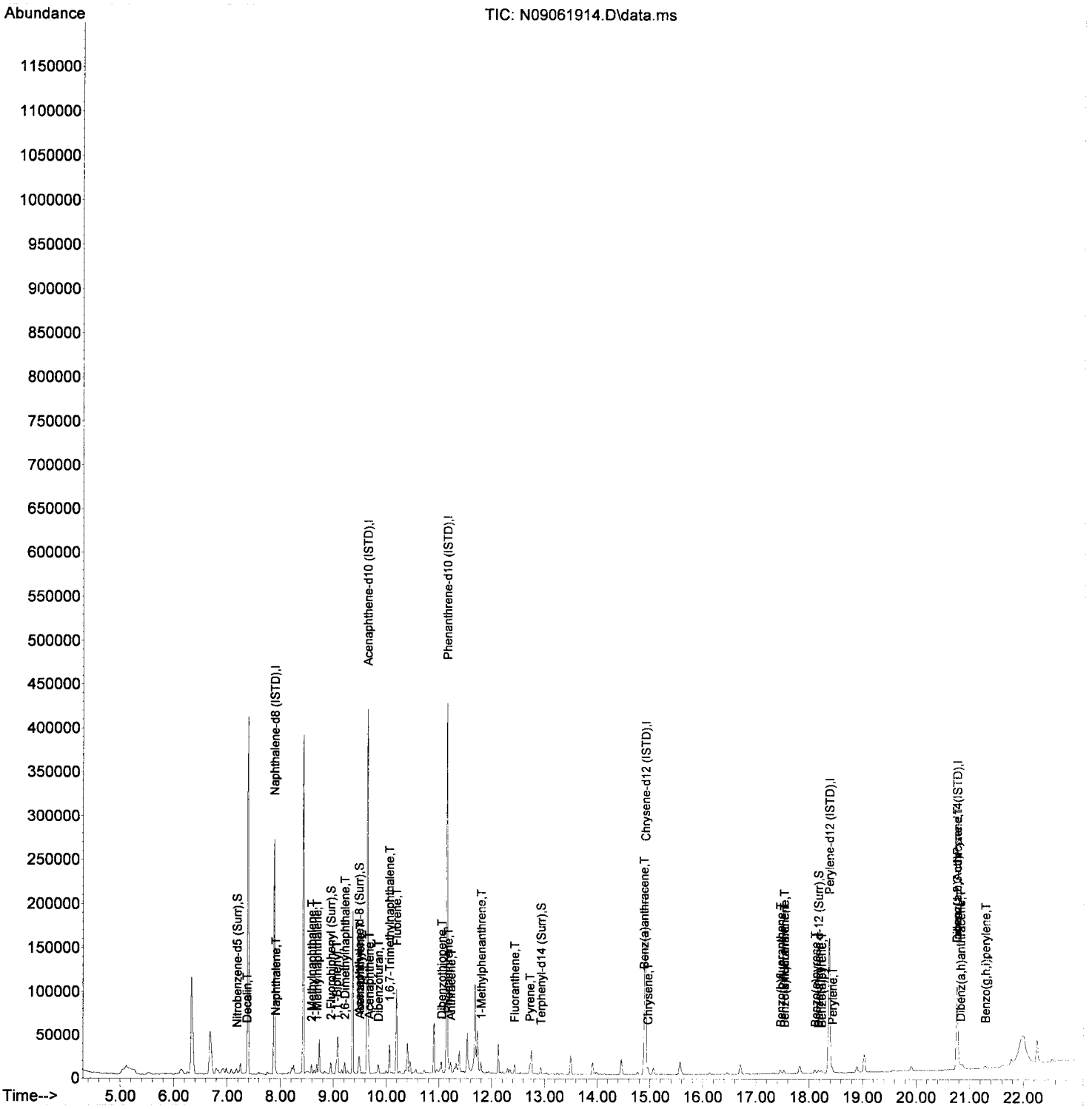
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	170471	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	119278	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	215482	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	151986	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	123595	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	82584	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	1447	2.55	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	4658	2.62	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	9843	2.67	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	4151	2.60	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	2322	2.35	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	323	2.54	ng/ml	87
4) Naphthalene	7.906	128	4837	2.57	ng/ml	98
5) 2-Methylnaphthalene	8.588	142	3865	2.43	ng/ml	96
6) 1-Methylnaphthalene	8.688	142	3730	2.34	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	5118	2.39	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	3622	2.31	ng/ml	97
12) Acenaphthylene	9.498	152	6483	2.50	ng/ml	98
13) Acenaphthene	9.673	153	4435	2.61	ng/ml	96
14) Dibenzofuran	9.847	168	5286	2.49	ng/ml	95
15) 1,6,7-Trimethylnaphtha...	10.057	170	3598	2.53	ng/ml	87
16) Fluorene	10.191	166	4189	2.41	ng/ml	94
18) Dibenzothiopene	11.042	184	5817	2.58	ng/ml	97
19) Phenanthrene	11.171	178	6430	2.55	ng/ml	99
20) Anthracene	11.223	178	5868	2.50	ng/ml	98
21) Carbazole	11.380	167	4473	No Calib		
22) 1-Methylphenanthrene	11.794	192	4331	2.47	ng/ml	98
23) Fluoranthene	12.429	202	6070	2.39	ng/ml	95
25) Pyrene	12.721	202	6620	2.79	ng/ml	98
27) Benz(a)anthracene	14.883	228	4639	2.63	ng/ml	97
28) Chrysene	14.959	228	4207	2.52	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	3353	2.35	ng/ml	96
31) Benzo(k)fluoranthene	17.530	252	3343	2.38	ng/ml	93
32) Benzo(b+k)fluoranthene	17.530	252	6909	2.37	ng/ml	93
34) Benzo(e)pyrene	18.112	252	3623	2.51	ng/ml	97
35) Benzo(a)pyrene	18.229	252	2658	2.18	ng/ml	100
36) Perylene	18.433	252	3787	2.52	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	2642	2.59	ng/ml	100
39) Dibenz(a,h)anthracene	20.823	278	2361	2.47	ng/ml	87
40) Benzo(g,h,i)perylene	21.289	276	2446	2.26	ng/ml	97

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061914.D
Acq On : 06 Sep 2019 05:23 pm
Operator :
Sample : 9I06028-CAL2
Misc : 1x, A19I016@2.5
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:55 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061915.D
Acq On : 06 Sep 2019 05:55 pm
Operator :
Sample : 9I06028-CAL3
Misc : 1x, A19I017@5
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:00 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

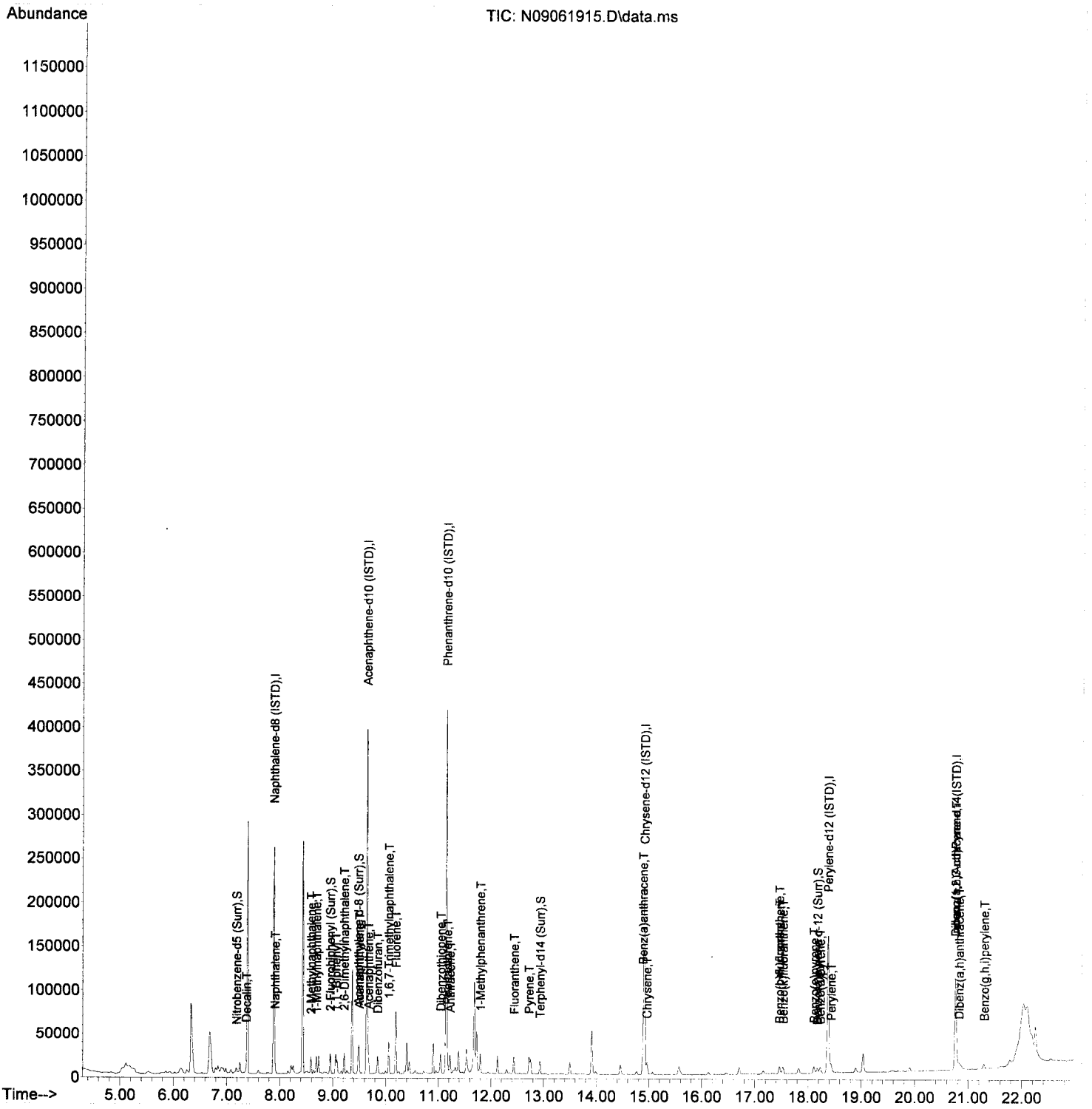
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	165670	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	115422	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	210311	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	150233	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	124460	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	83358	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	2621	4.76	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	8548	4.96	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	14409	4.79	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	7787	4.93	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	4638	4.66	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	582	4.72	ng/ml	91
4) Naphthalene	7.906	128	9092	4.98	ng/ml	99
5) 2-Methylnaphthalene	8.588	142	7294	4.71	ng/ml	97
6) 1-Methylnaphthalene	8.688	142	6937	4.48	ng/ml	96
7) 1,1'-Biphenyl	9.055	154	9300	4.47	ng/ml	96
8) 2,6-Dimethylnaphthalene	9.212	156	6755	4.44	ng/ml	99
12) Acenaphthylene	9.498	152	12342	4.93	ng/ml	99
13) Acenaphthene	9.673	153	8103	4.94	ng/ml	98
14) Dibenzofuran	9.847	168	10021	4.87	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	6769	4.92	ng/ml	98
16) Fluorene	10.191	166	8130	4.84	ng/ml	99
18) Dibenzothiopene	11.042	184	11105	5.05	ng/ml	97
19) Phenanthrene	11.171	178	11957	4.86	ng/ml	98
20) Anthracene	11.223	178	11026	4.82	ng/ml	99
21) Carbazole	11.380	167	8513	No Calib		
22) 1-Methylphenanthrene	11.794	192	8212	4.80	ng/ml	99
23) Fluoranthene	12.435	202	11610	4.68	ng/ml	98
25) Pyrene	12.721	202	11908	5.07	ng/ml	100
27) Benz(a)anthracene	14.883	228	8173	4.69	ng/ml	96
28) Chrysene	14.959	228	8164	4.95	ng/ml	96
30) Benzo(b)fluoranthene	17.460	252	6625	4.61	ng/ml	95
31) Benzo(k)fluoranthene	17.530	252	6760	4.78	ng/ml	96
32) Benzo(b+k)fluoranthene	17.460	252	13896	4.73	ng/ml	93
34) Benzo(e)pyrene	18.112	252	6692	4.61	ng/ml	98
35) Benzo(a)pyrene	18.229	252	5344	4.35	ng/ml	99
36) Perylene	18.433	252	7462	4.93	ng/ml	97
38) Indeno(1,2,3-cd)Pyrene	20.759	276	4940	4.80	ng/ml	95
39) Dibenz(a,h)anthracene	20.829	278	4673	4.84	ng/ml	98
40) Benzo(g,h,i)perylene	21.295	276	5171	4.74	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061915.D
Acq On : 06 Sep 2019 05:55 pm
Operator :
Sample : 9I06028-CAL3
Misc : 1x, A19I017@5
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:00 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061916.D
Acq On : 06 Sep 2019 06:27 pm
Operator :
Sample : 9I06028-CAL4
Misc : 1x, A19I018@10
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:05 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

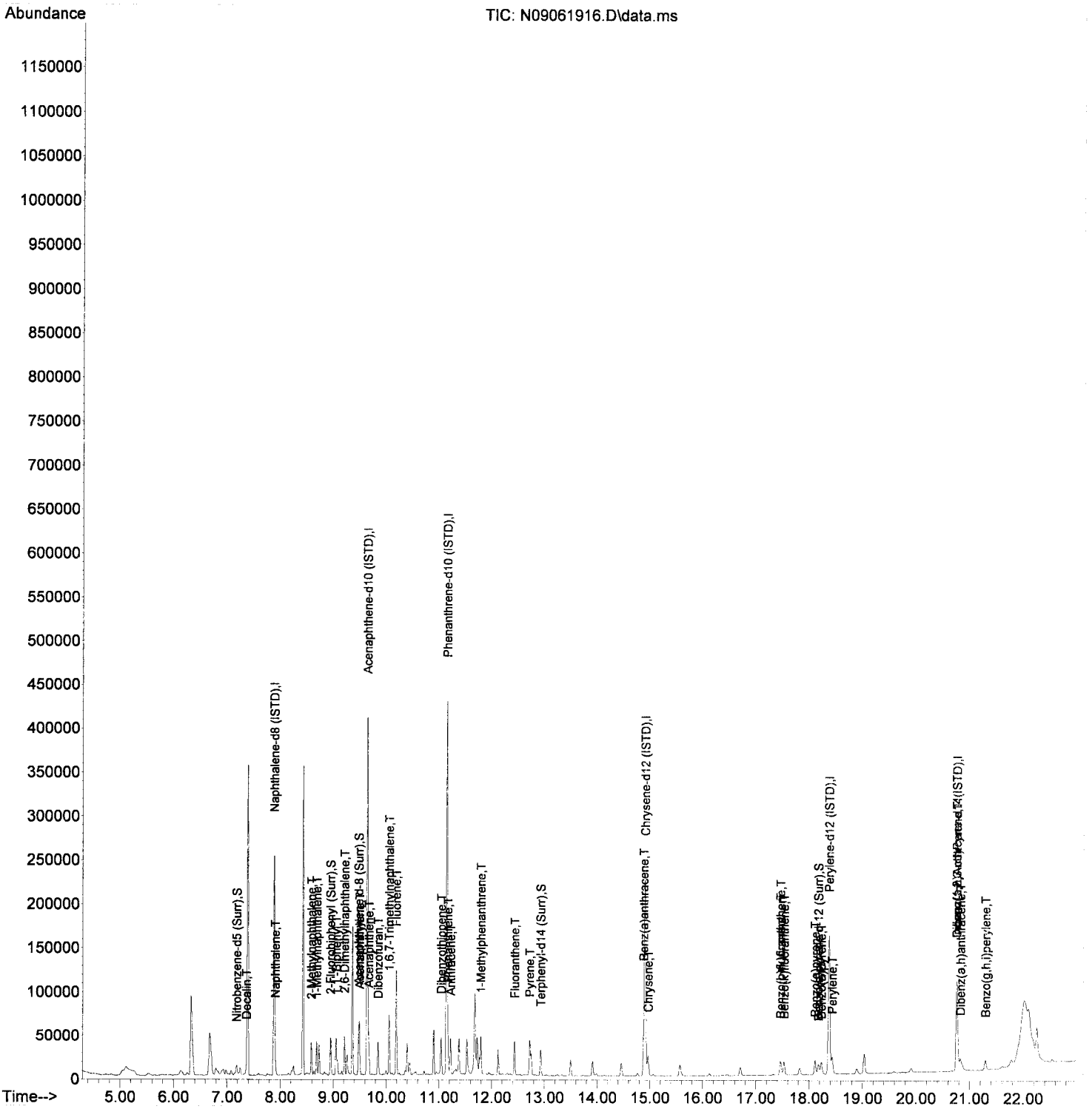
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	160906	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	118305	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	216396	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	153303	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	125859	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	82058	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	5073	9.49	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	17737	10.05	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	27001	9.97	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	16215	10.06	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	9551	9.49	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.365	138	1106	9.23	ng/ml	96
4) Naphthalene	7.907	128	18065	10.18	ng/ml	98
5) 2-Methylnaphthalene	8.589	142	14250	9.48	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	14747	9.81	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	19088	9.44	ng/ml	99
8) 2,6-Dimethylnaphthalene	9.212	156	13690	9.27	ng/ml	97
12) Acenaphthylene	9.498	152	25683	10.00	ng/ml	98
13) Acenaphthene	9.673	153	16768	9.97	ng/ml	99
14) Dibenzofuran	9.848	168	21062	10.00	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.057	170	13937	9.88	ng/ml	99
16) Fluorene	10.191	166	16819	9.77	ng/ml	100
18) Dibenzothiopene	11.042	184	22465	9.93	ng/ml	98
19) Phenanthrene	11.171	178	25204	9.95	ng/ml	100
20) Anthracene	11.223	178	22988	9.76	ng/ml	100
21) Carbazole	11.380	167	17697	No Calib		
22) 1-Methylphenanthrene	11.794	192	17190	9.77	ng/ml	100
23) Fluoranthene	12.435	202	24321	9.53	ng/ml	98
25) Pyrene	12.721	202	25073	10.47	ng/ml	99
27) Benz(a)anthracene	14.883	228	16760	9.42	ng/ml	97
28) Chrysene	14.965	228	16658	9.89	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	13743	9.46	ng/ml	97
31) Benzo(k)fluoranthene	17.530	252	13038	9.12	ng/ml	95
32) Benzo(b+k)fluoranthene	17.466	252	28065	9.45	ng/ml	95
34) Benzo(e)pyrene	18.113	252	13726	9.35	ng/ml	98
35) Benzo(a)pyrene	18.229	252	11353	9.13	ng/ml	99
36) Perylene	18.433	252	14964	9.77	ng/ml	97
38) Indeno(1,2,3-cd)Pyrene	20.759	276	9774	9.66	ng/ml	91
39) Dibenz(a,h)anthracene	20.829	278	9159	9.63	ng/ml	90
40) Benzo(g,h,i)perylene	21.295	276	10267	9.56	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061916.D
Acq On : 06 Sep 2019 06:27 pm
Operator :
Sample : 9I06028-CAL4
Misc : 1x, A19I018@10
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:05 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061917.D
Acq On : 06 Sep 2019 07:00 pm
Operator :
Sample : 9I06028-CAL5
Misc : 1x, A19I019@25
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:10 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

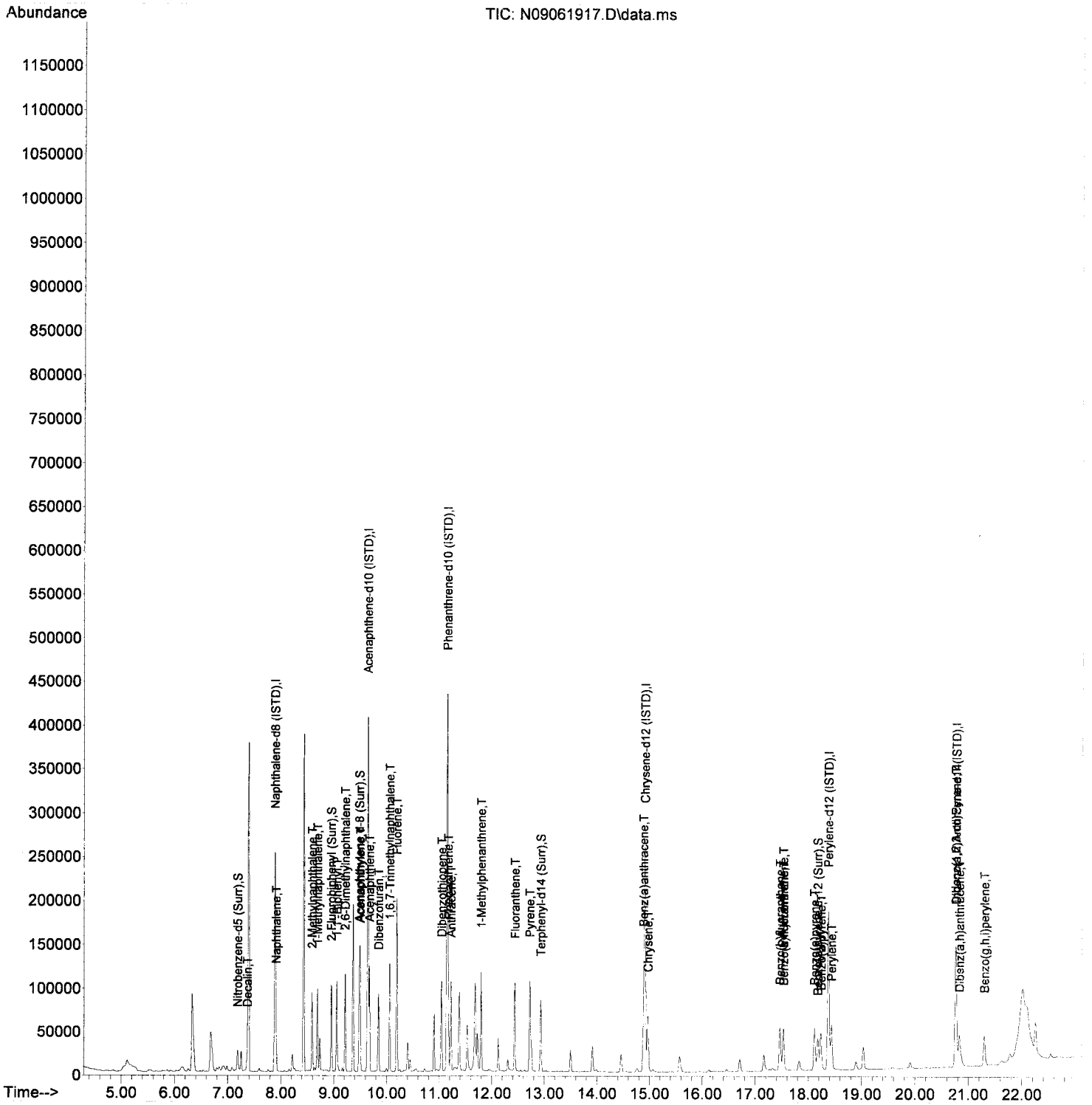
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	158689	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	118239	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	219818	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	167298	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	142122	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	96960	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	12124	22.99	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	44333	25.13	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	62320	24.95	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	44339	25.20	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	27791	24.45	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.365	138	2777	23.50	ng/ml	94
4) Naphthalene	7.907	128	43246	24.71	ng/ml	99
5) 2-Methylnaphthalene	8.589	142	35507	23.94	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	36615	24.69	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	47414	23.77	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	35377	24.28	ng/ml	98
12) Acenaphthylene	9.498	152	64887	25.28	ng/ml	98
13) Acenaphthene	9.673	153	41951	24.95	ng/ml	100
14) Dibenzofuran	9.848	168	52926	25.13	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	34543	24.50	ng/ml	99
16) Fluorene	10.191	166	43186	25.10	ng/ml	99
18) Dibenzothiopene	11.042	184	56622	24.63	ng/ml	98
19) Phenanthrene	11.171	178	63419	24.66	ng/ml	100
20) Anthracene	11.223	178	58731	24.55	ng/ml	99
21) Carbazole	11.380	167	47604	No Calib		
22) 1-Methylphenanthrene	11.794	192	44094	24.68	ng/ml	99
23) Fluoranthene	12.435	202	63845	24.64	ng/ml	99
25) Pyrene	12.721	202	66093	25.29	ng/ml	99
27) Benz(a)anthracene	14.883	228	46578	23.98	ng/ml	99
28) Chrysene	14.965	228	45910	24.98	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	40093	24.45	ng/ml	97
31) Benzo(k)fluoranthene	17.530	252	40088	24.83	ng/ml	98
32) Benzo(b+k)fluoranthene	17.530	252	83294	24.83	ng/ml	98
34) Benzo(e)pyrene	18.113	252	40463	24.40	ng/ml	98
35) Benzo(a)pyrene	18.235	252	34709	24.73	ng/ml	99
36) Perylene	18.433	252	43783	25.33	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	28895	24.16	ng/ml	94
39) Dibenz(a,h)anthracene	20.829	278	27156	24.16	ng/ml	92
40) Benzo(g,h,i)perylene	21.295	276	31234	24.62	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061917.D
Acq On : 06 Sep 2019 07:00 pm
Operator :
Sample : 9I06028-CAL5
Misc : 1x, A19I019@25
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:10 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061918.D
Acq On : 06 Sep 2019 07:32 pm
Operator :
Sample : 9I06028-CAL6
Misc : 1x, A19I020@50
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:15 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

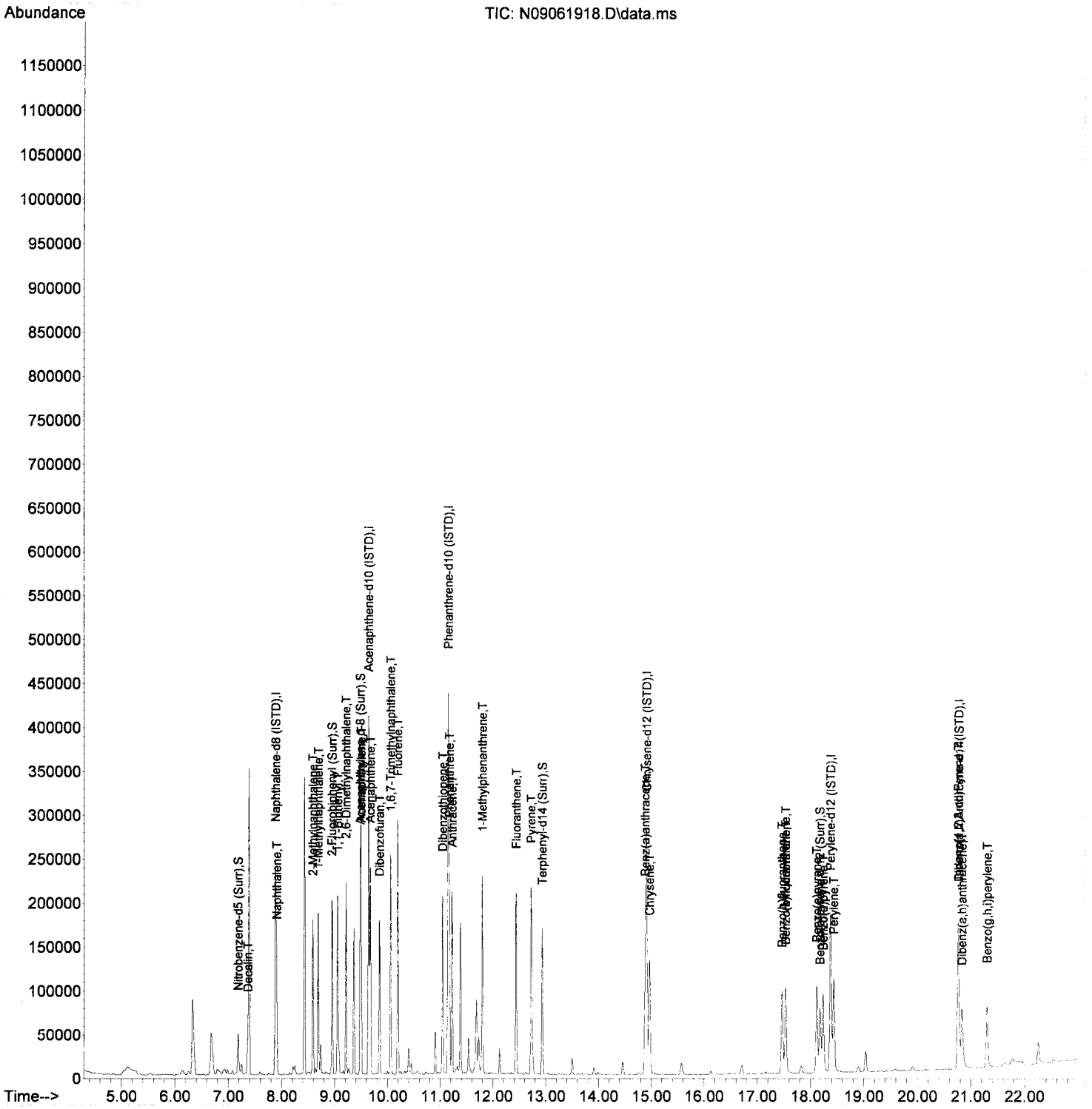
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148351	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	117951	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	219661	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	169841	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	142416	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	93265	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	23996	48.68	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	87417	49.68	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	119179	49.18	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	88785	49.70	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	57544	50.53	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	5568	50.41	ng/ml	97
4) Naphthalene	7.907	128	80326	49.09	ng/ml	99
5) 2-Methylnaphthalene	8.589	142	69811	50.35	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	71477	51.56	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	93359	50.06	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	69912	51.34	ng/ml	97
12) Acenaphthylene	9.498	152	128075	50.02	ng/ml	99
13) Acenaphthene	9.673	153	82212	49.02	ng/ml	100
14) Dibenzofuran	9.848	168	104783	49.88	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	68907	48.99	ng/ml	99
16) Fluorene	10.191	166	85319	49.71	ng/ml	100
18) Dibenzothiopene	11.042	184	113451	49.38	ng/ml	98
19) Phenanthrene	11.171	178	126501	49.21	ng/ml	100
20) Anthracene	11.223	178	118187	49.43	ng/ml	99
21) Carbazole	11.380	167	95634	No Calib		
22) 1-Methylphenanthrene	11.794	192	88417	49.52	ng/ml	99
23) Fluoranthene	12.435	202	128587	49.65	ng/ml	99
25) Pyrene	12.721	202	133393	50.27	ng/ml	100
27) Benz(a)anthracene	14.883	228	93207	47.27	ng/ml	100
28) Chrysene	14.965	228	91866	49.23	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	82867	50.43	ng/ml	98
31) Benzo(k)fluoranthene	17.530	252	79638	49.22	ng/ml	97
32) Benzo(b+k)fluoranthene	17.530	252	167848	49.93	ng/ml	97
34) Benzo(e)pyrene	18.118	252	81957	49.32	ng/ml	99
35) Benzo(a)pyrene	18.235	252	71520	50.85	ng/ml	98
36) Perylene	18.433	252	86757	50.08	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	57046	49.59	ng/ml	90
39) Dibenz(a,h)anthracene	20.829	278	53335	49.34	ng/ml	90
40) Benzo(g,h,i)perylene	21.295	276	61905	50.73	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061918.D
Acq On : 06 Sep 2019 07:32 pm
Operator :
Sample : 9I06028-CAL6
Misc : 1x, A19I020@50
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:15 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061919.D
Acq On : 06 Sep 2019 08:04 pm
Operator :
Sample : 9I06028-CAL7
Misc : 1x, A19I021@100
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:19 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

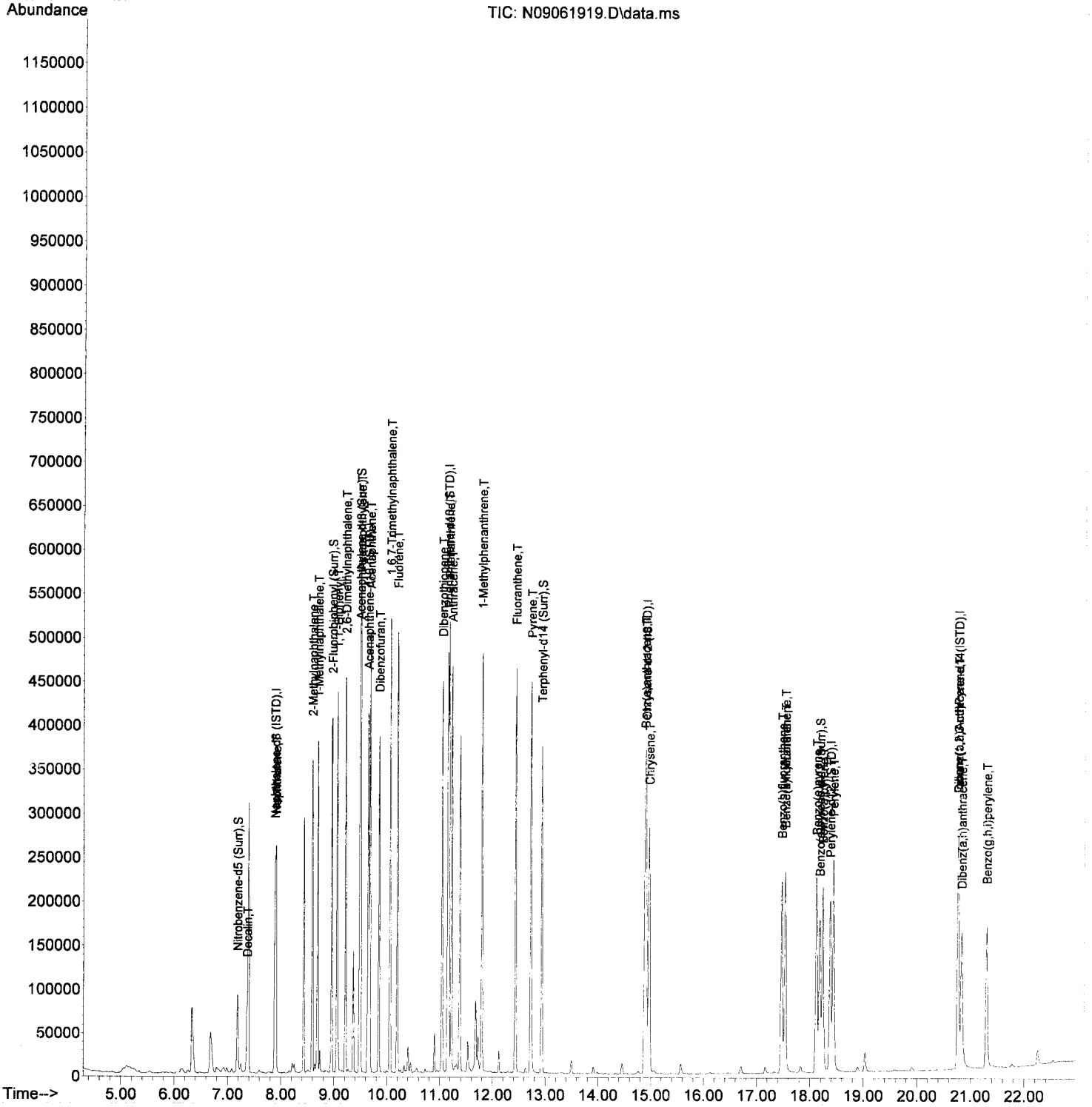
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148917	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	121411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	233582	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	187274	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	159070	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	103600	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	48056	97.11	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	182001	100.48	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	248072	101.01	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	196418	99.72	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.182	264	134446	105.69	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	11430	103.09	ng/ml	94
4) Naphthalene	7.906	128	161201	98.15	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	143766	103.29	ng/ml	99
6) 1-Methylnaphthalene	8.687	142	146804	105.50	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	197491	105.50	ng/ml	99
8) 2,6-Dimethylnaphthalene	9.212	156	148070	108.31	ng/ml	97
12) Acenaphthylene	9.498	152	272913	103.54	ng/ml	99
13) Acenaphthene	9.672	153	175245	101.51	ng/ml	100
14) Dibenzofuran	9.847	168	222327	102.81	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	147218	101.68	ng/ml	100
16) Fluorene	10.191	166	185216	104.84	ng/ml	99
18) Dibenzothiopene	11.042	184	245278	100.40	ng/ml	98
19) Phenanthrene	11.170	178	270427	98.94	ng/ml	100
20) Anthracene	11.223	178	259236	101.96	ng/ml	99
21) Carbazole	11.380	167	211369	No Calib		
22) 1-Methylphenanthrene	11.794	192	192550	101.41	ng/ml	98
23) Fluoranthene	12.435	202	280652	101.91	ng/ml	99
25) Pyrene	12.727	202	292089	99.83	ng/ml	99
27) Benz(a)anthracene	14.889	228	213884	98.37	ng/ml	99
28) Chrysene	14.971	228	205074	99.67	ng/ml	99
30) Benzo(b)fluoranthene	17.471	252	189979	103.50	ng/ml	97
31) Benzo(k)fluoranthene	17.535	252	190175	105.23	ng/ml	97
32) Benzo(b+k)fluoranthene	17.535	252	390913	104.11	ng/ml	97
34) Benzo(e)pyrene	18.124	252	188367	101.49	ng/ml	98
35) Benzo(a)pyrene	18.241	252	165951	105.63	ng/ml	99
36) Perylene	18.439	252	198533	102.60	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.764	276	130568	102.18	ng/ml	90
39) Dibenz(a,h)anthracene	20.834	278	122057	101.65	ng/ml	90
40) Benzo(g,h,i)perylene	21.301	276	143780	106.06	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061919.D
Acq On : 06 Sep 2019 08:04 pm
Operator :
Sample : 9I06028-CAL7
Misc : 1x, A19I021@100
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:19 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061920.D
Acq On : 06 Sep 2019 08:37 pm
Operator :
Sample : 9I06028-CAL8
Misc : 1x, A19I022@200
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:30 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

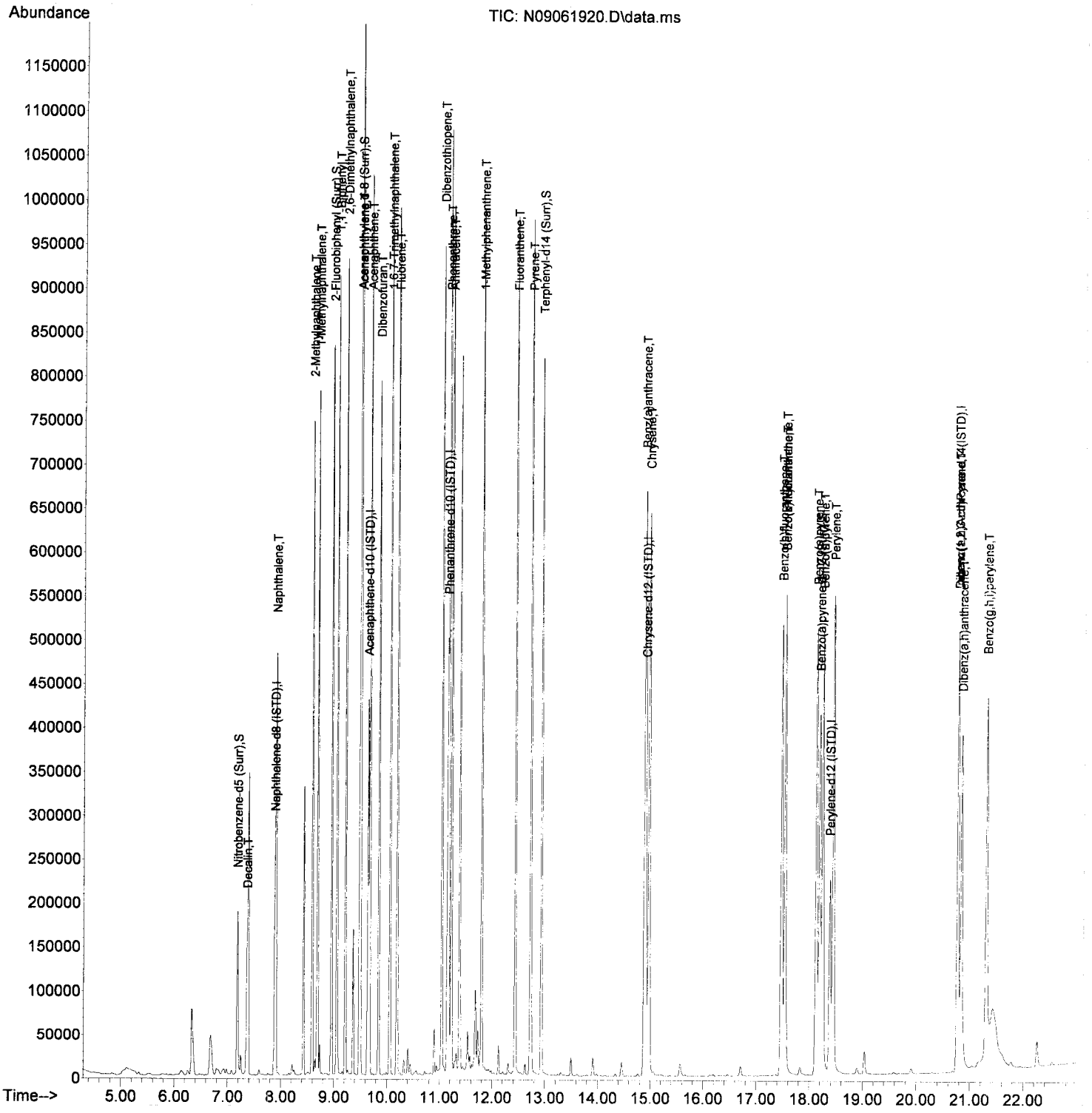
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148783	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	126650	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	244292	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	211033	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	182214	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	126578	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	99288	200.83	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	378966	200.57	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	514554	202.53	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	430770	194.09	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.188	264	322602	221.39	ng/ml	0.01
Target Compounds						Qvalue
3) Decalin	7.364	138	22829	206.09	ng/ml	95
4) Naphthalene	7.907	128	324908	198.00	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	297992	214.30	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	304942	219.34	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	413306	220.99	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	307564	225.18	ng/ml	99
12) Acenaphthylene	9.498	152	568160	206.64	ng/ml	99
13) Acenaphthene	9.673	153	362489	201.28	ng/ml	100
14) Dibenzofuran	9.848	168	462691	205.12	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	307091	203.33	ng/ml	98
16) Fluorene	10.197	166	391380	212.38	ng/ml	99
18) Dibenzothiopene	11.042	184	515882	201.91	ng/ml	98
19) Phenanthrene	11.171	178	575793	201.42	ng/ml	100
20) Anthracene	11.223	178	544931	204.94	ng/ml	99
21) Carbazole	11.380	167	461912	No Calib		
22) 1-Methylphenanthrene	11.800	192	411489	207.21	ng/ml	99
23) Fluoranthene	12.435	202	599723	208.23	ng/ml	99
25) Pyrene	12.727	202	623857	189.22	ng/ml	100
27) Benz(a)anthracene	14.889	228	484834	197.88	ng/ml	99
28) Chrysene	14.971	228	465584	200.80	ng/ml	99
30) Benzo(b)fluoranthene	17.477	252	448476	213.30	ng/ml	96
31) Benzo(k)fluoranthene	17.541	252	445148	215.03	ng/ml	97
32) Benzo(b+k)fluoranthene	17.541	252	917698	213.36	ng/ml	97
34) Benzo(e)pyrene	18.130	252	441980	207.89	ng/ml	99
35) Benzo(a)pyrene	18.247	252	395245	219.63	ng/ml	98
36) Perylene	18.451	252	467343	210.85	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.770	276	319524	204.65	ng/ml	89
39) Dibenz(a,h)anthracene	20.840	278	302142	205.95	ng/ml	89
40) Benzo(g,h,i)perylene	21.307	276	353209	213.26	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061920.D
Acq On : 06 Sep 2019 08:37 pm
Operator :
Sample : 9I06028-CAL8
Misc : 1x, A19I022@200
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:30 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061921.D
Acq On : 06 Sep 2019 09:09 pm
Operator :
Sample : 9I06028-CAL9
Misc : 1x, A19I023@300
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/d 9/9/19

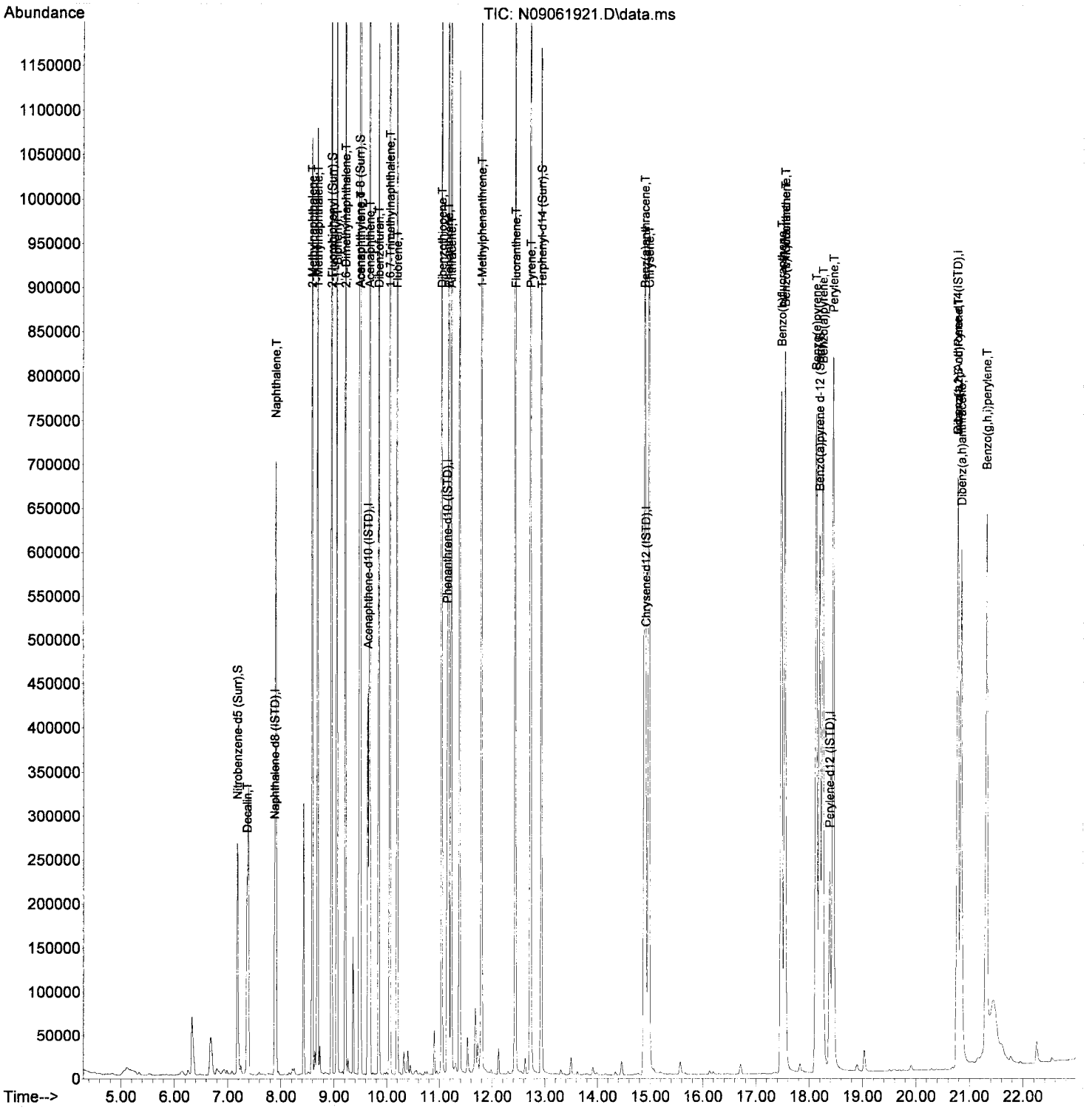
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	144322	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	126204	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	242216	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	215566	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.386	264	189767	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	133133	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	146381	305.23	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.955	172	559316	297.07	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	745779	295.55	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.936	244	642064	283.20	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.194	264	500951	330.10	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.364	138	32583	303.24	ng/ml	97
4) Naphthalene	7.906	128	466678	293.18	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	433604	321.46	ng/ml	99
6) 1-Methylnaphthalene	8.693	142	439781	326.10	ng/ml	99
7) 1,1'-Biphenyl	9.055	154	601929	331.80	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.218	156	447080	337.45	ng/ml	99
12) Acenaphthylene	9.498	152	818063	298.58	ng/ml	99
13) Acenaphthene	9.672	153	525474	292.81	ng/ml	99
14) Dibenzofuran	9.847	168	670519	298.30	ng/ml	100
15) 1,6,7-Trimethylnaphtha...	10.057	170	446194	296.47	ng/ml	97
16) Fluorene	10.197	166	565155	307.76	ng/ml	99
18) Dibenzothiopene	11.042	184	757296	298.94	ng/ml	98
19) Phenanthrene	11.170	178	823752	290.63	ng/ml	99
20) Anthracene	11.223	178	800967	303.81	ng/ml	100
21) Carbazole	11.380	167	683176	No Calib		
22) 1-Methylphenanthrene	11.800	192	600130	304.80	ng/ml	99
23) Fluoranthene	12.441	202	885026	309.92	ng/ml	98
25) Pyrene	12.727	202	915663	271.88	ng/ml	100
27) Benz(a)anthracene	14.895	228	736689	294.35	ng/ml	100
28) Chrysene	14.976	228	698605	294.96	ng/ml	99
30) Benzo(b)fluoranthene	17.483	252	692733	316.36	ng/ml	96
31) Benzo(k)fluoranthene	17.547	252	681890	316.29	ng/ml	97
32) Benzo(b+k)fluoranthene	17.547	252	1407871	314.29	ng/ml	97
34) Benzo(e)pyrene	18.136	252	676479	305.53	ng/ml	99
35) Benzo(a)pyrene	18.258	252	607972	324.39	ng/ml	98
36) Perylene	18.456	252	713926	309.27	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	498760	303.72	ng/ml	88
39) Dibenz(a,h)anthracene	20.846	278	471957	305.86	ng/ml	90
40) Benzo(g,h,i)perylene	21.318	276	546350	313.63	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061921.D
Acq On : 06 Sep 2019 09:09 pm
Operator :
Sample : 9I06028-CAL9
Misc : 1x, A19I023@300
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061922.D
Acq On : 06 Sep 2019 09:41 pm
Operator :
Sample : 9I06028-CALA
Misc : 1x, A19I024@400
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

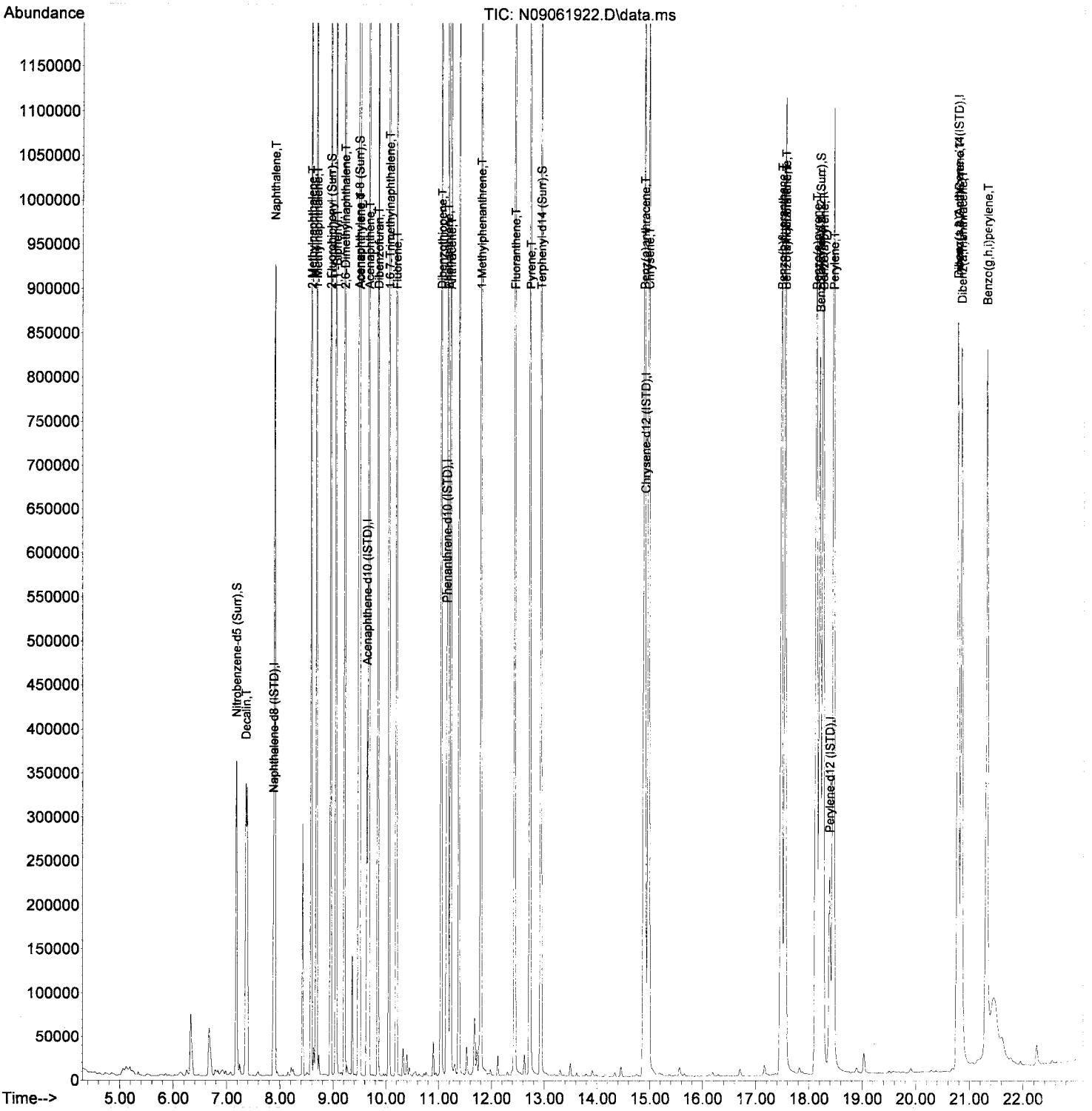
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	151798	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	120378	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	227701	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	211373	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.387	264	191099	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	134738	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	204654	405.72	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	721151	401.56	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	964800	401.86	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	855839	384.98	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.200	264	689197	450.98	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.359	138	49479	437.80	ng/ml	96
4) Naphthalene	7.901	128	662079	395.46	ng/ml	100
5) 2-Methylnaphthalene	8.589	142	592165	417.39	ng/ml	99
6) 1-Methylnaphthalene	8.688	142	595669	419.94	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	776505	406.95	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	574431	412.22	ng/ml	99
12) Acenaphthylene	9.498	152	1039006	397.57	ng/ml	99
13) Acenaphthene	9.673	153	672408	392.83	ng/ml	99
14) Dibenzofuran	9.848	168	849810	396.36	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	567245	395.14	ng/ml	98
16) Fluorene	10.191	166	710688	405.74	ng/ml	99
18) Dibenzothiopene	11.042	184	950081	398.95	ng/ml	98
19) Phenanthrene	11.171	178	1041489	390.88	ng/ml	99
20) Anthracene	11.223	178	1015402	409.70	ng/ml	100
21) Carbazole	11.380	167	865078	No Calib		
22) 1-Methylphenanthrene	11.794	192	771189	416.65	ng/ml	99
23) Fluoranthene	12.435	202	1148955	427.99	ng/ml	98
25) Pyrene	12.727	202	1201811	363.93	ng/ml	100
27) Benz(a)anthracene	14.889	228	991720	404.11	ng/ml	99
28) Chrysene	14.977	228	942172	405.69	ng/ml	99
30) Benzo(b)fluoranthene	17.483	252	952609	432.01	ng/ml	96
31) Benzo(k)fluoranthene	17.553	252	938589	432.32	ng/ml	96
32) Benzo(b+k)fluoranthene	17.553	252	1935514	429.07	ng/ml	96
34) Benzo(e)pyrene	18.136	252	924774	414.75	ng/ml	99
35) Benzo(a)pyrene	18.258	252	837229	443.59	ng/ml	98
36) Perylene	18.456	252	976822	420.21	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	691371	416.00	ng/ml	88
39) Dibenz(a,h)anthracene	20.846	278	656172	420.18	ng/ml	89
40) Benzo(g,h,i)perylene	21.318	276	751545	426.28	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061922.D
Acq On : 06 Sep 2019 09:41 pm
Operator :
Sample : 9I06028-CALA
Misc : 1x, A19I024@400
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:49 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

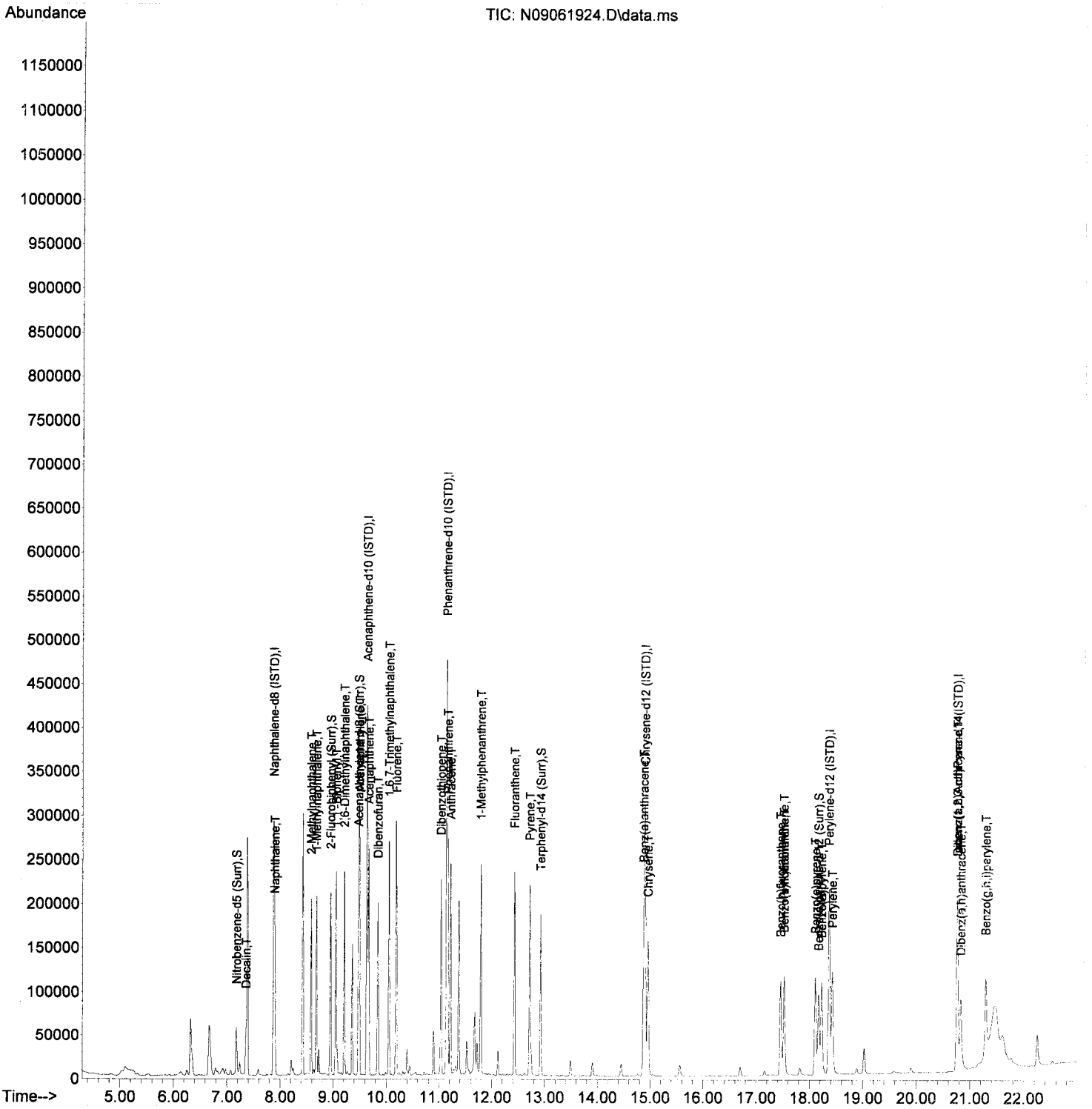
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	181748	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	125177	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	235054	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	188693	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	162940	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	108931	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	27909	46.21	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	92755	49.67	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	126796	49.31	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	96645	48.70	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	69335	53.21	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.359	138	6597	48.75	ng/ml	96
4) Naphthalene	7.901	128	100112	49.94	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	79542	46.83	ng/ml	99
6) 1-Methylnaphthalene	8.682	142	81122	47.77	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	105870	46.34	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.206	156	76410	45.80	ng/ml	98
12) Acenaphthylene	9.492	152	141177	51.95	ng/ml	99
13) Acenaphthene	9.667	153	89594	50.33	ng/ml	100
14) Dibenzofuran	9.842	168	113513	50.91	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.052	170	74864	50.15	ng/ml	99
16) Fluorene	10.191	166	92650	50.87	ng/ml	98
18) Dibenzothiopene	11.037	184	122412	49.79	ng/ml	98
19) Phenanthrene	11.165	178	138621	50.40	ng/ml	100
20) Anthracene	11.217	178	132505	51.79	ng/ml	99
21) Carbazole	11.375	167	104923	No Calib		
22) 1-Methylphenanthrene	11.788	192	98289	51.44	ng/ml	100
23) Fluoranthene	12.430	202	140103	50.56	ng/ml	99
25) Pyrene	12.721	202	144864	49.14	ng/ml	99
27) Benz(a)anthracene	14.878	228	106201	48.48	ng/ml	99
28) Chrysene	14.959	228	108583	52.38	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	95110	50.59	ng/ml	97
31) Benzo(k)fluoranthene	17.524	252	92505	49.97	ng/ml	97
32) Benzo(b+k)fluoranthene	17.524	252	193724	50.37	ng/ml	97
34) Benzo(e)pyrene	18.113	252	95583	50.28	ng/ml	98
35) Benzo(a)pyrene	18.229	252	82357	51.18	ng/ml	99
36) Perylene	18.427	252	100869	50.89	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	67142	49.97	ng/ml	89
39) Dibenz(a,h)anthracene	20.823	278	62283	49.33	ng/ml	90
40) Benzo(g,h,i)perylene	21.289	276	76359	53.57	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:49 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Final Reqmart

Quant Time: Sep 10 10:28:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/10/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	181748	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	125177	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	235054	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	188693	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	162940	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	108931	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	27909	46.21	ng/ml	0.00
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22) 1-Methylphenanthrene	11.788	192	98289	51.44	ng/ml	100
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31) Benzo(k)fluoranthene	17.524	252	92505	49.97	ng/ml	97
32) Benzo(b+k)fluoranthene	17.524	252	193724	100.73	ng/ml	97
34) Benzo(e)pyrene	18.113	252	95583	50.28	ng/ml	98
35) Benzo(a)pyrene	18.229	252	82357	51.18	ng/ml	99
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39) Dibenz(a,h)anthracene	20.823	278	62283	49.34	ng/ml	90
40) Benzo(g,h,i)perylene	21.289	276	76359	53.58	ng/ml	91

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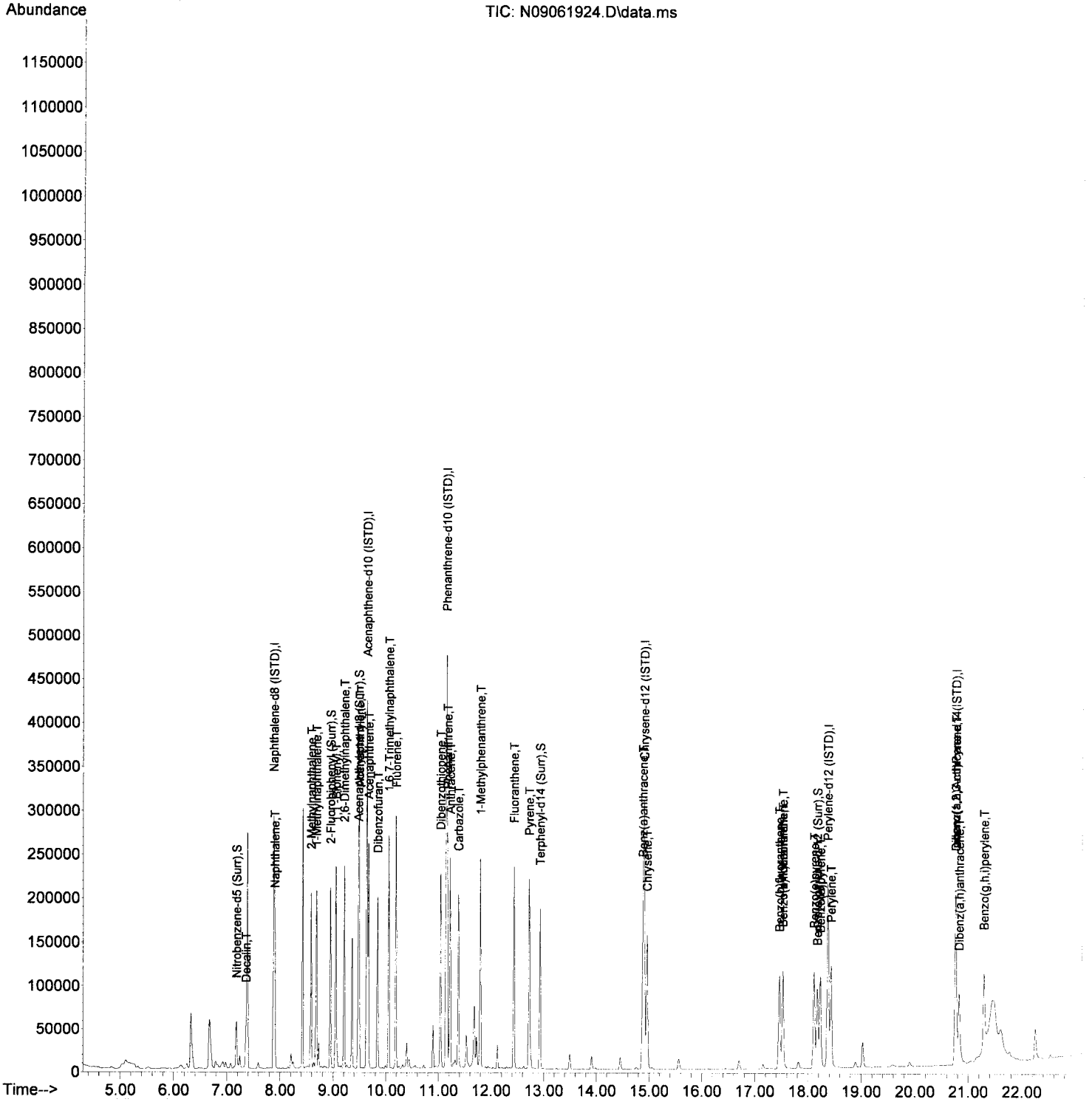
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Total Metals by EPA 6020A (ICPMS)
Benchsheet Data and Analysis (Including Calibration)

Batch 9100531
Sequence 9J07068 (A9I0885-01,02,04,05,06,07)

APEX LABORATORIES

As (Arsenic) - 6020 - Total

PREPARATION BENCH SHEET

9100531

Apex Laboratories
BATCH #: 9100531 (Sediment)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9100531-BLK1	---	10/02/19 08:34	0.520	50	*QC Sample*		
9100531-BS1	---	10/02/19 08:34	0.5	50	*QC Sample*		
	Spike 1: 2500 uL of A19I253	Spike 2: 250 uL of A19I359					
A9I0885-01	*10/10/19*	10/02/19 08:34	0.5 .480	50	Anchor QEA, LLC	PDI-013SC-B-7.6-9.6-19092	D.P
☐ As (Arsenic) - 6020 - Total							
A9I0885-02	*10/10/19*	10/02/19 08:34	0.518	50	Anchor QEA, LLC	PDI-013SC-B-9.6-12-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-04	*10/10/19*	10/02/19 08:34	0.518 .482	50	Anchor QEA, LLC	PDI-018SC-B-11.8-13.2-190	
☐ As (Arsenic) - 6020 - Total							
A9I0885-05	*10/10/19*	10/02/19 08:34	0.515	50	Anchor QEA, LLC	PDI-018SC-B-5.8-7.8-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-06	*10/10/19*	10/02/19 08:34	0.502	50	Anchor QEA, LLC	PDI-018SC-B-7.8-9.8-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-07	*10/10/19*	10/02/19 08:34	0.510	50	Anchor QEA, LLC	PDI-018SC-B-9.8-11.8-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-01	*10/11/19*	10/02/19 08:34	0.5 .486	50	Anchor QEA, LLC	PDI-021SC-B-11.7-13.7-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-02	*10/11/19*	10/02/19 08:34	0.520	50	Anchor QEA, LLC	PDI-021SC-B-13.7-15.4-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-03	*10/11/19*	10/02/19 08:34	0.5 .488	50	Anchor QEA, LLC	PDI-021SC-B-5.7-7.7-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-04	*10/11/19*	10/02/19 08:34	0.5 .488	50	Anchor QEA, LLC	PDI-021SC-B-7.7-9.7-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-05	*10/11/19*	10/02/19 08:34	0.5 .499	50	Anchor QEA, LLC	PDI-021SC-B-9.7-11.7-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-07	*10/11/19*	10/02/19 08:34	0.503	50	Anchor QEA, LLC	PDI-024SC-B-10-12.1-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-08	*10/11/19*	10/02/19 08:34	0.507	50	Anchor QEA, LLC	PDI-1024SC-B-10-12.1-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-09	*10/11/19*	10/02/19 08:34	0.510	50	Anchor QEA, LLC	PDI-030SC-B-5.9-7.9-19092	MS/MSD
☐ As (Arsenic) - 6020 - Total							

Prepared By: 10/2/19 Date

ESS 10/8/19
Reviewed By: Date

APEX LABORATORIES

Apex Laboratories
BATCH #: 9100531 (Sediment)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9100531-MS1	---	10/02/19 08:34	0.5	50	*QC Sample*		
Source: A9I0922-09 Spike 1: 2500 uL of A19I253 Spike 2: 250 uL of A19I359							
9100531-MSD1	---	10/02/19 08:34	0.5	50	*QC Sample*		
Source: A9I0922-09 Spike 1: 2500 uL of A19I253 Spike 2: 250 uL of A19I359							
A9I0922-10	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-030SC-B-7.9-9.9-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-11	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-030SC-B-9.9-11.8-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-12	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-10.2-12.2-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-13	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-12.2-13.4-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-14	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-4.2-6.2-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-15	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-6.2-8.2-19092	
☐ As (Arsenic) - 6020 - Total							

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L213	11/30/23	Metals Prep Balance 2
A15E001	05/01/20	Mars-1 Microwave
A19F065	10/31/19	30% hydrogen peroxide
A19F120	06/12/20	Conc. HCl - Omnitrace
A19I106	03/08/20	Conc. HNO3 - Omnitrace

Analyte Spike(s)

Std ID	Exp. Date	Description
A19I253	12/11/19	**Combo Spike** A+B+C
A19I359	03/08/20	Hg Spiking Standard KT 10/2/19

KT 10/2/19
A.) A19I210, 1250µL
B.) A19I123, 625µL
C.) A19I124, 625µL

Digestion time and temperature achieved? yes
Initials: KT 10/2/19

Prepared By: 10/2/19 Date

Reviewed By: Date

Batch #: 9100531

If observed weight loss < 0.2g Digestion is within control limits

If observed weight loss > 0.2g Enter data in to electronic VWW. Acceptance limit 1.0% sample loss.

Date: 10/02/19 Prepared by: KT

#	Mars Tube ID	Sample ID	Pre-digestion Vessel + Sample Wt. (g)	Post-digestion Vessel + Sample Wt. (g)	Sample Wt. Loss (%)* *Formula only used if sample loss >0.2g*
1	S69	9100531-BLK1	185.44	185.44	n/a
2	S83	9100531-BS1	184.44	184.44	n/a
3	S18	A9I0885-01	186.51	186.50	n/a
4	S64	A9I0885-02	184.82	184.82	n/a
5	S68	A9I0885-04	186.34	186.33	n/a
6	S16	A9I0885-05	187.15	187.13	n/a
7	S77	A9I0885-06	185.76	185.76	n/a
8	S90	A9I0885-07	185.45	185.45	n/a
9	S62	A9I0922-01	185.76	185.76	n/a
10	S40	A9I0922-02	185.74	185.73	n/a
11	S44	A9I0922-03	183.97	183.96	n/a
12	S88	A9I0922-04	184.53	184.52	n/a
13	S79	A9I0922-05	186.30	186.29	n/a
14	S24	A9I0922-07	186.63	186.61	n/a
15	S85	A9I0922-08	186.78	186.76	n/a
16	S19	A9I0922-09	186.37	186.32	n/a
17	S35	9100531-MS1	184.87	184.87	n/a
18	S78	9100531-MSD1	184.77	184.77	n/a
19	S32	A9I0922-10	185.85	185.83	n/a
20	S86	A9I0922-11	185.82	185.81	n/a
21	S28	A9I0922-12	184.98	184.97	n/a
22	S4	A9I0922-13	186.25	186.24	n/a
23	S41	A9I0922-14	186.80	186.73	n/a
24	S107	A9I0922-15	184.85	184.85	n/a
25					n/a

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J07068-CAL1	Water	QC	QC			A19G402	A19J030
2	9J07068-CAL2	Water	QC	QC			A19G402	A19J031
3	9J07068-CAL3	Water	QC	QC			A19G402	A19J032
4	9J07068-CAL4	Water	QC	QC			A19G402	A19J033
5	9J07068-CAL5	Water	QC	QC			A19G402	A19J035
6	9J07068-CAL6	Water	QC	QC			A19G402	A19J034
7	9J07068-CAL7	Water	QC	QC			A19G402	A19J036
8	9J07068-CAL8	Water	QC	QC			A19G402	A19I054
9	9J07068-CAL9	Water	QC	QC			A19G402	A19I053
10	9J07068-ICV1	Water	QC	QC			A19G402	A19J037
11	9J07068-ICB1	Water	QC	QC			A19G402	
12	9J07068-CRL1	Water	QC	QC			A19G402	A19J030
13	9J07068-CRL2	Water	QC	QC			A19G402	A19J031
14	9J07068-CRL3	Water	QC	QC			A19G402	A19J032
15	9J07068-CRL4	Water	QC	QC			A19G402	A19J033
16	9J07068-IFA1	Water	QC	QC			A19G402	A19I356
17	9J07068-IFB1	Water	QC	QC			A19G402	A19I357
18	9100588-MS5	Water	QC	QC		9100588	A19G402	
19	A9J0027-02RE1	Water	Cu (Copper) - 200.8 - Total		10/14/19	9100588	A19G402	
20	"	Water	Mg (Magnesium) - 200.8 - Total		10/14/19	9100588	A19G402	
21	A9J0027-07RE1	Water	Cu (Copper) - 200.8 - Total		10/14/19	9100588	A19G402	
22	"	Water	Mg (Magnesium) - 200.8 - Total		10/14/19	9100588	A19G402	
23	A9J0056-01RE1	Water	Cu (Copper) - 200.8 - Total		10/09/19	9100588	A19G402	
24	A9J0091-01RE1	Water	Cu (Copper) - 200.8 - Total		10/09/19	9100588	A19G402	
25	9100531-BLK1	Sediment	QC	QC		9100531	A19G402	
26	9100531-BS1	Sediment	QC	QC		9100531	A19G402	
27	A9I0885-01	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
28	A9I0885-02	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
29	A9I0885-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
30	9J07068-CCV1	Water	QC	QC			A19G402	A19J037
31	9J07068-CCV2	Water	QC	QC			A19G402	A19J037
32	9J07068-CCB1	Water	QC	QC			A19G402	
33	9J07068-CCB2	Water	QC	QC			A19G402	
34	A9I0885-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
35	A9I0885-06	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
36	A9I0885-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
37	A9I0922-01	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
38	A9I0922-02	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
39	A9I0922-03	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
40	A9I0922-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
41	A9I0922-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
42	A9I0922-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
43	A9I0922-08	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
44	9J07068-CCV3	Water	QC	QC			A19G402	A19J037
45	9J07068-CCB3	Water	QC	QC			A19G402	
46	A9I0922-09	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
47	9100531-MS1	Sediment	QC	QC		9100531	A19G402	
48	9100531-MSD1	Sediment	QC	QC		9100531	A19G402	
49	A9I0922-10	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
50	A9I0922-11	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
51	A9I0922-12	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	A9I0922-13	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
53	A9I0922-14	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
54	A9I0922-15	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
55	9100666-BLK1	Sediment	QC	QC		9100666	A19G402	
56	9J07068-CCV4	Water	QC	QC			A19G402	A19J037
57	9J07068-CCB4	Water	QC	QC			A19G402	
58	9100666-BS1	Sediment	QC	QC		9100666	A19G402	
59	A9I0922-16	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
60	A9I0922-17	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
61	A9I0922-18	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
62	A9I0922-19	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
63	A9I0922-20	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
64	A9I0922-21	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
65	A9I0936-20	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
66	A9I0936-21	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
67	A9I0936-22	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
68	9J07068-CCV5	Water	QC	QC			A19G402	A19J037
69	9J07068-CCB5	Water	QC	QC			A19G402	
70	9100666-MS1	Sediment	QC	QC		9100666	A19G402	
71	9100666-MSD1	Sediment	QC	QC		9100666	A19G402	
72	A9I0936-23	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
73	A9J0058-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
74	A9J0058-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
75	A9J0058-06	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
76	A9J0058-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
77	A9J0058-08	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
78	A9J0058-11	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
79	A9J0058-12	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
80	9J07068-CCV6	Water	QC	QC			A19G402	A19J037
81	9J07068-CCB6	Water	QC	QC			A19G402	
82	9100666-MS2	Sediment	QC	QC		9100666	A19G402	
83	9100666-MSD2	Sediment	QC	QC		9100666	A19G402	
84	A9J0058-13	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
85	A9J0058-14	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
86	A9J0058-17	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
87	9J07068-CCV7	Water	QC	QC			A19G402	A19J037
88	9J07068-CCB7	Water	QC	QC			A19G402	
89	9J07068-CRL5	Water	QC	QC			A19G402	A19J030
90	9J07068-CRL6	Water	QC	QC			A19G402	A19J031
91	9J07068-CRL7	Water	QC	QC			A19G402	A19J032
92	9J07068-CRL8	Water	QC	QC			A19G402	A19J033
93	9100715-BLK1	Solid	QC	QC		9100715	A19G402	
94	9100715-BS1	Solid	QC	QC		9100715	A19G402	
95	A9J0169-01	Solid	Ag (Silver) - 6020 - Total		10/08/19	9100715	A19G402	
96	"	Solid	As (Arsenic) - 6020 - Total		10/08/19	9100715	A19G402	
97	"	Solid	Ba (Barium) - 6020 - Total		10/08/19	9100715	A19G402	
98	"	Solid	Cd (Cadmium) - 6020 - Total		10/08/19	9100715	A19G402	
99	"	Solid	Cr (Chromium) - 6020 - Total		10/08/19	9100715	A19G402	
100	"	Solid	Hg (Mercury) - 6020 - Total		10/08/19	9100715	A19G402	
101	"	Solid	Pb (Lead) - 6020 - Total		10/08/19	9100715	A19G402	
102	"	Solid	Se (Selenium) - 6020 - Total		10/08/19	9100715	A19G402	
103	9100715-DUP1	Solid	QC	QC		9100715	A19G402	
104	9100715-MS1	Solid	QC	QC		9100715	A19G402	
105	A9J0169-01RE1	Solid	Ag (Silver) - 6020 - Total		10/08/19	9100715	A19G402	
106	"	Solid	As (Arsenic) - 6020 - Total		10/08/19	9100715	A19G402	

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Solid	Ba (Barium) - 6020 - Total		10/08/19	9100715	A19G402	
108	"	Solid	Cd (Cadmium) - 6020 - Total		10/08/19	9100715	A19G402	
109	"	Solid	Cr (Chromium) - 6020 - Total		10/08/19	9100715	A19G402	
110	"	Solid	Hg (Mercury) - 6020 - Total		10/08/19	9100715	A19G402	
111	"	Solid	Pb (Lead) - 6020 - Total		10/08/19	9100715	A19G402	
112	"	Solid	Se (Selenium) - 6020 - Total		10/08/19	9100715	A19G402	
113	9100715-DUP2	Solid	QC	QC		9100715	A19G402	
114	9100715-MS2	Solid	QC	QC		9100715	A19G402	
115	9J07068-CCV8	Water	QC	QC			A19G402	A19J037
116	9J07068-CCV9	Water	QC	QC			A19G402	A19J037
117	9J07068-CCB8	Water	QC	QC			A19G402	
118	9J07068-CRL9	Water	QC	QC			A19G402	A19J030
119	9J07068-CRLA	Water	QC	QC			A19G402	A19J031
120	9J07068-CRLB	Water	QC	QC			A19G402	A19J032
121	9J07068-CRLC	Water	QC	QC			A19G402	A19J033

Data Entered By: ESS 10/8/19 Comments:

Data Reviewed By: [signature] 10/08/19

Tune Report

copy for 9J07068 ESS 10/8/19

Batch Folder	C:\Agilent\ICPMH\1\DATA\9J07033.b
Acq. Date-Time	10/7/2019 10:35
Report Comment	9J07033 EPA Multi-mode Tune Report A19I052
Instrument Name	7700x JP09240003

[H2]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		2547	25468.96	1000.00	
89		11430	114300.32	1000.00	
78		3			

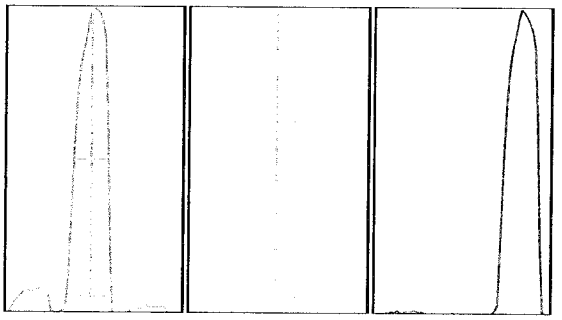
Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	2.80	5.00	
89	0.89	5.00	
78	36.78		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	2426	2545	2605	2589	2569
89	11287	11364	11532	11501	11466
78	4	2	2	5	3

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	468.82	59.00	58.9 - 59.1		0.57	0.766	0.900	

Tune Report

89	2114.73	89.00	88.9 - 89.1	0.56	0.761	0.900
78			-			

Integration Time [sec] 0.1 **Acquisition Time [sec]** 100.35 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	3.4 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		3023	30226.24	1000.00	
89		3952	39521.26	1000.00	
205		6162	61621.86	1000.00	
75		18			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	1.89	5.00	
89	2.74	5.00	
205	1.33	5.00	
75	23.65		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			

Tune Report

205
75

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	2957	2998	2993	3069	3095
89	3800	3878	4007	4017	4058
205	6038	6131	6175	6232	6235
75	19	20	23	11	18

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	528.74	58.95	58.9 - 59.1		0.58	0.768	0.900	
89	757.13	89.05	88.9 - 89.1		0.55	0.734	0.900	
205	1171.41	205.00	204.9 - 205.1		0.54	0.743	0.900	
75	2.50	74.95	-		0.62	0.774		

Integration Time [sec] 0.1 **Acquisition Time [sec]** 134.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.3 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7		4827	48267.52	1000.00	
89		18143	181425.20	1000.00	
205		15184	151840.01	1000.00	
102		2			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	

Tune Report

89		-
205		-
102		-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	1.48	5.00	
89	1.64	5.00	
205	2.77	5.00	
102	96.66		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7			
89			
205			
102			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
7	4734	4857	4789	4924	4831
89	17632	18134	18296	18367	18284
205	14689	15019	14976	15524	15711
102	2	0	3	0	4

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
7	821.60	7.00	6.9 - 7.1		0.61	0.777	0.900	
89	3400.31	89.05	88.9 - 89.1		0.56	0.762	0.900	
205	2867.20	204.95	204.9 - 205.1		0.54	0.742	0.900	
102			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 135.3 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	16.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V

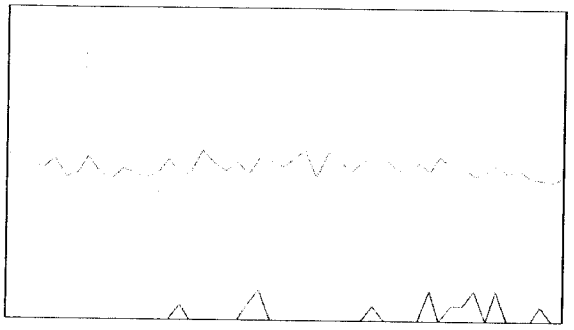
Tune Report

He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Tune Report

Batch Folder	C:\Agilent\ICPMH\1\DATA\9J07033.b
Acq. Date-Time	10/7/2019 10:25
Report Comment	9J07033 Std Multi-mode Tune Report A19I052
Instrument Name	7700x JP09240003

[H2]



Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	1000	494	4940.09	1000.00	
89	5000	2143	21425.99	1000.00	
78	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	5.59	5.00	[F]
89	2.51	5.00	
78	216.94		

see EPA report for RSDs
ESS 10/8/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Integration Time [sec]	0.1	**Sampling Period [sec]**	0.306

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min

Tune Report

Option Gas	0.0 %

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	3.4 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	1000	558	5584.88	1000.00	
89	1000	782	7823.36	1000.00	
205	2000	1205	12048.98	1000.00	
75	20	3			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.11	5.00	[F]
89	5.34	5.00	[F]
205	6.43	5.00	[F]
75	66.88		

see EPA report for RSDs ESS 10/8/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
205			
75			

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.412

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C

Tune Report

Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.3 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7	1000	797	7972.51	1000.00	
89	5000	3212	32115.03	1000.00	
205	5000	2730	27296.80	1000.00	
102	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	
89		-	
205		-	
102		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	4.87	5.00	
89	2.49	5.00	
205	2.53	5.00	
102	522.73		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7			
89			
205			
102			

Ratio (oxide)	156/140	1.195 %	✓
Ratio (2+)	69/138	1.487 %	✓

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.413

Tune Report

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	16.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

P/A Factor Tuning Report

Current Sample

Sample Name: 9J07068-ICV1
Data File: 013_ICV.d
Acquired: 10/7/2019 19:01:46

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 12:11:31

Mass[u]	Element	P/A Factor
6	Li	0.090004
7	Li	0.094505
11	B	0.102443
28	Si	0.098675
31	P	0.124270
45	Sc	0.126554
74	Ge	0.139907
88	Sr	0.140736
90	Zr	0.138257
103	Rh	0.144407
118	Sn	0.146234
159	Tb	0.148391
209	Bi	0.152692
197	Au	Signal too low
238	U	Signal too low

Independent Detector Parameters and P/A Factors

Tune Mode Name: H2
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:52:20

Mass[u]	Element	P/A Factor
23	Na	0.115907
44	Ca	0.130997
45	Sc	0.130390
56	Fe	0.137747
57	Fe	0.137751
74	Ge	Signal too low
78	Se	Signal too low

Tune Mode Name: He
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:58:01

Mass[u]	Element	P/A Factor
23	Na	0.116281
24	Mg	0.122646
27	Al	0.126707
39	K	0.131153
44	Ca	0.131207
51	V	0.132142
52	Cr	0.136143
55	Mn	0.138520
59	Co	0.142488
60	Ni	0.142014
65	Cu	0.145922
66	Zn	0.145358
138	Ba	0.151363

159	Tb	0.154307
205	Tl	0.156554
45	Sc	Signal too low
74	Ge	Signal too low
75	As	Signal too low
95	Mo	Signal too low
103	Rh	Signal too low
107	Ag	Signal too low
111	Cd	Signal too low
121	Sb	Signal too low
209	Bi	Signal too low

Tune Mode Name: NoGas
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:59:25

Mass[u]	Element	P/A Factor
45	Sc	0.129121
47	Ti	0.128850
65	Cu	0.145331
103	Rh	0.147411
111	Cd	0.150193
159	Tb	0.152519
182	W	0.153738
206	Pb	0.156768
207	Pb	0.157295
208	Pb	0.158755
209	Bi	0.158023
6	Li	Signal too low
7	Li	Signal too low
9	Be	Signal too low
74	Ge	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
201	Hg	Signal too low

Created: 10/8/2019 13:08:37

Quantitation Report - ICPMS5

Sample Name:	**Rinse**	Total Dilution:	**1.0000**
File Name:	001RINS.d	Vial:	3
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Rinse
Acq Time:	10/7/2019 18:03:33		
Comment:	**cal blank check**	Last Calib:	N/A

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas		ppb		778	0.18	
Na	23	45	He		ppb		8,272	90	
Mg	24	45	He		ppb		4,124	90	
Al	27	45	He		ppb		2,810	45	
K	39	45	He		ppb		25,127	90	
Ca	44	45	H2		ppb		1,318	90	
[Ca]	44	45	He		ppb		454		
Ti	47	45	NoGas		ppb		895	0.9	
V	51	74	He		ppb		1,105	0.9	
Cr	52	74	He		ppb		827	0.9	
Mn	55	74	He		ppb		531	0.9	
Fe	56	74	H2		ppb		49,885	45	
Co	59	74	He		ppb		797	0.18	
Ni	60	74	He		ppb		273	0.9	
Cu	65	74	He		ppb		484	0.9	
Zn	66	74	He		ppb		292	3.6	
As	75	74	He		ppb		67	0.9	
Se	78	74	H2		ppb		10	0.9	
Mo	95	103	He		ppb		162	0.9	
Ag	107	103	He		ppb		262	0.18	
Cd	111	103	He		ppb		143		
[Cd]	111	103	NoGas		ppb		2,071	0.18	
Sb	121	103	He		ppb		279	0.9	
Ba	138	159	He		ppb		1,799	0.9	
W	182	159	NoGas		ppb		32		
Hg	201	159	NoGas		ppt		34	72	
Tl	205	159	He		ppb		1,047	0.18	
Pb	208	159	NoGas		ppb		30,652	0.18	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	404,768	0.3	0	Pulse		
Sc	45	H2	1,073,924	0.2	0	Pulse		
Sc	45	He	182,456	0.5	0	Pulse		
Sc	45	NoGas	1,722,970	0.9	0	Analog		
Ge	74	H2	370,846	0.6	0	Pulse		
Ge	74	He	121,045	0.4	0	Pulse		
Ge	74	NoGas	529,308	0.9	0	Pulse		
Rh	103	He	290,696	0.8	0	Pulse		
Rh	103	NoGas	633,892	0.4	0	Pulse		
Tb	159	He	586,432	0.8	0	Pulse		
Tb	159	NoGas	1,516,817	2.2	0	Mix		
Bi	209	He	379,098	0.2	0	Pulse		
Bi	209	NoGas	943,543	1.0	0	Pulse		

Quantitation Report - ICPMS5

Sample Name:	**Rinse**	Total Dilution:	**1.0000**
File Name:	002RINS.d	Vial:	1
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Rinse
Acq Time:	10/7/2019 18:08:15		
Comment:	**cal blank check**	Last Calib:	N/A

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas		ppb		3	0.18	
Na	23	45	He		ppb		2,691	90	
Mg	24	45	He		ppb		356	90	
Al	27	45	He		ppb		83	45	
K	39	45	He		ppb		22,568	90	
Ca	44	45	H2		ppb		383	90	
[Ca]	44	45	He		ppb		208		
Ti	47	45	NoGas		ppb		25	0.9	
V	51	74	He		ppb		612	0.9	
Cr	52	74	He		ppb		1,375	0.9	
Mn	55	74	He		ppb		90	0.9	
Fe	56	74	H2		ppb		22,209	45	
Co	59	74	He		ppb		33	0.18	
Ni	60	74	He		ppb		50	0.9	
Cu	65	74	He		ppb		119	0.9	
Zn	66	74	He		ppb		81	3.6	
As	75	74	He		ppb		15	0.9	
Se	78	74	H2		ppb		1	0.9	
Mo	95	103	He		ppb		121	0.9	
Ag	107	103	He		ppb		7	0.18	
Cd	111	103	He		ppb		4		
[Cd]	111	103	NoGas		ppb		11	0.18	
Sb	121	103	He		ppb		24	0.9	
Ba	138	159	He		ppb		99	0.9	
W	182	159	NoGas		ppb		23		
Hg	201	159	NoGas		ppt		5	72	
Tl	205	159	He		ppb		68	0.18	
Pb	208	159	NoGas		ppb		813	0.18	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	402,268	0.4	0	Pulse		
Sc	45	H2	1,029,483	0.6	0	Pulse		
Sc	45	He	176,880	0.4	0	Pulse		
Sc	45	NoGas	1,720,432	0.2	0	Analog		
Ge	74	H2	355,032	0.6	0	Pulse		
Ge	74	He	117,635	0.2	0	Pulse		
Ge	74	NoGas	525,624	0.9	0	Pulse		
Rh	103	He	285,488	0.1	0	Pulse		
Rh	103	NoGas	632,651	0.3	0	Pulse		
Tb	159	He	573,200	0.5	0	Pulse		
Tb	159	NoGas	1,506,173	1.5	0	Mix		
Bi	209	He	371,006	0.2	0	Pulse		
Bi	209	NoGas	941,193	1.0	0	Pulse		

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL0**	Total Dilution:	**1.0000**
File Name:	003CALB.d	Vial:	1
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalBlk
Acq Time:	10/7/2019 18:12:56		
Comment:	**3.5%HNO3+0.4%HCl**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0	ppb	N/A	10	57.7	
Na	23	45	He	0	ppb	N/A	2,656	5.9	
Mg	24	45	He	0	ppb	N/A	327	4.7	
Al	27	45	He	0	ppb	N/A	109	8.8	
K	39	45	He	0	ppb	N/A	21,730	3.8	
Ca	44	45	H2	0	ppb	N/A	421	7.1	
[Ca]	44	45	He	0	ppb	N/A	209	11.3	
Ti	47	45	NoGas	0	ppb	N/A	33	85.3	
V	51	74	He	0	ppb	N/A	579	6.9	
Cr	52	74	He	0	ppb	N/A	1,302	10.2	
Mn	55	74	He	0	ppb	N/A	93	17.9	
Fe	56	74	H2	0	ppb	N/A	21,548	2.6	
Co	59	74	He	0	ppb	N/A	30	101.9	
Ni	60	74	He	0	ppb	N/A	34	31.1	
Cu	65	74	He	0	ppb	N/A	123	7.1	
Zn	66	74	He	0	ppb	N/A	91	24.9	
As	75	74	He	0	ppb	N/A	14	8.1	
Se	78	74	H2	0	ppb	N/A	1	43.3	
Mo	95	103	He	0	ppb	N/A	141	7.6	
Ag	107	103	He	0	ppb	N/A	9	43.3	
Cd	111	103	He	0	ppb	N/A	4	66.1	
[Cd]	111	103	NoGas	0	ppb	N/A	24	16.3	
Sb	121	103	He	0	ppb	N/A	23	14.3	
Ba	138	159	He	0	ppb	N/A	100	17.6	
W	182	159	NoGas	0	ppb	N/A	31	65.5	
Hg	201	159	NoGas	-11.307	ppt	N/A	6	35.7	
Tl	205	159	He	0	ppb	N/A	41	20.4	
Pb	208	159	NoGas	0	ppb	N/A	720	13.8	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	390,560	0.4	390560.36	Pulse	100.0	
Sc	45	H2	995,917	0.1	995916.946666667	Pulse	100.0	
Sc	45	He	171,648	0.8	171648.27	Pulse	100.0	
Sc	45	NoGas	1,663,179	0.9	1663179.33	Analog	100.0	
Ge	74	H2	344,346	0.4	344345.643333333	Pulse	100.0	
Ge	74	He	114,795	0.3	114794.926666667	Pulse	100.0	
Ge	74	NoGas	511,960	1.2	511960.473333333	Pulse	100.0	
Rh	103	He	279,071	0.5	279070.866666667	Pulse	100.0	
Rh	103	NoGas	619,166	0.9	619166.366666667	Pulse	100.0	
Tb	159	He	563,986	0.9	563985.973333333	Pulse	100.0	
Tb	159	NoGas	1,490,879	1.6	1490879.07333333	Mix	100.0	
Bi	209	He	365,535	0.6	365534.536666667	Pulse	100.0	
Bi	209	NoGas	928,203	0.7	928203.173333333	Pulse	100.0	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL1**	Total Dilution:	**1.0000**
File Name:	004CALS.d	Vial:	1102
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:17:35		
Comment:	**A19J030 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.163	ppb	18.0	200	17.4	
Na	23	45	He	9.252	ppb	3.7	7,492	3.0	
Mg	24	45	He	9.405	ppb	5.5	3,079	4.3	
Al	27	45	He	9.174	ppb	6.7	1,628	6.2	
K	39	45	He	8.366	ppb	15.6	24,044	1.0	
Ca	44	45	H2	8.425	ppb	10.5	1,356	7.1	
[Ca]	44	45	He	8.015	ppb	59.3	321	21.4	
Ti	47	45	NoGas	0.221	ppb	31.4	168	24.9	
V	51	74	He	0.224	ppb	0.5	958	0.5	
Cr	52	74	He	1.063	ppb	1.6	3,443	1.6	
Mn	55	74	He	0.175	ppb	3.9	373	2.4	
Fe	56	74	H2	12.151	ppb	1.6	85,730	1.1	
Co	59	74	He	0.184	ppb	5.9	544	4.9	
Ni	60	74	He	0.18	ppb	24.3	157	18.4	
Cu	65	74	He	0.152	ppb	8.4	251	4.3	
Zn	66	74	He	0.119	ppb	23.7	130	6.8	
As	75	74	He	0.178	ppb	56.2	56	42.2	
Se	78	74	H2	0.193	ppb	19.9	32	19.3	
Mo	95	103	He	0.295	ppb	28.2	452	19.4	
Ag	107	103	He	0.182	ppb	8.4	593	7.9	
Cd	111	103	He	0.199	ppb	4.8	123	4.3	
[Cd]	111	103	NoGas	0.196	ppb	15.2	353	14.0	
Sb	121	103	He	0.175	ppb	16.1	312	15.0	
Ba	138	159	He	0.175	ppb	3.4	888	3.1	
W	182	159	NoGas	0.002	ppb	99.9	49	37.5	
Hg	201	159	NoGas	-3.146	ppt	N/A	13	17.7	
Tl	205	159	He	0.183	ppb	0.9	1,426	0.7	
Pb	208	159	NoGas	0.186	ppb	2.0	5,288	1.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	389,665	0.6	390560.36	Pulse	99.8	
Sc	45	H2	986,077	0.2	995916.946666667	Pulse	99.0	
Sc	45	He	169,397	0.7	171648.27	Pulse	98.7	
Sc	45	NoGas	1,671,867	0.5	1663179.33	Analog	100.5	
Ge	74	H2	341,093	0.3	344345.643333333	Pulse	99.1	
Ge	74	He	113,182	0.6	114794.926666667	Pulse	98.6	
Ge	74	NoGas	510,022	0.4	511960.473333333	Pulse	99.6	
Rh	103	He	276,200	0.4	279070.866666667	Pulse	99.0	
Rh	103	NoGas	614,573	0.3	619166.366666667	Pulse	99.3	
Tb	159	He	562,150	0.2	563985.973333333	Pulse	99.7	
Tb	159	NoGas	1,476,765	0.4	1490879.07333333	Pulse	99.1	
Bi	209	He	363,611	0.2	365534.536666667	Pulse	99.5	
Bi	209	NoGas	929,330	0.2	928203.173333333	Pulse	100.1	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL2**	Total Dilution:	**1.0000**
File Name:	005CALS.d	Vial:	1103
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:22:34		
Comment:	**A19J031 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.951	ppb	10.2	1,129	9.9	
Na	23	45	He	45.508	ppb	0.9	26,905	0.7	
Mg	24	45	He	45.405	ppb	2.5	13,802	2.5	
Al	27	45	He	45.137	ppb	3.2	7,681	2.7	
K	39	45	He	45.068	ppb	2.6	35,906	0.5	
Ca	44	45	H2	44.079	ppb	2.5	5,391	2.4	
[Ca]	44	45	He	45.33	ppb	3.4	867	3.1	
Ti	47	45	NoGas	0.828	ppb	16.1	545	15.3	
V	51	74	He	1.001	ppb	1.5	2,312	1.0	
Cr	52	74	He	1.75	ppb	4.8	4,864	3.5	
Mn	55	74	He	0.89	ppb	11.2	1,529	10.6	
Fe	56	74	H2	47.908	ppb	1.0	277,935	0.7	
Co	59	74	He	0.902	ppb	1.9	2,567	1.8	
Ni	60	74	He	0.989	ppb	4.2	714	3.9	
Cu	65	74	He	1.047	ppb	6.9	1,018	6.0	
Zn	66	74	He	0.983	ppb	16.1	424	12.7	
As	75	74	He	0.979	ppb	6.8	248	6.4	
Se	78	74	H2	0.913	ppb	5.1	146	5.6	
Mo	95	103	He	1.008	ppb	7.0	1,215	6.1	
Ag	107	103	He	0.927	ppb	0.5	2,994	0.8	
Cd	111	103	He	0.916	ppb	8.9	556	8.8	
[Cd]	111	103	NoGas	0.904	ppb	8.1	1,563	8.0	
Sb	121	103	He	0.884	ppb	6.9	1,491	7.0	
Ba	138	159	He	0.91	ppb	2.5	4,218	2.6	
W	182	159	NoGas	0.002	ppb	149.5	46	47.0	
Hg	201	159	NoGas	26.863	ppt	19.5	42	13.4	
Tl	205	159	He	0.917	ppb	2.7	7,016	2.9	
Pb	208	159	NoGas	0.923	ppb	1.8	23,674	1.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	394,146	0.7	390560.36	Pulse	100.9	
Sc	45	H2	997,567	0.2	995916.946666667	Pulse	100.2	
Sc	45	He	171,482	0.5	171648.27	Pulse	99.9	
Sc	45	NoGas	1,695,936	0.3	1663179.33	Analog	102.0	
Ge	74	H2	344,491	0.6	344345.643333333	Pulse	100.0	
Ge	74	He	113,802	0.1	114794.926666667	Pulse	99.1	
Ge	74	NoGas	516,907	0.6	511960.473333333	Pulse	101.0	
Rh	103	He	277,534	0.4	279070.866666667	Pulse	99.4	
Rh	103	NoGas	621,712	0.3	619166.366666667	Pulse	100.4	
Tb	159	He	566,271	0.3	563985.973333333	Pulse	100.4	
Tb	159	NoGas	1,493,619	1.6	1490879.07333333	Mix	100.2	
Bi	209	He	366,575	0.5	365534.536666667	Pulse	100.3	
Bi	209	NoGas	938,939	1.0	928203.173333333	Pulse	101.2	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL3**	Total Dilution:	**1.0000**
File Name:	006CALS.d	Vial:	1104
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:27:32		
Comment:	**A19J032 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	1.809	ppb	0.7	2,120	0.8	
Na	23	45	He	90.143	ppb	0.2	50,049	0.6	
Mg	24	45	He	89.249	ppb	1.7	26,474	1.6	
Al	27	45	He	90.539	ppb	2.7	15,103	2.2	
K	39	45	He	88.006	ppb	2.7	48,809	1.0	
Ca	44	45	H2	87.816	ppb	1.5	10,179	1.1	
[Ca]	44	45	He	95.177	ppb	3.6	1,570	3.3	
Ti	47	45	NoGas	1.772	ppb	6.5	1,098	5.7	
V	51	74	He	1.804	ppb	3.7	3,695	3.2	
Cr	52	74	He	2.635	ppb	7.6	6,648	6.4	
Mn	55	74	He	1.829	ppb	2.9	3,035	3.2	
Fe	56	74	H2	91.718	ppb	0.5	507,663	0.3	
Co	59	74	He	1.829	ppb	1.6	5,156	1.9	
Ni	60	74	He	1.855	ppb	5.1	1,306	4.5	
Cu	65	74	He	1.855	ppb	12.0	1,703	10.9	
Zn	66	74	He	1.666	ppb	9.7	654	8.4	
As	75	74	He	1.826	ppb	6.2	448	6.3	
Se	78	74	H2	1.855	ppb	2.7	292	2.4	
Mo	95	103	He	1.803	ppb	10.4	2,050	9.4	
Ag	107	103	He	1.844	ppb	1.4	5,917	1.7	
Cd	111	103	He	1.83	ppb	4.9	1,100	5.2	
[Cd]	111	103	NoGas	1.83	ppb	1.2	3,118	1.3	
Sb	121	103	He	1.724	ppb	1.2	2,870	1.4	
Ba	138	159	He	1.795	ppb	3.9	8,168	4.4	
W	182	159	NoGas	0.002	ppb	152.4	49	56.8	
Hg	201	159	NoGas	61.714	ppt	12.8	74	10.2	
Tl	205	159	He	1.824	ppb	1.4	13,801	1.3	
Pb	208	159	NoGas	1.874	ppb	0.7	46,932	0.6	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	390,613	0.3	390560.36	Pulse	100.0	
Sc	45	H2	983,817	0.5	995916.946666667	Pulse	98.8	
Sc	45	He	169,307	0.5	171648.27	Pulse	98.6	
Sc	45	NoGas	1,652,441	0.6	1663179.33	Analog	99.4	
Ge	74	H2	341,310	0.4	344345.643333333	Pulse	99.1	
Ge	74	He	113,414	0.4	114794.926666667	Pulse	98.8	
Ge	74	NoGas	509,242	0.0	511960.473333333	Pulse	99.5	
Rh	103	He	275,955	0.3	279070.866666667	Pulse	98.9	
Rh	103	NoGas	617,521	0.1	619166.366666667	Pulse	99.7	
Tb	159	He	562,030	0.5	563985.973333333	Pulse	99.7	
Tb	159	NoGas	1,480,746	0.2	1490879.07333333	Pulse	99.3	
Bi	209	He	365,914	0.3	365534.536666667	Pulse	100.1	
Bi	209	NoGas	936,693	0.6	928203.173333333	Pulse	100.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL4**	Total Dilution:	**1.0000**
File Name:	007CALS.d	Vial:	1105
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:32:29		
Comment:	**A19J033 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	3.613	ppb	3.2	4,245	2.9	
Na	23	45	He	178.234	ppb	1.4	97,299	0.6	
Mg	24	45	He	175.801	ppb	1.8	52,319	0.9	
Al	27	45	He	177.227	ppb	1.1	29,740	1.0	
K	39	45	He	175.218	ppb	0.6	76,659	0.5	
Ca	44	45	H2	176.627	ppb	2.0	19,985	2.1	
[Ca]	44	45	He	171.582	ppb	0.7	2,690	1.5	
Ti	47	45	NoGas	3.435	ppb	4.6	2,117	6.3	
V	51	74	He	3.588	ppb	0.9	6,772	0.9	
Cr	52	74	He	4.287	ppb	3.9	9,995	3.4	
Mn	55	74	He	3.685	ppb	2.8	6,013	2.8	
Fe	56	74	H2	180.99	ppb	0.1	977,427	0.0	
Co	59	74	He	3.634	ppb	0.9	10,202	1.0	
Ni	60	74	He	3.7	ppb	3.4	2,567	3.4	
Cu	65	74	He	3.966	ppb	6.0	3,499	5.7	
Zn	66	74	He	3.612	ppb	6.0	1,312	5.5	
As	75	74	He	3.654	ppb	4.9	881	4.9	
Se	78	74	H2	3.588	ppb	3.1	562	3.1	
Mo	95	103	He	3.667	ppb	0.9	4,052	0.2	
Ag	107	103	He	3.648	ppb	0.6	11,770	0.8	
Cd	111	103	He	3.716	ppb	2.9	2,245	2.9	
[Cd]	111	103	NoGas	3.586	ppb	4.2	6,097	4.4	
Sb	121	103	He	3.463	ppb	4.2	5,781	3.5	
Ba	138	159	He	3.575	ppb	2.0	16,183	1.6	
W	182	159	NoGas	0.001	ppb	168.8	40	38.2	
Hg	201	159	NoGas	133.846	ppt	13.6	143	11.6	
Tl	205	159	He	3.615	ppb	0.9	27,353	0.7	
Pb	208	159	NoGas	3.683	ppb	1.6	92,852	0.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	392,505	0.4	390560.36	Pulse	100.5	
Sc	45	H2	980,484	0.2	995916.946666667	Pulse	98.5	
Sc	45	He	170,902	0.9	171648.27	Pulse	99.6	
Sc	45	NoGas	1,667,166	1.9	1663179.33	Analog	100.2	
Ge	74	H2	340,065	0.1	344345.643333333	Pulse	98.8	
Ge	74	He	113,264	0.1	114794.926666667	Pulse	98.7	
Ge	74	NoGas	510,778	1.1	511960.473333333	Pulse	99.8	
Rh	103	He	277,787	0.8	279070.866666667	Pulse	99.5	
Rh	103	NoGas	618,329	0.6	619166.366666667	Pulse	99.9	
Tb	159	He	562,814	0.4	563985.973333333	Pulse	99.8	
Tb	159	NoGas	1,501,923	1.2	1490879.07333333	Mix	100.7	
Bi	209	He	367,291	0.4	365534.536666667	Pulse	100.5	
Bi	209	NoGas	943,290	0.3	928203.173333333	Pulse	101.6	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL5**	Total Dilution:	**1.0000**
File Name:	008CALS.d	Vial:	1106
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:37:27		
Comment:	**A19J035 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	10.093	ppb	2.1	11,969	2.2	
Na	23	45	He	403.342	ppb	0.5	215,982	0.4	
Mg	24	45	He	406.742	ppb	0.4	120,142	0.6	
Al	27	45	He	400.405	ppb	0.9	66,783	0.7	
K	39	45	He	393.326	ppb	0.6	144,569	0.7	
Ca	44	45	H2	395.258	ppb	1.8	44,332	1.5	
[Ca]	44	45	He	404.152	ppb	2.7	6,030	2.6	
Ti	47	45	NoGas	20.05	ppb	3.3	12,190	3.3	
V	51	74	He	20.269	ppb	0.6	35,800	0.6	
Cr	52	74	He	20.057	ppb	0.7	42,263	0.6	
Mn	55	74	He	19.819	ppb	1.2	32,110	1.2	
Fe	56	74	H2	406.306	ppb	1.2	2,171,421	1.1	
Co	59	74	He	20.289	ppb	1.2	57,125	1.1	
Ni	60	74	He	20.84	ppb	1.4	14,379	1.4	
Cu	65	74	He	21.038	ppb	1.9	18,135	1.7	
Zn	66	74	He	21.322	ppb	3.7	7,345	3.7	
As	75	74	He	20.211	ppb	1.9	4,835	1.9	
Se	78	74	H2	10.262	ppb	5.9	1,609	5.6	
Mo	95	103	He	9.845	ppb	2.0	10,562	2.3	
Ag	107	103	He	10.216	ppb	0.4	32,699	0.2	
Cd	111	103	He	20.453	ppb	1.1	12,245	0.8	
[Cd]	111	103	NoGas	20.354	ppb	2.3	34,583	1.8	
Sb	121	103	He	9.972	ppb	2.3	16,479	2.1	
Ba	138	159	He	20.243	ppb	0.4	91,844	0.4	
W	182	159	NoGas	0.003	ppb	26.1	51	10.0	
Hg	201	159	NoGas	423.156	ppt	5.6	414	4.9	
Tl	205	159	He	10.192	ppb	1.5	77,615	1.1	
Pb	208	159	NoGas	20.976	ppb	0.4	523,287	0.7	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	396,769	0.2	390560.36	Pulse	101.6	
Sc	45	H2	983,266	0.7	995916.946666667	Pulse	98.7	
Sc	45	He	170,205	0.2	171648.27	Pulse	99.2	
Sc	45	NoGas	1,666,909	0.6	1663179.33	Analog	100.2	
Ge	74	H2	340,645	0.6	344345.643333333	Pulse	98.9	
Ge	74	He	113,875	0.1	114794.926666667	Pulse	99.2	
Ge	74	NoGas	515,113	0.5	511960.473333333	Pulse	100.6	
Rh	103	He	275,694	0.4	279070.866666667	Pulse	98.8	
Rh	103	NoGas	619,992	0.6	619166.366666667	Pulse	100.1	
Tb	159	He	566,926	0.6	563985.973333333	Pulse	100.5	
Tb	159	NoGas	1,495,540	0.7	1490879.07333333	Pulse	100.3	
Bi	209	He	368,968	0.4	365534.536666667	Pulse	100.9	
Bi	209	NoGas	945,838	0.6	928203.173333333	Pulse	101.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL6**	Total Dilution:	**1.0000**
File Name:	009CALS.d	Vial:	1107
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:42:23		
Comment:	**A19J034**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	50.509	ppb	0.9	61,448	1.0	
Na	23	45	He	2545.727	ppb	1.5	1,377,960	0.9	
Mg	24	45	He	2468.878	ppb	0.8	743,131	0.4	
Al	27	45	He	2450.213	ppb	0.9	416,828	0.3	
K	39	45	He	2454.587	ppb	0.9	806,131	0.3	
Ca	44	45	H2	2397.958	ppb	0.5	272,218	0.5	
[Ca]	44	45	He	2487.597	ppb	1.1	36,817	0.7	
Ti	47	45	NoGas	49.119	ppb	0.4	31,144	0.4	
V	51	74	He	49.911	ppb	0.5	89,010	0.4	
Cr	52	74	He	48.913	ppb	0.9	103,170	0.7	
Mn	55	74	He	48.974	ppb	1.1	80,746	0.8	
Fe	56	74	H2	2466.543	ppb	0.6	13,213,841	0.2	
Co	59	74	He	49.772	ppb	0.7	142,808	0.4	
Ni	60	74	He	51.509	ppb	1.4	36,179	1.2	
Cu	65	74	He	51.557	ppb	1.4	45,125	1.5	
Zn	66	74	He	52.649	ppb	1.5	18,352	1.3	
As	75	74	He	49.305	ppb	1.0	12,004	0.6	
Se	78	74	H2	50.67	ppb	0.9	8,023	1.1	
Mo	95	103	He	50.025	ppb	0.5	53,409	0.7	
Ag	107	103	He	50.475	ppb	0.7	162,472	0.6	
Cd	111	103	He	50.277	ppb	0.4	30,271	0.3	
[Cd]	111	103	NoGas	49.753	ppb	0.2	85,711	0.2	
Sb	121	103	He	50.009	ppb	0.5	83,036	0.4	
Ba	138	159	He	50.005	ppb	0.7	229,100	0.4	
W	182	159	NoGas	0.012	ppb	18.8	131	14.0	
Hg	201	159	NoGas	2038.821	ppt	1.0	1,992	2.0	
Tl	205	159	He	50.415	ppb	0.2	387,778	0.2	
Pb	208	159	NoGas	50.161	ppb	1.4	1,289,789	0.2	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	407,334	0.1	390560.36	Pulse	104.3	
Sc	45	H2	1,003,010	0.1	995916.946666667	Pulse	100.7	
Sc	45	He	173,843	0.6	171648.27	Pulse	101.3	
Sc	45	NoGas	1,741,200	0.1	1663179.33	Analog	104.7	
Ge	74	H2	344,294	0.4	344345.643333333	Pulse	100.0	
Ge	74	He	116,086	0.4	114794.926666667	Pulse	101.1	
Ge	74	NoGas	531,929	1.4	511960.473333333	Pulse	103.9	
Rh	103	He	277,308	0.2	279070.866666667	Pulse	99.4	
Rh	103	NoGas	628,841	0.4	619166.366666667	Pulse	101.6	
Tb	159	He	572,858	0.4	563985.973333333	Pulse	101.6	
Tb	159	NoGas	1,542,835	1.3	1490879.07333333	Mix	103.5	
Bi	209	He	368,824	0.4	365534.536666667	Pulse	100.9	
Bi	209	NoGas	953,610	0.7	928203.173333333	Pulse	102.7	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL7**	Total Dilution:	**1.0000**
File Name:	010CALS.d	Vial:	1108
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:47:27		
Comment:	**A19J036**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	99.735	ppb	0.4	121,200	0.7	
Na	23	45	He	4116.073	ppb	1.2	2,229,551	0.4	
Mg	24	45	He	4017.896	ppb	1.4	1,210,915	0.9	
Al	27	45	He	3938.995	ppb	0.8	671,006	0.1	
K	39	45	He	4042.198	ppb	1.1	1,315,339	1.9	
Ca	44	45	H2	3876.846	ppb	0.0	442,611	0.6	
[Ca]	44	45	He	4005.826	ppb	0.7	59,246	0.9	
Ti	47	45	NoGas	194.395	ppb	1.5	123,184	0.2	
V	51	74	He	199.595	ppb	0.4	355,160	0.4	
Cr	52	74	He	194.546	ppb	0.1	407,541	0.2	
Mn	55	74	He	194.964	ppb	0.2	322,047	0.3	
Fe	56	74	H2	3980.685	ppb	0.7	21,407,114	0.3	
Co	59	74	He	198.062	ppb	0.2	569,751	0.3	
Ni	60	74	He	203.203	ppb	1.0	143,013	1.0	
Cu	65	74	He	203.182	ppb	0.2	177,949	0.1	
Zn	66	74	He	209.161	ppb	0.5	72,833	0.4	
As	75	74	He	197.195	ppb	0.3	48,096	0.3	
Se	78	74	H2	99.638	ppb	1.5	15,845	0.7	
Mo	95	103	He	99.999	ppb	0.8	106,445	0.3	
Ag	107	103	He	99.738	ppb	1.0	320,496	0.4	
Cd	111	103	He	199.38	ppb	0.5	119,834	0.2	
[Cd]	111	103	NoGas	199.968	ppb	0.3	341,168	0.4	
Sb	121	103	He	100.005	ppb	0.5	165,756	0.8	
Ba	138	159	He	199.456	ppb	0.6	914,669	0.2	
W	182	159	NoGas	0.018	ppb	38.0	179	28.5	
Hg	201	159	NoGas	3978.907	ppt	4.9	3,881	2.2	
Tl	205	159	He	99.772	ppb	0.5	768,349	0.4	
Pb	208	159	NoGas	198.851	ppb	3.0	5,127,022	0.2	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	406,914	0.4	390560.36	Pulse	104.2	
Sc	45	H2	1,009,325	0.6	995916.946666667	Pulse	101.3	
Sc	45	He	174,097	0.8	171648.27	Pulse	101.4	
Sc	45	NoGas	1,741,885	1.6	1663179.33	Analog	104.7	
Ge	74	H2	345,837	0.9	344345.643333333	Pulse	100.4	
Ge	74	He	116,401	0.1	114794.926666667	Pulse	101.4	
Ge	74	NoGas	526,553	0.9	511960.473333333	Pulse	102.9	
Rh	103	He	276,854	0.6	279070.866666667	Pulse	99.2	
Rh	103	NoGas	622,906	0.3	619166.366666667	Pulse	100.6	
Tb	159	He	573,586	0.5	563985.973333333	Pulse	101.7	
Tb	159	NoGas	1,548,393	2.8	1490879.07333333	Mix	103.9	
Bi	209	He	363,455	0.2	365534.536666667	Pulse	99.4	
Bi	209	NoGas	933,625	0.1	928203.173333333	Pulse	100.6	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL8**	Total Dilution:	**1.0000**
File Name:	011CALS.d	Vial:	1109
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:52:18		
Comment:	**A19I054**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.011	ppb	97.7	24	55.1	
Na	23	45	He	10186.264	ppb	0.6	5,532,035	0.5	
Mg	24	45	He	10311.123	ppb	0.9	3,117,362	0.5	
Al	27	45	He	10211.725	ppb	0.4	1,745,159	0.2	
K	39	45	He	10222.529	ppb	1.0	3,303,453	1.3	
Ca	44	45	H2	9734.913	ppb	0.2	1,123,128	0.4	
[Ca]	44	45	He	10052.655	ppb	0.5	148,849	0.6	
Ti	47	45	NoGas	494.516	ppb	2.7	307,106	0.6	
V	51	74	He	500.16	ppb	0.5	886,505	0.4	
Cr	52	74	He	487.636	ppb	0.2	1,016,549	0.4	
Mn	55	74	He	485.825	ppb	0.3	800,015	0.4	
Fe	56	74	H2	9962.513	ppb	0.4	53,574,283	0.1	
Co	59	74	He	500.786	ppb	1.9	1,436,245	1.5	
Ni	60	74	He	498.533	ppb	0.7	349,781	0.2	
Cu	65	74	He	498.527	ppb	0.2	435,165	0.8	
Zn	66	74	He	524.863	ppb	0.6	182,091	0.2	
As	75	74	He	501.183	ppb	0.3	121,863	0.9	
Se	78	74	H2	0.14	ppb	3.0	24	2.4	
Mo	95	103	He	-0.029	ppb	N/A	108	25.9	
Ag	107	103	He	0.021	ppb	26.7	76	24.3	
Cd	111	103	He	504.893	ppb	0.5	298,181	0.7	
[Cd]	111	103	NoGas	511.348	ppb	0.3	851,113	0.4	
Sb	121	103	He	0.11	ppb	14.5	202	12.5	
Ba	138	159	He	511.69	ppb	1.1	2,320,326	0.3	
W	182	159	NoGas	100	ppb	3.2	782,348	0.4	
Hg	201	159	NoGas	78.544	ppt	13.8	91	9.8	
Tl	205	159	He	0.047	ppb	12.8	396	11.4	
Pb	208	159	NoGas	500.404	ppb	2.6	12,611,983	0.3	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	415,850	0.2	390560.36	Pulse	106.5	
Sc	45	H2	1,020,565	0.7	995916.946666667	Pulse	102.5	
Sc	45	He	174,669	0.5	171648.27	Pulse	101.8	
Sc	45	NoGas	1,707,950	2.7	1663179.33	Analog	102.7	
Ge	74	H2	346,025	0.4	344345.643333333	Pulse	100.5	
Ge	74	He	116,063	0.6	114794.926666667	Pulse	101.1	
Ge	74	NoGas	516,128	0.7	511960.473333333	Pulse	100.8	
Rh	103	He	272,042	0.8	279070.866666667	Pulse	97.5	
Rh	103	NoGas	607,719	0.2	619166.366666667	Pulse	98.2	
Tb	159	He	567,244	0.8	563985.973333333	Pulse	100.6	
Tb	159	NoGas	1,513,619	2.8	1490879.07333333	Analog	101.5	
Bi	209	He	355,429	1.0	365534.536666667	Pulse	97.2	
Bi	209	NoGas	899,132	0.4	928203.173333333	Pulse	96.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL9**	Total Dilution:	**1.0000**
File Name:	012CALS.d	Vial:	1110
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:57:02		
Comment:	**A19I053**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.004	ppb	222.0	18	75.8	
Na	23	45	He	49951.154	ppb	1.1	28,579,126	0.2	
Mg	24	45	He	49937.862	ppb	0.6	15,911,091	0.6	
Al	27	45	He	49965.03	ppb	0.2	8,999,455	1.1	
K	39	45	He	49954.463	ppb	0.5	16,922,976	0.8	
Ca	44	45	H2	50068.027	ppb	0.6	5,802,362	0.5	
[Ca]	44	45	He	49989.611	ppb	0.8	779,217	0.5	
Ti	47	45	NoGas	2501.563	ppb	0.7	1,762,603	1.1	
V	51	74	He	0.027	ppb	19.5	641	1.7	
Cr	52	74	He	1007.321	ppb	0.3	2,124,843	0.8	
Mn	55	74	He	2503.26	ppb	0.5	4,173,432	0.6	
Fe	56	74	H2	50010.656	ppb	0.5	260,690,147	0.7	
Co	59	74	He	0.232	ppb	3.1	703	3.3	
Ni	60	74	He	956.855	ppb	0.3	679,742	0.4	
Cu	65	74	He	951.062	ppb	0.7	840,445	0.3	
Zn	66	74	He	2494.231	ppb	0.5	875,827	0.3	
As	75	74	He	0.142	ppb	13.4	50	9.9	
Se	78	74	H2	0.251	ppb	22.7	40	22.2	
Mo	95	103	He	-0.009	ppb	N/A	124	40.1	
Ag	107	103	He	0.031	ppb	17.7	102	16.1	
Cd	111	103	He	997.654	ppb	0.8	571,332	0.2	
[Cd]	111	103	NoGas	994.337	ppb	1.3	1,696,450	0.6	
Sb	121	103	He	0.046	ppb	61.4	96	47.5	
Ba	138	159	He	2497.704	ppb	0.5	11,200,947	0.3	
W	182	159	NoGas	0.288	ppb	1.7	2,398	1.9	
Hg	201	159	NoGas	35.835	ppt	20.2	53	13.7	
Tl	205	159	He	0.009	ppb	26.8	112	16.9	
Pb	208	159	NoGas	0.119	ppb	5.4	3,899	3.7	

ISTD Table:

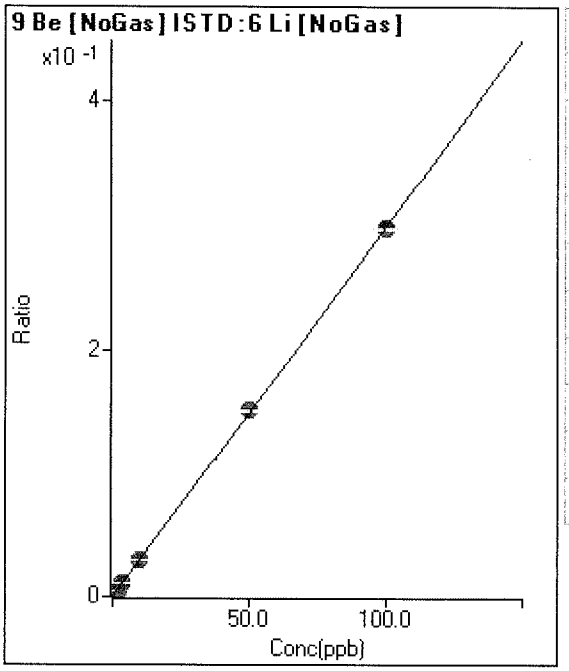
Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	457,351	0.7	390560.36	Pulse	117.1	
Sc	45	H2	1,025,465	0.2	995916.946666667	Pulse	103.0	
Sc	45	He	184,099	1.2	171648.27	Pulse	107.3	
Sc	45	NoGas	1,937,013	0.4	1663179.33	Analog	116.5	
Ge	74	H2	335,520	0.5	344345.643333333	Pulse	97.4	
Ge	74	He	117,517	0.6	114794.926666667	Pulse	102.4	
Ge	74	NoGas	553,926	1.2	511960.473333333	Pulse	108.2	
Rh	103	He	263,801	0.6	279070.866666667	Pulse	94.5	
Rh	103	NoGas	622,983	0.8	619166.366666667	Pulse	100.6	
Tb	159	He	560,962	0.2	563985.973333333	Pulse	99.5	
Tb	159	NoGas	1,587,122	0.6	1490879.07333333	Analog	106.5	
Bi	209	He	330,247	0.6	365534.536666667	Pulse	90.3	
Bi	209	NoGas	867,925	0.9	928203.173333333	Pulse	93.5	

Calibration for 013_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\9J07068.b\
Analysis File: 9J07068.batch.bin
DA Date-Time: 10/8/2019 13:06:41
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	9J07068-CAL0	10/7/2019 18:12:56
2	004CALS.d	9J07068-CAL1	10/7/2019 18:17:35
3	005CALS.d	9J07068-CAL2	10/7/2019 18:22:34
4	006CALS.d	9J07068-CAL3	10/7/2019 18:27:32
5	007CALS.d	9J07068-CAL4	10/7/2019 18:32:29
6	008CALS.d	9J07068-CAL5	10/7/2019 18:37:27
7	009CALS.d	9J07068-CAL6	10/7/2019 18:42:23
8	010CALS.d	9J07068-CAL7	10/7/2019 18:47:27
9	011CALS.d	9J07068-CAL8	10/7/2019 18:52:18
10	012CALS.d	9J07068-CAL9	10/7/2019 18:57:02

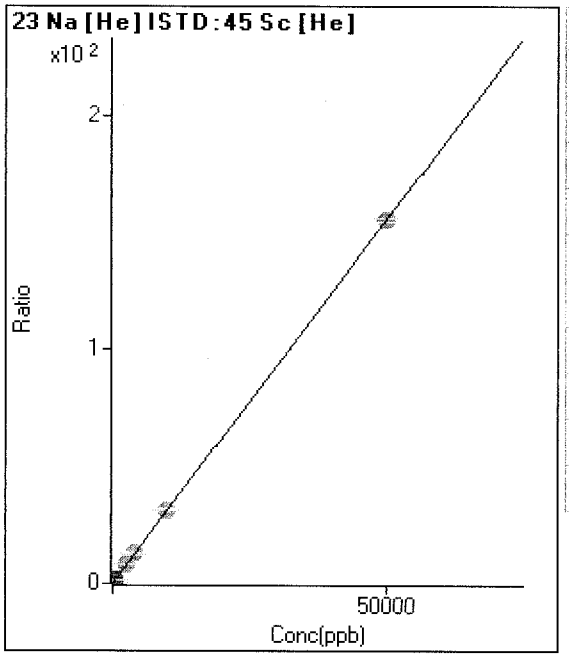
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	10	0.000	P	57.7
2		0.180	0.163	200	0.001	P	17.1
3		0.900	0.951	1,129	0.003	P	10.1
4		1.800	1.809	2,120	0.005	P	0.7
5		3.600	3.613	4,245	0.011	P	3.2
6		10.000	10.093	11,969	0.030	P	2.1
7		50.000	50.509	61,448	0.151	P	0.9
8		100.000	99.735	121,200	0.298	P	0.4
9				24	0.000	P	55.2
10				18	0.000	P	75.4

y = 0.0030 * x + 2.5611E-005
R = 1.0000
DL = 0.01484
BEC = 0.008577

Weight: <None>
Min Conc: <None>

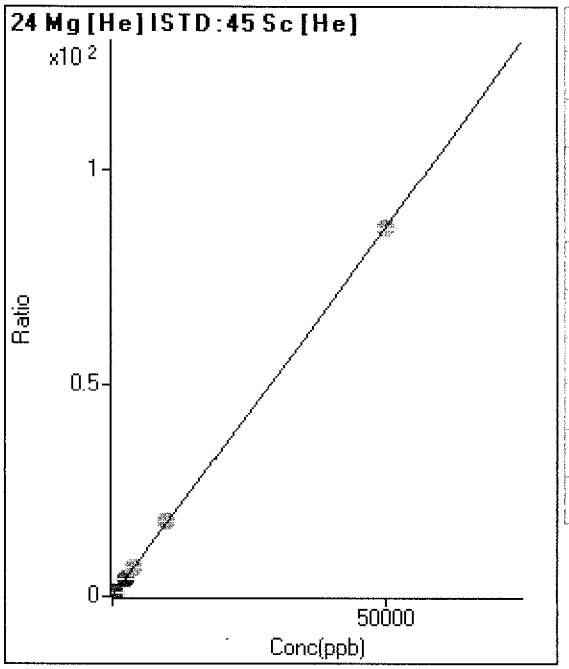


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	2,656	0.015	P	5.5
2				7,492	0.044	P	2.4
3		45.000	45.508	26,905	0.157	P	0.8
4		90.000	90.143	50,049	0.296	P	0.2
5		180.000	178.234	97,299	0.569	P	1.4
6		400.000	403.342	215,982	1.269	P	0.5
7		2500.000	2545.727	1,377,960	7.927	A	1.5
8		4000.000	4116.073	2,229,551	12.807	A	1.2
9		10000.000	10186.264	5,532,035	31.672	A	0.6
10		50000.000	49951.154	28,579,126	155.251	A	1.1

y = 0.0031 * x + 0.0155
R = 1.0000
DL = 0.8281
BEC = 4.978

Weight: <None>
Min Conc: <None>

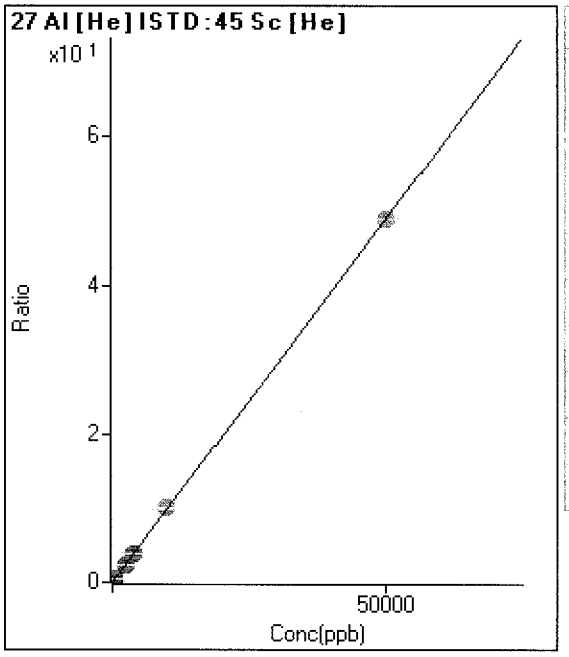
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	327	0.002	P	5.5
2	☐			3,079	0.018	P	4.9
3	☐	45.000	45.405	13,802	0.080	P	2.4
4	☐	90.000	89.249	26,474	0.156	P	1.7
5	☐	180.000	175.801	52,319	0.306	P	1.8
6	☐	400.000	406.742	120,142	0.706	P	0.4
7	☐	2500.000	2468.878	743,131	4.275	P	0.8
8	☐	4000.000	4017.896	1,210,915	6.956	A	1.4
9	☐	10000.000	10311.123	3,117,362	17.848	A	0.9
10	☐	50000.000	49937.862	15,911,091	86.431	A	0.6

y = 0.0017 * x + 0.0019
R = 1.0000
DL = 0.1813
BEC = 1.1

Weight: <None>
Min Conc: <None>

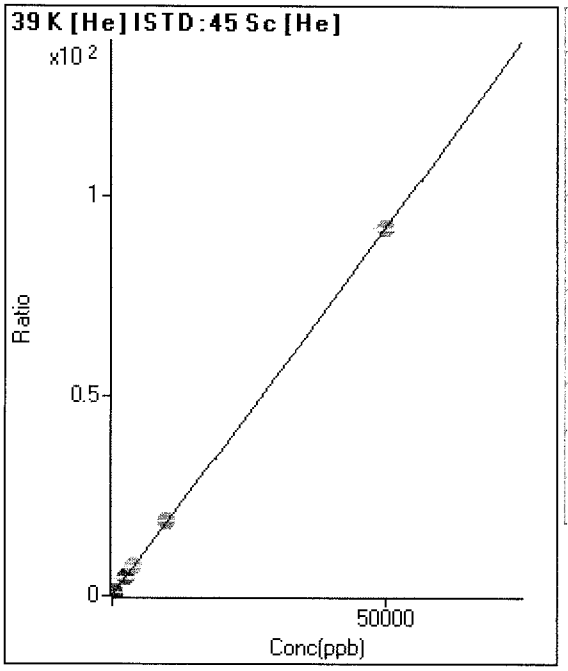


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109	0.001	P	9.1
2	☐			1,628	0.010	P	6.3
3	☐	45.000	45.137	7,681	0.045	P	3.2
4	☐	90.000	90.539	15,103	0.089	P	2.7
5	☐	180.000	177.227	29,740	0.174	P	1.1
6	☐	400.000	400.405	66,783	0.392	P	0.9
7	☐	2500.000	2450.213	416,828	2.398	P	0.9
8	☐	4000.000	3938.995	671,006	3.854	P	0.8
9	☐	10000.000	10211.725	1,745,159	9.991	A	0.4
10	☐	50000.000	49965.030	8,999,455	48.884	A	0.2

y = 9.7836E-004 * x + 6.3452E-004
R = 1.0000
DL = 0.1773
BEC = 0.6486

Weight: <None>
Min Conc: <None>

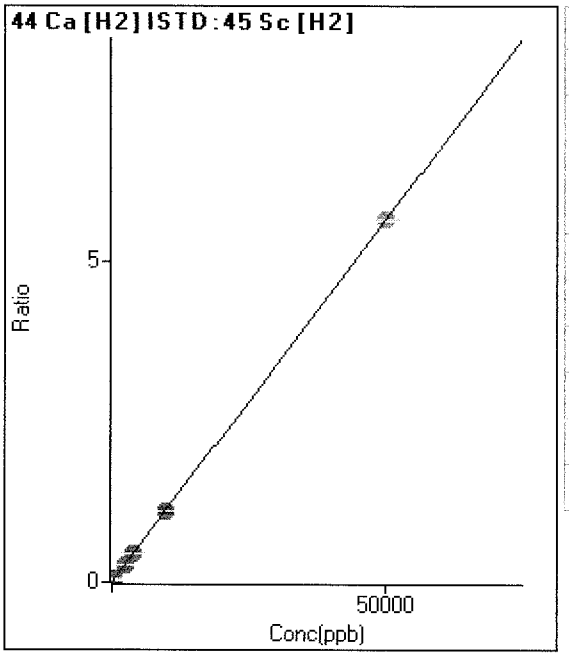
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21,730	0.127	P	3.0
2	☐			24,044	0.142	P	1.7
3	☐	45.000	45.068	35,906	0.209	P	1.0
4	☐	90.000	88.006	48,809	0.288	P	1.5
5	☐	180.000	175.218	76,659	0.449	P	0.4
6	☐	400.000	393.326	144,569	0.849	P	0.5
7	☐	2500.000	2454.587	806,131	4.637	P	0.9
8	☐	4000.000	4042.198	1,315,339	7.555	A	1.1
9	☐	10000.000	10222.529	3,303,453	18.912	A	1.0
10	☐	50000.000	49954.463	16,922,976	91.926	A	0.5

y = 0.0018 * x + 0.1266
R = 1.0000
DL = 6.226
BEC = 68.88

Weight: <None>
Min Conc: <None>

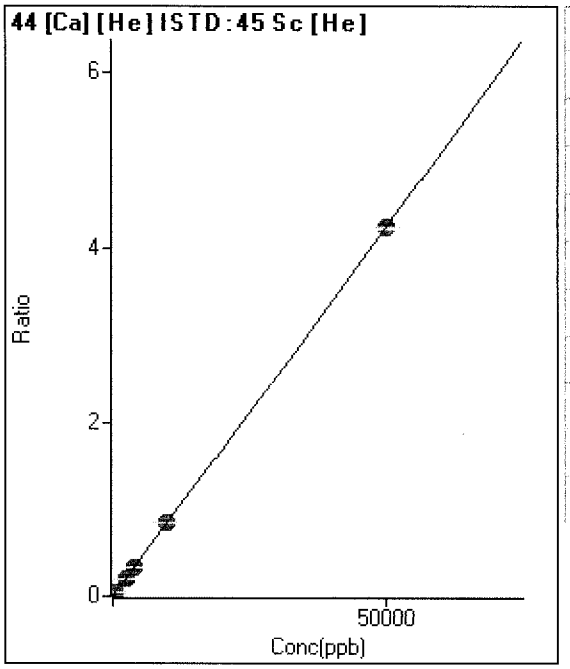


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	421	0.000	P	7.2
2	☐			1,356	0.001	P	7.3
3	☐	45.000	44.079	5,391	0.005	P	2.3
4	☐	90.000	87.816	10,179	0.010	P	1.4
5	☐	180.000	176.627	19,985	0.020	P	2.0
6	☐	400.000	395.258	44,332	0.045	P	1.8
7	☐	2500.000	2397.958	272,218	0.271	P	0.5
8	☐	4000.000	3876.846	442,611	0.439	P	0.0
9	☐	10000.000	9734.913	1,123,128	1.101	P	0.2
10	☐	50000.000	50068.027	5,802,362	5.658	A	0.6

y = 1.1300E-004 * x + 4.2287E-004
R = 1.0000
DL = 0.8092
BEC = 3.742

Weight: <None>
Min Conc: <None>

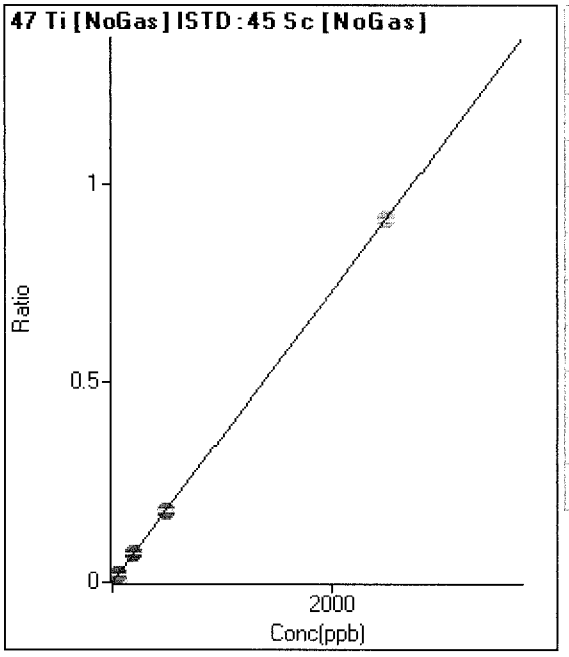
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	209	0.001	P	10.8
2				321	0.002	P	21.2
3		45.000	45.330	867	0.005	P	2.6
4		90.000	95.177	1,570	0.009	P	3.1
5		180.000	171.582	2,690	0.016	P	0.7
6		400.000	404.152	6,030	0.035	P	2.6
7		2500.000	2487.597	36,817	0.212	P	1.1
8		4000.000	4005.826	59,246	0.340	P	0.7
9		10000.000	10052.655	148,849	0.852	P	0.5
10		50000.000	49989.611	779,217	4.233	P	0.8

y = 8.4650E-005 * x + 0.0012
R = 1.0000
DL = 4.667
BEC = 14.37

Weight: <None>
Min Conc: <None>

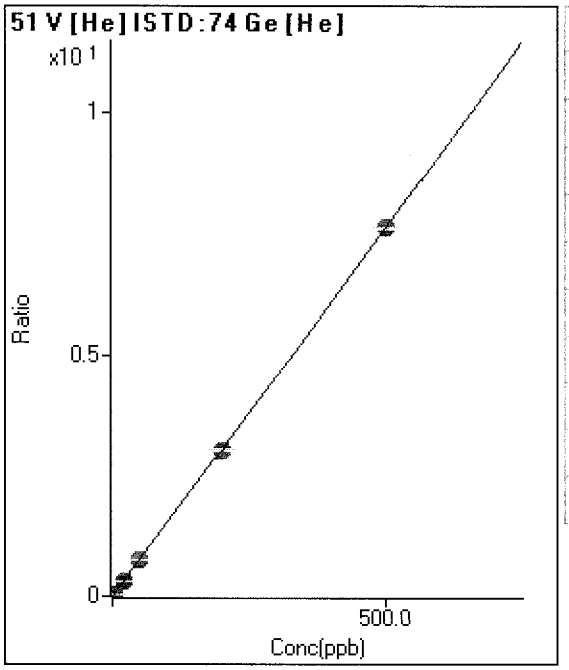


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	33	0.000	P	86.1
2		0.180	0.221	168	0.000	P	25.1
3		0.900	0.828	545	0.000	P	15.1
4		1.800	1.772	1,098	0.001	P	6.3
5		3.600	3.435	2,117	0.001	P	4.5
6		20.000	20.050	12,190	0.007	P	3.3
7		50.000	49.119	31,144	0.018	P	0.4
8		200.000	194.395	123,184	0.071	P	1.5
9		500.000	494.516	307,106	0.180	P	2.7
10		2500.000	2501.563	1,762,603	0.910	A	0.7

y = 3.6374E-004 * x + 2.0126E-005
R = 1.0000
DL = 0.1429
BEC = 0.05533

Weight: <None>
Min Conc: <None>

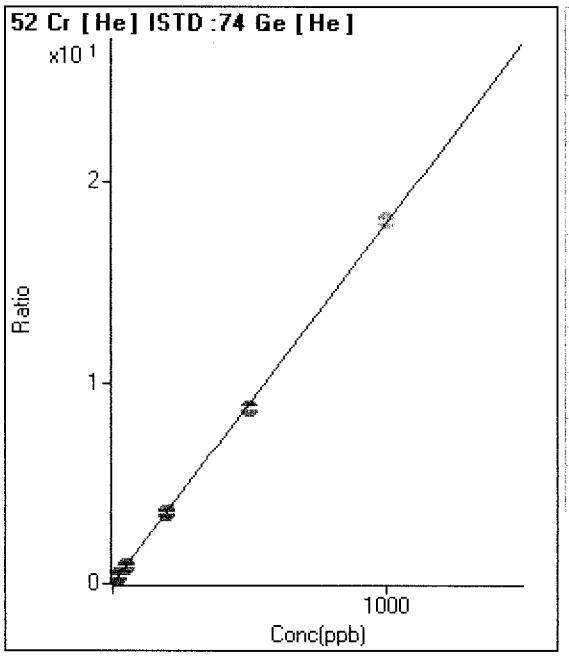
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	579	0.005	P	6.8
2	☐	0.180	0.224	958	0.008	P	0.2
3	☐	0.900	1.001	2,312	0.020	P	1.1
4	☐	1.800	1.804	3,695	0.033	P	3.1
5	☐	3.600	3.588	6,772	0.060	P	0.8
6	☐	20.000	20.269	35,800	0.314	P	0.6
7	☐	50.000	49.911	89,010	0.767	P	0.5
8	☐	200.000	199.595	355,160	3.051	P	0.4
9	☐	500.000	500.160	886,505	7.638	P	0.5
10	☐			641	0.005	P	1.5

y = 0.0153 * x + 0.0050
R = 1.0000
DL = 0.06697
BEC = 0.3303

Weight: <None>
Min Conc: <None>

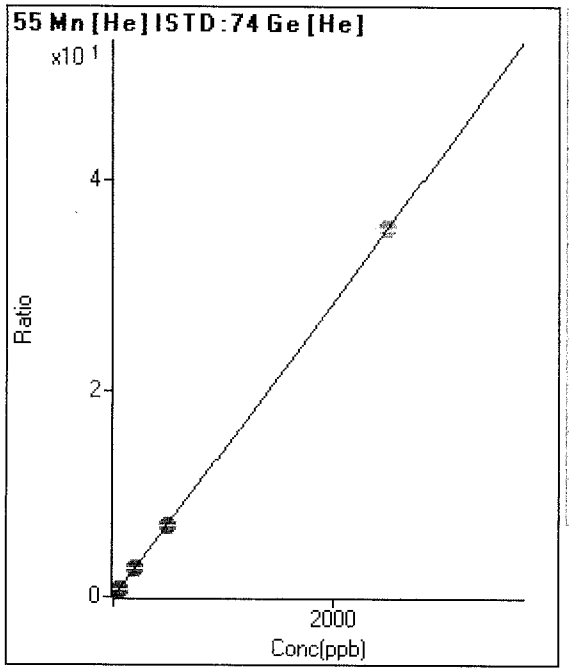


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1,302	0.011	P	10.2
2	☑	0.180		3,443	0.030	P	1.0
3	☑	0.900		4,864	0.043	P	3.5
4	☑	1.800		6,648	0.059	P	6.1
5	☐	3.600	4.287	9,995	0.088	P	3.4
6	☐	20.000	20.057	42,263	0.371	P	0.7
7	☐	50.000	48.913	103,170	0.889	P	0.9
8	☐	200.000	194.546	407,541	3.501	P	0.1
9	☐	500.000	487.637	1,016,549	8.759	P	0.2
10	☐	1000.000	1007.323	2,124,843	18.081	A	0.3

y = 0.0179 * x + 0.0113
R = 0.9999
DL = 0.1932
BEC = 0.6324

Weight: <None>
Min Conc: <None>

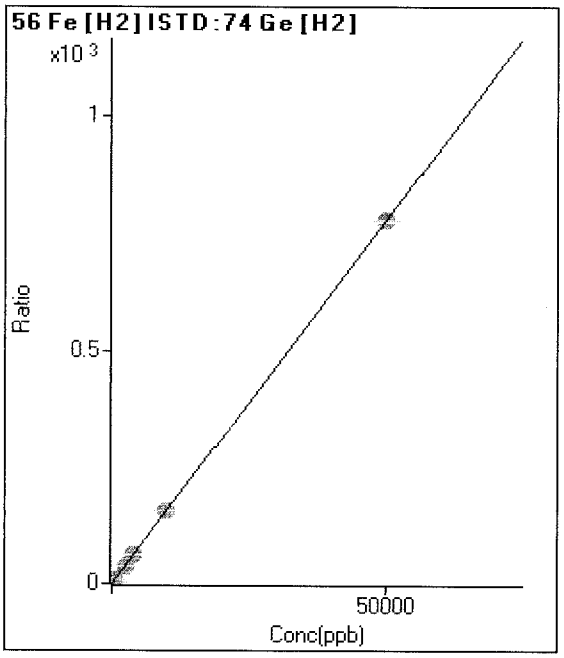
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	93	0.001	P	17.5
2		0.180	0.175	373	0.003	P	3.0
3		0.900	0.890	1,529	0.013	P	10.5
4		1.800	1.829	3,035	0.027	P	2.8
5		3.600	3.685	6,013	0.053	P	2.7
6		20.000	19.819	32,110	0.282	P	1.2
7		50.000	48.974	80,746	0.696	P	1.1
8		200.000	194.964	322,047	2.767	P	0.2
9		500.000	485.825	800,015	6.893	P	0.3
10		2500.000	2503.260	4,173,432	35.514	A	0.5

y = 0.0142 * x + 8.1277E-004
R = 1.0000
DL = 0.03016
BEC = 0.05729

Weight: <None>
Min Conc: <None>

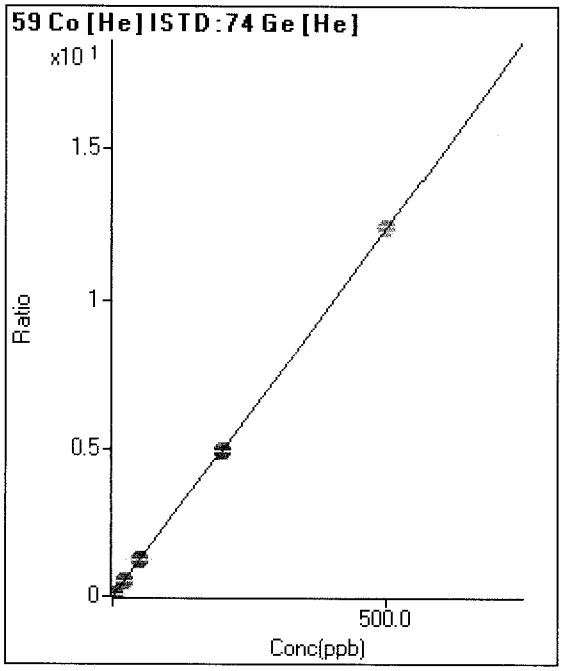


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	21,548	0.063	P	2.2
2				85,730	0.251	P	1.2
3		45.000	47.908	277,935	0.807	P	0.9
4		90.000	91.718	507,663	1.487	P	0.5
5		180.000	180.990	977,427	2.874	P	0.1
6		400.000	406.306	2,171,421	6.375	A	1.2
7		2500.000	2466.543	13,213,841	38.380	A	0.6
8		4000.000	3980.685	21,407,114	61.902	A	0.7
9		10000.000	9962.513	53,574,283	154.829	A	0.4
10		50000.000	50010.656	260,690,147	776.974	A	0.5

y = 0.0155 * x + 0.0626
R = 1.0000
DL = 0.2652
BEC = 4.028

Weight: <None>
Min Conc: <None>

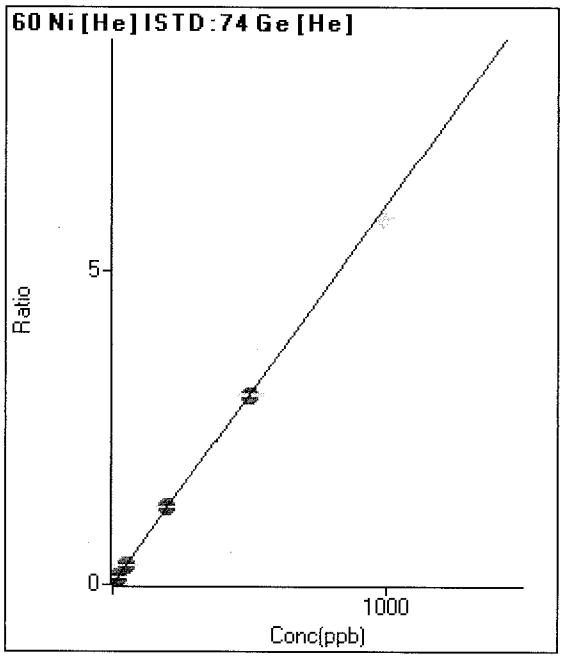
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30	0.000	P	101.7
2	☐	0.180	0.184	544	0.005	P	5.6
3	☐	0.900	0.902	2,567	0.023	P	1.9
4	☐	1.800	1.829	5,156	0.045	P	1.6
5	☐	3.600	3.634	10,202	0.090	P	0.9
6	☐	20.000	20.289	57,125	0.502	P	1.2
7	☐	50.000	49.772	142,808	1.230	P	0.7
8	☐	200.000	198.062	569,751	4.895	P	0.2
9	☐	500.000	500.786	1,436,245	12.376	A	1.9
10	☐			703	0.006	P	3.0

y = 0.0247 * x + 2.6145E-004
R = 1.0000
DL = 0.03229
BEC = 0.01058

Weight: <None>
Min Conc: <None>



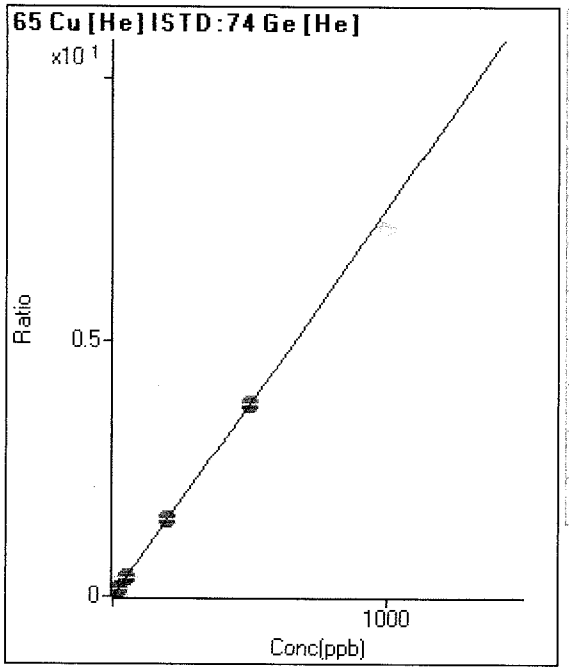
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34	0.000	P	30.8
2	☐	0.180	0.180	157	0.001	P	19.0
3	☐	0.900	0.989	714	0.006	P	4.0
4	☐	1.800	1.855	1,306	0.012	P	4.9
5	☐	3.600	3.700	2,567	0.023	P	3.4
6	☐	20.000	20.840	14,379	0.126	P	1.4
7	☐	50.000	51.509	36,179	0.312	P	1.4
8	☐	200.000	203.203	143,013	1.229	P	1.0
9	☐	500.000	498.533	349,781	3.014	P	0.7
10	☑	1000.000		679,742	5.784	P	0.3

y = 0.0060 * x + 2.9990E-004
R = 1.0000
DL = 0.04586
BEC = 0.04961

Weight: <None>
Min Conc: <None>

Ni LDR=500 ppb
ESS 10/6/19

Calibration for 013_ICV.d

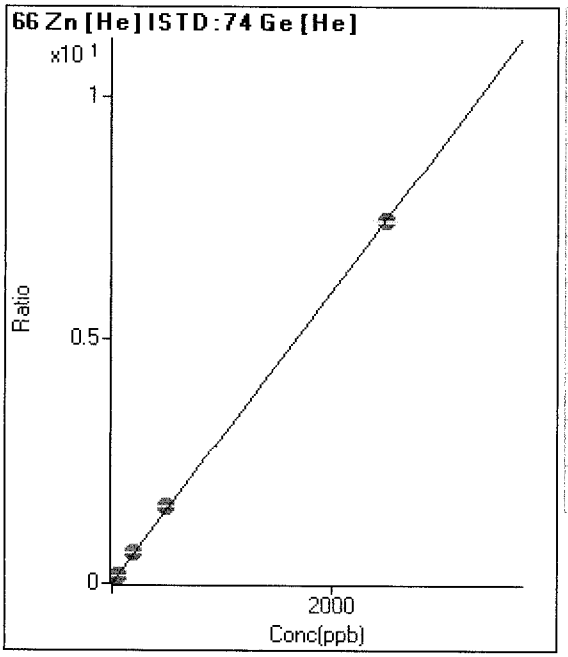


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123	0.001	P	7.4
2	☐	0.180	0.152	251	0.002	P	4.3
3	☐	0.900	1.047	1,018	0.009	P	6.1
4	☐	1.800	1.855	1,703	0.015	P	11.2
5	☐	3.600	3.966	3,499	0.031	P	5.7
6	☐	20.000	21.038	18,135	0.159	P	1.9
7	☐	50.000	51.557	45,125	0.389	P	1.4
8	☐	200.000	203.182	177,949	1.529	P	0.2
9	☐	500.000	498.527	435,165	3.749	P	0.2
10	☑	1000.000		840,445	7.152	P	0.7

y = 0.0075 * x + 0.0011
R = 1.0000
DL = 0.03153
BEC = 0.1429

Cu LDR = 500 ppb
ESS 10/8/19

Weight: <None>
Min Conc: <None>

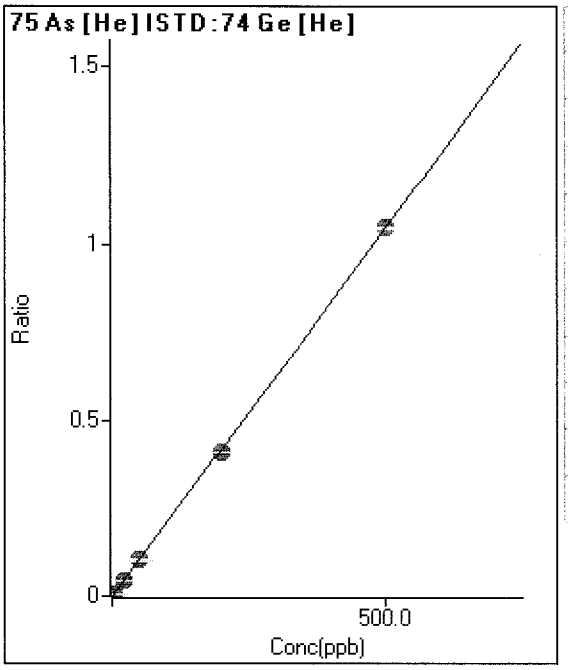


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	91	0.001	P	25.2
2	☐	0.180	0.119	130	0.001	P	7.3
3	☐	0.900	0.983	424	0.004	P	12.7
4	☐	1.800	1.666	654	0.006	P	8.4
5	☐	3.600	3.612	1,312	0.012	P	5.6
6	☐	20.000	21.322	7,345	0.064	P	3.7
7	☐	50.000	52.649	18,352	0.158	P	1.5
8	☐	200.000	209.161	72,833	0.626	P	0.5
9	☐	500.000	524.863	182,091	1.569	P	0.6
10	☐	2500.000	2494.231	875,827	7.453	P	0.5

y = 0.0030 * x + 7.9413E-004
R = 0.9999
DL = 0.2013
BEC = 0.2658

Weight: <None>
Min Conc: <None>

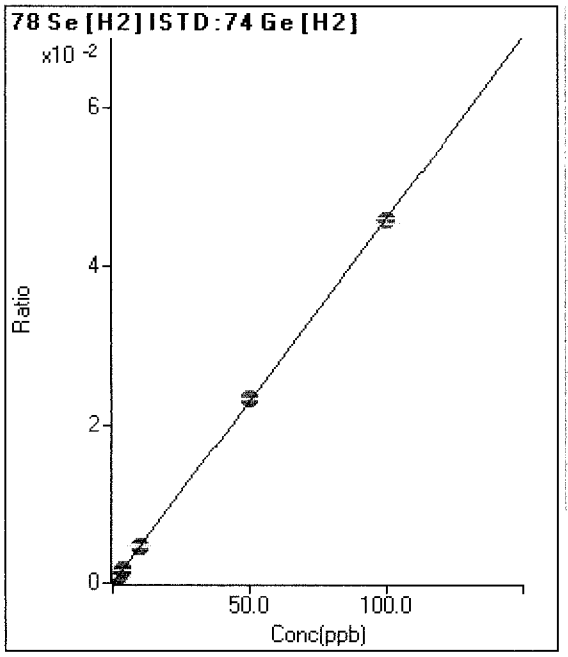
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	14	0.000	P	8.1
2		0.180	0.178	56	0.000	P	42.1
3		0.900	0.979	248	0.002	P	6.4
4		1.800	1.826	448	0.004	P	6.0
5		3.600	3.654	881	0.008	P	4.8
6		20.000	20.211	4,835	0.042	P	1.9
7		50.000	49.305	12,004	0.103	P	1.0
8		200.000	197.195	48,096	0.413	P	0.3
9		500.000	501.183	121,863	1.050	P	0.3
10				50	0.000	P	9.5

y = 0.0021 * x + 1.2486E-004
R = 1.0000
DL = 0.01449
BEC = 0.05961

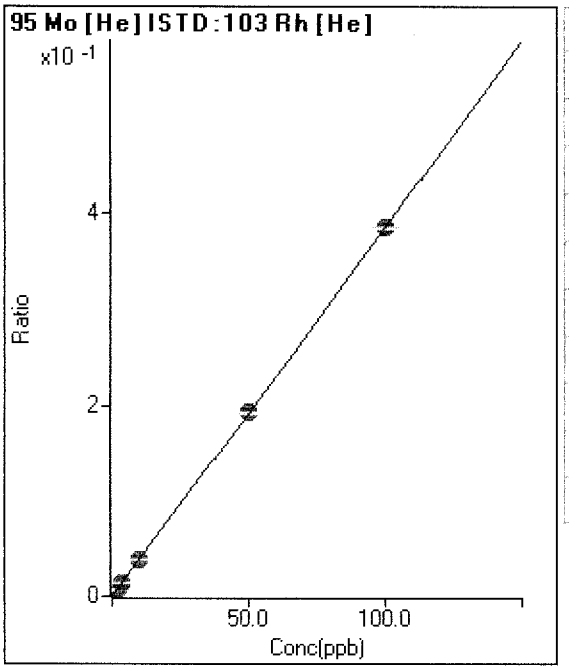
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	1	0.000	P	43.0
2		0.180	0.193	32	0.000	P	19.1
3		0.900	0.913	146	0.000	P	5.1
4		1.800	1.855	292	0.001	P	2.7
5		3.600	3.588	562	0.002	P	3.1
6		10.000	10.262	1,609	0.005	P	5.9
7		50.000	50.670	8,023	0.023	P	0.9
8		100.000	99.638	15,845	0.046	P	1.5
9				24	0.000	P	2.8
10				40	0.000	P	22.0

y = 4.5983E-004 * x + 3.8687E-006
R = 1.0000
DL = 0.01084
BEC = 0.008413

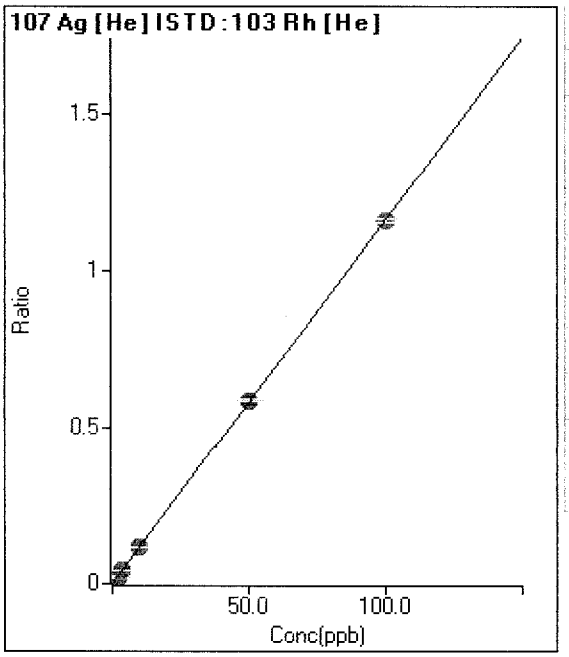
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	141	0.001	P	8.1
2		0.180	0.295	452	0.002	P	19.5
3		0.900	1.008	1,215	0.004	P	6.2
4		1.800	1.803	2,050	0.007	P	9.7
5		3.600	3.667	4,052	0.015	P	0.9
6		10.000	9.845	10,562	0.038	P	2.0
7		50.000	50.025	53,409	0.193	P	0.5
8		100.000	99.999	106,445	0.384	P	0.8
9				108	0.000	P	25.4
10				124	0.000	P	39.8

y = 0.0038 * x + 5.0580E-004
R = 1.0000
DL = 0.03206
BEC = 0.1317

Weight: <None>
Min Conc: <None>

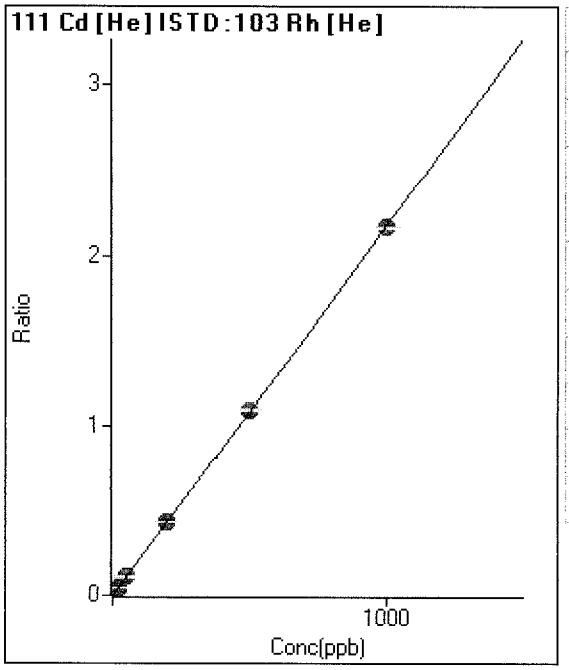


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	9	0.000	P	43.1
2		0.180	0.182	593	0.002	P	8.3
3		0.900	0.927	2,994	0.011	P	0.5
4		1.800	1.844	5,917	0.021	P	1.4
5		3.600	3.648	11,770	0.042	P	0.6
6		10.000	10.216	32,699	0.119	P	0.4
7		50.000	50.475	162,472	0.586	P	0.7
8		100.000	99.738	320,496	1.158	P	1.0
9				76	0.000	P	23.7
10				102	0.000	P	16.2

y = 0.0116 * x + 3.1846E-005
R = 1.0000
DL = 0.00355
BEC = 0.002744

Weight: <None>
Min Conc: <None>

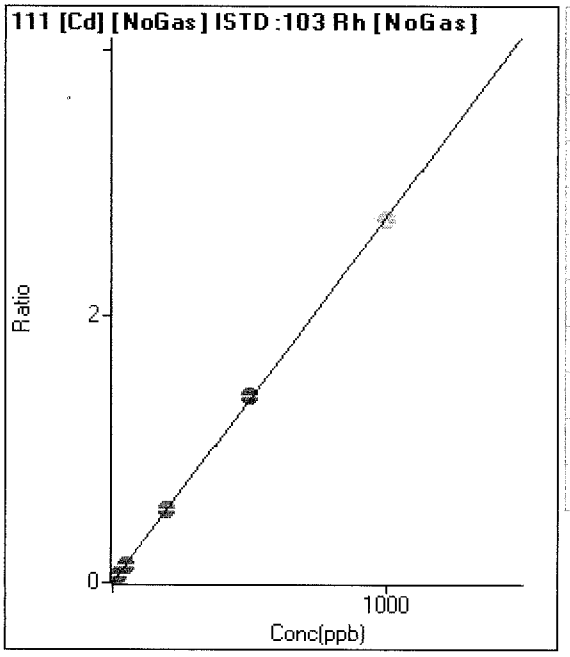
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	4	0.000	P	66.7
2		0.180	0.199	123	0.000	P	4.7
3		0.900	0.916	556	0.002	P	8.8
4		1.800	1.830	1,100	0.004	P	4.9
5		3.600	3.716	2,245	0.008	P	2.9
6		20.000	20.453	12,245	0.044	P	1.1
7		50.000	50.277	30,271	0.109	P	0.4
8		200.000	199.380	119,834	0.433	P	0.5
9		500.000	504.893	298,181	1.096	P	0.5
10		1000.000	997.654	571,332	2.166	P	0.8

y = 0.0022 * x + 1.4362E-005
R = 1.0000
DL = 0.01323
BEC = 0.006616

Weight: <None>
Min Conc: <None>

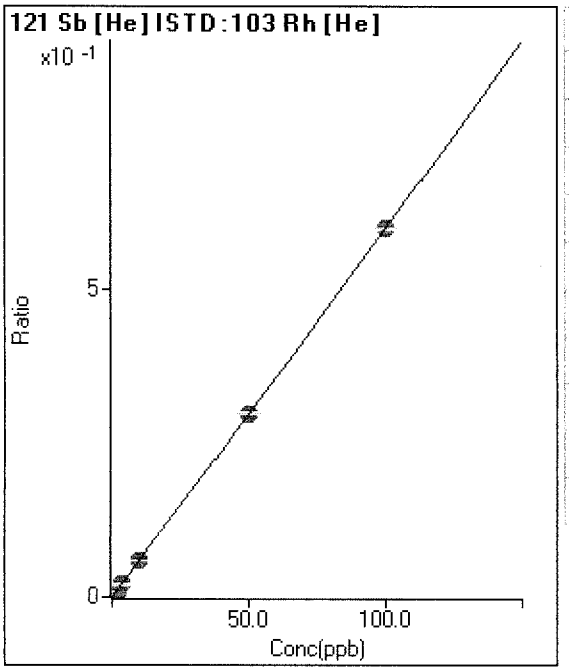


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	24	0.000	P	15.4
2		0.180	0.196	353	0.001	P	14.1
3		0.900	0.904	1,563	0.003	P	8.0
4		1.800	1.830	3,118	0.005	P	1.2
5		3.600	3.586	6,097	0.010	P	4.1
6		20.000	20.354	34,583	0.056	P	2.3
7		50.000	49.753	85,711	0.136	P	0.2
8		200.000	199.968	341,168	0.548	P	0.3
9		500.000	511.348	851,113	1.401	P	0.3
10		1000.000	994.337	1,696,450	2.723	A	1.3

y = 0.0027 * x + 3.8663E-005
R = 0.9999
DL = 0.006505
BEC = 0.01412

Weight: <None>
Min Conc: <None>

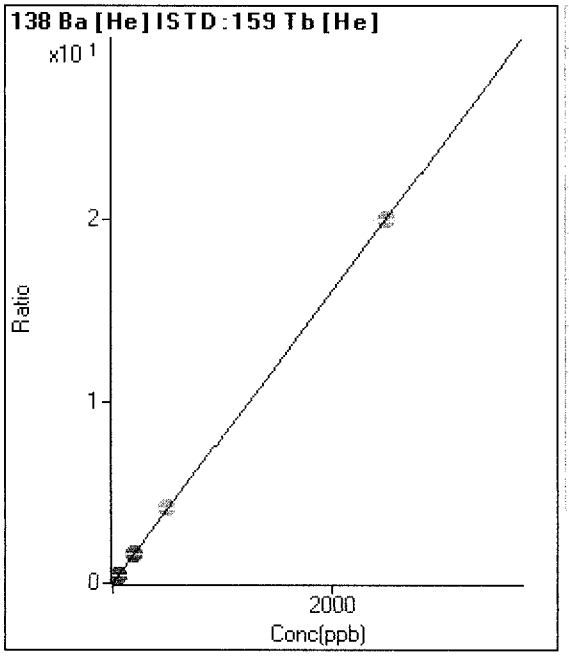
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	23	0.000	P	13.8
2		0.180	0.175	312	0.001	P	14.9
3		0.900	0.884	1,491	0.005	P	6.8
4		1.800	1.724	2,870	0.010	P	1.1
5		3.600	3.463	5,781	0.021	P	4.2
6		10.000	9.972	16,479	0.060	P	2.3
7		50.000	50.009	83,036	0.299	P	0.5
8		100.000	100.005	165,756	0.599	P	0.5
9				202	0.001	P	12.9
10				96	0.000	P	47.2

y = 0.0060 * x + 8.3573E-005
R = 1.0000
DL = 0.005785
BEC = 0.01396

Weight: <None>
Min Conc: <None>

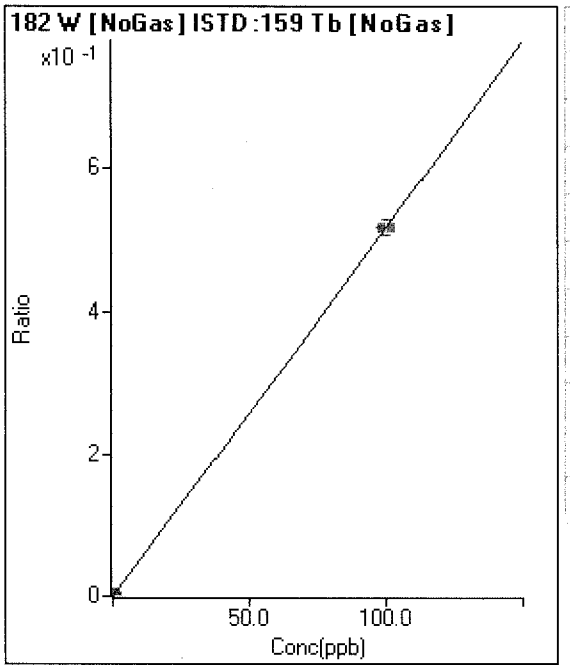


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	100	0.000	P	17.9
2		0.180	0.175	888	0.002	P	3.1
3		0.900	0.910	4,218	0.007	P	2.4
4		1.800	1.795	8,168	0.015	P	3.9
5		3.600	3.575	16,183	0.029	P	2.0
6		20.000	20.243	91,844	0.162	P	0.4
7		50.000	50.005	229,100	0.400	P	0.7
8		200.000	199.456	914,669	1.595	P	0.6
9		500.000	511.690	2,320,326	4.091	A	1.1
10		2500.000	2497.704	11,200,947	19.967	A	0.5

y = 0.0080 * x + 1.7737E-004
R = 1.0000
DL = 0.01192
BEC = 0.02219

Weight: <None>
Min Conc: <None>

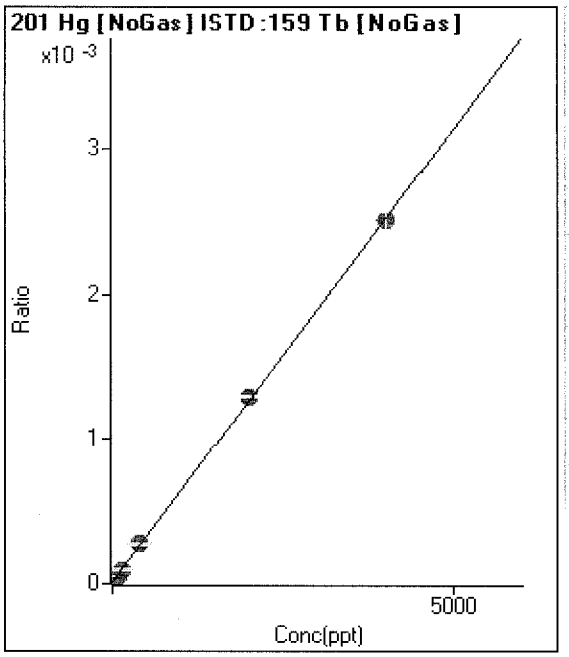
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	31	0.000	P	63.9
2				49	0.000	P	37.3
3				46	0.000	P	48.3
4				49	0.000	P	56.7
5				40	0.000	P	37.1
6				51	0.000	P	10.3
7				131	0.000	P	14.2
8				179	0.000	P	31.3
9		100.000	100.000	782,348	0.517	P	3.2
10				2,398	0.002	P	1.7

y = 0.0052 * x + 2.0733E-005
R = 1.0000
DL = 0.00769
BEC = 0.004009

Weight: <None>
Min Conc: <None>

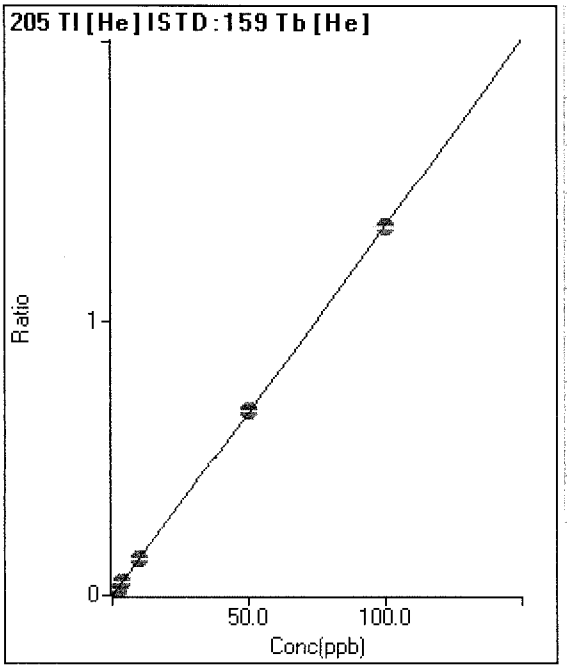


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	-11.307	6	0.000	P	34.7
2				13	0.000	P	17.4
3		36.000	26.863	42	0.000	P	11.8
4		72.000	61.714	74	0.000	P	10.0
5		144.000	133.846	143	0.000	P	12.1
6		400.000	423.156	414	0.000	P	5.3
7		2000.000	2038.821	1,992	0.001	P	1.0
8		4000.000	3978.907	3,881	0.003	P	4.9
9				91	0.000	P	11.3
10				53	0.000	P	13.6

y = 6.277518E-007 * x + 1.100078E-005
R = 0.9999
DL = 6.473
BEC = 17.52

Weight: <None>
Min Conc: <None>

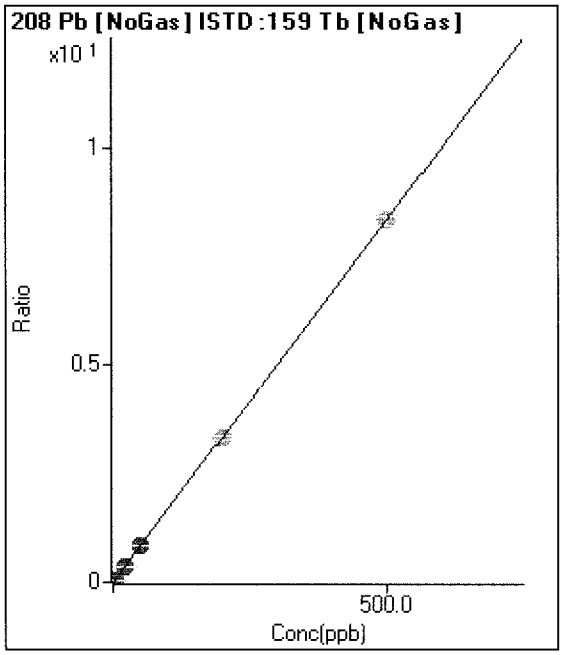
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	41	0.000	P	21.3
2		0.180	0.183	1,426	0.003	P	0.9
3		0.900	0.917	7,016	0.012	P	2.6
4		1.800	1.824	13,801	0.025	P	1.4
5		3.600	3.615	27,353	0.049	P	0.9
6		10.000	10.192	77,615	0.137	P	1.5
7		50.000	50.415	387,778	0.677	P	0.2
8		100.000	99.772	768,349	1.340	P	0.5
9				396	0.001	P	11.5
10				112	0.000	P	17.0

y = 0.0134 * x + 7.2989E-005
R = 1.0000
DL = 0.003481
BEC = 0.005437

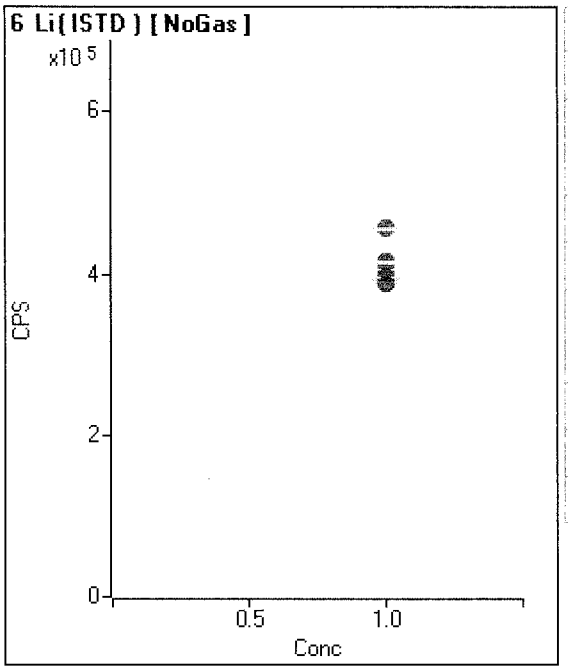
Weight: <None>
Min Conc: <None>



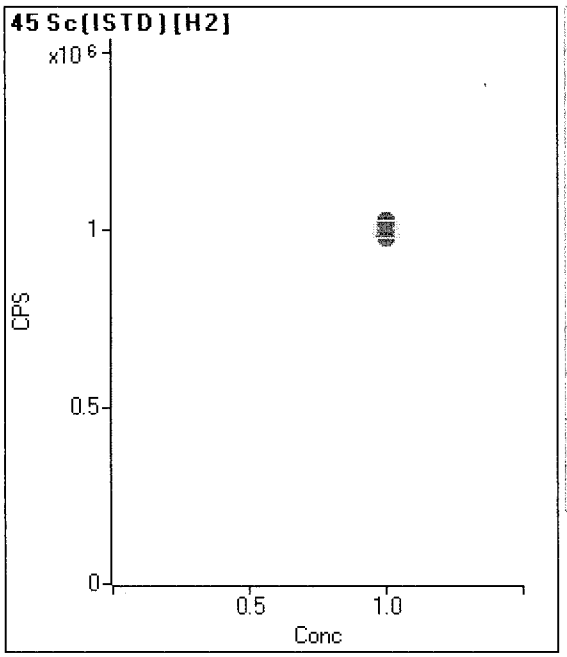
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	720	0.000	P	12.9
2		0.180	0.186	5,288	0.004	P	1.7
3		0.900	0.923	23,674	0.016	P	1.8
4		1.800	1.874	46,932	0.032	P	0.7
5		3.600	3.683	92,852	0.062	P	1.6
6		20.000	20.976	523,287	0.350	P	0.4
7		50.000	50.161	1,289,789	0.836	P	1.4
8		200.000	198.851	5,127,022	3.313	A	3.0
9		500.000	500.404	12,611,983	8.336	A	2.6
10				3,899	0.002	P	4.3

y = 0.0167 * x + 4.8257E-004
R = 1.0000
DL = 0.0112
BEC = 0.02897

Weight: <None>
Min Conc: <None>

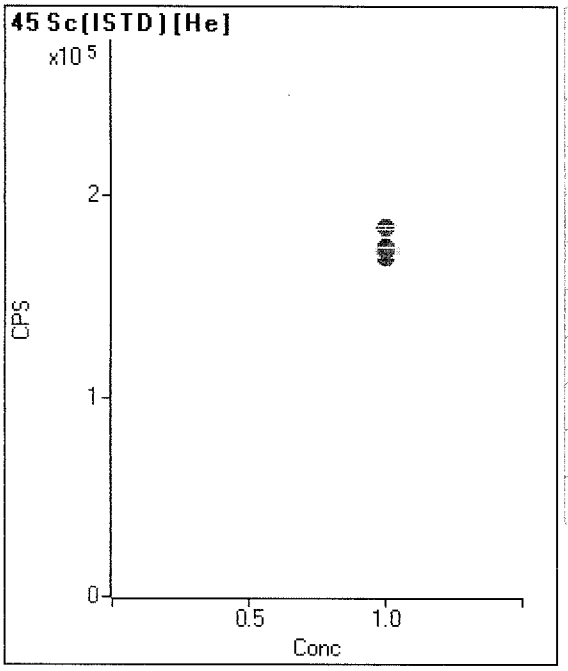


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		390,560		P	0.4
2		1.000		389,665		P	0.6
3		1.000		394,146		P	0.7
4		1.000		390,613		P	0.3
5		1.000		392,505		P	0.4
6		1.000		396,769		P	0.2
7		1.000		407,334		P	0.1
8		1.000		406,914		P	0.4
9		1.000		415,850		P	0.2
10		1.000		457,351		P	0.7

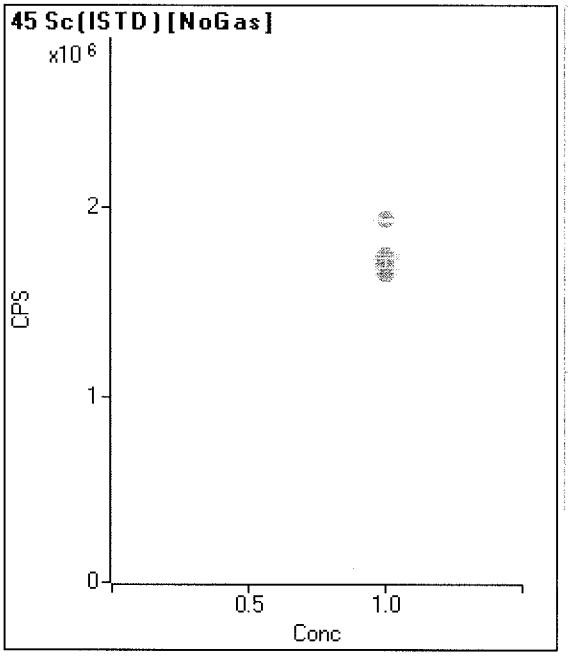


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		995,917		P	0.1
2		1.000		986,077		P	0.2
3		1.000		997,567		P	0.2
4		1.000		983,817		P	0.5
5		1.000		980,484		P	0.2
6		1.000		983,266		P	0.7
7		1.000		1,003,010		P	0.1
8		1.000		1,009,325		P	0.6
9		1.000		1,020,565		P	0.7
10		1.000		1,025,465		P	0.2

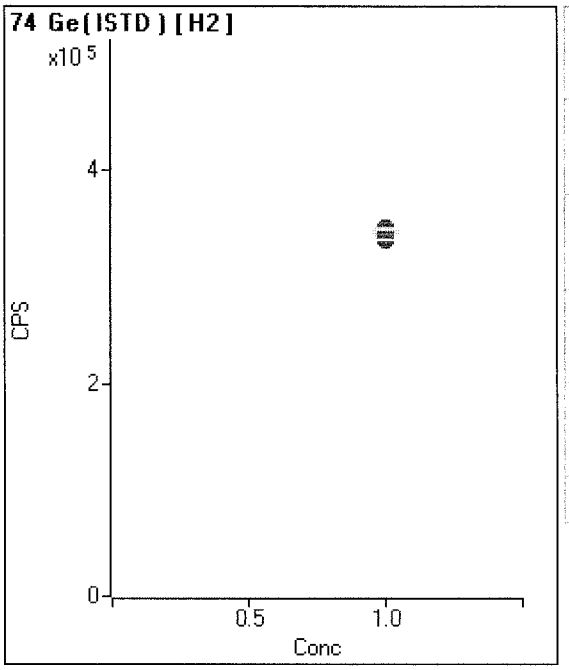
Calibration for 013_ICV.d



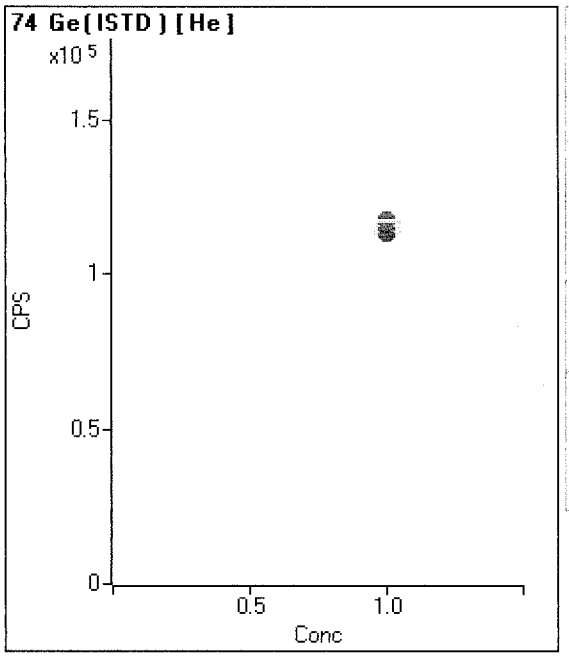
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		171,648		P	0.8
2		1.000		169,397		P	0.7
3		1.000		171,482		P	0.5
4		1.000		169,307		P	0.5
5		1.000		170,902		P	0.9
6		1.000		170,205		P	0.2
7		1.000		173,843		P	0.6
8		1.000		174,097		P	0.8
9		1.000		174,669		P	0.5
10		1.000		184,099		P	1.2



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		1,663,179		A	0.9
2		1.000		1,671,867		A	0.5
3		1.000		1,695,936		A	0.3
4		1.000		1,652,441		A	0.6
5		1.000		1,667,166		A	1.9
6		1.000		1,666,909		A	0.6
7		1.000		1,741,200		A	0.1
8		1.000		1,741,885		A	1.6
9		1.000		1,707,950		A	2.7
10		1.000		1,937,013		A	0.4

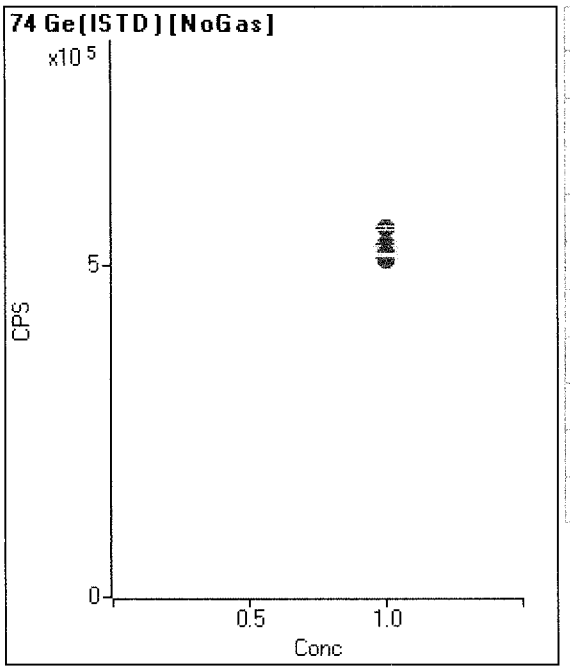


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		344,346		P	0.4
2		1.000		341,093		P	0.3
3		1.000		344,491		P	0.6
4		1.000		341,310		P	0.4
5		1.000		340,065		P	0.1
6		1.000		340,645		P	0.6
7		1.000		344,294		P	0.4
8		1.000		345,837		P	0.9
9		1.000		346,025		P	0.4
10		1.000		335,520		P	0.5

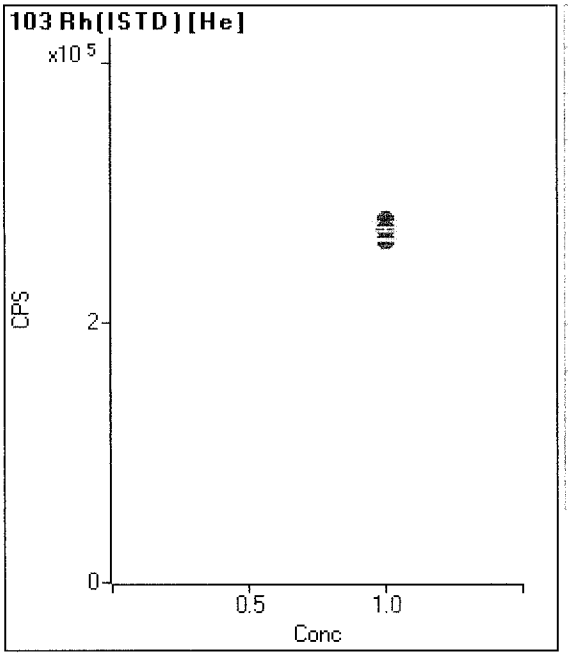


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		114,795		P	0.3
2		1.000		113,182		P	0.6
3		1.000		113,802		P	0.1
4		1.000		113,414		P	0.4
5		1.000		113,264		P	0.1
6		1.000		113,875		P	0.1
7		1.000		116,086		P	0.4
8		1.000		116,401		P	0.1
9		1.000		116,063		P	0.6
10		1.000		117,517		P	0.6

Calibration for 013_ICV.d

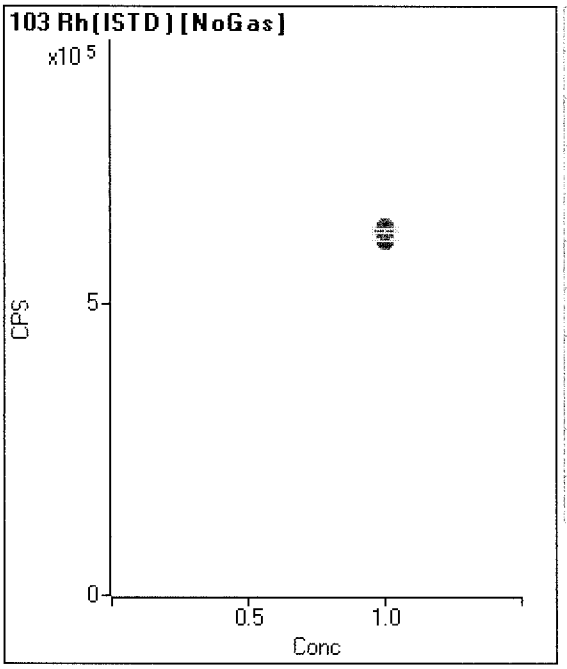


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		511,960		P	1.2
2		1.000		510,022		P	0.4
3		1.000		516,907		P	0.6
4		1.000		509,242		P	0.0
5		1.000		510,778		P	1.1
6		1.000		515,113		P	0.5
7		1.000		531,929		P	1.4
8		1.000		526,553		P	0.9
9		1.000		516,128		P	0.7
10		1.000		553,926		P	1.2

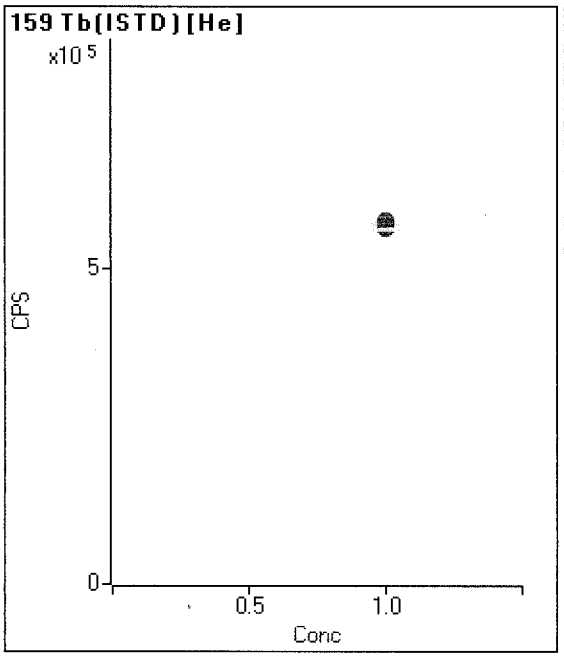


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		279,071		P	0.5
2		1.000		276,200		P	0.4
3		1.000		277,534		P	0.4
4		1.000		275,955		P	0.3
5		1.000		277,787		P	0.8
6		1.000		275,694		P	0.4
7		1.000		277,308		P	0.2
8		1.000		276,854		P	0.6
9		1.000		272,042		P	0.8
10		1.000		263,801		P	0.6

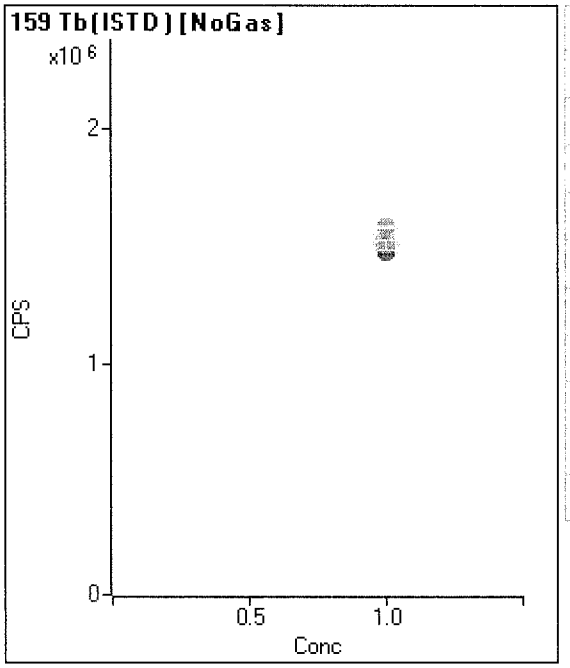
Calibration for 013_ICV.d



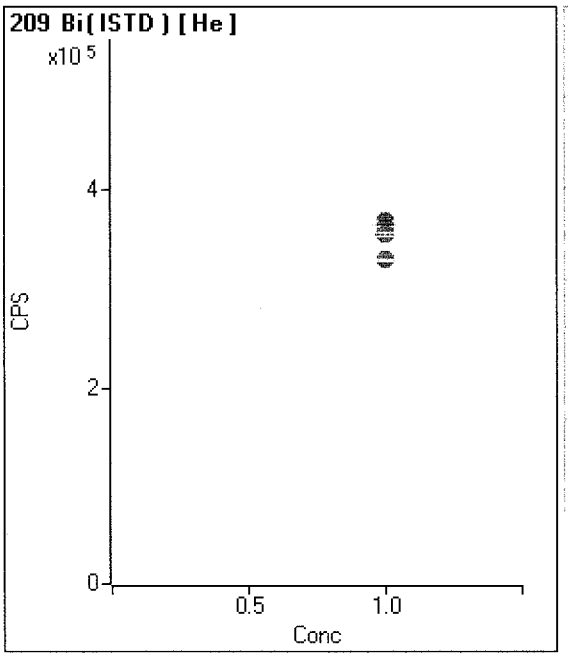
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		619,166		P	0.9
2		1.000		614,573		P	0.3
3		1.000		621,712		P	0.3
4		1.000		617,521		P	0.1
5		1.000		618,329		P	0.6
6		1.000		619,992		P	0.6
7		1.000		628,841		P	0.4
8		1.000		622,906		P	0.3
9		1.000		607,719		P	0.2
10		1.000		622,983		P	0.8



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		563,986		P	0.9
2		1.000		562,150		P	0.2
3		1.000		566,271		P	0.3
4		1.000		562,030		P	0.5
5		1.000		562,814		P	0.4
6		1.000		566,926		P	0.6
7		1.000		572,858		P	0.4
8		1.000		573,586		P	0.5
9		1.000		567,244		P	0.8
10		1.000		560,962		P	0.2

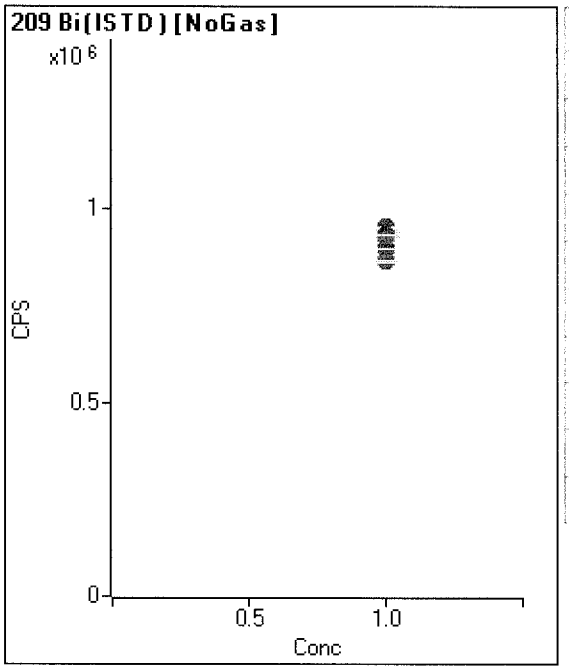


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		1,490,879		M	1.6
2		1.000		1,476,765		P	0.4
3		1.000		1,493,619		M	1.6
4		1.000		1,480,746		P	0.2
5		1.000		1,501,923		M	1.2
6		1.000		1,495,540		P	0.7
7		1.000		1,542,835		M	1.3
8		1.000		1,548,393		M	2.8
9		1.000		1,513,619		A	2.8
10		1.000		1,587,122		A	0.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		365,535		P	0.6
2		1.000		363,611		P	0.2
3		1.000		366,575		P	0.5
4		1.000		365,914		P	0.3
5		1.000		367,291		P	0.4
6		1.000		368,968		P	0.4
7		1.000		368,824		P	0.4
8		1.000		363,455		P	0.2
9		1.000		355,429		P	1.0
10		1.000		330,247		P	0.6

Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		928,203		P	0.7
2	☐	1.000		929,330		P	0.2
3	☐	1.000		938,939		P	1.0
4	☐	1.000		936,693		P	0.6
5	☐	1.000		943,290		P	0.3
6	☐	1.000		945,838		P	0.6
7	☐	1.000		953,610		P	0.7
8	☐	1.000		933,625		P	0.1
9	☐	1.000		899,132		P	0.4
10	☐	1.000		867,925		P	0.9

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-ICV1**	Total Dilution:	1.0000
File Name:	013_ICV.d	Sample Type:	ICV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:01:46
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	39.994	ppb	2.0	51,868	40	99.98	
Na	23	45	He	4085.441	ppb	1.0	2,345,131	4000	102.14	
Mg	24	45	He	4309.018	ppb	1.3	1,376,171	4000	107.73	
Al	27	45	He	3966.535	ppb	0.4	716,042	4000	99.16	
K	39	45	He	4112.518	ppb	0.4	1,417,584	4000	102.81	
Ca	44	45	H2	4001.963	ppb	0.5	490,708	4000	100.05	
[Ca]	44	45	He	4120.642	ppb	0.5	64,573	4000	103.02	
Ti	47	45	NoGas	97.300	ppb	1.7	66,069	100	97.3	
V	51	74	He	100.937	ppb	0.8	187,764	100	100.94	
Cr	52	74	He	100.107	ppb	0.6	219,536	100	100.11	
Mn	55	74	He	101.827	ppb	0.4	175,594	100	101.83	
Fe	56	74	H2	4165.368	ppb	0.0	23,798,591	4000	104.13	
Co	59	74	He	103.517	ppb	0.2	310,810	100	103.52	
Ni	60	74	He	105.290	ppb	0.2	77,358	100	105.29	
Cu	65	74	He	104.273	ppb	0.4	95,375	100	104.27	
Zn	66	74	He	103.763	ppb	2.8	37,758	100	103.76	
As	75	74	He	97.990	ppb	0.2	24,952	100	97.99	
Se	78	74	H2	40.347	ppb	1.9	6,818	40	100.87	
Mo	95	103	He	40.160	ppb	3.0	44,574	40	100.4	
Ag	107	103	He	36.026	ppb	1.2	120,495	40	90.07	
Cd	111	103	He	97.647	ppb	1.0	61,083	100	97.65	
[Cd]	111	103	NoGas	97.706	ppb	0.5	174,522	100	97.71	
Sb	121	103	He	38.664	ppb	1.0	66,709	40	96.66	
Ba	138	159	He	101.659	ppb	0.6	470,767	100	101.66	
Hg	201	159	NoGas	809.938	ppt	0.2	817	800	101.24	
Tl	205	159	He	39.854	ppb	1.0	309,918	40	99.64	
Pb	208	159	NoGas	98.903	ppb	1.5	2,590,478	100	98.9	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	434,192	390560.36	111.2	
Sc	45	H2	Pulse	0.1	1,084,055	995916.946666667	108.8	
Sc	45	He	Pulse	0.6	184,483	171648.27	107.5	
Sc	45	NoGas	Analog	0.9	1,865,915	1663179.33	112.2	
Ge	74	H2	Pulse	0.3	367,425	344345.643333333	106.7	
Ge	74	He	Pulse	0.5	121,487	114794.926666667	105.8	
Ge	74	NoGas	Pulse	0.7	557,587	511960.473333333	108.9	
Rh	103	He	Pulse	0.7	288,140	279070.866666667	103.2	
Rh	103	NoGas	Pulse	0.4	652,089	619166.366666667	105.3	
Tb	159	He	Pulse	0.5	579,152	563985.973333333	102.7	
Tb	159	NoGas	Analog	1.7	1,572,128	1490879.07333333	105.4	
Bi	209	He	Pulse	0.6	365,788	365534.536666667	100.1	
Bi	209	NoGas	Pulse	0.7	943,936	928203.173333333	101.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-ICB1**	Total Dilution:	1.0000
File Name:	014_ICB.d	Sample Type:	ICB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:06:23
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.005	ppb	76.6	18	
Na	23	45	He	2.650	ppb	22.7	4,169	
Mg	24	45	He	1.326	ppb	44.7	732	
Al	27	45	He	1.234	ppb	28.6	322	
K	39	45	He	7.064	ppb	97.4	24,527	
Ca	44	45	H2	2.234	ppb	20.5	727	
[Ca]	44	45	He	1.041	ppb	123.1	231	
Ti	47	45	NoGas	0.120	ppb	51.7	117	
V	51	74	He	-0.014	ppb	N/A	560	
Cr	52	74	He	0.123	ppb	106.1	1,566	
Mn	55	74	He	0.079	ppb	69.0	220	
Fe	56	74	H2	2.178	ppb	6.0	35,399	
Co	59	74	He	0.021	ppb	5.2	90	
Ni	60	74	He	0.039	ppb	24.0	62	
Cu	65	74	He	0.046	ppb	52.4	167	
Zn	66	74	He	0.080	ppb	91.6	120	
As	75	74	He	0.048	ppb	157.1	25	
Se	78	74	H2	0.029	ppb	11.9	6	
Mo	95	103	He	-0.019	ppb	N/A	120	
Ag	107	103	He	0.009	ppb	45.1	37	
Cd	111	103	He	0.077	ppb	21.3	51	
[Cd]	111	103	NoGas	0.051	ppb	28.2	118	
Sb	121	103	He	0.240	ppb	11.3	426	
Ba	138	159	He	0.045	ppb	24.6	296	
Hg	201	159	NoGas	-3.708	ppt	N/A	14	
Tl	205	159	He	0.014	ppb	30.0	142	
Pb	208	159	NoGas	0.021	ppb	4.2	1,326	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.3	432,812	390560.36	110.8	
Sc	45	H2	Pulse	0.4	1,075,996	995916.946666667	108.0	
Sc	45	He	Pulse	7.3	176,519	171648.27	102.8	
Sc	45	NoGas	Analog	1.5	1,828,168	1663179.33	109.9	
Ge	74	H2	Pulse	0.5	367,183	344345.643333333	106.6	
Ge	74	He	Pulse	7.5	116,470	114794.926666667	101.5	
Ge	74	NoGas	Pulse	1.0	553,471	511960.473333333	108.1	
Rh	103	He	Pulse	7.9	281,361	279070.866666667	100.8	
Rh	103	NoGas	Pulse	0.3	664,085	619166.366666667	107.3	
Tb	159	He	Pulse	7.6	556,669	563985.973333333	98.7	
Tb	159	NoGas	Analog	0.9	1,594,680	1490879.07333333	107.0	
Bi	209	He	Pulse	7.8	359,033	365534.536666667	98.2	
Bi	209	NoGas	Pulse	1.1	962,811	928203.173333333	103.7	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL1**	Total Dilution:	1.0000
File Name:	015CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:11:02
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.160	ppb	12.2	220	88.89		
Na	23	45	He	10.562	ppb	2.0	9,048	117.36		
Mg	24	45	He	9.336	ppb	11.7	3,384	103.73		
Al	27	45	He	8.838	ppb	4.5	1,739	98.2		
K	39	45	He	11.862	ppb	13.1	27,798	131.8	R-11	< MRL
Ca	44	45	H2	8.874	ppb	10.2	1,563	98.6		
[Ca]	44	45	He	9.652	ppb	18.9	381	107.24		
Ti	47	45	NoGas	0.235	ppb	23.4	198	130.56	R-11	< MRL
V	51	74	He	0.168	ppb	21.2	938	93.33		
Cr	52	74	He	1.021	ppb	7.4	3,659	567.22	R-11	< MRL
Mn	55	74	He	0.205	ppb	13.0	459	113.89		
Fe	56	74	H2	12.809	ppb	0.5	98,071	142.32	R-11	< MRL
Co	59	74	He	0.177	ppb	8.3	573	98.33		
Ni	60	74	He	0.143	ppb	38.5	143	79.44		
Cu	65	74	He	0.240	ppb	25.9	356	133.33	R-11	< MRL
Zn	66	74	He	0.268	ppb	38.5	197	148.89	R-11	
As	75	74	He	0.161	ppb	19.7	57	89.44		
Se	78	74	H2	0.204	ppb	22.6	37	113.33		
Mo	95	103	He	0.262	ppb	8.7	449	145.56	R-11	< MRL
Ag	107	103	He	0.194	ppb	6.3	677	107.78		
Cd	111	103	He	0.203	ppb	13.7	135	112.78		
[Cd]	111	103	NoGas	0.207	ppb	27.8	406	115		
Sb	121	103	He	0.223	ppb	16.7	422	123.89		
Ba	138	159	He	0.201	ppb	2.4	1,051	111.67		
Hg	201	159	NoGas	4.360	ppt	31.2	22	60.56	R-11	< MRL
Tl	205	159	He	0.182	ppb	7.5	1,478	101.11		
Pb	208	159	NoGas	0.192	ppb	4.0	5,903	106.67		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.1	436,526	390560.36	111.8	
Sc	45	H2	Pulse	0.6	1,096,418	995916.946666667	110.1	
Sc	45	He	Pulse	0.6	187,360	171648.27	109.2	
Sc	45	NoGas	Analog	1.9	1,873,054	1663179.33	112.6	
Ge	74	H2	Pulse	0.5	374,955	344345.643333333	108.9	
Ge	74	He	Pulse	0.2	123,379	114794.926666667	107.5	
Ge	74	NoGas	Pulse	0.7	565,119	511960.473333333	110.4	
Rh	103	He	Pulse	0.6	296,952	279070.866666667	106.4	
Rh	103	NoGas	Pulse	0.5	671,087	619166.366666667	108.4	
Tb	159	He	Pulse	0.3	588,768	563985.973333333	104.4	
Tb	159	NoGas	Analog	1.3	1,601,042	1490879.07333333	107.4	
Bi	209	He	Pulse	0.3	377,016	365534.536666667	103.1	
Bi	209	NoGas	Pulse	0.4	974,104	928203.173333333	104.9	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL2**	Total Dilution:	1.0000
File Name:	016_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:15:41
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.908	ppb	6.2	1,190	100.89	
Na	23	45	He	46.665	ppb	1.9	29,764	103.7	
Mg	24	45	He	46.776	ppb	0.9	15,367	103.95	
Al	27	45	He	45.534	ppb	2.3	8,380	101.19	
K	39	45	He	45.394	ppb	0.8	38,945	100.88	
Ca	44	45	H2	45.165	ppb	3.6	5,964	100.37	
[Ca]	44	45	He	43.462	ppb	8.7	908	96.58	
Ti	47	45	NoGas	0.971	ppb	4.8	691	107.89	
V	51	74	He	0.882	ppb	1.6	2,258	98	
Cr	52	74	He	1.802	ppb	1.6	5,328	200.22	R-11
Mn	55	74	He	0.940	ppb	6.1	1,727	104.44	
Fe	56	74	H2	48.848	ppb	0.3	303,310	108.55	
Co	59	74	He	0.886	ppb	2.3	2,704	98.44	
Ni	60	74	He	0.904	ppb	19.0	703	100.44	
Cu	65	74	He	0.997	ppb	11.1	1,046	110.78	
Zn	66	74	He	1.140	ppb	22.1	512	126.67	
As	75	74	He	0.912	ppb	7.7	248	101.33	
Se	78	74	H2	0.838	ppb	11.6	144	93.11	
Mo	95	103	He	1.093	ppb	10.5	1,387	121.44	
Ag	107	103	He	0.901	ppb	2.0	3,093	100.11	
Cd	111	103	He	0.947	ppb	0.8	610	105.22	
[Cd]	111	103	NoGas	0.938	ppb	5.9	1,741	104.22	
Sb	121	103	He	0.931	ppb	4.0	1,667	103.44	
Ba	138	159	He	0.892	ppb	2.6	4,293	99.11	
Hg	201	159	NoGas	37.008	ppt	11.7	55	102.8	
Tl	205	159	He	0.928	ppb	5.1	7,357	103.11	
Pb	208	159	NoGas	0.925	ppb	1.7	25,520	102.78	

Cr MRL ↑ 4 ppb
ESS 10/6/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.5	434,703	390560.36	111.3	
Sc	45	H2	Pulse	0.6	1,079,362	995916.946666667	108.4	
Sc	45	He	Pulse	0.3	185,456	171648.27	108.0	
Sc	45	NoGas	Analog	1.3	1,853,315	1663179.33	111.4	
Ge	74	H2	Pulse	0.3	369,245	344345.643333333	107.2	
Ge	74	He	Pulse	0.0	122,003	114794.926666667	106.3	
Ge	74	NoGas	Pulse	0.5	560,919	511960.473333333	109.6	
Rh	103	He	Pulse	0.3	294,822	279070.866666667	105.6	
Rh	103	NoGas	Pulse	0.6	667,968	619166.366666667	107.9	
Tb	159	He	Pulse	0.7	587,159	563985.973333333	104.1	
Tb	159	NoGas	Analog	1.0	1,606,360	1490879.07333333	107.7	
Bi	209	He	Pulse	0.5	375,660	365534.536666667	102.8	
Bi	209	NoGas	Pulse	1.0	979,967	928203.173333333	105.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL3**	Total Dilution:	1.0000
File Name:	017CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:20:20
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	1.840	ppb	2.6	2,417	102.22	
Na	23	45	He	92.480	ppb	1.0	56,646	102.76	
Mg	24	45	He	91.414	ppb	1.3	29,946	101.57	
Al	27	45	He	89.099	ppb	2.1	16,422	99	
K	39	45	He	89.453	ppb	0.5	54,418	99.39	
Ca	44	45	H2	89.444	ppb	2.2	11,512	99.38	
[Ca]	44	45	He	91.118	ppb	0.9	1,670	101.24	
Ti	47	45	NoGas	1.891	ppb	2.0	1,324	105.06	
V	51	74	He	1.821	ppb	2.2	4,015	101.17	
Cr	52	74	He	2.606	ppb	3.5	7,102	144.78	R-11
Mn	55	74	He	1.814	ppb	2.5	3,246	100.78	
Fe	56	74	H2	93.713	ppb	0.4	565,503	104.13	
Co	59	74	He	1.848	ppb	3.5	5,613	102.67	
Ni	60	74	He	1.818	ppb	4.1	1,380	101	
Cu	65	74	He	1.998	ppb	7.2	1,968	111	
Zn	66	74	He	1.930	ppb	9.7	802	107.22	
As	75	74	He	1.713	ppb	2.9	454	95.17	
Se	78	74	H2	1.839	ppb	4.4	316	102.17	
Mo	95	103	He	1.798	ppb	7.6	2,205	99.89	
Ag	107	103	He	1.863	ppb	1.3	6,444	103.5	
Cd	111	103	He	1.829	ppb	4.4	1,186	101.61	
[Cd]	111	103	NoGas	1.827	ppb	5.7	3,390	101.5	
Sb	121	103	He	1.756	ppb	3.2	3,151	97.56	
Ba	138	159	He	1.816	ppb	2.0	8,681	100.89	
Hg	201	159	NoGas	67.891	ppt	4.7	87	94.29	
Tl	205	159	He	1.832	ppb	0.8	14,573	101.78	
Pb	208	159	NoGas	1.817	ppb	1.8	49,717	100.94	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	437,832	390560.36	112.1	
Sc	45	H2	Pulse	0.8	1,093,220	995916.946666667	109.8	
Sc	45	He	Pulse	0.1	187,029	171648.27	109.0	
Sc	45	NoGas	Analog	0.9	1,870,715	1663179.33	112.5	
Ge	74	H2	Pulse	0.9	372,434	344345.643333333	108.2	
Ge	74	He	Pulse	0.2	122,254	114794.926666667	106.5	
Ge	74	NoGas	Pulse	0.9	562,401	511960.473333333	109.9	
Rh	103	He	Pulse	0.3	297,521	279070.866666667	106.6	
Rh	103	NoGas	Pulse	0.4	672,167	619166.366666667	108.6	
Tb	159	He	Pulse	0.3	590,867	563985.973333333	104.8	
Tb	159	NoGas	Analog	1.7	1,617,035	1490879.07333333	108.5	
Bi	209	He	Pulse	0.1	379,557	365534.536666667	103.8	
Bi	209	NoGas	Pulse	0.5	989,145	928203.173333333	106.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL4**	Total Dilution:	1.0000
File Name:	018CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:24:59
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.587	ppb	5.0	4,735	99.64	
Na	23	45	He	181.835	ppb	0.3	109,436	101.02	
Mg	24	45	He	182.166	ppb	0.6	59,788	101.2	
Al	27	45	He	176.660	ppb	1.0	32,699	98.14	
K	39	45	He	177.172	ppb	0.4	85,232	98.43	
Ca	44	45	H2	176.767	ppb	0.2	22,412	98.2	
[Ca]	44	45	He	191.811	ppb	2.6	3,290	106.56	
Ti	47	45	NoGas	3.657	ppb	4.4	2,547	101.58	
V	51	74	He	3.607	ppb	3.2	7,451	100.19	
Cr	52	74	He	4.345	ppb	3.0	11,073	120.69	
Mn	55	74	He	3.576	ppb	3.7	6,391	99.33	
Fe	56	74	H2	182.932	ppb	0.7	1,093,091	101.63	
Co	59	74	He	3.643	ppb	2.2	11,195	101.19	
Ni	60	74	He	3.775	ppb	2.5	2,867	104.86	
Cu	65	74	He	3.839	ppb	1.6	3,713	106.64	
Zn	66	74	He	3.902	ppb	8.8	1,545	108.39	
As	75	74	He	3.701	ppb	3.4	977	102.81	
Se	78	74	H2	3.656	ppb	8.0	634	101.56	
Mo	95	103	He	3.629	ppb	2.6	4,330	100.81	
Ag	107	103	He	3.612	ppb	2.4	12,580	100.33	
Cd	111	103	He	3.640	ppb	0.1	2,373	101.11	
[Cd]	111	103	NoGas	3.516	ppb	1.6	6,552	97.67	
Sb	121	103	He	3.538	ppb	1.3	6,375	98.28	
Ba	138	159	He	3.689	ppb	0.1	17,643	102.47	
Hg	201	159	NoGas	133.439	ppt	10.8	156	92.67	
Tl	205	159	He	3.640	ppb	1.2	29,103	101.11	
Pb	208	159	NoGas	3.576	ppb	2.2	98,618	99.33	

Cr passes @ 4 ppb
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	440,978	390560.36	112.9	
Sc	45	H2	Pulse	0.8	1,098,743	995916.946666667	110.3	
Sc	45	He	Pulse	0.7	188,501	171648.27	109.8	
Sc	45	NoGas	Analog	1.8	1,887,579	1663179.33	113.5	
Ge	74	H2	Pulse	0.7	376,367	344345.643333333	109.3	
Ge	74	He	Pulse	0.5	124,013	114794.926666667	108.0	
Ge	74	NoGas	Pulse	1.4	570,620	511960.473333333	111.5	
Rh	103	He	Pulse	0.1	299,841	279070.866666667	107.4	
Rh	103	NoGas	Pulse	0.4	677,630	619166.366666667	109.4	
Tb	159	He	Pulse	0.2	594,659	563985.973333333	105.4	
Tb	159	NoGas	Analog	2.1	1,642,830	1490879.07333333	110.2	
Bi	209	He	Pulse	0.6	381,933	365534.536666667	104.5	
Bi	209	NoGas	Pulse	1.3	989,111	928203.173333333	106.6	

Quantitation Report ICPMS5

File Name	019ICSA.d		
File Path	C:\Agilent\ICPMH\1\DATA\9J07068.b		
Acq Time	10/7/2019 19:29:38	Sample Type	
Sample Name	**9J07068-IFA1**	ICSA	
Comment	**A19I356**	Last Calib	10/08/2019 09:49:07
Prep Dilution	1.0000	Vial:	1111
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	0.002	0.002	ppb	157.3		
Na	23	45	He	246467.796	246467.796	ppb	0.5		
Mg	24	45	He	98378.917	98378.917	ppb	0.5	100000	
Al	27	45	He	99026.388	99026.388	ppb	0.3	100000	
K	39	45	He	97629.436	97629.436	ppb	0.5	100000	
Ca	44	45	H2	294599.315	294599.315	ppb	0.2		
[Ca]	44	45	He	303647.48	303647.480	ppb	0.9		
Ti	47	45	NoGas	2103.71	2103.710	ppb	1.7		
V	51	74	He	0.291	0.291	ppb	1.8	2	
Cr	52	74	He	1.249	1.249	ppb	5.3	2	
Mn	55	74	He	2.07	2.070	ppb	0.3	2	> CRI
Fe	56	74	H2	249367.029	249367.029	ppb	0.4		
Co	59	74	He	0.795	0.795	ppb	6.9		
Ni	60	74	He	0.832	0.832	ppb	2.1	2	
Cu	65	74	He	0.606	0.606	ppb	2.0	2	
Zn	66	74	He	2.518	2.518	ppb	6.6	2	> CRI
As	75	74	He	0.25	0.250	ppb	6.4	0.9	
Se	78	74	H2	0.216	0.216	ppb	18.3	0.9	
Mo	95	103	He	2339.864	2339.864	ppb	0.5	2000	
Ag	107	103	He	0.314	0.314	ppb	6.8		
Cd	111	103	He	5.971	5.971	ppb	3.7		
[Cd]	111	103	NoGas	0.4	0.400	ppb	20.3		
Sb	121	103	He	0.144	0.144	ppb	15.3	0.9	
Ba	138	159	He	1.557	1.557	ppb	3.0	2	> CRI
W	182	159	NoGas	66.721	66.721	ppb	0.4		
Hg	201	159	NoGas	56.666	56.666	ppt	5.8		
Tl	205	159	He	0.008	0.008	ppb	67.9	0.9	
Pb	208	159	NoGas	0.743	0.743	ppb	2.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	481,115	0.6	390560.36	Pulse	123.2	IS Q-06
Sc	45	H2	1,058,774	0.8	995916.946666667	Pulse	106.3	
Sc	45	He	188,006	0.9	171648.27	Pulse	109.5	
Sc	45	NoGas	1,950,809	2.0	1663179.33	Analog	117.3	
Ge	74	H2	329,547	1.0	344345.643333333	Pulse	95.7	
Ge	74	He	115,062	0.6	114794.926666667	Pulse	100.2	
Ge	74	NoGas	545,932	0.9	511960.473333333	Pulse	106.6	
Rh	103	He	242,979	1.0	279070.866666667	Pulse	87.1	
Rh	103	NoGas	585,633	0.6	619166.366666667	Pulse	94.6	
Tb	159	He	537,605	0.9	563985.973333333	Pulse	95.3	
Tb	159	NoGas	1,488,548	0.4	1490879.07333333	Mix	99.8	
Bi	209	He	294,914	0.4	365534.536666667	Pulse	80.7	
Bi	209	NoGas	797,461	1.1	928203.173333333	Pulse	85.9	

Quantitation Report ICPMS5

File Name	020ICSB.d		
File Path	C:\Agilent\ICPMH\1\DATA\9J07068.b		
Acq Time	10/7/2019 19:34:09	Sample Type	
Sample Name	**9J07068-IFB1**	ICSB	
Comment	**A19I357**	Last Calib	10/08/2019 09:49:07
Prep Dilution	1.0000	Vial:	1112
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	-0.001	-0.001	ppb	N/A		
Na	23	45	He	249417.577	249417.577	ppb	1.0		
Mg	24	45	He	99467.754	99467.754	ppb	0.8	100000	
Al	27	45	He	100380.621	100380.621	ppb	0.9	100000	
K	39	45	He	97108.791	97108.791	ppb	1.0	100000	
Ca	44	45	H2	293986.709	293986.709	ppb	0.3		
[Ca]	44	45	He	305051.37	305051.370	ppb	1.0		
Ti	47	45	NoGas	2092.104	2092.104	ppb	0.4		
V	51	74	He	212.32	212.320	ppb	0.9	200	
Cr	52	74	He	198.06	198.060	ppb	0.5	200	
Mn	55	74	He	202.828	202.828	ppb	0.9	200	
Fe	56	74	H2	252518.876	252518.876	ppb	0.2		
Co	59	74	He	191.723	191.723	ppb	0.8		
Ni	60	74	He	183.786	183.786	ppb	0.5	200	
Cu	65	74	He	180.79	180.790	ppb	1.1	200	
Zn	66	74	He	94.656	94.656	ppb	1.4	100	
As	75	74	He	97.942	97.942	ppb	0.9	100	
Se	78	74	H2	99.108	99.108	ppb	0.1	100	
Mo	95	103	He	2341.056	2341.056	ppb	1.0	2000	
Ag	107	103	He	50.138	50.138	ppb	1.1	50	
Cd	111	103	He	102.854	102.854	ppb	0.8		
[Cd]	111	103	NoGas	96.694	96.694	ppb	0.2		
Sb	121	103	He	0.132	0.132	ppb	30.7	0.9	
Ba	138	159	He	2.485	2.485	ppb	0.8	2	> +/- 10%
W	182	159	NoGas	66.796	66.796	ppb	0.5		
Hg	201	159	NoGas	2071.205	2071.205	ppt	2.8		
Tl	205	159	He	0.005	0.005	ppb	45.8	0.9	
Pb	208	159	NoGas	0.744	0.744	ppb	1.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	476,563	0.5	390560.36	Pulse	122.0	IS Q-06
Sc	45	H2	1,055,081	0.5	995916.946666667	Pulse	105.9	
Sc	45	He	186,352	0.6	171648.27	Pulse	108.6	
Sc	45	NoGas	1,935,439	1.5	1663179.33	Analog	116.4	
Ge	74	H2	327,605	0.6	344345.643333333	Pulse	95.1	
Ge	74	He	113,409	1.0	114794.926666667	Pulse	98.8	
Ge	74	NoGas	540,323	0.8	511960.473333333	Pulse	105.5	
Rh	103	He	239,206	0.8	279070.866666667	Pulse	85.7	
Rh	103	NoGas	578,120	0.9	619166.366666667	Pulse	93.4	
Tb	159	He	528,464	0.2	563985.973333333	Pulse	93.7	
Tb	159	NoGas	1,463,620	0.7	1490879.07333333	Pulse	98.2	
Bi	209	He	287,657	0.5	365534.536666667	Pulse	78.7	
Bi	209	NoGas	775,426	0.4	928203.173333333	Pulse	83.5	

Quantitation Report - ICPMS5

Sample Name:	**9100531-BLK1**	Total Dilution:	**5.0000**
File Name:	026SMPL.d	Vial:	3401
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:01:49		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.003	ppb	190.0	17	100	
Na	23	45	He	8.233	ppb	4.6	7,987	50000	
Mg	24	45	He	2.645	ppb	12.7	1,261	50000	
Al	27	45	He	14.129	ppb	9.1	2,813	50000	
K	39	45	He	2.567	ppb	23.0	25,542	50000	
Ca	44	45	H2	32.354	ppb	4.6	4,595	50000	
[Ca]	44	45	He	27.598	ppb	7.5	691	50000	
Ti	47	45	NoGas	0.175	ppb	42.8	163	2500	
V	51	74	He	0.223	ppb	2.8	1,049	500	
Cr	52	74	He	0.548	ppb	10.5	2,629	1000	
Mn	55	74	He	0.027	ppb	26.3	149	2500	
Fe	56	74	H2	5.074	ppb	2.0	53,103	50000	
Co	59	74	He	0.017	ppb	25.3	86	500	
Ni	60	74	He	-0.016	ppb	N/A	26	1000	
Cu	65	74	He	0.069	ppb	60.0	198	1000	
Zn	66	74	He	0.111	ppb	36.9	140	2500	
As	75	74	He	0.02	ppb	106.6	21	500	
Se	78	74	H2	0.015	ppb	104.3	4	100	
Mo	95	103	He	0.08	ppb	19.0	248	100	
Ag	107	103	He	0.001	ppb	203.8	12	100	
Cd	111	103	He	0.009	ppb	32.9	11	1000	
[Cd]	111	103	NoGas	0.005	ppb	47.1	35	1000	
Sb	121	103	He	-0.006	ppb	N/A	14	100	
Ba	138	159	He	0.017	ppb	51.0	188	2500	
W	182	159	NoGas	0.077	ppb	10.9	684	40	
Hg	201	159	NoGas	-5.258	ppt	N/A	13	4000	
Tl	205	159	He	-0.002	ppb	N/A	31	100	
Pb	208	159	NoGas	0.003	ppb	104.6	872	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	469,462	0.1	390560.36	Pulse	120.2	IS Q-06
Sc	45	H2	1,126,721	0.8	995916.946666667	Pulse	113.1	
Sc	45	He	194,544	0.3	171648.27	Pulse	113.3	
Sc	45	NoGas	1,959,701	1.9	1663179.33	Analog	117.8	
Ge	74	H2	375,579	0.8	344345.643333333	Pulse	109.1	
Ge	74	He	124,210	0.1	114794.926666667	Pulse	108.2	
Ge	74	NoGas	569,141	0.8	511960.473333333	Pulse	111.2	
Rh	103	He	304,855	1.0	279070.866666667	Pulse	109.2	
Rh	103	NoGas	683,201	0.6	619166.366666667	Pulse	110.3	
Tb	159	He	598,198	0.3	563985.973333333	Pulse	106.1	
Tb	159	NoGas	1,623,859	0.3	1490879.07333333	Analog	108.9	
Bi	209	He	373,721	0.5	365534.536666667	Pulse	102.2	
Bi	209	NoGas	972,524	1.1	928203.173333333	Pulse	104.8	

Quantitation Report - ICPMS5

Sample Name:	**9100531-BS1**	Total Dilution:	**5.0000**
File Name:	027SMPL.d	Vial:	3402
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:06:28		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	23.871	ppb	1.2	31,219	100	
Na	23	45	He	2625.547	ppb	0.1	1,490,752	50000	
Mg	24	45	He	2473.511	ppb	1.1	780,963	50000	
Al	27	45	He	2442.159	ppb	0.2	435,812	50000	
K	39	45	He	2398.96	ppb	1.3	826,939	50000	
Ca	44	45	H2	2338.854	ppb	0.8	284,592	50000	
[Ca]	44	45	He	2434.263	ppb	1.1	37,796	50000	
Ti	47	45	NoGas	48.349	ppb	2.8	32,391	2500	
V	51	74	He	51.33	ppb	0.2	91,788	500	
Cr	52	74	He	51.692	ppb	0.7	109,276	1000	
Mn	55	74	He	50.197	ppb	0.5	83,000	2500	
Fe	56	74	H2	2534.56	ppb	0.2	14,033,482	50000	
Co	59	74	He	51.74	ppb	0.7	148,882	500	
Ni	60	74	He	52.123	ppb	0.6	36,716	1000	
Cu	65	74	He	51.978	ppb	1.7	45,622	1000	
Zn	66	74	He	49.893	ppb	2.0	17,447	2500	
As	75	74	He	46.742	ppb	2.1	11,413	500	
Se	78	74	H2	22.305	ppb	2.4	3,651	100	
Mo	95	103	He	24.545	ppb	1.7	26,784	100	
Ag	107	103	He	25.761	ppb	1.0	84,524	100	
Cd	111	103	He	47.967	ppb	0.5	29,437	1000	
[Cd]	111	103	NoGas	48.145	ppb	0.5	83,199	1000	
Sb	121	103	He	22.962	ppb	0.7	38,874	100	
Ba	138	159	He	48.335	ppb	0.1	222,189	2500	
W	182	159	NoGas	0.061	ppb	11.1	527	40	
Hg	201	159	NoGas	951.343	ppt	3.4	949	4000	
Tl	205	159	He	24.462	ppb	0.5	188,798	100	
Pb	208	159	NoGas	48.914	ppb	0.8	1,272,179	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	437,813	0.5	390560.36	Pulse	112.1	
Sc	45	H2	1,075,077	0.4	995916.946666667	Pulse	107.9	
Sc	45	He	182,354	0.8	171648.27	Pulse	106.2	
Sc	45	NoGas	1,839,878	1.8	1663179.33	Analog	110.6	
Ge	74	H2	355,849	0.3	344345.643333333	Pulse	103.3	
Ge	74	He	116,421	0.4	114794.926666667	Pulse	101.4	
Ge	74	NoGas	530,970	1.6	511960.473333333	Pulse	103.7	
Rh	103	He	282,656	0.1	279070.866666667	Pulse	101.3	
Rh	103	NoGas	630,805	0.7	619166.366666667	Pulse	101.9	
Tb	159	He	574,759	0.3	563985.973333333	Pulse	101.9	
Tb	159	NoGas	1,560,459	1.1	1490879.07333333	Analog	104.7	
Bi	209	He	361,310	0.3	365534.536666667	Pulse	98.8	
Bi	209	NoGas	927,110	0.9	928203.173333333	Pulse	99.9	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-01**	Total Dilution:	**5.0000**
File Name:	028SMPL.d	Vial:	3403
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:11:05		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.654	ppb	5.0	923	100	
Na	23	45	He	861.233	ppb	0.3	561,263	50000	
Mg	24	45	He	6242.673	ppb	0.6	2,253,054	50000	
Al	27	45	He	17476.085	ppb	1.0	3,564,888	50000	
K	39	45	He	1212.136	ppb	0.4	490,819	50000	
Ca	44	45	H2	7706.039	ppb	0.2	1,040,335	50000	
[Ca]	44	45	He	8089.206	ppb	0.7	143,020	50000	
Ti	47	45	NoGas	1610.096	ppb	1.5	1,264,005	2500	
V	51	74	He	103.39	ppb	0.3	200,450	500	
Cr	52	74	He	23.165	ppb	1.3	54,056	1000	
Mn	55	74	He	342.078	ppb	0.3	614,634	2500	
Fe	56	74	H2	40550.948	ppb	0.5	235,143,341	50000	
Co	59	74	He	25.312	ppb	0.5	79,241	500	
Ni	60	74	He	31.186	ppb	1.2	23,909	1000	
Cu	65	74	He	26.49	ppb	1.2	25,358	1000	
Zn	66	74	He	72.913	ppb	0.5	27,687	2500	
As	75	74	He	3.635	ppb	2.8	980	500	
Se	78	74	H2	0.184	ppb	13.6	33	100	
Mo	95	103	He	0.385	ppb	14.6	604	100	
Ag	107	103	He	0.049	ppb	15.7	183	100	
Cd	111	103	He	0.113	ppb	22.9	79	1000	
[Cd]	111	103	NoGas	0.464	ppb	5.0	913	1000	
Sb	121	103	He	0.09	ppb	14.6	190	100	
Ba	138	159	He	172.705	ppb	0.7	846,339	2500	
W	182	159	NoGas	0.075	ppb	4.1	696	40	
Hg	201	159	NoGas	7.438	ppt	6.6	27	4000	
Tl	205	159	He	0.072	ppb	8.0	633	100	
Pb	208	159	NoGas	4.074	ppb	1.0	117,033	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	466,557	0.6	390560.36	Pulse	119.5	
Sc	45	H2	1,194,093	0.3	995916.946666667	Pulse	119.9	
Sc	45	He	208,498	0.5	171648.27	Pulse	121.5	IS Q-06
Sc	45	NoGas	2,158,153	0.8	1663179.33	Analog	129.8	IS Q-06
Ge	74	H2	373,236	0.5	344345.643333333	Pulse	108.4	
Ge	74	He	126,632	0.4	114794.926666667	Pulse	110.3	
Ge	74	NoGas	593,093	0.6	511960.473333333	Pulse	115.8	
Rh	103	He	304,409	0.1	279070.866666667	Pulse	109.1	
Rh	103	NoGas	697,897	1.0	619166.366666667	Pulse	112.7	
Tb	159	He	612,942	0.9	563985.973333333	Pulse	108.7	
Tb	159	NoGas	1,712,248	1.3	1490879.07333333	Analog	114.8	
Bi	209	He	367,513	0.3	365534.536666667	Pulse	100.5	
Bi	209	NoGas	967,588	1.3	928203.173333333	Pulse	104.2	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-02**	Total Dilution:	**5.0000**
File Name:	029SMPL.d	Vial:	3404
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:15:38		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.681	ppb	10.5	989	100	
Na	23	45	He	1229.017	ppb	0.7	843,743	50000	
Mg	24	45	He	6010.019	ppb	1.0	2,288,997	50000	
Al	27	45	He	18276.076	ppb	0.7	3,934,114	50000	
K	39	45	He	1357.799	ppb	0.6	576,828	50000	
Ca	44	45	H2	7383.553	ppb	0.3	1,094,893	50000	
[Ca]	44	45	He	7998.48	ppb	1.3	149,230	50000	
Ti	47	45	NoGas	1044.356	ppb	1.3	863,502	2500	
V	51	74	He	87.061	ppb	0.2	177,594	500	
Cr	52	74	He	22.413	ppb	0.6	55,047	1000	
Mn	55	74	He	356.569	ppb	0.2	673,683	2500	
Fe	56	74	H2	38595.731	ppb	0.4	240,008,139	50000	
Co	59	74	He	26.093	ppb	0.6	85,894	500	
Ni	60	74	He	29.965	ppb	1.8	24,159	1000	
Cu	65	74	He	25.39	ppb	0.9	25,562	1000	
Zn	66	74	He	68.847	ppb	1.6	27,495	2500	
As	75	74	He	3.782	ppb	1.7	1,071	500	
Se	78	74	H2	0.253	ppb	18.3	48	100	
Mo	95	103	He	0.262	ppb	8.7	481	100	
Ag	107	103	He	0.05	ppb	12.3	193	100	
Cd	111	103	He	0.081	ppb	15.4	61	1000	
[Cd]	111	103	NoGas	0.476	ppb	6.5	984	1000	
Sb	121	103	He	0.025	ppb	7.1	73	100	
Ba	138	159	He	232.459	ppb	0.4	1,185,410	2500	
W	182	159	NoGas	0.077	ppb	2.6	752	40	
Hg	201	159	NoGas	10.692	ppt	27.9	32	4000	
Tl	205	159	He	0.078	ppb	11.1	717	100	
Pb	208	159	NoGas	4.142	ppb	1.1	124,185	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	480,455	0.6	390560.36	Pulse	123.0	IS Q-06
Sc	45	H2	1,311,585	0.6	995916.946666667	Analog	131.7	IS Q-06
Sc	45	He	220,024	0.9	171648.27	Pulse	128.2	IS Q-06
Sc	45	NoGas	2,273,249	1.3	1663179.33	Analog	136.7	IS Q-06
Ge	74	H2	400,256	0.8	344345.643333333	Pulse	116.2	
Ge	74	He	133,156	0.3	114794.926666667	Pulse	116.0	
Ge	74	NoGas	623,259	1.5	511960.473333333	Pulse	121.7	IS Q-06
Rh	103	He	317,818	0.5	279070.866666667	Pulse	113.9	
Rh	103	NoGas	732,748	1.0	619166.366666667	Pulse	118.3	
Tb	159	He	637,831	0.3	563985.973333333	Pulse	113.1	
Tb	159	NoGas	1,787,329	1.3	1490879.07333333	Analog	119.9	
Bi	209	He	373,425	0.4	365534.536666667	Pulse	102.2	
Bi	209	NoGas	996,200	0.9	928203.173333333	Pulse	107.3	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-04**	Total Dilution:	**5.0000**
File Name:	030SMPL.d	Vial:	3405
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:20:12		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.61	ppb	2.5	889	100	
Na	23	45	He	758.72	ppb	1.3	530,078	50000	
Mg	24	45	He	6248.53	ppb	0.9	2,415,857	50000	
Al	27	45	He	17159.301	ppb	0.8	3,749,722	50000	
K	39	45	He	1270.143	ppb	0.6	549,602	50000	
Ca	44	45	H2	6913.729	ppb	0.3	1,070,502	50000	
[Ca]	44	45	He	7658.796	ppb	0.9	145,076	50000	
Ti	47	45	NoGas	1208.081	ppb	1.6	1,000,540	2500	
V	51	74	He	89.165	ppb	0.5	184,613	500	
Cr	52	74	He	21.924	ppb	0.2	54,690	1000	
Mn	55	74	He	304.349	ppb	0.2	583,711	2500	
Fe	56	74	H2	35629.369	ppb	0.4	227,031,532	50000	
Co	59	74	He	25.842	ppb	0.2	86,352	500	
Ni	60	74	He	33.162	ppb	0.9	27,136	1000	
Cu	65	74	He	25.75	ppb	1.0	26,315	1000	
Zn	66	74	He	67.943	ppb	0.5	27,545	2500	
As	75	74	He	2.561	ppb	4.1	742	500	
Se	78	74	H2	0.135	ppb	21.3	27	100	
Mo	95	103	He	0.266	ppb	7.8	494	100	
Ag	107	103	He	0.038	ppb	14.3	154	100	
Cd	111	103	He	0.053	ppb	27.1	42	1000	
[Cd]	111	103	NoGas	0.388	ppb	19.5	812	1000	
Sb	121	103	He	0.034	ppb	55.1	93	100	
Ba	138	159	He	160.574	ppb	0.7	816,183	2500	
W	182	159	NoGas	0.054	ppb	6.2	530	40	
Hg	201	159	NoGas	6.445	ppt	68.3	27	4000	
Tl	205	159	He	0.072	ppb	10.6	662	100	
Pb	208	159	NoGas	3.903	ppb	0.8	116,010	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	481,367	0.6	390560.36	Pulse	123.3	IS Q-06
Sc	45	H2	1,369,434	0.6	995916.946666667	Analog	137.5	IS Q-06
Sc	45	He	223,360	0.8	171648.27	Pulse	130.1	IS Q-06
Sc	45	NoGas	2,277,297	2.0	1663179.33	Analog	136.9	IS Q-06
Ge	74	H2	410,135	0.8	344345.643333333	Pulse	119.1	
Ge	74	He	135,165	0.2	114794.926666667	Pulse	117.7	
Ge	74	NoGas	629,472	0.9	511960.473333333	Pulse	123.0	IS Q-06
Rh	103	He	323,580	0.2	279070.866666667	Pulse	115.9	
Rh	103	NoGas	737,575	0.8	619166.366666667	Pulse	119.1	
Tb	159	He	635,747	0.5	563985.973333333	Pulse	112.7	
Tb	159	NoGas	1,771,064	0.8	1490879.07333333	Analog	118.8	
Bi	209	He	375,350	0.3	365534.536666667	Pulse	102.7	
Bi	209	NoGas	993,580	1.2	928203.173333333	Pulse	107.0	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV1**	Total Dilution:	1.0000
File Name:	031_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:24:48
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	41.515	ppb	1.2	57,740	40	103.79	
Na	23	45	He	4204.958	ppb	0.4	2,725,216	4000	105.12	
Mg	24	45	He	4443.132	ppb	2.2	1,602,125	4000	111.08	> +/- 10%
Al	27	45	He	3941.444	ppb	0.5	803,348	4000	98.54	
K	39	45	He	4116.209	ppb	1.8	1,601,928	4000	102.91	
Ca	44	45	H2	3837.249	ppb	0.6	574,424	4000	95.93	
[Ca]	44	45	He	4086.022	ppb	1.1	72,299	4000	102.15	
Ti	47	45	NoGas	98.173	ppb	1.7	74,523	100	98.17	
V	51	74	He	104.067	ppb	0.3	213,574	100	104.07	
Cr	52	74	He	103.258	ppb	0.7	249,819	100	103.26	
Mn	55	74	He	102.503	ppb	0.7	195,038	100	102.5	
Fe	56	74	H2	4262.592	ppb	0.1	28,284,408	4000	106.56	
Co	59	74	He	106.998	ppb	0.4	354,470	100	107	
Ni	60	74	He	109.213	ppb	0.9	88,534	100	109.21	
Cu	65	74	He	108.046	ppb	0.5	109,042	100	108.05	
Zn	66	74	He	104.807	ppb	1.4	42,083	100	104.81	
As	75	74	He	99.264	ppb	0.7	27,889	100	99.26	
Se	78	74	H2	39.378	ppb	0.7	7,729	40	98.44	
Mo	95	103	He	40.099	ppb	1.2	49,378	40	100.25	
Ag	107	103	He	35.856	ppb	0.6	133,039	40	89.64	> +/- 10%
Cd	111	103	He	95.401	ppb	1.0	66,205	100	95.4	
[Cd]	111	103	NoGas	96.979	ppb	0.8	187,333	100	96.98	
Sb	121	103	He	37.662	ppb	0.8	72,088	40	94.16	
Ba	138	159	He	101.464	ppb	0.1	500,667	100	101.46	
Hg	201	159	NoGas	785.305	ppt	3.8	851	800	98.16	
Tl	205	159	He	39.278	ppb	0.8	325,465	40	98.2	
Pb	208	159	NoGas	96.296	ppb	0.9	2,707,537	100	96.3	

Mg Q-41 - re-running for Mg + I.S. ESS 10/8/19

Ag ~~rounding~~ rounds to 90%.

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.0	465,657	390560.36	119.2	
Sc	45	H2	Analog	0.8	1,323,457	995916.946666667	132.9	IS Q-06
Sc	45	He	Pulse	0.3	208,297	171648.27	121.4	IS Q-06
Sc	45	NoGas	Analog	1.1	2,085,896	1663179.33	125.4	IS Q-06
Ge	74	H2	Pulse	0.5	426,732	344345.643333333	123.9	IS Q-06
Ge	74	He	Pulse	0.5	134,048	114794.926666667	116.8	
Ge	74	NoGas	Pulse	0.8	610,322	511960.473333333	119.2	
Rh	103	He	Pulse	0.2	319,644	279070.866666667	114.5	
Rh	103	NoGas	Pulse	1.1	705,241	619166.366666667	113.9	
Tb	159	He	Pulse	0.4	617,111	563985.973333333	109.4	
Tb	159	NoGas	Analog	1.1	1,687,444	1490879.07333333	113.2	
Bi	209	He	Pulse	0.3	380,749	365534.536666667	104.2	
Bi	209	NoGas	Pulse	0.6	980,665	928203.173333333	105.7	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV2**	Total Dilution:	1.0000
File Name:	032_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:29:24
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	41.832	ppb	1.3	57,048	40	104.58	
Na	23	45	He	4224.866	ppb	1.0	2,670,184	4000	105.62	
Mg	24	45	He	4409.606	ppb	1.5	1,550,678	4000	110.24	> +/- 10%
Al	27	45	He	3961.935	ppb	0.3	787,518	4000	99.05	
K	39	45	He	4165.338	ppb	0.2	1,580,620	4000	104.13	
Ca	44	45	H2	3971.834	ppb	0.4	556,062	4000	99.3	
[Ca]	44	45	He	4118.422	ppb	0.8	71,067	4000	102.96	
Ti	47	45	NoGas	98.397	ppb	1.6	73,346	100	98.4	
V	51	74	He	103.106	ppb	0.2	207,475	100	103.11	
Cr	52	74	He	102.787	ppb	0.2	243,826	100	102.79	
Mn	55	74	He	102.056	ppb	0.3	190,394	100	102.06	
Fe	56	74	H2	4243.699	ppb	0.4	27,185,818	4000	106.09	
Co	59	74	He	106.212	ppb	0.3	344,992	100	106.21	
Ni	60	74	He	109.053	ppb	0.9	86,676	100	109.05	
Cu	65	74	He	107.180	ppb	0.1	106,056	100	107.18	
Zn	66	74	He	104.992	ppb	0.9	41,331	100	104.99	
As	75	74	He	98.807	ppb	0.3	27,219	100	98.81	
Se	78	74	H2	40.345	ppb	1.4	7,644	40	100.86	
Mo	95	103	He	39.931	ppb	2.1	47,978	40	99.83	
Ag	107	103	He	35.986	ppb	0.9	130,278	40	89.96	> +/- 10%
Cd	111	103	He	95.908	ppb	0.2	64,939	100	95.91	
[Cd]	111	103	NoGas	98.939	ppb	0.4	187,367	100	98.94	
Sb	121	103	He	38.139	ppb	0.9	71,228	40	95.35	
Ba	138	159	He	101.564	ppb	0.6	488,702	100	101.56	
Hg	201	159	NoGas	803.251	ppt	3.5	854	800	100.41	
Tl	205	159	He	39.721	ppb	0.2	320,959	40	99.3	
Pb	208	159	NoGas	97.545	ppb	0.5	2,694,794	100	97.54	

Mg passes here

Ag rounds to 90%.

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	456,585	390560.36	116.9	
Sc	45	H2	Pulse	0.4	1,237,743	995916.946666667	124.3	IS Q-06
Sc	45	He	Pulse	0.7	203,138	171648.27	118.3	
Sc	45	NoGas	Analog	1.2	2,048,321	1663179.33	123.2	IS Q-06
Ge	74	H2	Pulse	0.2	411,981	344345.643333333	119.6	
Ge	74	He	Pulse	0.5	131,430	114794.926666667	114.5	
Ge	74	NoGas	Pulse	0.9	595,808	511960.473333333	116.4	
Rh	103	He	Pulse	0.4	311,875	279070.866666667	111.8	
Rh	103	NoGas	Pulse	0.4	691,362	619166.366666667	111.7	
Tb	159	He	Pulse	0.5	601,782	563985.973333333	106.7	
Tb	159	NoGas	Analog	1.3	1,657,962	1490879.07333333	111.2	
Bi	209	He	Pulse	0.5	373,538	365534.536666667	102.2	
Bi	209	NoGas	Pulse	0.9	968,925	928203.173333333	104.4	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB1**	Total Dilution:	1.0000
File Name:	033_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:34:00
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.009	ppb	54.5	24	
Na	23	45	He	4.158	ppb	4.4	5,782	
Mg	24	45	He	1.694	ppb	8.5	984	
Al	27	45	He	1.789	ppb	19.9	486	
K	39	45	He	2.642	ppb	48.0	26,765	
Ca	44	45	H2	4.358	ppb	14.6	1,109	
[Ca]	44	45	He	3.167	ppb	78.9	302	
Ti	47	45	NoGas	0.129	ppb	23.9	138	
V	51	74	He	-0.032	ppb	N/A	598	
Cr	52	74	He	0.047	ppb	86.9	1,603	
Mn	55	74	He	0.030	ppb	21.4	163	
Fe	56	74	H2	3.541	ppb	3.0	47,685	
Co	59	74	He	0.029	ppb	36.5	128	
Ni	60	74	He	0.009	ppb	201.1	47	
Cu	65	74	He	0.019	ppb	108.8	160	
Zn	66	74	He	0.009	ppb	1712.2	108	
As	75	74	He	0.008	ppb	257.1	19	
Se	78	74	H2	0.043	ppb	14.2	10	
Mo	95	103	He	0.009	ppb	194.1	172	
Ag	107	103	He	0.005	ppb	59.6	28	
Cd	111	103	He	0.029	ppb	11.3	24	
[Cd]	111	103	NoGas	0.008	ppb	131.1	42	
Sb	121	103	He	0.227	ppb	6.5	459	
Ba	138	159	He	0.025	ppb	59.3	230	
Hg	201	159	NoGas	-4.730	ppt	N/A	13	
Tl	205	159	He	0.009	ppb	11.1	119	
Pb	208	159	NoGas	0.015	ppb	28.2	1,228	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	462,347	390560.36	118.4	
Sc	45	H2	Pulse	0.6	1,211,895	995916.946666667	121.7	IS Q-06
Sc	45	He	Pulse	0.6	203,651	171648.27	118.6	
Sc	45	NoGas	Analog	1.0	2,058,539	1663179.33	123.8	IS Q-06
Ge	74	H2	Pulse	0.1	405,530	344345.643333333	117.8	
Ge	74	He	Pulse	0.1	131,503	114794.926666667	114.6	
Ge	74	NoGas	Pulse	1.0	606,904	511960.473333333	118.5	
Rh	103	He	Pulse	0.7	318,196	279070.866666667	114.0	
Rh	103	NoGas	Pulse	0.8	717,477	619166.366666667	115.9	
Tb	159	He	Pulse	0.2	604,319	563985.973333333	107.2	
Tb	159	NoGas	Analog	0.8	1,661,670	1490879.07333333	111.5	
Bi	209	He	Pulse	0.1	380,212	365534.536666667	104.0	
Bi	209	NoGas	Pulse	0.9	990,971	928203.173333333	106.8	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB2**	Total Dilution:	1.0000
File Name:	034_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:38:43
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.003	ppb	198.3	16	
Na	23	45	He	3.194	ppb	7.0	5,251	
Mg	24	45	He	0.937	ppb	19.0	720	
Al	27	45	He	1.543	ppb	18.9	443	
K	39	45	He	2.519	ppb	77.9	27,126	
Ca	44	45	H2	4.137	ppb	32.9	1,023	
[Ca]	44	45	He	-0.019	ppb	N/A	251	
Ti	47	45	NoGas	0.041	ppb	63.9	73	
V	51	74	He	-0.016	ppb	N/A	646	
Cr	52	74	He	0.034	ppb	59.5	1,608	
Mn	55	74	He	0.013	ppb	92.6	133	
Fe	56	74	H2	2.741	ppb	30.0	41,050	
Co	59	74	He	0.012	ppb	83.5	74	
Ni	60	74	He	0.001	ppb	3092.8	41	
Cu	65	74	He	0.018	ppb	191.1	162	
Zn	66	74	He	0.052	ppb	50.4	128	
As	75	74	He	0.016	ppb	26.7	21	
Se	78	74	H2	0.010	ppb	130.7	3	
Mo	95	103	He	-0.007	ppb	N/A	154	
Ag	107	103	He	0.002	ppb	59.5	19	
Cd	111	103	He	0.015	ppb	27.3	15	
[Cd]	111	103	NoGas	0.006	ppb	46.8	40	
Sb	121	103	He	0.057	ppb	31.8	137	
Ba	138	159	He	0.009	ppb	53.3	154	
Hg	201	159	NoGas	-9.923	ppt	N/A	8	
Tl	205	159	He	0.001	ppb	224.6	50	
Pb	208	159	NoGas	0.006	ppb	67.8	992	

Be, Na, Mg, Al, K, Ca, Ti
Q-06 for 6020, ok for 200.8
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.5	469,727	390560.36	120.3	IS Q-06
Sc	45	H2	Mix	11.7	1,165,016	995916.946666667	117.0	
Sc	45	He	Pulse	0.4	206,761	171648.27	120.5	IS Q-06
Sc	45	NoGas	Analog	2.3	2,096,473	1663179.33	126.1	IS Q-06
Ge	74	H2	Pulse	8.7	393,121	344345.643333333	114.2	
Ge	74	He	Pulse	0.3	134,535	114794.926666667	117.2	
Ge	74	NoGas	Pulse	0.6	617,874	511960.473333333	120.7	IS Q-06
Rh	103	He	Pulse	0.3	322,233	279070.866666667	115.5	
Rh	103	NoGas	Pulse	0.7	730,443	619166.366666667	118.0	
Tb	159	He	Pulse	0.4	612,546	563985.973333333	108.6	
Tb	159	NoGas	Analog	1.1	1,711,608	1490879.07333333	114.8	
Bi	209	He	Pulse	0.2	381,936	365534.536666667	104.5	
Bi	209	NoGas	Pulse	1.5	1,002,986	928203.173333333	108.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-05**	Total Dilution:	**5.0000**
File Name:	035SMPL.d	Vial:	3406
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:43:22		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.785	ppb	5.5	1,139	100	
Na	23	45	He	777.68	ppb	0.5	549,626	50000	
Mg	24	45	He	6556.274	ppb	0.8	2,564,555	50000	
Al	27	45	He	22208.701	ppb	1.6	4,909,769	50000	
K	39	45	He	1068.907	ppb	1.1	472,473	50000	
Ca	44	45	H2	6988.946	ppb	1.0	1,083,965	50000	
[Ca]	44	45	He	7593.406	ppb	0.5	145,526	50000	
Ti	47	45	NoGas	1278.408	ppb	1.1	1,076,414	2500	
V	51	74	He	117.076	ppb	0.3	240,933	500	
Cr	52	74	He	38.247	ppb	1.3	93,778	1000	
Mn	55	74	He	537.802	ppb	0.3	1,026,014	2500	
Fe	56	74	H2	42082.807	ppb	0.3	264,483,141	50000	
Co	59	74	He	21.685	ppb	1.0	72,091	500	
Ni	60	74	He	35.456	ppb	2.5	28,857	1000	
Cu	65	74	He	56.557	ppb	0.8	57,323	1000	
Zn	66	74	He	187.261	ppb	0.9	75,339	2500	
As	75	74	He	5.85	ppb	2.4	1,665	500	
Se	78	74	H2	0.371	ppb	25.5	71	100	
Mo	95	103	He	0.432	ppb	4.9	691	100	
Ag	107	103	He	1.141	ppb	2.2	4,238	100	
Cd	111	103	He	0.757	ppb	7.4	530	1000	
[Cd]	111	103	NoGas	1.125	ppb	6.7	2,272	1000	
Sb	121	103	He	0.355	ppb	6.1	706	100	
Ba	138	159	He	181.493	ppb	0.3	909,184	2500	
W	182	159	NoGas	0.189	ppb	8.5	1,753	40	
Hg	201	159	NoGas	254.019	ppt	4.1	300	4000	
Tl	205	159	He	0.102	ppb	19.6	907	100	
Pb	208	159	NoGas	36.166	ppb	0.9	1,060,256	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	480,524	0.7	390560.36	Pulse	123.0	IS Q-06
Sc	45	H2	1,371,800	0.7	995916.946666667	Analog	137.7	IS Q-06
Sc	45	He	225,976	0.8	171648.27	Pulse	131.7	IS Q-06
Sc	45	NoGas	2,314,965	1.5	1663179.33	Analog	139.2	IS Q-06
Ge	74	H2	404,529	1.0	344345.643333333	Pulse	117.5	
Ge	74	He	134,465	0.4	114794.926666667	Pulse	117.1	
Ge	74	NoGas	622,272	0.9	511960.473333333	Pulse	121.5	IS Q-06
Rh	103	He	319,378	0.5	279070.866666667	Pulse	114.4	
Rh	103	NoGas	728,001	0.5	619166.366666667	Pulse	117.6	
Tb	159	He	626,553	0.4	563985.973333333	Pulse	111.1	
Tb	159	NoGas	1,758,585	1.2	1490879.07333333	Analog	118.0	
Bi	209	He	377,156	0.5	365534.536666667	Pulse	103.2	
Bi	209	NoGas	993,760	0.8	928203.173333333	Pulse	107.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-06**	Total Dilution:	**5.0000**
File Name:	036SMPL.d	Vial:	3407
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:47:55		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.537	ppb	4.4	797	100	
Na	23	45	He	577.393	ppb	0.8	408,217	50000	
Mg	24	45	He	5773.395	ppb	0.7	2,254,182	50000	
Al	27	45	He	13498.847	ppb	0.4	2,978,974	50000	
K	39	45	He	981.641	ppb	0.2	435,440	50000	
Ca	44	45	H2	6076.973	ppb	0.6	964,829	50000	
[Ca]	44	45	He	6764.549	ppb	0.7	129,431	50000	
Ti	47	45	NoGas	1275.77	ppb	1.0	1,067,405	2500	
V	51	74	He	98.725	ppb	0.3	208,071	500	
Cr	52	74	He	22.677	ppb	0.8	57,551	1000	
Mn	55	74	He	310.326	ppb	0.3	606,058	2500	
Fe	56	74	H2	35395.457	ppb	0.2	232,008,590	50000	
Co	59	74	He	22.993	ppb	1.2	78,241	500	
Ni	60	74	He	30.575	ppb	2.2	25,479	1000	
Cu	65	74	He	25.03	ppb	2.1	26,051	1000	
Zn	66	74	He	68.862	ppb	1.5	28,427	2500	
As	75	74	He	2.682	ppb	1.9	790	500	
Se	78	74	H2	0.169	ppb	8.9	34	100	
Mo	95	103	He	0.356	ppb	5.1	616	100	
Ag	107	103	He	0.033	ppb	23.8	137	100	
Cd	111	103	He	0.082	ppb	20.3	63	1000	
[Cd]	111	103	NoGas	0.356	ppb	13.8	759	1000	
Sb	121	103	He	0.08	ppb	9.6	184	100	
Ba	138	159	He	118.931	ppb	0.3	605,631	2500	
W	182	159	NoGas	0.05	ppb	7.6	493	40	
Hg	201	159	NoGas	22.018	ppt	24.4	44	4000	
Tl	205	159	He	0.069	ppb	9.9	633	100	
Pb	208	159	NoGas	3.471	ppb	2.2	103,652	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	488,566	0.7	390560.36	Pulse	125.1	IS Q-06
Sc	45	H2	1,404,149	0.7	995916.946666667	Analog	141.0	IS Q-06
Sc	45	He	225,557	0.5	171648.27	Pulse	131.4	IS Q-06
Sc	45	NoGas	2,300,206	0.8	1663179.33	Analog	138.3	IS Q-06
Ge	74	H2	421,889	0.1	344345.643333333	Pulse	122.5	IS Q-06
Ge	74	He	137,637	0.1	114794.926666667	Pulse	119.9	
Ge	74	NoGas	637,809	1.1	511960.473333333	Pulse	124.6	IS Q-06
Rh	103	He	328,617	0.3	279070.866666667	Pulse	117.8	
Rh	103	NoGas	748,798	0.5	619166.366666667	Pulse	120.9	IS Q-06
Tb	159	He	636,878	0.6	563985.973333333	Pulse	112.9	
Tb	159	NoGas	1,778,345	2.0	1490879.07333333	Analog	119.3	
Bi	209	He	377,858	0.5	365534.536666667	Pulse	103.4	
Bi	209	NoGas	999,680	1.1	928203.173333333	Pulse	107.7	

Quantitation Report - ICPMS5

Sample Name:	**A9I0885-07**	Total Dilution:	**5.0000**
File Name:	037SMPL.d	Vial:	3408
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:52:28		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.535	ppb	2.4	781	100	
Na	23	45	He	875.685	ppb	0.1	611,248	50000	
Mg	24	45	He	6882.181	ppb	0.6	2,660,663	50000	
Al	27	45	He	18662.586	ppb	0.1	4,078,033	50000	
K	39	45	He	1336.742	ppb	0.5	576,888	50000	
Ca	44	45	H2	7608.332	ppb	1.8	1,212,097	50000	
[Ca]	44	45	He	8341.704	ppb	0.9	157,972	50000	
Ti	47	45	NoGas	1861.056	ppb	0.3	1,545,938	2500	
V	51	74	He	120.566	ppb	0.7	249,607	500	
Cr	52	74	He	27.574	ppb	0.7	68,451	1000	
Mn	55	74	He	370.992	ppb	0.9	712,122	2500	
Fe	56	74	H2	43402.022	ppb	0.3	283,982,414	50000	
Co	59	74	He	27.129	ppb	0.6	90,730	500	
Ni	60	74	He	36.668	ppb	0.5	30,026	1000	
Cu	65	74	He	29.697	ppb	0.9	30,352	1000	
Zn	66	74	He	79.318	ppb	0.4	32,168	2500	
As	75	74	He	3.189	ppb	4.8	920	500	
Se	78	74	H2	0.188	ppb	22.1	38	100	
Mo	95	103	He	0.514	ppb	13.0	800	100	
Ag	107	103	He	0.049	ppb	23.5	196	100	
Cd	111	103	He	0.101	ppb	14.0	75	1000	
[Cd]	111	103	NoGas	0.518	ppb	3.9	1,068	1000	
Sb	121	103	He	0.084	ppb	9.4	190	100	
Ba	138	159	He	166.641	ppb	0.2	837,544	2500	
W	182	159	NoGas	0.054	ppb	16.0	537	40	
Hg	201	159	NoGas	6.494	ppt	20.7	27	4000	
Tl	205	159	He	0.082	ppb	9.8	737	100	
Pb	208	159	NoGas	4.159	ppb	1.0	124,836	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	481,240	0.4	390560.36	Pulse	123.2	IS Q-06
Sc	45	H2	1,409,422	1.9	995916.946666667	Analog	141.5	IS Q-06
Sc	45	He	223,339	0.6	171648.27	Pulse	130.1	IS Q-06
Sc	45	NoGas	2,283,648	0.5	1663179.33	Analog	137.3	IS Q-06
Ge	74	H2	421,150	0.5	344345.643333333	Pulse	122.3	IS Q-06
Ge	74	He	135,285	0.2	114794.926666667	Pulse	117.8	
Ge	74	NoGas	624,240	1.0	511960.473333333	Pulse	121.9	IS Q-06
Rh	103	He	322,635	0.3	279070.866666667	Pulse	115.6	
Rh	103	NoGas	733,217	0.6	619166.366666667	Pulse	118.4	
Tb	159	He	628,622	0.2	563985.973333333	Pulse	111.5	
Tb	159	NoGas	1,789,545	1.8	1490879.07333333	Analog	120.0	IS Q-06
Bi	209	He	370,971	0.5	365534.536666667	Pulse	101.5	
Bi	209	NoGas	977,934	0.9	928203.173333333	Pulse	105.4	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV3**	Total Dilution:	1.0000
File Name:	045_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 21:29:10
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	41.665	ppb	0.9	57,307	40	104.16	
Na	23	45	He	4192.664	ppb	1.6	2,690,500	4000	104.82	
Mg	24	45	He	4375.425	ppb	1.1	1,562,242	4000	109.39	
Al	27	45	He	3924.855	ppb	0.4	792,131	4000	98.12	
K	39	45	He	4136.275	ppb	1.3	1,593,967	4000	103.41	
Ca	44	45	H2	3837.134	ppb	1.1	560,470	4000	95.93	
[Ca]	44	45	He	4110.802	ppb	0.6	72,023	4000	102.77	
Ti	47	45	NoGas	97.787	ppb	1.8	73,964	100	97.79	
V	51	74	He	103.511	ppb	1.2	211,741	100	103.51	
Cr	52	74	He	101.959	ppb	1.2	245,882	100	101.96	
Mn	55	74	He	101.851	ppb	0.7	193,167	100	101.85	
Fe	56	74	H2	4286.336	ppb	0.2	27,793,813	4000	107.16	
Co	59	74	He	106.379	ppb	1.3	351,266	100	106.38	
Ni	60	74	He	108.018	ppb	1.9	87,277	100	108.02	
Cu	65	74	He	107.068	ppb	1.0	107,702	100	107.07	
Zn	66	74	He	104.604	ppb	0.9	41,865	100	104.6	
As	75	74	He	98.707	ppb	0.8	27,643	100	98.71	
Se	78	74	H2	40.836	ppb	1.9	7,832	40	102.09	
Mo	95	103	He	40.448	ppb	1.5	49,215	40	101.12	
Ag	107	103	He	36.062	ppb	0.9	132,215	40	90.16	
Cd	111	103	He	96.032	ppb	0.8	65,852	100	96.03	
[Cd]	111	103	NoGas	96.392	ppb	1.1	185,478	100	96.39	
Sb	121	103	He	38.110	ppb	0.5	72,084	40	95.28	
Ba	138	159	He	102.399	ppb	0.3	497,808	100	102.4	
Hg	201	159	NoGas	767.718	ppt	4.1	830	800	95.96	
Tl	205	159	He	39.384	ppb	0.7	321,515	40	98.46	
Pb	208	159	NoGas	94.568	ppb	0.8	2,652,926	100	94.57	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	460,518	390560.36	117.9	
Sc	45	H2	Analog	0.7	1,291,359	995916.946666667	129.7	IS Q-06
Sc	45	He	Pulse	0.6	206,258	171648.27	120.2	IS Q-06
Sc	45	NoGas	Analog	1.3	2,078,587	1663179.33	125.0	IS Q-06
Ge	74	H2	Pulse	0.3	417,010	344345.643333333	121.1	IS Q-06
Ge	74	He	Pulse	0.7	133,616	114794.926666667	116.4	
Ge	74	NoGas	Pulse	1.0	606,937	511960.473333333	118.6	
Rh	103	He	Pulse	0.8	315,863	279070.866666667	113.2	
Rh	103	NoGas	Pulse	0.2	702,488	619166.366666667	113.5	
Tb	159	He	Pulse	0.2	607,990	563985.973333333	107.8	
Tb	159	NoGas	Analog	1.2	1,683,610	1490879.07333333	112.9	
Bi	209	He	Pulse	0.1	374,872	365534.536666667	102.6	
Bi	209	NoGas	Pulse	0.4	966,543	928203.173333333	104.1	

only reporting As from this bracket
ESS 10/8/19

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB3**	Total Dilution:	1.0000
File Name:	046_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 21:33:47
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.001	ppb	N/A	11	
Na	23	45	He	0.748	ppb	33.5	3,683	
Mg	24	45	He	0.854	ppb	19.0	700	
Al	27	45	He	1.652	ppb	8.6	466	
K	39	45	He	2.997	ppb	56.9	27,329	
Ca	44	45	H2	2.443	ppb	31.0	859	
[Ca]	44	45	He	0.656	ppb	319.7	263	
Ti	47	45	NoGas	0.151	ppb	42.2	160	
V	51	74	He	-0.013	ppb	N/A	650	
Cr	52	74	He	0.014	ppb	229.5	1,558	
Mn	55	74	He	0.023	ppb	60.4	153	
Fe	56	74	H2	3.800	ppb	4.8	56,496	
Co	59	74	He	0.016	ppb	34.7	87	
Ni	60	74	He	0.015	ppb	90.7	52	
Cu	65	74	He	0.028	ppb	68.2	172	
Zn	66	74	He	0.102	ppb	64.3	148	
As	75	74	He	0.009	ppb	83.3	19	
Se	78	74	H2	0.035	ppb	22.8	8	
Mo	95	103	He	-0.023	ppb	N/A	136	
Ag	107	103	He	0.003	ppb	18.1	21	
Cd	111	103	He	0.015	ppb	5.6	15	
[Cd]	111	103	NoGas	0.000	ppb	5154.1	29	
Sb	121	103	He	0.136	ppb	15.9	291	
Ba	138	159	He	0.023	ppb	24.2	221	
Hg	201	159	NoGas	-9.623	ppt	N/A	9	
Tl	205	159	He	0.005	ppb	53.9	82	
Pb	208	159	NoGas	0.010	ppb	18.8	1,107	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	477,573	390560.36	122.3	IS Q-06
Sc	45	H2	Pulse	0.3	1,228,634	995916.946666667	123.4	IS Q-06
Sc	45	He	Pulse	0.5	206,920	171648.27	120.5	IS Q-06
Sc	45	NoGas	Analog	1.1	2,131,142	1663179.33	128.1	IS Q-06
Ge	74	H2	Pulse	0.4	415,278	344345.643333333	120.6	IS Q-06
Ge	74	He	Pulse	0.4	134,262	114794.926666667	117.0	
Ge	74	NoGas	Pulse	1.0	624,025	511960.473333333	121.9	IS Q-06
Rh	103	He	Pulse	0.2	324,159	279070.866666667	116.2	
Rh	103	NoGas	Pulse	0.8	741,935	619166.366666667	119.8	
Tb	159	He	Pulse	0.3	610,546	563985.973333333	108.3	
Tb	159	NoGas	Analog	1.2	1,712,792	1490879.07333333	114.9	
Bi	209	He	Pulse	0.3	379,494	365534.536666667	103.8	
Bi	209	NoGas	Pulse	0.8	996,997	928203.173333333	107.4	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV4**	Total Dilution:	1.0000
File Name:	057_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 22:24:22
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.543	ppb	1.4	54,250	40	101.36	
Na	23	45	He	4200.247	ppb	0.9	2,563,586	4000	105.01	
Mg	24	45	He	4393.963	ppb	0.3	1,492,144	4000	109.85	
Al	27	45	He	3931.445	ppb	0.9	754,628	4000	98.29	
K	39	45	He	4221.369	ppb	0.7	1,546,567	4000	105.53	
Ca	44	45	H2	3966.826	ppb	0.6	533,308	4000	99.17	
[Ca]	44	45	He	4093.957	ppb	1.0	68,219	4000	102.35	
Ti	47	45	NoGas	97.470	ppb	0.8	70,755	100	97.47	
V	51	74	He	103.582	ppb	0.1	201,905	100	103.58	
Cr	52	74	He	102.375	ppb	0.1	235,250	100	102.38	
Mn	55	74	He	101.767	ppb	0.7	183,910	100	101.77	
Fe	56	74	H2	4289.128	ppb	0.1	26,581,613	4000	107.23	
Co	59	74	He	105.809	ppb	0.4	332,931	100	105.81	
Ni	60	74	He	107.827	ppb	0.2	83,021	100	107.83	
Cu	65	74	He	106.477	ppb	0.8	102,064	100	106.48	
Zn	66	74	He	104.663	ppb	0.5	39,914	100	104.66	
As	75	74	He	99.043	ppb	0.4	26,430	100	99.04	
Se	78	74	H2	40.359	ppb	1.9	7,399	40	100.9	
Mo	95	103	He	40.639	ppb	1.2	46,872	40	101.6	
Ag	107	103	He	36.199	ppb	0.9	125,809	40	90.5	
Cd	111	103	He	96.111	ppb	0.8	62,474	100	96.11	
[Cd]	111	103	NoGas	96.608	ppb	0.6	177,629	100	96.61	
Sb	121	103	He	38.252	ppb	1.4	68,582	40	95.63	
Ba	138	159	He	103.641	ppb	0.5	479,941	100	103.64	
Hg	201	159	NoGas	777.539	ppt	1.7	812	800	97.19	
Tl	205	159	He	39.494	ppb	1.0	307,115	40	98.74	
Pb	208	159	NoGas	92.814	ppb	1.4	2,515,322	100	92.81	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.6	448,023	390560.36	114.7	
Sc	45	H2	Pulse	0.6	1,188,620	995916.946666667	119.3	
Sc	45	He	Pulse	0.3	196,164	171648.27	114.3	
Sc	45	NoGas	Analog	1.4	1,994,618	1663179.33	119.9	
Ge	74	H2	Pulse	0.5	398,562	344345.643333333	115.7	
Ge	74	He	Pulse	0.3	127,315	114794.926666667	110.9	
Ge	74	NoGas	Pulse	0.6	577,457	511960.473333333	112.8	
Rh	103	He	Pulse	0.6	299,408	279070.866666667	107.3	
Rh	103	NoGas	Pulse	0.3	671,241	619166.366666667	108.4	
Tb	159	He	Pulse	0.2	579,144	563985.973333333	102.7	
Tb	159	NoGas	Analog	1.3	1,626,525	1490879.07333333	109.1	
Bi	209	He	Pulse	0.3	358,305	365534.536666667	98.0	
Bi	209	NoGas	Pulse	0.7	918,034	928203.173333333	98.9	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB4**	Total Dilution:	1.0000
File Name:	058_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 22:28:58
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.002	ppb	183.9	14	
Na	23	45	He	-0.578	ppb	N/A	2,666	
Mg	24	45	He	0.086	ppb	165.0	400	
Al	27	45	He	0.698	ppb	30.3	257	
K	39	45	He	2.306	ppb	63.5	25,508	
Ca	44	45	H2	0.242	ppb	459.1	516	
[Ca]	44	45	He	1.231	ppb	231.0	258	
Ti	47	45	NoGas	0.036	ppb	106.9	67	
V	51	74	He	-0.004	ppb	N/A	632	
Cr	52	74	He	-0.004	ppb	N/A	1,431	
Mn	55	74	He	-0.016	ppb	N/A	74	
Fe	56	74	H2	1.347	ppb	2.4	32,396	
Co	59	74	He	0.005	ppb	141.4	49	
Ni	60	74	He	-0.002	ppb	N/A	37	
Cu	65	74	He	0.052	ppb	115.3	187	
Zn	66	74	He	-0.023	ppb	N/A	92	
As	75	74	He	0.017	ppb	69.0	20	
Se	78	74	H2	0.023	ppb	36.8	6	
Mo	95	103	He	0.000	ppb	N/A	153	
Ag	107	103	He	0.003	ppb	65.0	20	
Cd	111	103	He	0.008	ppb	80.8	9	
[Cd]	111	103	NoGas	0.001	ppb	976.8	29	
Sb	121	103	He	0.162	ppb	18.3	319	
Ba	138	159	He	0.013	ppb	10.0	161	
Hg	201	159	NoGas	-6.530	ppt	N/A	11	
Tl	205	159	He	0.004	ppb	53.7	71	
Pb	208	159	NoGas	0.008	ppb	40.5	1,012	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	456,464	390560.36	116.9	
Sc	45	H2	Pulse	0.6	1,143,885	995916.946666667	114.9	
Sc	45	He	Pulse	0.7	195,009	171648.27	113.6	
Sc	45	NoGas	Analog	1.7	1,998,506	1663179.33	120.2	IS Q-06
Ge	74	H2	Pulse	0.6	387,993	344345.643333333	112.7	
Ge	74	He	Pulse	0.5	127,075	114794.926666667	110.7	
Ge	74	NoGas	Pulse	0.9	588,636	511960.473333333	115.0	
Rh	103	He	Pulse	0.4	303,472	279070.866666667	108.7	
Rh	103	NoGas	Pulse	0.9	702,372	619166.366666667	113.4	
Tb	159	He	Pulse	0.7	577,222	563985.973333333	102.3	
Tb	159	NoGas	Analog	0.4	1,642,947	1490879.07333333	110.2	
Bi	209	He	Pulse	0.4	359,457	365534.536666667	98.3	
Bi	209	NoGas	Pulse	1.0	937,359	928203.173333333	101.0	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV5**	Total Dilution:	1.0000
File Name:	069_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 23:19:34
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	38.920	ppb	0.9	44,306	40	97.3	
Na	23	45	He	4102.081	ppb	0.7	2,100,038	4000	102.55	
Mg	24	45	He	4209.964	ppb	2.9	1,199,316	4000	105.25	
Al	27	45	He	3940.044	ppb	1.2	634,305	4000	98.5	
K	39	45	He	3962.095	ppb	0.9	1,218,757	4000	99.05	
Ca	44	45	H2	3993.419	ppb	0.4	434,252	4000	99.84	
[Ca]	44	45	He	4150.150	ppb	1.1	58,000	4000	103.75	
Ti	47	45	NoGas	98.875	ppb	1.3	58,513	100	98.88	
V	51	74	He	101.329	ppb	0.4	169,880	100	101.33	
Cr	52	74	He	99.624	ppb	0.5	196,914	100	99.62	
Mn	55	74	He	100.635	ppb	0.7	156,410	100	100.64	
Fe	56	74	H2	4229.037	ppb	0.1	21,836,400	4000	105.73	
Co	59	74	He	103.887	ppb	0.6	281,118	100	103.89	
Ni	60	74	He	104.857	ppb	1.1	69,430	100	104.86	
Cu	65	74	He	104.021	ppb	0.7	85,752	100	104.02	
Zn	66	74	He	102.781	ppb	1.1	33,712	100	102.78	
As	75	74	He	99.707	ppb	0.8	22,883	100	99.71	
Se	78	74	H2	39.769	ppb	2.3	6,074	40	99.42	
Mo	95	103	He	40.768	ppb	1.1	40,836	40	101.92	
Ag	107	103	He	36.004	ppb	1.2	108,667	40	90.01	
Cd	111	103	He	98.203	ppb	0.7	55,436	100	98.2	
[Cd]	111	103	NoGas	96.644	ppb	1.4	154,645	100	96.64	
Sb	121	103	He	39.521	ppb	1.9	61,532	40	98.8	
Ba	138	159	He	103.472	ppb	0.4	435,248	100	103.47	
Hg	201	159	NoGas	813.687	ppt	1.6	714	800	101.71	
Tl	205	159	He	39.875	ppb	0.6	281,670	40	99.69	
Pb	208	159	NoGas	99.619	ppb	0.2	2,272,453	100	99.62	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.8	381,153	390560.36	97.6	
Sc	45	H2	Pulse	0.2	961,389	995916.946666667	96.5	
Sc	45	He	Pulse	0.9	164,536	171648.27	95.9	
Sc	45	NoGas	Analog	0.9	1,626,155	1663179.33	97.8	
Ge	74	H2	Pulse	0.1	332,061	344345.643333333	96.4	
Ge	74	He	Pulse	0.7	109,493	114794.926666667	95.4	
Ge	74	NoGas	Pulse	0.4	491,139	511960.473333333	95.9	
Rh	103	He	Pulse	0.3	260,013	279070.866666667	93.2	
Rh	103	NoGas	Pulse	0.3	584,192	619166.366666667	94.4	
Tb	159	He	Pulse	0.8	526,081	563985.973333333	93.3	
Tb	159	NoGas	Pulse	0.1	1,368,971	1490879.07333333	91.8	
Bi	209	He	Pulse	0.7	330,699	365534.536666667	90.5	
Bi	209	NoGas	Pulse	0.1	825,011	928203.173333333	88.9	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB5**	Total Dilution:	1.0000
File Name:	070_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 23:24:13
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.004	ppb	N/A	6	
Na	23	45	He	-1.085	ppb	N/A	1,885	
Mg	24	45	He	0.203	ppb	45.5	351	
Al	27	45	He	1.525	ppb	5.7	331	
K	39	45	He	3.637	ppb	27.2	20,752	
Ca	44	45	H2	0.861	ppb	16.4	466	
[Ca]	44	45	He	-1.812	ppb	N/A	166	
Ti	47	45	NoGas	0.133	ppb	7.8	110	
V	51	74	He	-0.026	ppb	N/A	491	
Cr	52	74	He	0.031	ppb	164.2	1,257	
Mn	55	74	He	0.015	ppb	24.6	108	
Fe	56	74	H2	2.500	ppb	3.1	31,655	
Co	59	74	He	0.017	ppb	49.7	71	
Ni	60	74	He	0.004	ppb	484.6	34	
Cu	65	74	He	0.014	ppb	65.5	124	
Zn	66	74	He	-0.069	ppb	N/A	62	
As	75	74	He	0.004	ppb	533.1	14	
Se	78	74	H2	0.047	ppb	25.9	8	
Mo	95	103	He	0.015	ppb	68.8	144	
Ag	107	103	He	0.003	ppb	39.1	17	
Cd	111	103	He	0.010	ppb	83.9	9	
[Cd]	111	103	NoGas	-0.003	ppb	N/A	18	
Sb	121	103	He	0.229	ppb	5.2	373	
Ba	138	159	He	0.014	ppb	30.6	148	
Hg	201	159	NoGas	-4.526	ppt	N/A	11	
Tl	205	159	He	0.005	ppb	21.5	74	
Pb	208	159	NoGas	0.010	ppb	38.2	876	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	368,875	390560.36	94.4	
Sc	45	H2	Pulse	0.3	894,985	995916.946666667	89.9	
Sc	45	He	Pulse	0.4	155,735	171648.27	90.7	
Sc	45	NoGas	Analog	1.0	1,608,278	1663179.33	96.7	
Ge	74	H2	Pulse	0.4	312,183	344345.643333333	90.7	
Ge	74	He	Pulse	0.4	105,567	114794.926666667	92.0	
Ge	74	NoGas	Pulse	0.6	483,763	511960.473333333	94.5	
Rh	103	He	Pulse	0.2	256,921	279070.866666667	92.1	
Rh	103	NoGas	Pulse	0.4	583,622	619166.366666667	94.3	
Tb	159	He	Pulse	0.6	509,578	563985.973333333	90.4	
Tb	159	NoGas	Pulse	0.6	1,348,284	1490879.07333333	90.4	
Bi	209	He	Pulse	0.3	324,426	365534.536666667	88.8	
Bi	209	NoGas	Pulse	0.4	823,853	928203.173333333	88.8	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV6**	Total Dilution:	1.0000
File Name:	081_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:14:53
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	39.311	ppb	1.6	42,390	40	98.28	
Na	23	45	He	4069.088	ppb	2.2	1,953,356	4000	101.73	
Mg	24	45	He	4087.640	ppb	0.7	1,091,832	4000	102.19	
Al	27	45	He	3978.119	ppb	0.5	600,598	4000	99.45	
K	39	45	He	3991.022	ppb	0.6	1,151,118	4000	99.78	
Ca	44	45	H2	4005.772	ppb	0.5	408,946	4000	100.14	
[Ca]	44	45	He	4152.089	ppb	0.7	54,419	4000	103.8	
Ti	47	45	NoGas	97.339	ppb	0.9	54,633	100	97.34	
V	51	74	He	100.633	ppb	0.3	159,713	100	100.63	
Cr	52	74	He	98.862	ppb	0.7	184,988	100	98.86	
Mn	55	74	He	99.581	ppb	0.3	146,512	100	99.58	
Fe	56	74	H2	4242.521	ppb	0.3	20,613,462	4000	106.06	
Co	59	74	He	102.849	ppb	0.2	263,466	100	102.85	
Ni	60	74	He	104.581	ppb	1.1	65,553	100	104.58	
Cu	65	74	He	104.143	ppb	0.2	81,272	100	104.14	
Zn	66	74	He	103.325	ppb	0.9	32,081	100	103.32	
As	75	74	He	99.513	ppb	1.0	21,619	100	99.51	
Se	78	74	H2	39.387	ppb	0.9	5,661	40	98.47	
Mo	95	103	He	40.990	ppb	1.8	38,779	40	102.48	
Ag	107	103	He	36.486	ppb	0.8	104,015	40	91.21	
Cd	111	103	He	99.188	ppb	0.3	52,888	100	99.19	
[Cd]	111	103	NoGas	96.883	ppb	1.0	147,271	100	96.88	
Sb	121	103	He	40.264	ppb	0.7	59,217	40	100.66	
Ba	138	159	He	103.570	ppb	0.4	418,978	100	103.57	
Hg	201	159	NoGas	812.211	ppt	3.6	687	800	101.53	
Tl	205	159	He	40.187	ppb	0.2	273,001	40	100.47	
Pb	208	159	NoGas	100.537	ppb	0.3	2,209,409	100	100.54	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	361,047	390560.36	92.4	
Sc	45	H2	Pulse	0.2	902,563	995916.946666667	90.6	
Sc	45	He	Pulse	0.6	154,293	171648.27	89.9	
Sc	45	NoGas	Analog	0.7	1,542,098	1663179.33	92.7	
Ge	74	H2	Pulse	0.3	312,467	344345.643333333	90.7	
Ge	74	He	Pulse	0.7	103,651	114794.926666667	90.3	
Ge	74	NoGas	Pulse	0.3	464,169	511960.473333333	90.7	
Rh	103	He	Pulse	0.5	245,601	279070.866666667	88.0	
Rh	103	NoGas	Pulse	0.2	554,955	619166.366666667	89.6	
Tb	159	He	Pulse	0.1	505,923	563985.973333333	89.7	
Tb	159	NoGas	Pulse	0.2	1,318,849	1490879.07333333	88.5	
Bi	209	He	Pulse	0.5	321,550	365534.536666667	88.0	
Bi	209	NoGas	Pulse	0.4	799,656	928203.173333333	86.2	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB6**	Total Dilution:	1.0000
File Name:	082_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:19:32
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.005	ppb	35.7	14	
Na	23	45	He	-1.212	ppb	N/A	1,775	
Mg	24	45	He	0.419	ppb	62.7	399	
Al	27	45	He	1.494	ppb	12.1	318	
K	39	45	He	3.473	ppb	29.6	20,157	
Ca	44	45	H2	1.232	ppb	50.1	482	
[Ca]	44	45	He	-0.613	ppb	N/A	177	
Ti	47	45	NoGas	0.203	ppb	24.5	143	
V	51	74	He	-0.001	ppb	N/A	515	
Cr	52	74	He	-0.033	ppb	N/A	1,102	
Mn	55	74	He	0.018	ppb	102.6	110	
Fe	56	74	H2	3.006	ppb	9.6	32,761	
Co	59	74	He	0.012	ppb	49.8	58	
Ni	60	74	He	0.010	ppb	97.0	37	
Cu	65	74	He	0.021	ppb	92.6	127	
Zn	66	74	He	0.021	ppb	212.6	88	
As	75	74	He	0.007	ppb	393.9	14	
Se	78	74	H2	0.045	ppb	97.3	7	
Mo	95	103	He	-0.019	ppb	N/A	108	
Ag	107	103	He	0.001	ppb	271.9	12	
Cd	111	103	He	0.008	ppb	39.8	8	
[Cd]	111	103	NoGas	-0.001	ppb	N/A	21	
Sb	121	103	He	0.224	ppb	17.2	354	
Ba	138	159	He	0.017	ppb	62.1	157	
Hg	201	159	NoGas	-5.334	ppt	N/A	10	
Tl	205	159	He	0.007	ppb	72.6	83	
Pb	208	159	NoGas	0.011	ppb	13.1	896	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.5	360,385	390560.36	92.3	
Sc	45	H2	Pulse	0.4	857,637	995916.946666667	86.1	
Sc	45	He	Pulse	0.8	151,617	171648.27	88.3	
Sc	45	NoGas	Analog	2.2	1,526,269	1663179.33	91.8	
Ge	74	H2	Pulse	0.6	299,840	344345.643333333	87.1	
Ge	74	He	Pulse	0.1	102,545	114794.926666667	89.3	
Ge	74	NoGas	Pulse	0.9	471,850	511960.473333333	92.2	
Rh	103	He	Pulse	0.4	249,151	279070.866666667	89.3	
Rh	103	NoGas	Pulse	0.8	573,706	619166.366666667	92.7	
Tb	159	He	Pulse	0.3	500,857	563985.973333333	88.8	
Tb	159	NoGas	Pulse	0.4	1,329,687	1490879.07333333	89.2	
Bi	209	He	Pulse	0.2	321,200	365534.536666667	87.9	
Bi	209	NoGas	Pulse	0.6	812,691	928203.173333333	87.6	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV7**	Total Dilution:	1.0000
File Name:	088_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:47:09
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.074	ppb	0.5	41,902	40	100.18	
Na	23	45	He	4107.737	ppb	0.8	1,918,332	4000	102.69	
Mg	24	45	He	4101.965	ppb	0.9	1,065,824	4000	102.55	
Al	27	45	He	3993.371	ppb	0.8	586,485	4000	99.83	
K	39	45	He	4009.989	ppb	0.7	1,125,021	4000	100.25	
Ca	44	45	H2	4033.146	ppb	0.3	398,271	4000	100.83	
[Ca]	44	45	He	4172.859	ppb	1.8	53,195	4000	104.32	
Ti	47	45	NoGas	96.610	ppb	0.2	54,253	100	96.61	
V	51	74	He	100.465	ppb	0.7	156,212	100	100.46	
Cr	52	74	He	98.995	ppb	0.1	181,481	100	99	
Mn	55	74	He	101.027	ppb	0.5	145,625	100	101.03	
Fe	56	74	H2	4236.601	ppb	0.3	19,999,190	4000	105.92	
Co	59	74	He	103.025	ppb	0.3	258,561	100	103.02	
Ni	60	74	He	104.299	ppb	0.3	64,053	100	104.3	
Cu	65	74	He	103.120	ppb	0.8	78,842	100	103.12	
Zn	66	74	He	104.471	ppb	0.3	31,777	100	104.47	
As	75	74	He	99.759	ppb	0.6	21,233	100	99.76	
Se	78	74	H2	38.634	ppb	2.1	5,394	40	96.58	
Mo	95	103	He	40.881	ppb	0.8	37,985	40	102.2	
Ag	107	103	He	36.569	ppb	1.8	102,381	40	91.42	
Cd	111	103	He	99.088	ppb	0.5	51,886	100	99.09	
[Cd]	111	103	NoGas	98.971	ppb	0.4	147,679	100	98.97	
Sb	121	103	He	40.720	ppb	0.8	58,812	40	101.8	
Ba	138	159	He	103.619	ppb	0.8	414,750	100	103.62	
Hg	201	159	NoGas	831.505	ppt	2.2	692	800	103.94	
Tl	205	159	He	40.235	ppb	0.4	270,449	40	100.59	
Pb	208	159	NoGas	101.513	ppb	0.3	2,196,987	100	101.51	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	350,085	390560.36	89.6	
Sc	45	H2	Pulse	0.4	873,053	995916.946666667	87.7	
Sc	45	He	Pulse	1.2	150,099	171648.27	87.4	
Sc	45	NoGas	Analog	0.5	1,542,977	1663179.33	92.8	
Ge	74	H2	Pulse	0.1	303,581	344345.643333333	88.2	
Ge	74	He	Pulse	0.2	101,548	114794.926666667	88.5	
Ge	74	NoGas	Pulse	0.7	456,263	511960.473333333	89.1	
Rh	103	He	Pulse	0.4	241,192	279070.866666667	86.4	
Rh	103	NoGas	Pulse	0.4	544,752	619166.366666667	88.0	
Tb	159	He	Pulse	0.6	500,596	563985.973333333	88.8	
Tb	159	NoGas	Pulse	0.6	1,298,837	1490879.07333333	87.1	
Bi	209	He	Pulse	0.6	316,235	365534.536666667	86.5	
Bi	209	NoGas	Pulse	0.5	785,814	928203.173333333	84.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB7**	Total Dilution:	1.0000
File Name:	089_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:51:48
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.005	ppb	N/A	3	
Na	23	45	He	-1.347	ppb	N/A	1,673	
Mg	24	45	He	0.113	ppb	128.1	311	
Al	27	45	He	1.596	ppb	13.7	326	
K	39	45	He	2.117	ppb	62.6	19,347	
Ca	44	45	H2	0.439	ppb	62.9	393	
[Ca]	44	45	He	0.232	ppb	403.3	183	
Ti	47	45	NoGas	0.187	ppb	22.2	135	
V	51	74	He	-0.026	ppb	N/A	466	
Cr	52	74	He	-0.017	ppb	N/A	1,108	
Mn	55	74	He	0.018	ppb	27.7	108	
Fe	56	74	H2	3.353	ppb	4.5	33,466	
Co	59	74	He	0.009	ppb	94.0	49	
Ni	60	74	He	-0.013	ppb	N/A	22	
Cu	65	74	He	0.056	ppb	34.7	150	
Zn	66	74	He	0.031	ppb	89.1	89	
As	75	74	He	-0.010	ppb	N/A	10	
Se	78	74	H2	0.044	ppb	29.6	7	
Mo	95	103	He	-0.026	ppb	N/A	99	
Ag	107	103	He	0.003	ppb	64.7	16	
Cd	111	103	He	0.011	ppb	54.8	9	
[Cd]	111	103	NoGas	-0.005	ppb	N/A	14	
Sb	121	103	He	0.236	ppb	10.8	363	
Ba	138	159	He	0.012	ppb	19.2	133	
Hg	201	159	NoGas	-4.297	ppt	N/A	11	
Tl	205	159	He	0.005	ppb	40.8	69	
Pb	208	159	NoGas	0.016	ppb	24.2	976	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	350,627	390560.36	89.8	
Sc	45	H2	Pulse	0.1	832,436	995916.946666667	83.6	
Sc	45	He	Pulse	0.5	148,296	171648.27	86.4	
Sc	45	NoGas	Analog	0.7	1,528,880	1663179.33	91.9	
Ge	74	H2	Pulse	0.1	291,866	344345.643333333	84.8	
Ge	74	He	Pulse	0.4	100,352	114794.926666667	87.4	
Ge	74	NoGas	Pulse	1.3	461,363	511960.473333333	90.1	
Rh	103	He	Pulse	0.5	243,120	279070.866666667	87.1	
Rh	103	NoGas	Pulse	0.8	562,001	619166.366666667	90.8	
Tb	159	He	Pulse	0.0	491,855	563985.973333333	87.2	
Tb	159	NoGas	Pulse	0.8	1,304,122	1490879.07333333	87.5	
Bi	209	He	Pulse	0.3	312,872	365534.536666667	85.6	
Bi	209	NoGas	Pulse	0.7	796,188	928203.173333333	85.8	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL5**	Total Dilution:	1.0000
File Name:	090CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:56:29
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.195	ppb	36.6	198	108.33		
Na	23	45	He	7.440	ppb	4.4	5,798	82.67		
Mg	24	45	He	8.764	ppb	4.3	2,565	97.38		
Al	27	45	He	10.209	ppb	5.4	1,596	113.43		
K	39	45	He	11.513	ppb	22.7	22,196	127.92		
Ca	44	45	H2	8.517	ppb	9.6	1,176	94.63		
[Ca]	44	45	He	5.714	ppb	48.8	256	63.49	R-11	< MRL
Ti	47	45	NoGas	0.378	ppb	34.4	227	210	R-11	
V	51	74	He	0.155	ppb	18.5	754	86.11		
Cr	52	74	He	0.835	ppb	10.6	2,681	463.89	R-11	< MRL
Mn	55	74	He	0.180	ppb	1.8	342	100		
Fe	56	74	H2	13.466	ppb	1.5	80,759	149.62	R-11	< MRL
Co	59	74	He	0.182	ppb	2.2	486	101.11		
Ni	60	74	He	0.189	ppb	28.6	147	105		
Cu	65	74	He	0.211	ppb	27.0	271	117.22		
Zn	66	74	He	0.194	ppb	34.7	140	107.78		
As	75	74	He	0.192	ppb	8.2	54	106.67		
Se	78	74	H2	0.177	ppb	41.6	25	98.33		
Mo	95	103	He	0.325	ppb	14.4	431	180.56	R-11	< MRL
Ag	107	103	He	0.204	ppb	5.8	589	113.33		
Cd	111	103	He	0.200	ppb	15.1	110	111.11		
[Cd]	111	103	NoGas	0.189	ppb	8.3	297	105		
Sb	121	103	He	0.212	ppb	20.6	332	117.78		
Ba	138	159	He	0.194	ppb	3.9	857	107.78		
Hg	201	159	NoGas	-0.083	ppt	N/A	13	-1.15	R-11	< MRL
Tl	205	159	He	0.173	ppb	2.5	1,190	96.11		
Pb	208	159	NoGas	0.201	ppb	12.1	4,688	111.67		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	10.0	332,283	390560.36	85.1	
Sc	45	H2	Pulse	0.2	848,561	995916.946666667	85.2	
Sc	45	He	Pulse	0.5	150,240	171648.27	87.5	
Sc	45	NoGas	Analog	8.9	1,458,945	1663179.33	87.7	
Ge	74	H2	Pulse	0.3	297,175	344345.643333333	86.3	
Ge	74	He	Pulse	0.6	101,867	114794.926666667	88.7	
Ge	74	NoGas	Pulse	9.6	438,626	511960.473333333	85.7	
Rh	103	He	Pulse	0.6	246,031	279070.866666667	88.2	
Rh	103	NoGas	Pulse	10.0	536,709	619166.366666667	86.7	
Tb	159	He	Pulse	0.2	496,608	563985.973333333	88.1	
Tb	159	NoGas	Pulse	10.2	1,232,902	1490879.07333333	82.7	
Bi	209	He	Pulse	0.6	315,628	365534.536666667	86.3	
Bi	209	NoGas	Pulse	10.0	755,378	928203.173333333	81.4	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL6**	Total Dilution:	1.0000
File Name:	091_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:01:09
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.857	ppb	1.4	930	95.22	
Na	23	45	He	42.803	ppb	2.4	22,669	95.12	
Mg	24	45	He	43.746	ppb	1.8	11,849	97.21	
Al	27	45	He	46.022	ppb	1.9	6,970	102.27	
K	39	45	He	50.050	ppb	1.3	33,366	111.22	
Ca	44	45	H2	43.487	ppb	4.2	4,600	96.64	
[Ca]	44	45	He	46.578	ppb	10.2	788	103.51	
Ti	47	45	NoGas	1.000	ppb	30.3	605	111.11	
V	51	74	He	0.940	ppb	3.7	1,988	104.44	
Cr	52	74	He	1.655	ppb	3.1	4,207	183.89	R-11
Mn	55	74	He	0.926	ppb	9.1	1,430	102.89	
Fe	56	74	H2	48.749	ppb	0.4	248,041	108.33	
Co	59	74	He	0.971	ppb	5.5	2,487	107.89	
Ni	60	74	He	0.933	ppb	5.6	609	103.67	
Cu	65	74	He	1.010	ppb	7.6	889	112.22	
Zn	66	74	He	0.797	ppb	11.9	326	88.56	
As	75	74	He	0.904	ppb	9.5	207	100.44	
Se	78	74	H2	0.895	ppb	11.9	126	99.44	
Mo	95	103	He	1.016	ppb	5.8	1,105	112.89	
Ag	107	103	He	0.946	ppb	3.2	2,760	105.11	
Cd	111	103	He	0.923	ppb	5.4	506	102.56	
[Cd]	111	103	NoGas	0.908	ppb	3.4	1,453	100.89	
Sb	121	103	He	0.929	ppb	8.5	1,415	103.22	
Ba	138	159	He	0.952	ppb	4.9	3,907	105.78	
Hg	201	159	NoGas	28.364	ppt	18.8	38	78.79	
Tl	205	159	He	0.907	ppb	4.5	6,146	100.78	
Pb	208	159	NoGas	0.908	ppb	0.3	20,764	100.89	

Cr MRL ↑ 4 ppb
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	359,738	390560.36	92.1	
Sc	45	H2	Pulse	0.3	861,763	995916.946666667	86.5	
Sc	45	He	Pulse	0.5	152,667	171648.27	88.9	
Sc	45	NoGas	Analog	0.8	1,576,170	1663179.33	94.8	
Ge	74	H2	Pulse	0.3	302,534	344345.643333333	87.9	
Ge	74	He	Pulse	0.5	102,544	114794.926666667	89.3	
Ge	74	NoGas	Pulse	1.0	474,742	511960.473333333	92.7	
Rh	103	He	Pulse	0.4	250,665	279070.866666667	89.8	
Rh	103	NoGas	Pulse	0.2	575,163	619166.366666667	92.9	
Tb	159	He	Pulse	0.2	501,762	563985.973333333	89.0	
Tb	159	NoGas	Pulse	0.7	1,330,560	1490879.07333333	89.2	
Bi	209	He	Pulse	0.1	320,196	365534.536666667	87.6	
Bi	209	NoGas	Pulse	0.9	809,691	928203.173333333	87.2	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL7**	Total Dilution:	1.0000
File Name:	092CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:05:50
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	1.755	ppb	1.7	1,925	97.5	
Na	23	45	He	87.506	ppb	0.9	44,233	97.23	
Mg	24	45	He	87.630	ppb	1.1	23,636	97.37	
Al	27	45	He	87.971	ppb	2.3	13,344	97.75	
K	39	45	He	94.138	ppb	2.8	46,104	104.6	
Ca	44	45	H2	89.114	ppb	2.5	9,244	99.02	
[Ca]	44	45	He	84.941	ppb	9.2	1,293	94.38	
Ti	47	45	NoGas	1.909	ppb	15.2	1,141	106.06	
V	51	74	He	1.873	ppb	1.6	3,507	104.06	
Cr	52	74	He	2.435	ppb	1.2	5,740	135.28	R-11
Mn	55	74	He	1.716	ppb	4.5	2,624	95.33	
Fe	56	74	H2	92.312	ppb	0.3	459,559	102.57	
Co	59	74	He	1.849	ppb	2.3	4,792	102.72	
Ni	60	74	He	1.836	ppb	7.9	1,189	102	
Cu	65	74	He	1.885	ppb	4.0	1,590	104.72	
Zn	66	74	He	1.809	ppb	9.1	647	100.5	
As	75	74	He	1.785	ppb	3.1	403	99.17	
Se	78	74	H2	1.770	ppb	4.0	251	98.33	
Mo	95	103	He	1.805	ppb	3.6	1,883	100.28	
Ag	107	103	He	1.791	ppb	3.0	5,273	99.5	
Cd	111	103	He	1.833	ppb	5.7	1,011	101.83	
[Cd]	111	103	NoGas	1.784	ppb	4.7	2,869	99.11	
Sb	121	103	He	1.797	ppb	4.4	2,745	99.83	
Ba	138	159	He	1.876	ppb	3.6	7,652	104.22	
Hg	201	159	NoGas	67.779	ppt	10.2	72	94.14	
Tl	205	159	He	1.814	ppb	0.2	12,318	100.78	
Pb	208	159	NoGas	1.811	ppb	1.1	41,007	100.61	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	365,391	390560.36	93.6	
Sc	45	H2	Pulse	0.2	880,906	995916.946666667	88.5	
Sc	45	He	Pulse	0.7	153,905	171648.27	89.7	
Sc	45	NoGas	Analog	1.1	1,595,708	1663179.33	95.9	
Ge	74	H2	Pulse	0.5	307,064	344345.643333333	89.2	
Ge	74	He	Pulse	0.3	104,303	114794.926666667	90.9	
Ge	74	NoGas	Pulse	1.2	481,756	511960.473333333	94.1	
Rh	103	He	Pulse	0.5	253,285	279070.866666667	90.8	
Rh	103	NoGas	Pulse	0.8	582,463	619166.366666667	94.1	
Tb	159	He	Pulse	0.3	504,365	563985.973333333	89.4	
Tb	159	NoGas	Pulse	0.8	1,337,795	1490879.07333333	89.7	
Bi	209	He	Pulse	0.2	322,299	365534.536666667	88.2	
Bi	209	NoGas	Pulse	0.6	817,693	928203.173333333	88.1	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL8**	Total Dilution:	1.0000
File Name:	093CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:10:30
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.568	ppb	5.1	3,947	99.11	
Na	23	45	He	173.930	ppb	0.7	87,190	96.63	
Mg	24	45	He	177.960	ppb	0.8	48,597	98.87	
Al	27	45	He	180.055	ppb	1.9	27,724	100.03	
K	39	45	He	181.739	ppb	1.1	72,222	100.97	
Ca	44	45	H2	172.048	ppb	2.0	17,761	95.58	
[Ca]	44	45	He	175.580	ppb	7.0	2,521	97.54	
Ti	47	45	NoGas	3.808	ppb	1.3	2,271	105.78	
V	51	74	He	3.683	ppb	1.1	6,471	102.31	
Cr	52	74	He	4.263	ppb	1.5	9,276	118.42	
Mn	55	74	He	3.595	ppb	0.8	5,473	99.86	
Fe	56	74	H2	181.542	ppb	0.3	899,028	100.86	
Co	59	74	He	3.626	ppb	2.2	9,494	100.72	
Ni	60	74	He	3.648	ppb	7.3	2,361	101.33	
Cu	65	74	He	3.927	ppb	2.6	3,233	109.08	
Zn	66	74	He	3.624	ppb	11.5	1,228	100.67	
As	75	74	He	3.612	ppb	2.7	812	100.33	
Se	78	74	H2	3.486	ppb	6.0	501	96.83	
Mo	95	103	He	3.637	ppb	2.6	3,703	101.03	
Ag	107	103	He	3.617	ppb	3.0	10,751	100.47	
Cd	111	103	He	3.524	ppb	3.3	1,961	97.89	
[Cd]	111	103	NoGas	3.570	ppb	1.8	5,756	99.17	
Sb	121	103	He	3.664	ppb	1.6	5,633	101.78	
Ba	138	159	He	3.762	ppb	1.9	15,392	104.5	
Hg	201	159	NoGas	121.650	ppt	5.4	118	84.48	
Tl	205	159	He	3.603	ppb	0.7	24,652	100.08	
Pb	208	159	NoGas	3.610	ppb	0.4	81,763	100.28	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.3	369,603	390560.36	94.6	
Sc	45	H2	Pulse	0.7	894,139	995916.946666667	89.8	
Sc	45	He	Pulse	0.2	156,816	171648.27	91.4	
Sc	45	NoGas	Analog	1.2	1,616,225	1663179.33	97.2	
Ge	74	H2	Pulse	0.2	311,857	344345.643333333	90.6	
Ge	74	He	Pulse	0.2	105,638	114794.926666667	92.0	
Ge	74	NoGas	Pulse	0.9	486,924	511960.473333333	95.1	
Rh	103	He	Pulse	0.2	255,884	279070.866666667	91.7	
Rh	103	NoGas	Pulse	0.6	586,293	619166.366666667	94.7	
Tb	159	He	Pulse	0.3	508,827	563985.973333333	90.2	
Tb	159	NoGas	Pulse	0.6	1,348,902	1490879.07333333	90.5	
Bi	209	He	Pulse	0.3	324,110	365534.536666667	88.7	
Bi	209	NoGas	Pulse	0.7	825,958	928203.173333333	89.0	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV8**	Total Dilution:	1.0000
File Name:	102_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:52:24
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.412	ppb	1.2	35,937	40	101.03	
Na	23	45	He	4397.263	ppb	0.2	1,723,980	4000	109.93	
Mg	24	45	He	4339.914	ppb	1.1	946,695	4000	108.5	
Al	27	45	He	4063.691	ppb	0.8	501,057	4000	101.59	
K	39	45	He	4019.305	ppb	0.9	946,657	4000	100.48	
Ca	44	45	H2	4015.289	ppb	0.2	339,570	4000	100.38	
[Ca]	44	45	He	4156.407	ppb	2.3	44,485	4000	103.91	
Ti	47	45	NoGas	99.048	ppb	2.6	44,192	100	99.05	
V	51	74	He	101.541	ppb	0.3	128,756	100	101.54	
Cr	52	74	He	102.539	ppb	0.5	153,270	100	102.54	
Mn	55	74	He	101.721	ppb	0.5	119,578	100	101.72	
Fe	56	74	H2	4295.432	ppb	0.2	16,949,298	4000	107.39	
Co	59	74	He	105.290	ppb	0.4	215,500	100	105.29	
Ni	60	74	He	108.004	ppb	1.9	54,094	100	108	
Cu	65	74	He	105.872	ppb	0.3	66,013	100	105.87	
Zn	66	74	He	106.626	ppb	0.6	26,449	100	106.63	
As	75	74	He	97.692	ppb	1.5	16,958	100	97.69	
Se	78	74	H2	41.495	ppb	2.0	4,843	40	103.74	
Mo	95	103	He	40.620	ppb	1.5	31,273	40	101.55	
Ag	107	103	He	36.883	ppb	0.5	85,567	40	92.21	
Cd	111	103	He	100.819	ppb	0.6	43,746	100	100.82	
[Cd]	111	103	NoGas	102.708	ppb	1.1	121,703	100	102.71	
Sb	121	103	He	40.737	ppb	1.4	48,751	40	101.84	
Ba	138	159	He	97.385	ppb	0.7	340,559	100	97.38	
Hg	201	159	NoGas	848.359	ppt	2.9	621	800	106.04	
Tl	205	159	He	42.403	ppb	1.0	249,004	40	106.01	
Pb	208	159	NoGas	105.996	ppb	0.6	2,019,305	100	106	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.5	297,722	390560.36	76.2	
Sc	45	H2	Pulse	0.8	747,685	995916.946666667	75.1	
Sc	45	He	Pulse	0.8	126,013	171648.27	73.4	
Sc	45	NoGas	Mix	2.7	1,226,385	1663179.33	73.7	
Ge	74	H2	Pulse	0.5	253,764	344345.643333333	73.7	
Ge	74	He	Pulse	0.4	82,817	114794.926666667	72.1	
Ge	74	NoGas	Pulse	1.1	368,497	511960.473333333	72.0	
Rh	103	He	Pulse	0.6	199,864	279070.866666667	71.6	
Rh	103	NoGas	Pulse	0.6	432,612	619166.366666667	69.9	IS Q-06
Tb	159	He	Pulse	0.8	437,362	563985.973333333	77.5	
Tb	159	NoGas	Pulse	0.7	1,143,330	1490879.07333333	76.7	
Bi	209	He	Pulse	0.6	287,838	365534.536666667	78.7	
Bi	209	NoGas	Pulse	0.6	728,345	928203.173333333	78.5	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV9**	Total Dilution:	1.0000
File Name:	103_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:57:03
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.747	ppb	0.5	39,403	40	101.87	
Na	23	45	He	4393.214	ppb	1.7	1,889,249	4000	109.83	
Mg	24	45	He	4321.571	ppb	0.6	1,034,100	4000	108.04	
Al	27	45	He	4060.762	ppb	0.1	549,237	4000	101.52	
K	39	45	He	4063.941	ppb	0.3	1,049,779	4000	101.6	
Ca	44	45	H2	4021.350	ppb	0.2	371,247	4000	100.53	
[Ca]	44	45	He	4174.765	ppb	0.2	49,016	4000	104.37	
Ti	47	45	NoGas	94.992	ppb	2.0	48,830	100	94.99	
V	51	74	He	101.916	ppb	0.1	142,733	100	101.92	
Cr	52	74	He	102.065	ppb	0.7	168,505	100	102.07	
Mn	55	74	He	102.078	ppb	0.2	132,534	100	102.08	
Fe	56	74	H2	4294.311	ppb	0.3	18,438,209	4000	107.36	
Co	59	74	He	105.278	ppb	0.4	237,989	100	105.28	
Ni	60	74	He	107.089	ppb	0.6	59,237	100	107.09	
Cu	65	74	He	106.862	ppb	0.3	73,591	100	106.86	
Zn	66	74	He	106.610	ppb	1.0	29,208	100	106.61	
As	75	74	He	97.963	ppb	0.6	18,781	100	97.96	
Se	78	74	H2	40.792	ppb	1.1	5,181	40	101.98	
Mo	95	103	He	40.597	ppb	1.6	34,337	40	101.49	
Ag	107	103	He	36.657	ppb	1.0	93,423	40	91.64	
Cd	111	103	He	100.176	ppb	0.4	47,751	100	100.18	
[Cd]	111	103	NoGas	101.152	ppb	0.5	133,739	100	101.15	
Sb	121	103	He	40.178	ppb	0.8	52,823	40	100.44	
Ba	138	159	He	98.987	ppb	0.5	369,971	100	98.99	
Hg	201	159	NoGas	824.841	ppt	4.8	648	800	103.11	
Tl	205	159	He	41.325	ppb	0.4	259,370	40	103.31	
Pb	208	159	NoGas	103.761	ppb	0.6	2,118,711	100	103.76	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	1.1	323,777	390560.36	82.9	
Sc	45	H2	Pulse	0.5	816,199	995916.946666667	82.0	
Sc	45	He	Pulse	0.4	138,225	171648.27	80.5	
Sc	45	NoGas	Analog	1.7	1,412,694	1663179.33	84.9	
Ge	74	H2	Pulse	0.3	276,127	344345.643333333	80.2	
Ge	74	He	Pulse	0.3	91,469	114794.926666667	79.7	
Ge	74	NoGas	Pulse	0.7	408,855	511960.473333333	79.9	
Rh	103	He	Pulse	0.2	219,559	279070.866666667	78.7	
Rh	103	NoGas	Pulse	0.7	482,696	619166.366666667	78.0	
Tb	159	He	Pulse	0.5	467,434	563985.973333333	82.9	
Tb	159	NoGas	Pulse	0.7	1,225,435	1490879.07333333	82.2	
Bi	209	He	Pulse	0.3	302,814	365534.536666667	82.8	
Bi	209	NoGas	Pulse	0.9	767,807	928203.173333333	82.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB8**	Total Dilution:	1.0000
File Name:	104_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:01:42
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.003	ppb	125.1	11	
Na	23	45	He	-0.747	ppb	N/A	1,829	
Mg	24	45	He	0.054	ppb	252.6	278	
Al	27	45	He	0.838	ppb	38.2	202	
K	39	45	He	2.642	ppb	49.8	18,277	
Ca	44	45	H2	0.560	ppb	84.3	401	
[Ca]	44	45	He	-2.184	ppb	N/A	143	
Ti	47	45	NoGas	0.247	ppb	123.0	150	
V	51	74	He	-0.092	ppb	N/A	336	
Cr	52	74	He	0.163	ppb	36.6	1,315	
Mn	55	74	He	0.023	ppb	24.2	106	
Fe	56	74	H2	2.873	ppb	8.3	30,274	
Co	59	74	He	0.012	ppb	84.3	52	
Ni	60	74	He	-0.008	ppb	N/A	23	
Cu	65	74	He	0.014	ppb	293.1	109	
Zn	66	74	He	-0.035	ppb	N/A	63	
As	75	74	He	0.008	ppb	109.4	13	
Se	78	74	H2	0.079	ppb	5.9	11	
Mo	95	103	He	0.004	ppb	917.4	118	
Ag	107	103	He	0.004	ppb	44.4	19	
Cd	111	103	He	0.006	ppb	71.3	6	
[Cd]	111	103	NoGas	0.003	ppb	449.9	22	
Sb	121	103	He	0.273	ppb	8.9	389	
Ba	138	159	He	0.009	ppb	42.1	116	
Hg	201	159	NoGas	-5.352	ppt	N/A	9	
Tl	205	159	He	0.009	ppb	18.9	88	
Pb	208	159	NoGas	0.015	ppb	22.5	870	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	313,430	390560.36	80.3	
Sc	45	H2	Pulse	0.3	825,035	995916.946666667	82.8	
Sc	45	He	Pulse	0.9	139,065	171648.27	81.0	
Sc	45	NoGas	Analog	1.0	1,356,261	1663179.33	81.5	
Ge	74	H2	Pulse	0.3	282,399	344345.643333333	82.0	
Ge	74	He	Pulse	0.8	92,138	114794.926666667	80.3	
Ge	74	NoGas	Pulse	0.3	401,875	511960.473333333	78.5	
Rh	103	He	Pulse	0.9	226,064	279070.866666667	81.0	
Rh	103	NoGas	Pulse	0.3	482,572	619166.366666667	77.9	
Tb	159	He	Pulse	0.3	467,039	563985.973333333	82.8	
Tb	159	NoGas	Pulse	0.5	1,199,835	1490879.07333333	80.5	
Bi	209	He	Pulse	0.7	303,598	365534.536666667	83.1	
Bi	209	NoGas	Pulse	0.7	759,083	928203.173333333	81.8	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL9**	Total Dilution:	1.0000
File Name:	105CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:06:23
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.191	ppb	14.7	180	106.11		
Na	23	45	He	8.803	ppb	7.1	5,683	97.81		
Mg	24	45	He	9.137	ppb	8.0	2,351	101.52		
Al	27	45	He	9.995	ppb	2.1	1,382	111.06		
K	39	45	He	12.074	ppb	11.5	19,743	134.16	R-11	< MRL
Ca	44	45	H2	8.040	ppb	9.2	1,059	89.33		
[Ca]	44	45	He	6.876	ppb	97.6	239	76.4		
Ti	47	45	NoGas	0.269	ppb	18.0	153	149.44	R-11	< MRL
V	51	74	He	0.107	ppb	8.9	591	59.44	R-11	
Cr	52	74	He	1.085	ppb	8.1	2,728	602.78	R-11	
Mn	55	74	He	0.205	ppb	11.3	330	113.89		
Fe	56	74	H2	13.019	ppb	1.2	72,543	144.66	R-11	< MRL
Co	59	74	He	0.189	ppb	10.1	438	105		
Ni	60	74	He	0.228	ppb	13.4	149	126.67		
Cu	65	74	He	0.233	ppb	11.5	250	129.44		
Zn	66	74	He	0.180	ppb	52.0	118	100		
As	75	74	He	0.177	ppb	20.4	44	98.33		
Se	78	74	H2	0.161	ppb	39.3	21	89.44		
Mo	95	103	He	0.308	ppb	9.5	367	171.11	R-11	< MRL
Ag	107	103	He	0.187	ppb	9.5	477	103.89		
Cd	111	103	He	0.170	ppb	9.3	83	94.44		
[Cd]	111	103	NoGas	0.155	ppb	15.4	214	86.11		
Sb	121	103	He	0.240	ppb	5.4	330	133.33	R-11	< MRL
Ba	138	159	He	0.183	ppb	17.6	748	101.67		
Hg	201	159	NoGas	-0.869	ppt	N/A	12	-12.07	R-11	< MRL
Tl	205	159	He	0.191	ppb	7.4	1,206	106.11		
Pb	208	159	NoGas	0.193	ppb	1.6	4,316	107.22		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	301,551	390560.36	77.2	
Sc	45	H2	Pulse	0.5	795,494	995916.946666667	79.9	
Sc	45	He	Pulse	0.9	132,730	171648.27	77.3	
Sc	45	NoGas	Analog	1.7	1,298,499	1663179.33	78.1	
Ge	74	H2	Pulse	0.5	273,930	344345.643333333	79.6	
Ge	74	He	Pulse	0.7	88,537	114794.926666667	77.1	
Ge	74	NoGas	Pulse	0.4	382,428	511960.473333333	74.7	
Rh	103	He	Pulse	1.1	216,990	279070.866666667	77.8	
Rh	103	NoGas	Pulse	0.4	462,130	619166.366666667	74.6	
Tb	159	He	Pulse	0.2	456,025	563985.973333333	80.9	
Tb	159	NoGas	Pulse	0.4	1,164,618	1490879.07333333	78.1	
Bi	209	He	Pulse	1.1	298,462	365534.536666667	81.7	
Bi	209	NoGas	Pulse	0.6	741,743	928203.173333333	79.9	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLA**	Total Dilution:	1.0000
File Name:	106_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:11:03
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.845	ppb	5.3	758	93.89	
Na	23	45	He	47.310	ppb	2.9	21,287	105.13	
Mg	24	45	He	47.833	ppb	1.0	11,096	106.3	
Al	27	45	He	46.057	ppb	0.7	5,987	102.35	
K	39	45	He	46.779	ppb	1.7	27,848	103.95	
Ca	44	45	H2	43.286	ppb	7.1	4,134	96.19	
[Ca]	44	45	He	40.836	ppb	4.4	612	90.75	
Ti	47	45	NoGas	1.052	ppb	15.6	491	116.89	
V	51	74	He	0.826	ppb	4.2	1,524	91.78	
Cr	52	74	He	1.742	ppb	10.3	3,678	193.56	R-11
Mn	55	74	He	0.866	ppb	3.2	1,131	96.22	
Fe	56	74	H2	49.448	ppb	0.7	221,633	109.88	
Co	59	74	He	0.895	ppb	3.3	1,932	99.44	
Ni	60	74	He	0.955	ppb	2.1	524	106.11	
Cu	65	74	He	1.016	ppb	10.2	752	112.89	
Zn	66	74	He	0.905	ppb	17.1	302	100.56	
As	75	74	He	0.881	ppb	10.9	170	97.89	
Se	78	74	H2	0.943	ppb	15.5	117	104.78	
Mo	95	103	He	0.924	ppb	8.9	866	102.67	
Ag	107	103	He	0.964	ppb	3.0	2,396	107.11	
Cd	111	103	He	0.932	ppb	9.1	435	103.56	
[Cd]	111	103	NoGas	0.942	ppb	2.2	1,183	104.67	
Sb	121	103	He	0.941	ppb	5.8	1,221	104.56	
Ba	138	159	He	0.884	ppb	1.5	3,248	98.22	
Hg	201	159	NoGas	27.479	ppt	9.8	33	76.33	
Tl	205	159	He	0.952	ppb	7.5	5,762	105.78	
Pb	208	159	NoGas	0.953	ppb	2.3	18,826	105.89	

Cr MRL ↑ 4 ppb
~~MRL~~ ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.3	297,426	390560.36	76.2	
Sc	45	H2	Pulse	0.4	777,749	995916.946666667	78.1	
Sc	45	He	Pulse	0.9	131,017	171648.27	76.3	
Sc	45	NoGas	Mix	1.3	1,219,506	1663179.33	73.3	
Ge	74	H2	Pulse	0.2	266,788	344345.643333333	77.5	
Ge	74	He	Pulse	0.7	86,353	114794.926666667	75.2	
Ge	74	NoGas	Pulse	1.2	373,836	511960.473333333	73.0	
Rh	103	He	Pulse	0.8	213,504	279070.866666667	76.5	
Rh	103	NoGas	Pulse	0.2	451,505	619166.366666667	72.9	
Tb	159	He	Pulse	0.4	448,365	563985.973333333	79.5	
Tb	159	NoGas	Pulse	0.6	1,150,684	1490879.07333333	77.2	
Bi	209	He	Pulse	0.2	296,118	365534.536666667	81.0	
Bi	209	NoGas	Pulse	0.7	738,917	928203.173333333	79.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLB**	Total Dilution:	1.0000
File Name:	107CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:15:44
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	2.012	ppb	11.4	1,685	111.78	
Na	23	45	He	92.652	ppb	1.2	39,565	102.95	
Mg	24	45	He	93.496	ppb	1.8	21,351	103.88	
Al	27	45	He	90.984	ppb	2.6	11,690	101.09	
K	39	45	He	91.625	ppb	1.4	38,463	101.81	
Ca	44	45	H2	85.502	ppb	2.6	7,814	95	
[Ca]	44	45	He	89.823	ppb	4.7	1,150	99.8	
Ti	47	45	NoGas	2.084	ppb	7.9	896	115.78	
V	51	74	He	1.781	ppb	3.2	2,764	98.94	
Cr	52	74	He	2.680	ppb	3.5	5,095	148.89	R-11
Mn	55	74	He	1.821	ppb	7.2	2,285	101.17	
Fe	56	74	H2	93.170	ppb	0.6	401,968	103.52	
Co	59	74	He	1.934	ppb	4.2	4,122	107.44	
Ni	60	74	He	1.852	ppb	2.1	986	102.89	
Cu	65	74	He	1.946	ppb	1.8	1,347	108.11	
Zn	66	74	He	1.890	ppb	4.5	552	105	
As	75	74	He	1.813	ppb	7.4	336	100.72	
Se	78	74	H2	1.688	ppb	6.6	208	93.78	
Mo	95	103	He	1.812	ppb	5.7	1,579	100.67	
Ag	107	103	He	1.830	ppb	3.2	4,500	101.67	
Cd	111	103	He	1.798	ppb	1.4	829	99.89	
[Cd]	111	103	NoGas	1.877	ppb	13.1	2,192	104.28	
Sb	121	103	He	1.812	ppb	3.6	2,312	100.67	
Ba	138	159	He	1.758	ppb	2.7	6,380	97.67	
Hg	201	159	NoGas	67.795	ppt	4.1	58	94.16	
Tl	205	159	He	1.880	ppb	2.5	11,349	104.44	
Pb	208	159	NoGas	2.062	ppb	7.9	37,562	114.56	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	7.7	280,835	390560.36	71.9	
Sc	45	H2	Pulse	0.7	774,741	995916.946666667	77.8	
Sc	45	He	Pulse	0.8	130,408	171648.27	76.0	
Sc	45	NoGas	Mix	6.8	1,148,763	1663179.33	69.1	IS Q-06
Ge	74	H2	Pulse	0.4	266,210	344345.643333333	77.3	
Ge	74	He	Pulse	0.6	85,745	114794.926666667	74.7	
Ge	74	NoGas	Pulse	7.1	352,841	511960.473333333	68.9	IS Q-06
Rh	103	He	Pulse	0.2	211,533	279070.866666667	75.8	
Rh	103	NoGas	Pulse	6.8	425,630	619166.366666667	68.7	IS Q-06
Tb	159	He	Pulse	0.5	448,263	563985.973333333	79.5	
Tb	159	NoGas	Pulse	6.6	1,081,891	1490879.07333333	72.6	
Bi	209	He	Pulse	0.5	297,897	365534.536666667	81.5	
Bi	209	NoGas	Pulse	7.2	697,103	928203.173333333	75.1	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLC**	Total Dilution:	1.0000
File Name:	108CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:20:24
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.702	ppb	2.1	3,304	102.83	
Na	23	45	He	188.273	ppb	0.4	78,029	104.6	
Mg	24	45	He	188.990	ppb	0.9	42,744	104.99	
Al	27	45	He	179.189	ppb	2.7	22,860	99.55	
K	39	45	He	183.990	ppb	0.6	60,374	102.22	
Ca	44	45	H2	176.598	ppb	0.7	15,709	98.11	
[Ca]	44	45	He	172.855	ppb	2.3	2,059	96.03	
Ti	47	45	NoGas	3.761	ppb	4.5	1,683	104.47	
V	51	74	He	3.492	ppb	1.7	5,036	97	
Cr	52	74	He	4.446	ppb	1.6	7,865	123.5	
Mn	55	74	He	3.667	ppb	4.5	4,561	101.86	
Fe	56	74	H2	181.994	ppb	0.6	765,449	101.11	
Co	59	74	He	3.680	ppb	0.6	7,873	102.22	
Ni	60	74	He	3.692	ppb	1.2	1,952	102.56	
Cu	65	74	He	3.846	ppb	1.8	2,589	106.83	
Zn	66	74	He	3.805	ppb	1.5	1,050	105.69	
As	75	74	He	3.531	ppb	3.1	649	98.08	
Se	78	74	H2	3.640	ppb	4.9	444	101.11	
Mo	95	103	He	3.548	ppb	2.4	3,004	98.56	
Ag	107	103	He	3.715	ppb	3.6	9,175	103.19	
Cd	111	103	He	3.687	ppb	2.7	1,705	102.42	
[Cd]	111	103	NoGas	3.710	ppb	4.1	4,548	103.06	
Sb	121	103	He	3.583	ppb	6.6	4,577	99.53	
Ba	138	159	He	3.547	ppb	3.1	12,720	98.53	
Hg	201	159	NoGas	150.332	ppt	7.6	120	104.4	
Tl	205	159	He	3.803	ppb	1.5	22,796	105.64	
Pb	208	159	NoGas	3.864	ppb	1.3	74,151	107.33	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	298,133	390560.36	76.3	
Sc	45	H2	Pulse	0.3	770,846	995916.946666667	77.4	
Sc	45	He	Pulse	0.4	129,924	171648.27	75.7	
Sc	45	NoGas	Mix	1.1	1,212,071	1663179.33	72.9	
Ge	74	H2	Pulse	0.3	264,879	344345.643333333	76.9	
Ge	74	He	Pulse	0.3	86,331	114794.926666667	75.2	
Ge	74	NoGas	Pulse	0.9	373,739	511960.473333333	73.0	
Rh	103	He	Pulse	0.2	212,598	279070.866666667	76.2	
Rh	103	NoGas	Pulse	0.6	445,804	619166.366666667	72.0	
Tb	159	He	Pulse	0.6	445,806	563985.973333333	79.0	
Tb	159	NoGas	Pulse	0.4	1,143,444	1490879.07333333	76.7	
Bi	209	He	Pulse	0.6	297,484	365534.536666667	81.4	
Bi	209	NoGas	Pulse	0.8	740,953	928203.173333333	79.8	

Metals IFA/IFB Metals Internal Standards Recovery Summary

A19I356 IFA
A19I357 IFB
A9I0885 (I.S Tables)

Analytical Standard Record

Apex Laboratories

A19I356

Description:	ICSA working std	Expires:	12/03/19
Standard Type:	Calibration Standa	Prepared:	09/26/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	10/08/19 13:18 by jsj

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	100	ug/mL
Calcium	7440-70-2	300	ug/mL
Carbon	7440-44-0	200	ug/mL
Chlorine	7782-50-5	2000	ug/mL
Iron	7439-89-6	250	ug/mL
Magnesium	7439-95-4	100	ug/mL
Molybdenum	7439-98-7	2	ug/mL
Phosphorus	7723-14-0	100	ug/mL
Potassium	7440-09-7	100	ug/mL
Sodium	7440-23-5	250	ug/mL
Sulfur	7704-34-9	100	ug/mL
Titanium	7440-32-6	2	ug/mL
Tungsten	7440-33-7	0.1	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
A18L138	6020A ICS Interferents A	12/11/18	John P. Beck	12/03/19	07/23/19 16:48 by arf	5
A19H277	1 W 10 ppm	08/16/19	Marshall Pattee	02/16/20	08/28/19 17:45 by jsj	0.5
A19H398	Conc. HCl - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:38 by jsj	0.2
A19H400	Conc. HNO3 - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:39 by jsj	1.75

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19I357

Description:	ICSA+B working std	Expires:	10/12/19
Standard Type:	Calibration Standa	Prepared:	09/26/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	10/08/19 13:18 by jsj

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	100	ug/mL
Arsenic	7440-38-2	0.1	ug/mL
Cadmium	7440-43-9	0.1	ug/mL
Calcium	7440-70-2	300	ug/mL
Carbon	7440-44-0	200	ug/mL
Chlorine	7782-50-5	2000	ug/mL
Chromium	7440-47-3	0.2	ug/mL
Cobalt	7440-48-4	0.2	ug/mL
Copper	7440-50-8	0.2	ug/mL
Iron	7439-89-6	250	ug/mL
Magnesium	7439-95-4	100	ug/mL
Manganese	7439-96-5	0.2	ug/mL
Mercury	7439-97-6	0.002	ug/mL
Molybdenum	7439-98-7	2	ug/mL
Nickel	7440-02-0	0.2	ug/mL
Phosphorus	7723-14-0	100	ug/mL
Potassium	7440-09-7	100	ug/mL
Selenium	7782-49-2	0.1	ug/mL
Silver	7440-22-4	0.05	ug/mL
Sodium	7440-23-5	250	ug/mL
Sulfur	7704-34-9	100	ug/mL
Titanium	7440-32-6	2	ug/mL
Tungsten	7440-33-7	0.1	ug/mL
Vanadium	7440-62-2	0.2	ug/mL
Zinc	7440-66-6	0.1	ug/mL

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19I357

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
A18L138	6020A ICS Interferents A	12/11/18	John P. Beck	12/03/19	07/23/19 16:48 by arf	5
A18L139	6020A & CLP-M ICS Analytes B	12/11/18	John P. Beck	12/03/19	12/18/18 13:34 by jsj	0.5
A19D217	Hg Stock 1.00ppm Std Primary	04/15/19	Emily S. Stefansson	10/12/19	08/14/19 13:25 by jsj	0.1
A19H277	1 W 10 ppm	08/16/19	Marshall Pattee	02/16/20	08/28/19 17:45 by jsj	0.5
A19H398	Conc. HCl - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:38 by jsj	0.2
A19H400	Conc. HNO3 - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:39 by jsj	1.75

Reviewed By Date

		6 Li (ISTD) [NoGas]	45 Sc (ISTD) [H2]	45 Sc (ISTD) [He]	45 Sc (ISTD) [NoGas]	74 Ge (ISTD) [H2]	74 Ge (ISTD) [He]	74 Ge (ISTD) [NoGas]	103 Rh (ISTD) [He]	103 Rh (ISTD) [NoGas]	159 Tb (ISTD) [He]	159 Tb (ISTD) [NoGas]	209 Bi (ISTD) [He]	209 Bi (ISTD) [NoGas]
Acq. Date-Time	Sample Name	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value
10/7/2019 6:03 PM	Rinse													
10/7/2019 6:08 PM	Rinse													
10/7/2019 6:12 PM	9J07068-CAL0	100	100	100	100	100	100	100	100	100	100	100	100	100
10/7/2019 6:17 PM	9J07068-CAL1	99.77063042	99.01193869	98.68844197	100.5223275	99.05533484	98.59493791	99.62141478	98.97144405	99.25812562	99.67449309	99.05331446	99.47382446	100.1214486
10/7/2019 6:22 PM	9J07068-CAL2	100.9179588	100.1656912	99.9030634	101.9694946	100.0422376	99.13486014	100.966169	99.44927847	100.4110979	100.4052441	100.1837878	100.2846507	101.1566663
10/7/2019 6:27 PM	9J07068-CAL3	100.0134021	98.78502017	98.63613539	99.35434062	99.11837227	98.79671512	99.46894012	98.88343295	99.73429651	99.65320355	99.32030481	100.1037175	100.9146374
10/7/2019 6:32 PM	9J07068-CAL4	100.4978027	98.45036308	99.56521554	100.2397078	98.75698248	98.66639867	99.76904597	99.54004037	99.86468203	99.79216977	100.7407601	100.4805775	101.6253345
10/7/2019 6:37 PM	9J07068-CAL5	101.5897329	98.72972205	99.15943613	100.2242643	98.92543435	99.19880315	100.6158171	98.78982591	100.1333094	100.5213357	100.3126372	100.9391789	101.8998635
10/7/2019 6:42 PM	9J07068-CAL6	104.2948095	100.7121839	101.2783486	104.6910486	99.9849047	101.1246403	103.9003161	99.36820946	101.5624481	101.5730131	103.4848952	100.8998958	102.737257
10/7/2019 6:47 PM	9J07068-CAL7	104.187351	101.3463097	101.42645	104.7322562	100.4330165	101.399333	102.8504121	99.20557216	100.6039438	101.7021322	103.8577003	99.4309913	100.5841437
10/7/2019 6:52 PM	9J07068-CAL8	106.4753004	102.4749507	101.7600449	102.6918645	100.4876408	101.1043084	100.8139535	97.48141392	98.15116465	100.5777159	101.5252538	97.23540943	96.86796517
10/7/2019 6:57 PM	9J07068-CAL9	117.1012491	102.9669268	107.2537909	116.4644422	97.43699192	102.3711791	108.1969863	94.52815211	100.6163368	99.46383714	106.4554766	90.34618261	93.50596956
10/7/2019 7:01 PM	9J07068-ICV1	111.1716637	108.8499585	107.4773372	112.1896366	106.7024719	105.8298482	108.9121359	103.2497014	105.3172656	102.6890509	105.4497503	100.0694627	101.6949741
10/7/2019 7:06 PM	9J07068-ICB1	110.8182177	108.040716	102.8373798	109.9200624	106.6319962	101.4595593	108.1080914	100.8205108	107.2546372	98.70256939	106.9624042	98.22148953	103.7285256
10/7/2019 7:11 PM	9J07068-CRL1	111.7691181	110.0912638	109.1534897	112.6189028	108.889204	107.4776359	110.383284	106.4073689	108.3855588	104.3940407	107.389105	103.1409563	104.9451091
10/7/2019 7:15 PM	9J07068-CRL2	111.3023452	108.3787385	108.0439669	111.4320763	107.2309428	106.279026	109.5630384	105.6442426	107.8819091	104.1088274	107.7458194	102.7701486	105.5767719
10/7/2019 7:20 PM	9J07068-CRL3	112.1035256	109.7701628	108.9607836	112.4782471	108.1570201	106.4973893	109.8523537	106.611396	108.5599977	104.7662338	108.4618153	103.8361045	106.5655568
10/7/2019 7:24 PM	9J07068-CRL4	112.9091544	110.3247622	109.8180308	113.492232	109.2992097	108.0295999	111.4578559	107.44272	109.4423421	105.4386234	110.1920106	104.486126	106.5618985
10/7/2019 7:29 PM	9J07068-IFA1	123.1857102	106.3115183	109.529664	117.2939717	95.70237533	100.2327077	106.6356392	87.06726464	94.58404637	95.32241322	99.84361397	80.68012379	85.91448506
10/7/2019 7:34 PM	9J07068-IFB1	122.0203948	105.940643	108.5664073	116.3698194	95.13845454	98.79282122	105.5400214	85.71500954	93.37065358	93.7015709	98.17162211	78.69487681	83.54058561
10/7/2019 7:38 PM	9100588-MS5	107.2736568	105.1860777	105.0075735	112.2470548	100.0938224	102.2879757	106.4377509	100.0395945	103.5487936	100.5700053	103.070156	96.68048786	98.38233297
10/7/2019 7:43 PM	A9J0027-02RE1	104.5597647	104.5223406	103.6574366	106.3808012	102.3097587	101.2509728	102.7343537	101.4566169	102.6337348	100.9952263	102.1570024	99.11046071	100.0327486
10/7/2019 7:47 PM	A9J0027-07RE1	103.9673082	102.4682597	102.7546311	105.6254721	100.7608044	100.8874841	101.7450507	99.8124431	100.1686515	100.3651533	99.13638044	97.81614525	98.12975501
10/7/2019 7:52 PM	A9J0056-01RE1	141.5723082	129.818852	134.8295927	142.1412346	115.174836	123.3437	130.0035194	112.5859071	120.3803237	112.793119	120.440705	97.43167451	101.9436696
10/7/2019 7:57 PM	A9J0091-01RE1	123.871774	121.2976809	118.0998018	120.5019369	117.3796333	112.4164111	115.0713022	112.3492862	112.9883072	108.3423345	111.2860242	105.3727408	106.1774622
10/7/2019 8:01 PM	9100531-BLK1	120.2020784	113.1339955	113.3384605	117.8285974	109.0703369	108.2014426	111.1689729	109.2391526	110.3421208	106.066061	108.9195942	102.2397036	104.774882
10/7/2019 8:06 PM	9100531-BS1	112.098613	107.9484704	106.2372878	110.6241606	103.3406153	101.4160788	103.7129976	101.2847681	101.8797043	101.9100877	104.6670277	98.84418035	99.88225171
10/7/2019 8:11 PM	A9I0885-01	119.4582719	119.8988196	121.4682036	129.7607018	108.389944	110.3111816	115.8474624	109.0794154	112.7155722	108.6803359	114.8482378	100.5411791	104.2431432
10/7/2019 8:15 PM	A9I0885-02	123.0168639	131.6962408	128.182793	136.6809603	116.2365754	115.9949374	121.739606	113.8845008	118.344207	113.0933646	119.8842648	102.1587217	107.3256343
10/7/2019 8:20 PM	A9I0885-04	123.2502705	137.504856	130.1263722	136.9243436	119.1057448	117.744887	122.9531711	115.9491221	119.1239587	112.723888	118.7932745	102.685107	107.0434105
10/7/2019 8:24 PM	9J07068-CCV1	119.2280463	132.8883131	121.351193	125.4161771	123.925469	116.771862	119.2127912	114.5386918	113.9017047	109.4195924	113.1845055	104.1622816	105.6520108
10/7/2019 8:29 PM	9J07068-CCV2	116.9051744	124.2817815	118.3456301	123.1569428	119.641806	114.4910759	116.3777598	111.7546176	111.6600988	106.7015461	111.2069785	102.1895469	104.3872123
10/7/2019 8:34 PM	9J07068-CCB1	118.3804581	121.68631	118.6442388	123.7713123	117.7682844	114.5548476	118.5450144	114.0199514	115.8779248	107.1514604	111.455733	104.0152266	106.7622846
10/7/2019 8:38 PM	9J07068-CCB2	120.2701174	116.9792679	120.4561553	126.0521141	114.1647105	117.1956176	120.6878321	115.4664072	117.9719743	108.6102212	114.8053159	104.4869577	108.056703
10/7/2019 8:43 PM	A9I0885-05	123.0344233	137.7423674	131.6504695	139.1891288	117.4777179	117.1348804	121.5468444	114.4432669	117.5776015	111.0937529	117.9562301	103.1791861	107.0628168
10/7/2019 8:47 PM	A9I0885-06	125.093575	140.9905432	131.4063773	138.3017555	122.5189462	119.8985275	124.5817467	117.7540293	120.936478	112.924426	119.2816609	103.3713504	107.7005946
10/7/2019 8:52 PM	A9I0885-07	123.217736	141.519986	130.1145651	137.3061895	122.3044069	117.8493022	121.9313031	115.6105713	118.4199653	111.4604907	120.0328617	101.4871381	105.3577128
10/7/2019 8:57 PM	A9I0922-01	122.9277911	138.5608376	128.8976677	136.8146078	120.2067549	117.1866132	120.9080568	115.0423393	117.8333782	111.2531498	118.8532458	101.318853	104.9515589
10/7/2019 9:01 PM	A9I0922-02	122.0878458	134.1133215	128.4553349	136.3422785	121.1736719	117.8833658	122.6807718	116.4285774	119.8632882	110.9823511	116.5792168	103.0716104	106.934081
10/7/2019 9:06 PM	A9I0922-03	120.9551937	139.0898921	129.1219461	136.8760088	121.6671218	118.1910972	121.5082666	115.6458467	118.0531355	111.5802738	118.9926604	101.7513776	105.1641262
10/7/2019 9:10 PM	A9I0922-04	123.0664483	136.3673384	129.36491	136.9570191	121.8277288	119.8163229	124.0627333	117.3246891	120.660403	112.1498589	118.8013547	103.6878321	107.0907719
10/7/2019 9:15 PM	A9I0922-05	121.340313	139.1884489	130.0540169	136.0025749	122.095244	118.419429	122.0396657	116.2133716	118.605567	111.1384921	118.2583145	101.8625928	106.3864128
10/7/2019 9:19 PM	A9I0922-07	116.4090018	135.9480565	125.6476689	129.6299808	118.3091005	113.7477069	115.9189601	111.8143301	113.798517	109.0892485	116.413248	99.48823349	102.8439223
10/7/2019 9:24 PM	A9I0922-08	112.9475889	127.0592574	120.1905327	126.4726576	113.8516713	110.4119729	113.3421244	108.8006045	110.5165122	106.3912482	112.1602029	98.11488127	100.3807162
10/7/2019 9:29 PM	9J07068-CCV3	117.9120678	129.6653348	120.1634579	124.976738	121.1021381	116.3952948	118.5515539	113.1838723	113.4570407	107.8023034	112.9273527	102.5544627	104.130559
10/7/2019 9:33 PM	9J07068-CCB3	122.279042	123.367142	120.5489361	128.1366309	120.5991948	116.9580404	121.8893207	116.1564339	119.8279725	108.2554583	114.884714	103.8188266	107.411534
10/7/2019 9:38 PM	A9I0922-09	116.2124338	124.1378608	119.9554511	128.2381131	112.7478986	110.5650256	114.6212974	108.728894	112.0671499	106.3710597	112.6417154	97.64865994	101.7797368
10/7/2019 9:43 PM	9100531-MS1	113.1420036	130.8860347	117.8287067	123.1577064	114.3442074	108.6335203	110.0356647	106.5244443	106.8748572	105.0277976	110.7675836	96.45319424	98.31369032
10/7/2019 9:47 PM	9100531-MSD1	111.8523865	119.7622935	115.7342163	121.0045848	108.8099938	106.5740913	108.4984569	104.2168477	105.4182815	103.6600219	108.6949156	94.92884945	97.37963045
10/7/2019 9:52 PM	A9I0922-10	112.4677843	119.3545473	116.7258546	122.6114304	108.5316766	106.408181	109.6553912	105.0707491	107.4661856	103.8222221	110.6538793	95.39500239	97.92558348
10/7/2019 9:56 PM	A9I0922-11	111.9228357	118.8527013	116.5603883	122.6095611	109.291147	107.1644252	110.3898744	105.3108267	107.8605406	103.0933701	110.1026443	95.61495425	98.20036491
10/7/2019 10:01 PM	A9I0922-12	112.5573642	119.9387299	116.3057416	122.9811907	109.6304563	107.2101328	110.0628276	105.3989058	107.8355629	103.2278315	110.5153532	94.61122146	98.09779505
10/7/2019 10:05 PM	A9I0922-13	110.2061996	117.986625	114.1752647	121.6146153	107.5142444	104.9569874	108.1542936	103.5258416	106.2458108	101.7806294	107.8728659	93.5649537	96.28233979
10/7/2019 10:10 PM	A9I0922-14	111.8304445	116.5606035	114.3352508	122.5358372	107.3936505	105.9587418	109.3670604	103.9446289	107.5467536	102.3272606	110.758852	93.91494526	97.10823189
10/7/2019 10:15 PM	A9I0922-15	108.9341052	116.4648954	113.8461304	120.2234235	106.4866936	104.4169228	106.6556981	102.1912941	104.5002111	101.1666915	108.4764577	93.54886858	95.02355289
10/7/2019 10:19 PM	9100666-BLK1	112.3221875	112.3346694	112.1380445	117.9176383	109.2575945	107.7807271	111.9742128	108.7908018	111.2552259	101.9017376	110.4320012	96.74568553	99.60948097
10/7/2019 10:24 PM	9J07068-CCV4	114.7128867	119.3493534	114.2826024	119.9280106	115.744834	110.906626	112.7933483	107.287407	108.4104159	102.687623	109.0984176	98.02211667	98.90444496
10/7/2019 10:28 PM	9J07068-CCB4	116.8742359	114.8574414	113.6095342	120.161795	112.6754133	110.6972556	114.976804	108.7437599	113.4383758	102.3468556	110.1998767	98.33728525	100.986445
10/7/2019 10:33 PM	9100666-BS1	112.8975463	112.7941469	110.2115079	117.4663905	108.231726	106.0529127	109.5138432	104.3618108	107.5057738	100.7914913	108.4482689	95.52497826	97.98766256
10/7/2019 10:38 PM	A9I0922-16	108.3547598	114.7818752	113.0976386	119.718861	103.6810146	102.3374	104.9794788	99.88399004	102.2660269	98.76970463	105.520621	91.57301425	93.13462413
10/7/2019 10:42 PM	A9I0922-17	103.1041783	111.9495051	108.2953647	113.8131527	99.38136771	97.72372345	99.40112434	95.4765086	97.36055484	96.46816453	98.43489766	88.73508906	90.19352882
10/7/2019 10:47 PM	A9I0922-18	103.4206083	108.1569292	107.1157859	113.0417249	98.23533124	97.78394678	100.4975339	96.24514729	98.79745352	96.8370951	100.7582276	89.31743349	90.93134107
10/7/2019 10:51 PM	A9I0922-19	100.6384169	107.301966	105.9194577	110.9585868	96.03103541	94.60244149	97.13215751	93.2785615	95.12803156	94.72194025	95.39225205	87.06017391	88.08800848
10/7/2019 10:56 PM	A9I0922-20	98.72366634	102.6374736	102.1415557	107.2852378	93.36805026	93.23100167	95.35584134	91.89480784	93.78455419	93.79636286	94.13297665	87.23116095	87.97637774
10/7/2019 11:01 PM	A9I0922-21	97.26107637	101.0226291	100.9781689	105.9875864	91.34705378	91.68863096	92.80375109	89.87470566	91.85246658	92.54222765	92.90994497	86.16385277	86.93899854
10/7/2019 11:05 PM	A9I0936-20	95.8583124	98.8347355	100.3118761	104.3435589	89.34164435	90.37030905	91.75037484	88.73802425	90.81850914	92.34455252	92.29233553	86.18575859	86.80853537
10/7/2019 11:10 PM	A9I0936-21	94.93244527	98.57002366	100.4876969	104.9029026	87.80881338	89.74896626	91.63307217	88.37927666	90.41936548	92.13568917	91.95865141	86.37925877	86.54861526
10/7/2019 11:14 PM	A9I0936-22	92.80523929	95.53741402	98.31121902	102.9855331	86.11140456	88.61768223	89.93797581	86.77938555	88.92360002	90.59979695	91.04340302	85.17587317	85.54142916
10/7/2019 11:19 PM	9J07068-CCV5	97.59136249	96.53303587	95.85673851	97.77391213	96.43233664	95.38150321	95.93298095	93.1711097	94.35133993	93.27906926	91.82306764	90.46989276	88.88257482
10/7/2019 11:24 PM	9J07068-CCB5	94.44773914	89.86545879	90.72905696	96.69898755	90.65977632	91.96178182	94.49232285	92.06296346	94.25929789	90.3530284	90.43550083	88.75382054	88.75784386
10/7/2019 11:28 PM	9100666-MS1	92.29247262	91.77600365	94.99742506	99.82194203	83.09375445	86.40919904	88.45181616	84.57017489	86.89913174	89.08451458	89.29083812	83.63603508	83.64830484
10/7/2019 11:33 PM	9100666-MSD1	91.37873934	92.16704396	94.08220271	99.02933057	83.6432924	85.84049795	87.65422659	84.23125022	86.55321771	89.15870674	88.92372138	83.73151717	83.209425
10/7/2019 11:38 PM	A9I0936-23	87.60051754	88.80392215	90.62874136	95.58570332	80.4725742	83.08136904	85.17011424	82.00151073	84.21733233	86.64511645	87.37252649	81.91914488	82.13505174
10/7/2019 11:42 PM	A9J0058-04	88.2832366	87.26848454	90.31389985	95.39006817	81.25132661	84.21398007	85.88918473	83.36372745	85.14005686	87.45922298	87.76333507	82.02201067	82.29077986
10/7/2019 11:47 PM	A9J0058-05	90.1299695	88.22025032	90.91676252	96.77841876	83.38195712	86.20512207	88.73116845	84.91199368	88.37565897	88.56812408	89.626638	83.65354369	84.22516885
10/7/2019 11:51 PM	A9J0058-06	92.21007563	93.34382348	94.6136519	98.64236709	87.05697288	88.49712813	90.1984536	86.59621224	89.41865921	89.97674658	90.54629474	84.30628365	85.00634696
10/7/2019 11:56 PM	A9J0058-07	89.52615502	91.51119743	92.08220974	97.11845725	84.17834975	85.25589894	86.93541784	84.2308477	86.1039825	88.0720225	88.37454807	82.73664994	82.7942544
10/8/2019 12:01 AM	A9J0058-08	89.05547745	90.45799984	91.98031533	98.044163	82.24101533	84.35882097	86.0484913	83.31412714	85.22708356	87.53988456	87.99138442	81.90087665	82.12104008
10/8/2019 12:05 AM	A9J0058-11	90.59894524	89.38007963	91.83807096	96.03376484	83.51485459	85.87061542	88.12338911	85.198621	87.69329202	88.65537625	89.46418954	83.50451445	83.67418567
10/8/2019 12:10 AM	A9J0058-12	88.81039113	90.64425767	91.48290862	94.86123865	83.39299835	84.54984277	86.34572909	83.964582	85.82800713	88.12267565	88.4745061	82.0806955	82.27280355
10/8/2019 12:14 AM	9J07068-CCV6	92.44344289	90.62634052	89.88902714	92.71990612	90.74229224	90.29228295	90.6650391	88.00669268	89.62932849	89.70495555	88.46113725	87.9671753	86.15097567
10/8/2019 12:19 AM	9J07068-CCB6	92.27377129	86.11533149	88.32979985	91.76813563	87.07524328	89.32860506	92.16538996	89.27885103	92.65785485	88.80666607	89.18812311	87.87124274	87.5552494
10/8/2019 12:24 AM	9100666-MS2	89.3220534	86.74382433	90.17282066	96.62980921	80.17047948	83.46362171	85.90911465	82.14731957	84.73508116	86.81903271	87.53713318	81.34592499	81.26843831
10/8/2019 12:28 AM	9100666-MSD2	89.67821005	89.37179916	90.67319855	96.71651523	82.53050256	84.11443154	86.43937303	82.91030259	85.45342983	87.68972103	88.25365139	81.67772127	81.44880471
10/8/2019 12:33 AM	A9J0058-13	88.49455178	88.63434074	90.1864493	94.65536989	82.00180026	83.57805185	85.7065619	82.52169879	85.16248487	87.37780843	87.71687501	81.48188478	81.7117019
10/8/2019 12:37 AM	A9J0058-14	86.52622521	87.99887343	85.81614601	93.61261382	81.38469261	79.22653841	84.19561192	77.81896379	83.41575024	82.88958274	86.27251016	77.80142362	80.76339659
10/8/2019 12:42 AM	A9J0058-17	85.03901505	85.13666421	86.71507147	91.26772016	79.12934439	80.81552559	82.53155247	80.13051524	81.93576837	85.13132998	85.0735001	80.68429211	80.06594763
10/8/2019 12:47 AM	9J07068-CCV7	89.6365878	87.66323466	87.44562548	92.7727537	88.16156263	88.46025367	89.12073954	86.4269028	87.98151181	88.76035936	87.11886004	86.51315036	84.65964413
10/8/2019 12:51 AM	9J07068-CCB7	89.77548908	83.58486346	86.39554402	91.92515077	84.75963681	87.41836384	90.11692061	87.11757324	90.76738772	87.21048925	87.47332832	85.59305126	85.77735775
10/8/2019 12:56 AM	9J07068-CRL5	85.07857957	85.20400851	87.52765952	87.72024161	86.30151199	88.73798372	85.67565783	88.16076586	86.6825669	88.0533075	82.69631803	86.34692348	81.38065405
10/8/2019 1:01 AM	9J07068-CRL6	92.10819893	86.52962407	88.94169066	94.7685028	87.8577458	89.32785299	92.73013798	89.82143126	92.89314541	88.96704417	89.24667604	87.5965701	87.23209026
10/8/2019 1:05 AM	9J07068-CRL7	93.55560986	88.45170838	89.66309613	95.94322299	89.17317699	90.86050493	94.10022683	90.76004112	94.0721764	89.42863721	89.73194365	88.17186549	88.09421653
10/8/2019 1:10 AM	9J07068-CRL8	94.63394851	89.78046509	91.35899049	97.17684803	90.56521532	92.02317536	95.10967129	91.6914485	94.69063431	90.21986847	90.4769531	88.66751496	88.98460241
10/8/2019 1:15 AM	9100715-BLK1	93.66652144	88.14676929	90.00589986	96.122065	88.25886021	89.74928276	92.97099512	89.91398481	93.19216951	88.9250053	89.7807312	86.22290693	87.22956244
10/8/2019 1:19 AM	9100715-BS1	95.0117066	91.45110474	91.65909644	96.58051486	90.95970364	91.43156675	92.82004401	89.56974967	91.930451	90.14594346	89.48336905	87.29508742	86.72422265
10/8/2019 1:24 AM	A9J0169-01	78.09070963	83.77330655	76.44286967	72.25895699	84.00488935	76.74680919	73.87305004	77.61811277	73.78060856	80.63566025	77.14573953	82.57462421	79.52207353
10/8/2019 1:29 AM	9100715-DUP1	74.80853834	73.79309782	72.5704275	69.67757329	73.96645539	72.82034067	71.19892042	73.48137498	71.21386815	77.99069495	74.96603425	80.42052223	78.2176831
10/8/2019 1:33 AM	9100715-MS1	74.70859903	72.72388082	71.47474309	69.51014877	73.12123391	72.35991962	70.84397505	73.03674837	70.90497002	77.52335531	75.01080537	80.37986579	78.38684003
10/8/2019 1:38 AM	A9J0169-01RE1	68.3545688	69.39392644	64.81737334	64.84252583	69.1161951	64.15172587	65.24746617	64.51712265	64.4476393	69.77424651	70.88686817	71.53968333	73.84317533
10/8/2019 1:43 AM	9100715-DUP2	67.72347301	68.40685986	67.12281652	64.19007524	67.86401431	66.53832669	64.41678095	66.86674329	63.46436561	72.44081815	70.53636065	74.25409169	73.59964711
10/8/2019 1:47 AM	9100715-MS2	68.52980762	69.78686784	68.45649925	65.19868065	69.13011619	67.88474798	65.2304896	68.50015994	64.12969245	74.13353755	71.33661849	75.81610642	74.67465456
10/8/2019 1:52 AM	9J07068-CCV8	76.2294634	75.07508223	73.41339162	73.73739106	73.69461419	72.14313013	71.97754629	71.61748641	69.87006992	77.54842745	76.68833557	78.74440428	78.46832291
10/8/2019 1:57 AM	9J07068-CCV9	82.9006755	81.95452704	80.5282803	84.93938053	80.18877021	79.68032734	79.8606119	78.67483839	77.95907519	82.88049563	82.19543614	82.84141979	82.71968416
10/8/2019 2:01 AM	9J07068-CCB8	80.25131805	82.84175196	81.01746476	81.54626497	82.01040402	80.26295471	78.49736733	81.00578157	77.93905257	82.81040169	80.47835299	83.05595948	81.77988596
10/8/2019 2:06 AM	9J07068-CRL9	77.20988121	79.87553072	77.32653719	78.07329472	79.55075236	77.12660821	74.69867433	77.75441746	74.63737829	80.85752215	78.11621239	81.65096775	79.91168866
10/8/2019 2:11 AM	9J07068-CRLA	76.15364242	78.09377304	76.3289565	73.32378343	77.47694557	75.22365245	73.02048227	76.50528432	72.9215029	79.49932998	77.18154995	81.00953908	79.60727399
10/8/2019 2:15 AM	9J07068-CRLB	71.9056392	77.79169899	75.97414371	69.07030565	77.30888285	74.6943114	68.91961034	75.79902882	68.74242523	79.48127102	72.56730695	81.49638592	75.10236552
10/8/2019 2:20 AM	9J07068-CRLC	76.3346217	77.40065467	75.69223001	72.87673743	76.92229551	75.20413068	73.00152768	76.18051974	72.00066315	79.04560239	76.69599101	81.38315904	79.82657116
10/8/2019 2:25 AM	Final rinse	70.79022647	71.96781074	71.34450583	67.74133871	70.75949937	71.0207141	69.08187873	73.03801926	68.5008838	76.79244883	74.21022781	77.79109263	76.61439691
10/8/2019 2:29 AM	Final rinse	76.26200382	79.70618025	76.63724196	72.71926173	78.45161644	75.45239369	72.49127215	77.10710039	72.21473593	80.57599801	77.37193494	82.20508503	80.2118144

Conventional Chemistry Parameters
Total Organic Carbon - Soil (5310 B)
Benchsheet & Analysis Sequence Data

Batch 9100515
Sequence 9J09028 (A9I0885-01,02,04,05,06,07)

APEX LABORATORIES

Apex Laboratories

PREPARATION BENCH SHEET

OCT 1 1 2019

BATCH #: 9100515 (Sediment)

Prep Method: PSEP TOC

#	Lab Number		Analysis	Prepared	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100515-BLK1		QC	10/01/19 15:31	5	5									
	9100515-BS1		QC	10/01/19 15:31	5	5	A19I352 ✓		1 ✓						
	A9I0879-07	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-100SC-J-03-04-190926				
	9100515-DUP1		QC	10/01/19 15:31	5	5		A9I0879-07							
	A9I0885-01	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-013SC-B-7.6-9.6-190925				
	A9I0885-02	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-013SC-B-9.6-12-190925				
	A9I0885-04	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-018SC-B-11.8-13.2-190926				
	A9I0885-05	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-018SC-B-5.8-7.8-190926				
	A9I0885-06	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-018SC-B-7.8-9.8-190926				
	A9I0885-07	A	Total Organic Carbon - Soil (5310 B)	10/01/19 15:31	5	5					PDI-018SC-B-9.8-11.8-190926				

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L221	11/30/23	Wet Chem Balance 3 ✓

Analyte Spike(s)

Std ID	Exp. Date	Description
A19I352	03/24/20	TOC 10k ppm secondary ✓

Surrogate(s)

Std ID	Exp. Date	Description

JKP 10-1-19
Prepared By: Date

10/9/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

APEX LABORATORIES

Apex Laboratories

OCT 1 1 2019

Sequence: **9J09028** Instrument: **TOC**

Date: **10/09/19 07:31** Calibration: **A8B0203**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J09028-CCV1	Sediment	QC	QC				A19G013
2	9J09028-CCB1	Sediment	QC	QC				
3	9100515-BLK1	Sediment	QC	QC		9100515		
4	9100515-BS1	Sediment	QC	QC		9100515		
5	A9I0879-07	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
6	9100515-DUP1	Sediment	QC	QC		9100515		
7	A9I0885-01	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
8	A9I0885-02	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
9	A9I0885-04	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
10	A9I0885-05	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
11	A9I0885-06	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
12	A9I0885-07	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/10/19	9100515		
13	9J09028-CCV2	Sediment	QC	QC				A19G013
14	9J09028-CCB2	Sediment	QC	QC				

Data Entered By: JKP 10-9-19

Data Reviewed By: cm 10/9/19

Comments:

TOC Data

Sample ID (Reporting Levels based on lowest amount used.)	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
9J09028-CCV1	1	20	278.80	204.47	10,223.57	10,466	10/9/19 @ 07:32
	2	20	287.70	214.17	10,708.29		
9J09028-CCB1	1	100	0.012	5.16	51.64	52	10/9/19 @ 07:51
	2	100	0	5.15	51.53		
9100515-BLK1	1	94.3	2.176	7.2	76.32	74	10/9/19 @ 08:05
	2	93.6	1.764	6.81	72.78		
	3	93.8	1.824	6.87	73.23		
9100515-BS1	1	20.0	289.8	216.53	10,826.65	10,473	10/9/19 @ 08:37
	2	20.0	282.9	208.87	10,443.53		
	3	20.0	277.4	202.99	10,149.74		
A9I0879-07	1	57.0	35.98	35.79	627.82	635	10/9/19 @ 09:05
	2	51.9	32.67	33.23	640.18		
	3	58.5	37.94	37.28	637.27		
9100515-DUP1	1	63.2	42.15	40.44	639.83	619	10/9/19 @ 09:51
	2	60.6	35.35	35.3	582.54		
	3	65.9	44.07	41.85	635.11		
A9I0885-01	1	86.2	17.54	20.89	242.38	238	10/9/19 @ 10:20
	2	85.1	16.88	20.33	238.90		
	3	86.8	16.86	20.31	234.03		
A9I0885-02	1	82.2	24.75	26.9	327.29	318	10/9/19 @ 10:53
	2	92.2	24.6	26.78	290.47		
	3	78.2	24.02	26.31	336.40		
A9I0885-04	1	79.5	21.66	24.36	306.40	314	10/9/19 @ 11:16
	2	71.9	20.68	23.54	327.43		
	3	76.5	20.72	23.58	308.17		

TOC Data

Sample ID (Reporting Levels based on lowest amount used.)	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
A9I0885-05	1	14.2	465.3	564.79	39,774.02	43,558	10/9/19 @ 11:47
	2	15.1	513.3	729.74	48,326.87		
	3	14.8	485.6	630.08	42,573.04		
A9I0885-06	1	96.5	15	18.72	193.94	222	10/9/19 @ 12:58
	2	89.9	21.73	24.42	271.60		
	3	94.6	15.38	19.04	201.30		
A9I0885-07	1	79.5	16.73	20.2	254.12	253	10/9/19 @ 14:24
	2	85.9	20.8	23.64	275.23		
	3	85.5	16.13	19.69	230.27		
9J09028-CCV2	1	20.0	286.8	213.16	10,658.04	10,811	10/9/19 @ 14:50
	2	20.0	292.2	219.28	10,963.82		
9J09028-CCB2	1	100.0	0	5.15	51.53	52	10/9/19 @ 15:17
	2	100.0	0	5.15	51.53		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		

Sequence 9J09028
Batch 9100515

TOC Soil data log

Date/Time 10-9-19
Analyst JKP

Sample ID	Wt1(mg or ul)** Wt2(mg or ul)** Wt3(mg or ul)**	raw TOC (ug) raw TOC (ug) raw TOC (ug)	Comments	Date and Time
9J09028 -CCV1	20 20	278.8 287.7		10-9-19@0732
9J09028 -CCB1	100 100	0.012 0		0751
9100515 BLK	94.3 93.6 93.8	2.176 1.764 1.824		0805
9100515 -BS1	20 20 20	289.8 282.9 277.4		0837
A9I0879 -07	~~55.0~~ JKP 10-9-19 57.0 51.9	~~111.2~~ 35.98 32.67	~~48.9 85.0~~ ~~51.3 46.35~~ JKP 10-9-19 58.5 37.94	0905
9100515 -DUP1	63.2 ~~46.9~~ JKP 10-9-19 60.6 65.9	42.15 35.35 44.07	~~65.5~~ JKP 10-9-19	0951
A9I0885 -01	~~75.3~~ 86.2 ~~77.5~~ JKP 10-9-19 85.1	~~14.52~~ 17.54 16.88	~~0650~~ JKP 10-9-19 <15.6; reweigh 86.8 16.86	1020
A9I0885 -02	82.2 92.2 78.2	24.75 24.6 24.02		1053

Sample ID	Wt1(mg or ul)** Wt2(mg or ul)** Wt3(mg or ul)**	raw TOC (ug) raw TOC (ug) raw TOC (ug)	Comments	Date and Time
A9I0885 ~~-03~~ -04	79.5 71.9 76.5	21.66 20.68 20.72		1116
A9I0885 -05	14.2 15.1 14.8	465.3 513.3 485.6		1147
A9I0885 -06	~~76~~ JKP 10-9-19 96.5 89.9	~~12.92~~ 15.0 21.73	<15.6; Reweigh 94.6 15.38	1258
A9I0885 -07	79.5 85.9 85.5	16.73 20.8 16.13		1424
9J09028 -CCV2	20 20	286.8 292.2	Time Out	1450
9J09028 -CCB2	100 100	0 0		1517

**Sample mass input into instrument as 1000 mg to output actual ug C

Batch 9100515 TOC PSEP preweigh Analyst JKP

Date/Time:	10-2-19@0800	10-2-19@1045	10-3-19@0815	10-3-19@1414	Effervesces?	Comments
T(°C) IN / OUT:	68.0/69.1	68.1/68.5	68.4/68.5	70.0/71.4		
Sample ID	Wt 1(g)	Wt 2(g)	Wt 3(g)	Wt 4(g)	(yes/no)	
AS1088-07	5.6548	6.5370			no	
AS1088-07D	4.8557	4.8523			no	
AS1088-08 (AS1088S08 10-1-19)	7.5752	7.5755			no	
AS1088S-02	5.2712	5.2712			no	
AS1088S-03 (TOC 10-1-19)	5.6889	5.6858			no	
AS1088S-05	6.4696	6.4581	6.4515	6.4703	no	
AS1088S-06	6.1588	6.1557			no	
AS1088S-07	6.0748	6.0766			no	

Conventional Chemistry Parameters
Total Organic Carbon - Soil (5310 B)
Calibration Data

Sequence 8B02022 (Cal ID A8B0203) TOC

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	8B02022	Instrument:	TOC
Date:	02/02/18 10:15	Calibration:	A8B0203

Order	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	8B02022-CAL1	Soil	QC	QC				
2	8B02022-CAL2	Soil	QC	QC				A18B030
3	8B02022-CAL3	Soil	QC	QC				A18B029
4	8B02022-CAL4	Soil	QC	QC				A18B028
5	8B02022-CAL5	Soil	QC	QC				A18B027
6	8B02022-CAL6	Soil	QC	QC				A18B026
7	8B02022-CAL7	Soil	QC	QC				A18B025
8	8B02022-CAL8	Soil	QC	QC				A18B024
9	8B02022-CAL9	Soil	QC	QC				A18B023
10	8B02022-CALA	Soil	QC	QC				A18B022
11	8B02022-CALB	Soil	QC	QC				A18B021
12	8B02022-ICV1	Soil	QC	QC				A18B031
13	8B02022-ICB1	Soil	QC	QC				
14	8B02022-ICV2	Soil	QC	QC				A18B031
15	8B02022-ICB2	Soil	QC	QC				

Data Entered By: JKP 2-2-18

Comments:

Data Reviewed By: JCS 2/14/18

2/2/2018 5:40:11PM

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL1	1	20	1.847	6.89	344.50	323	
	2	20	1.106	6.2	309.77		
	3	20	1.192	6.28	313.81		
[redacted]	1	20.0	14.4	18.2	909.78	[redacted]	
	2	20.0	16.65	20.13	1,006.70		
	3	20.0	15.74	19.35	967.66		
[redacted]	1	20.0	44.37	42.07	2,103.69	[redacted]	
	2	20.0	48.3	44.93	2,246.27		
	3	20.0	47.81	44.57	2,228.65		
[redacted]	1	20.0	123.9	92.03	4,601.40	[redacted]	
	2	20.0	131.8	96.53	4,826.34		
	3	20.0	132.4	96.87	4,843.42		
[redacted]	1	20.0	278.8	204.47	10,223.57	[redacted]	
	2	20.0	287.6	214.05	10,702.70		
	3	20.0	284.1	210.18	10,508.98		
[redacted]	1	20.0	350.7	300.44	15,022.06	[redacted]	
	2	20.0	345	291.2	14,560.12		
	3	20.0	361	317.95	15,897.40		
[redacted]	1	20.0	399.1	392.54	19,626.76	[redacted]	
	2	20.0	402.2	399.33	19,966.67		
	3	20.0	410.3	417.65	20,882.38		

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
8B02022-CAL8	1	20.0	437.8	486.05	24,302.72	24,424	
	2	20.0	440.9	494.4	24,719.83		
	3	20.0	437.4	484.99	24,249.38		
8B02022-CAL9	1	20.0	473.2	589.45	29,472.51	29,844	
	2	20.0	473.6	590.72	29,536.19		
	3	20.0	479.7	610.45	30,522.56		
8B02022-CAL10	1	20.0	503.7	693.77	34,688.41	34,786	
	2	20.0	504.4	696.34	34,816.94		
	3	20.0	504.6	697.07	34,853.73		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL11	1	20	529.100	792.36	39,618.21	40,444	
	2	20	532.500	806.41	40,320.67		
	3	20	537.600	827.87	41,393.75		
8B02022-ICV1	1	20.0	298.2	226.32	11,315.89	11,747	
	2	20.0	312	243.55	12,177.38		
	3			5.15	#DIV/0!		
8B022-ICB1	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		
8B02022-ICV2	1	20.0	277.9	203.52	10,176.04	10,428	
	2	20.0	287.2	213.61	10,680.34		
	3			5.15	#DIV/0!		
8B02022-ICB2	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		

⇒ ICV1 failed high. Reprepped and reanalyzed below as ICV2. JKP 2-2-18

Sequence 8B02022
Batch

TOC Soil data log

Date/Time 2-2-18 @ 1735 ~~1520~~
Analyst JKP JKP 2-2-18

Sample ID	Wt1(mg or ul)**	raw TOC (ug)	Comments
	Wt2(mg or ul)**	raw TOC (ug)	
	Wt3(mg or ul)**	raw TOC (ug)	
8B02022-Cal1	20	1.847	
	20	1.106	
	20	1.192	
8B02022-Cal2	20	14.4	Time Out
	20	16.65	
	20	15.74	
8B02022-Cal3	20	44.37	
	20	48.3	
	20	47.81	
8B02022-Cal4	20	123.9	Time Out
	20	131.8	
	20	132.4	
8B02022-Cal5	20	278.8	
	20	287.6	
	20	284.1	
8B02022-Cal6	20	350.7	Time Out
	20	345	
	20	361	
8B02022-Cal7	20	399.1	Time Out
	20	402.2	
	20	410.3	
8B02022-Cal8	20	437.8	Time Out
	20	440.9	
	20	437.4	

Sample ID	Wt1(mg or ul)**	raw TOC (ug)	Comments
	Wt2(mg or ul)**	raw TOC (ug)	
	Wt3(mg or ul)**	raw TOC (ug)	
8B02022-Cal9	20	473.2	Time Out
	20	473.6	Time Out
	20	479.7	Time Out
8B02022-Cal10A JKP 2-2-18	20	503.7	
	20	504.4	Time Out
	20	504.6	Time Out
8B02022-Cal10B JKP 2-2-18	20	529.1	Time Out
	20	532.5	Time Out
	20	537.6	Time Out
8B02022-ICV1	20	298.2	Time Out
	20	312	Time Out
	JKP 3-2-18 ~~20~~		
8B02022-ICB1	20	0	
	20	0	
	JKP 3-2-18 ~~20~~		
8B02022-ICV2	20	277.9	Time Out
	20	287.2	Time Out
8B02022-ICB2	20	0	
	20	0	

ICV1 failed high. Reprepped and reanalyzed below as ICV2
JKP 2-2-18

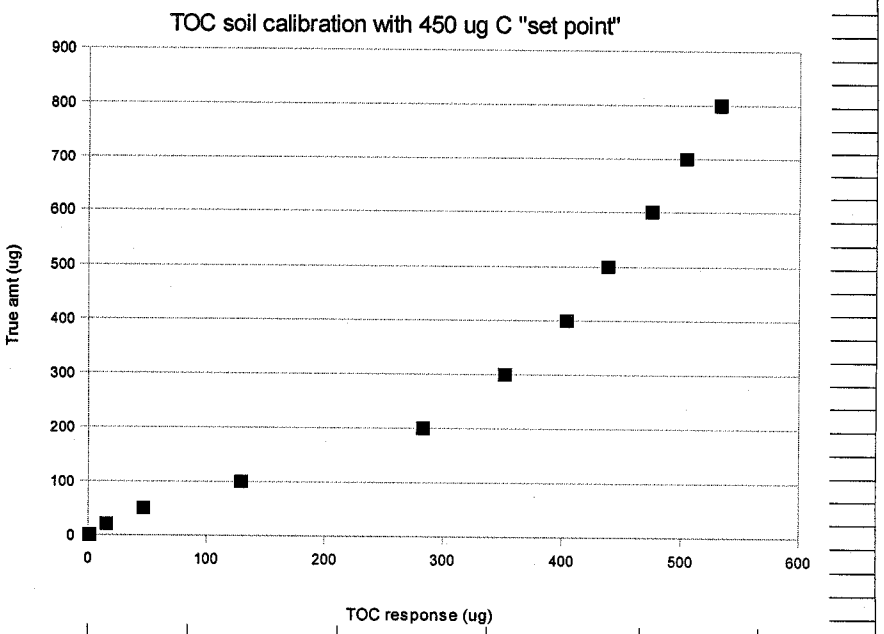
**Sample mass input into instrument as 1000 mg to output actual ug C

Cal Standard	Instrument Reponse	Average Instrument Response
1	1.85	1.38
	1.11	
	1.19	
2	14.4	15.6
	16.65	
	15.74	
3	44.37	46.83
	48.3	
	47.81	
4	123.9	129.37
	131.8	
	132.4	
5	278.8	283.5
	287.6	
	284.1	
6	350.7	352.23
	345	
	361	
7	399.1	403.87
	402.2	
	410.3	
8	437.8	438.7
	440.9	
	437.4	
9	473.2	475.5
	473.6	
	479.7	
10	503.7	504.23
	504.4	
	504.6	
11	529.1	533.07
	532.5	
	537.6	

450 ug curve

TOC resp ug C		True ug C
533.07		800
504.23		700
475.5		600
438.7		500
403.87		400
352.23		300
283.5		200
129.37		100
46.83		50
15.6		20
1.38		0

TOC resp ug C	Requant	% recovery
533.07	808.77	101.1
504.23	695.73	99.39
475.5	596.81	99.47
438.7	488.46	97.69
403.87	403.04	100.76
352.23	302.98	100.99
283.5	209.52	104.76
129.37	95.14	95.14
46.83	43.86	87.73
15.6	19.23	96.15
1.38	6.45	N/A



X (response)	X^2	X^3	y (ug C)
533.07	284160.07	151476261.9	800
504.23	254251.25	128201957.5	700
475.5	226100.25	107510668.9	600
438.7	192457.69	84431188.6	500
403.87	163108.28	65873999.14	400
352.23	124068.32	43700998.31	300
283.5	80372.25	22785532.88	200
129.37	16735.73	2165046.18	100
46.83	2192.74	102678.55	50
15.6	243.26	3793.98	20
1.38	1.91	2.64	0

curve calculations

0.00000740	-0.00289199	0.94586231	5.15285875
0	0	0.14	5.96
0.99945	8.03	#N/A	#N/A
4233.13	7	#N/A	#N/A
818003.66	450.89	#N/A	#N/A

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL1	1	20	1.847	6.89	344.50	323	
	2	20	1.106	6.2	309.77		
	3	20	1.192	6.28	313.81		
8B02022-CAL2	1	20.0	14.4	18.2	909.78	961	
	2	20.0	16.65	20.13	1,006.70		
	3	20.0	15.74	19.35	967.66		
8B02022-CAL3	1	20.0	44.37	42.07	2,103.69	2,193	
	2	20.0	48.3	44.93	2,246.27		
	3	20.0	47.81	44.57	2,228.65		
8B02022-CAL4	1	20.0	123.9	92.03	4,601.40	4,757	
	2	20.0	131.8	96.53	4,826.34		
	3	20.0	132.4	96.87	4,843.42		
8B02022-CAL5	1	20.0	278.8	204.47	10,223.57	10,478	
	2	20.0	287.6	214.05	10,702.70		
	3	20.0	284.1	210.18	10,508.98		
8B02022-CAL6	1	20.0	350.7	300.44	15,022.06	15,160	
	2	20.0	345	291.2	14,560.12		
	3	20.0	361	317.95	15,897.40		
8B02022-CAL7	1	20.0	399.1	392.54	19,626.76	20,159	
	2	20.0	402.2	399.33	19,966.67		
	3	20.0	410.3	417.65	20,882.38		

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
8B02022-CAL8	1	20.0	437.8	486.05	24,302.72	24,424	
	2	20.0	440.9	494.4	24,719.83		
	3	20.0	437.4	484.99	24,249.38		
8B02022-CAL9	1	20.0	473.2	589.45	29,472.51	29,844	
	2	20.0	473.6	590.72	29,536.19		
	3	20.0	479.7	610.45	30,522.56		
8B02022-CALA	1	20.0	503.7	693.77	34,688.41	34,786	
	2	20.0	504.4	696.34	34,816.94		
	3	20.0	504.6	697.07	34,853.73		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CALB	1	20	529.100	792.36	39,618.21	40,444	
	2	20	532.500	806.41	40,320.67		
	3	20	537.600	827.87	41,393.75		
8B02022-ICV1	1	20.0	298.2	226.32	11,315.89	11,747	
	2	20.0	312	243.55	12,177.38		
	3			5.15	#DIV/0!		
8B022-ICB1	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		
8B02022-ICV2	1	20.0	277.9	203.52	10,176.04	10,428	
	2	20.0	287.2	213.61	10,680.34		
	3			5.15	#DIV/0!		
8B02022-ICB2	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		

Percent Dry Weight (EPA 8000C)
Benchsheet Data

Batch 9091411 (A9I0885-01,02,04,05,06,07,08,09,10,11,12,13,14,15)

APEX LABORATORIES

Apex Laboratories

PREPARATION BENCH SHEET

Percent Solids + Dry Weight Worksheet

BATCH #: 9091411 (Matrix: Sediment)

Lab Number	Analysis	QC Source ID	Prepared (Time In)	Weighed (Time Out)	Tare Wt. (g)	Wet Weight (+Tare) (g)	Dry Weight (+Tare) (g)	% Solids (Calc)	LogComments
A9I0879-01	Dry Weight		09/27/19 17:11		1.262	26.18	20.529	77.3	Use Results from TS.. Make NR once completed.
A9I0879-01	Solids, Total (SM 254		09/27/19 17:11		1.262	26.18	20.529	77.3	Use Results for Dry Weight
9091411-DUP1	QC	A9I0879-01	09/27/19 17:11		1.266	26.983	20.724	75.7	
A9I0879-02	Dry Weight		09/27/19 17:11		1.259	27.303	20.487	73.8	Use Results from TS.. Make NR once completed.
A9I0879-02	Solids, Total (SM 254		09/27/19 17:11		1.259	27.303	20.487	73.8	Use Results for Dry Weight
A9I0879-03	Dry Weight		09/27/19 17:11		1.269	27.479	22.427	80.7	Use Results from TS.. Make NR once completed.
A9I0879-03	Solids, Total (SM 254		09/27/19 17:11		1.269	27.479	22.427	80.7	Use Results for Dry Weight
A9I0879-04	Dry Weight		09/27/19 17:11		1.269	29.568	22.909	76.5	Use Results from TS.. Make NR once completed.
A9I0879-04	Solids, Total (SM 254		09/27/19 17:11		1.269	29.568	22.909	76.5	Use Results for Dry Weight
A9I0879-05	Dry Weight		09/27/19 17:11		1.263	28.874	24.318	83.5	Use Results from TS.. Make NR once completed.
A9I0879-05	Solids, Total (SM 254		09/27/19 17:11		1.263	28.874	24.318	83.5	Use Results for Dry Weight
A9I0879-06	Dry Weight		09/27/19 17:11		1.255	27.41	20.925	75.2	Use Results from TS.. Make NR once completed.
A9I0879-06	Solids, Total (SM 254		09/27/19 17:11		1.255	27.41	20.925	75.2	Use Results for Dry Weight
9091411-DUP2	QC	A9I0879-06	09/27/19 17:11		1.257	27.661	21.111	75.2	
A9I0885-01	Dry Weight		09/27/19 17:11		1.267	28.423	24.556	85.8	Use Results from TS. Make NR once completed.
A9I0885-01	Solids, Total (SM 254		09/27/19 17:11		1.267	28.423	24.556	85.8	Use Result for Dry Weight.
A9I0885-02	Dry Weight		09/27/19 17:11		1.263	28.85	22.218	76.0	Use Results from TS. Make NR once completed.
A9I0885-02	Solids, Total (SM 254		09/27/19 17:11		1.263	28.85	22.218	76.0	Use Result for Dry Weight.
A9I0885-04	Dry Weight		09/27/19 17:11		1.267	27.28	21.521	77.9	Use Results from TS. Make NR once completed.
A9I0885-04	Solids, Total (SM 254		09/27/19 17:11		1.267	27.28	21.521	77.9	Use Result for Dry Weight.
A9I0885-05	Dry Weight		09/27/19 17:11		1.254	26.265	18.613	69.4	Use Results from TS. Make NR once completed.
A9I0885-05	Solids, Total (SM 254		09/27/19 17:11		1.254	26.265	18.613	69.4	Use Result for Dry Weight.

NRF 10/1/19
Prepared By: Date

James S. Johnson 10/01/19
Reviewed By: Date

Batch #: 9091411

Analyst: nrp

Total Solids Worksheet

Method: SM 2540 G

Date: 9/27/2019

Sample ID	Tare Wt. (g)	Vessel ID	Initial (wet) Wt. (g)	Final Weight (g)			Comments
				1st weighing	2nd Weighing	3rd Weighing	
A9I0879-01	1.262	879-01	26.180	20.569	20.529		
9091411-DUP1	1.266	879-01 DUP	26.983	20.749	20.724		source: A9I0879-01
A9I0879-02	1.259	879-02	27.303	20.514	20.487		
A9I0879-03	1.269	879-03	27.479	22.452	22.427		
A9I0879-04	1.269	879-04	29.568	22.933	22.909		
A9I0879-05	1.263	879-05	28.874	24.344	24.318		
A9I0879-06	1.255	879-06	27.410	20.948	20.925		
9091411-DUP2	1.257	897-06 DUP	27.661	21.135	21.111		source: A9I0879-06
A9I0885-01	1.267	885-01	28.423	24.576	24.556		
A9I0885-02	1.263	885-02	28.850	22.235	22.218		
A9I0885-04	1.267	885-04	27.280	21.539	21.521		
A9I0885-05	1.254	885-05	26.265	18.631	18.613		
A9I0885-06	1.270	885-06	26.175	22.249	22.227		
A9I0885-07	1.255	885-07	27.581	24.529	24.510		
A9I0885-08	1.263	885-08	27.252	18.125	18.106		
A9I0885-09	1.265	885-09	28.194	15.855	15.829		
A9I0885-10	1.262	885-10	27.383	15.573	15.551		
A9I0885-11	1.269	885-11	26.892	19.512	19.493		
A9I0885-12	1.261	885-12	27.265	15.606	15.582		
A9I0885-13	1.266	885-13	28.545	23.805	23.788		
A9I0885-14	1.261	885-14	27.794	22.945	22.924		
A9I0885-15	1.265	885-15	28.808	23.546	23.533		
Date/time first in oven:		**Oven temp. (°C; in/out):**		**104.1/104.1**	**104/104.1**	/	
		Time of weighing:		10/1@10:15	10/1@14:15		

Balance Checksheets

Extractions September 2019
Extractions October 2019
Dry Weight September 2019
Wet Chem October 2019
Metals October 2019

Balance Challenge Log

Extractions
AND FX-2000
ID# 5210177

Weight ID	weight (g)	acceptance range (g)	
	=/<1g	± 0.02g	
	>1g	± 2%	
10077	0.5g	0.48	0.52
1000143395	300g	294.00	306.00

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: September
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight One	Observed	Weight Two	Observed
1					
2					
3 09:50	JAG		.51		299.99
4 07:00	JAG		.49		300.00
5 0853	AJJ		0.51		299.98
6 10:56	JAG		.50		300.00
7					
8					
9 13 12	CAS		0.51		300.00
10 09:30	JAG		.51		300.01
11 0655	AJJ		~~0.40~~ 0.48		299.98
12 07:10	JAG		.50		300.00
13 11:25	CAS		0.50		300.01
14					
15					
16 07:05	JAG	0.50g	.49	300.00g	299.99
17 07:40	JAG		.51		300.00
18 0736	AJJ		0.49		~~299.~~ 299.96
19 07:20	JAG		.51		300.01
20 1050	JC		0.51		299.99
21					
22					
23 9:50	JAG		.50		299.99
24 0639	AJJ		0.51		299.98
25 07:15	JAG		.50		299.98
26 07:37	JAG		.51		300.00
27 07:10	JAG		.50		299.99
28					
29					
30 7:28	JAG		.50		299.99
31					

9/11/19

Balance Challenge Log

Extractions
AND FX-2000
ID# 5210177

Weight ID	weight (g)	acceptance range (g)	
	=/<1g	± 0.02g	
	>1g	± 2%	
10077	0.5g	0.48	0.52
1000143395	300g	294.00	306.00

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Alternate Weight/ID used:

Date Range:

Month: October
Year: 2019

Day/Time	Initials	Weight One	Observed	Weight Two	Observed
1 10:55	[illegible]		0.50		299.98
2 7:25	JAG		.50		299.97
3 0700	AJJ		0.49		300.00
4 0712	AJJ		0.50		299.96
5 0925	AJJ		0.51		299.99
6 07:50	JAG		.50		299.97
7 07:05	JAG		.50		299.99
8 08:30	JAG		.50		299.98
9 10:45	JAG		.50		299.98
10 0701	AJJ		0.51		299.99
11 0635	AJJ		0.50		299.97
12 900	JC		0.50		299.97
13 9:25	[illegible]		0.49		299.97
14 0635	AJJ		0.50		299.97
15 07:30	JAG		.51		299.95
16 0644	AJJ	0.50g	0.50	300.00g	299.97
17 07:40	JAG		.49		299.96
18 07:38	JAG		.50		299.98
19 09:10	JAG		.48		299.98
20					
21 07:20	JAG		.49		299.97
22 10:05	JC		0.49		299.97
23 0639	AJJ		0.50		299.97
24 0704	AJJ		0.49		299.97
25 07:10	JAG		.52		299.98
26 09:24	Cas		0.51		299.98
27			~~0.51~~		~~299.99~~ AJJ 10/28
28 0718	AJJ		0.51		299.99
29 0736	AJJ		0.52		299.98
30 07:20	JAG		.49		299.98
31 0712	AJJ		0.49		299.97

Balance Challenge Log

Dry Wt Balance 3
Mettler PG403-S
ID# 1120240743

Weight ID	weight (g)	acceptance range (g)	
	=/<1g	± 0.02g	
	>1g	± 2%	
10077	0.5g	0.480	0.520
10077 and 02-J60965-11	100g (50+50)	98.000	102.000

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: September
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight One	Observed	Weight Two	Observed
1					
2					
3 0800	MEB		0.499		100.002
4 0730	MEB		0.501		100.002
5 0725	~~AOO~~		0.502		100.000
6 0755	MEB		0.498		100.072
7					
8					
9 0710	MEB		0.503		100.220
10 0705	MEB		0.501		100.000
11 0750	MEB		0.499		100.006
12 0725	MEB		0.498		99.999
13 0800	MEB		0.500		99.798
14					
15					
16 0800	MEB	0.50g	0.496	100.00g	100.000
17 0720	MEB		0.502		100.046
18 0730	MEB		0.498		100.003
19 0730	MEB		0.501		99.998
20 0700	MEB		0.500		100.000
21 ~~0740~~	~~MEB~~		~~0.499~~		~~100.011~~ ← wrong day
22					
23 0740	MEB		0.499		100.011 → corrected 9/24/19 MEB
24 0755	MEB		0.504		100.005
25 0730	MEB		0.498		100.003
26 0745	MEB		0.499		100.006
27 0800	MEB		0.501		100.000
28					
29					
30 0715	MEB		0.498		99.999
31					

Balance Challenge Log

Wet Chem Balance 1
Ohaus Adventurer Pro
ID# 8C30461093

Weight ID	weight (g)	acceptance range (g)	
	<0.5000g	± 0.5mg	
	>/=0.5000g	± 0.1%	
1000015949	0.005g	0.0045	0.0055
66067	0.100g	0.0995	0.1005
66067	100g	99.9000	100.1000

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: Oct
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1 09:02	MRF		100.0031		0.1000		0.0051
2 0830	MRF		100.0023		0.1000		0.0050
3 0802	MRF		100.0013		0.1000		0.0050
4 1625	MAS		100.0015		0.0999		0.0051
5							
6							
7 10:07	MRF		100.0017		0.1001		0.0051
8 8:00	MRF		100.0017		.1000		0.0050
9 9:29	MRF		100.0018		0.1001		0.0051
10 9:01	MRF		100.0011		0.1000		0.0049
11 12:50	MAS		100.0007		0.1000		0.0049
12							
13							
14 9:54	MRF		100.0006		0.1001		0.0051
15 9:17	MRF		100.0007		0.1000		0.0050
16 10:21	MRF	100.0000g	100.0006	0.1000g	0.1000	.0050g	0.0050
17 9:15	MRF		100.0008		0.1000		0.0051
18							
19							
20							
21 12:09	MRF		100.0016		0.1000		0.0050
22 08:44	MRF		100.0017		0.1000		0.0050
23 09:31	MRF		100.0018		0.1002		0.0051
24 08:24	MRF		100.0013		0.1000		0.0050
25							
26							
27							
28 10:06	MRF		100.0008		0.1000		0.0049
29 10:25	MRF		100.0001		0.1000		0.0050
30 10:00	MRF		99.9996		0.1001		0.0049
31 10:19	MRF		99.9998		0.1000		0.0050

Balance Challenge Log

Dredd
Intelli-lab PC-6001
ID# 190408014

Weight ID	weight (g) =/<1g >1g	acceptance range (g) ± 0.02g ± 2%	
03-J68814-10	10.0	9.8	10.2
15477	200.0	196.0	204.0
15477 + 1000139353	1 kg + 2kg	2940.0	3060.0

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: October
Year: 2019

Alternate Weight/ID used: | Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1							
2 ~~820~~	ICT		10.0		200.1		3002.4
3			~~10.0~~		~~200.0~~	MJG 10/7/19	~~3002.6~~
4							
5							
6							
7 803	MJG		10.0		200.0		3002.6
8 0902	MJG		10.0		200.1		3002.4
9 800	ICT		9.9		200.1		3002.3
10 735	MJG		9.9		200.1		3002.2
11 800	ICT		9.9		200.1		3002.1
12							
13							
14 805	MJG		10.0		200.1		3002.1
15 800	ICT		9.9		200.1		3002.2
16 ~~7~~815	ICT	10.0 g	10.0	200.0 g	200.1	3000.0 g	3002.4
17 804	ICT		9.9		200.1		3002.4
18 800	ICT		10.0		200.1		3002.4
19 ~~805~~	ICT		~~10.0~~		~~200.1~~		3002.4 ICT 10/11/19
20							
21 ~~805~~	ICT		10.0		200.1		3002.4
22 828	MJG		10.0		200.1		3002.5
23 800	ICT		9.9		200.1		3002.5
24 810	MJG		9.9		200.1		3002.3
25 819	MJG		10.0		200.0		3002.3
26							
27							
28 820	ICT		9.9		200.1		3002.3
29 800	ICT		10.0		200.8		3001.8
30 ~~750~~	ICT		10.0		200.0		3001.9
31 740	ICT		10.0		200.1		3001.9

Balance Challenge Log

Metals Prep Balance 2
Sartorius LC 620 P
40020073

Weight ID	weight (g) =/<1g >1g	acceptance range (g) ± 0.02g ± 2%	
03-J68049-19	0.100g	0.080	0.120
03-J68814-10	10g	9.800	10.200
15477 (100g + 500g)	600g	588.000	612.000

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: October
Year: 2019

Alternate Weight/ID used: | Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1 920	CRL		600.005		10.002		0.099
2 820	KT		599.995		9.992		0.099
3 830	KT		600.000		10.000		0.100
4 718	MJG		600.005		10.001		0.100
5							
6							
7 758	MJG		600.005		10.002		0.101
8 0903	MJG		600.005		10.000		0.098
9 800	KT		599.990		10.000		0.100
10 733	MJG		599.995		9.999		0.100
11 800	KT		600.000		9.994		0.098
12							
13							
14 802	MJG		599.995		9.999		0.098
15 800	KT		599.995		10.000		0.102
16 745	KT	600.000g	599.995	10.000g	10.000	0.100g	0.100
17 809	KT		600.000		10.002		0.104
18 800	KT		600.000		9.999		0.099 KT 10/22/19
~~19 805~~	~~KT~~		~~600.005~~		~~9.998~~		~~0.100~~
20							
21 805	KT		600.005		9.998		0.100
22 825	MJG		600.005		10.000		0.100
23 800	KT		600.005		9.999		0.097
24 807	MJG		600.000		10.001		0.102
25 819	MJG		600.005		10.006		0.105
26							
27							
28 820	KT		599.990		10.001		0.100
29 800	KT		599.990		9.999		0.100
30 750	KT		599.985		9.998		0.097
31 740	KT		599.985		9.998		0.098